

**NM OIL CONSERVATION**  
ARTESIA DISTRICT

SEP 14 2016

Form 3160-3  
(June 2015)

FORM APPROVED  
OMB No 1004-0137  
Expires January 31, 2018

UNITED STATES RECEIVED  
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 NMNM13996
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 checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		7 If Unit or CA Agreement, Name and No
2 Name of Operator OXY USA Inc.		8 Lease Name and Well No Cedar Canyon 22 Federal Com #6H
3a Address P.O. Box 50250 Midland, TX 79710		9 API Well No 30-015-43759
3b Phone No (include area code) 432-685-5717		10 Field and Pool, or Exploratory Corral Draw Bone Spring
4 Location of Well (Report location clearly and in accordance with any State requirements *) At surface 1040 FSL 207 FWL SWSW (M) At proposed prod. zone 880 FSL 250 FEL SESE (P)		11 Sec, T R M or Blk and Survey or Area Sec 22 T24S R29E
14 Distance in miles and direction from nearest town or post office* 6 miles northeast from Loving NM		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) 207'		13 State NM
16 No of acres in lease 199.71	17 Spacing Unit dedicated to this well 160	
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 50'	19 Proposed Depth 13430'M 8815'V	20 BLM/BIA Bond No in file ESB000226
21 Elevations (Show whether DF, KDB, RT, GL, etc ) 2939.1'	22 Approximate date work will start* 9/16/16	23 Estimated duration 20 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 SUPD 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	Name (Printed/Typed) David Stewart	Date 9/18/16
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Title Sr. Regulatory Advisor	david_stewart@oxy.com
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Approved by (Signature)	Name (Printed/Typed) Cady R. Layman	Date 9/14/16
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Title AFM - Lands & Minerals	Office CFO
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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

CANCELED - CONTROLLED WATER BENCH

This is a replacement well for the Cedar Canyon 22 Federal Com. #6H, API No. 30-015-43759. The original hole was abandoned due to lost fish in the hole and it was decided to move the well 20' south. This well will fit on the original pad, so no additional surface disturbance will be required.

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS  
ATTACHED

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

(Continued on page 2)

GCP attached

**NM OIL CONSERVATION**  
ARTESIA DISTRICT

SEP 14 2016

District I  
1625 N. French Dr., Hobbs, NM 88240  
Phone: (505) 393-6161 Fax: (505) 393-0720  
District II  
811 S. First St., Artesia, NM 88210  
Phone: (505) 744-1283 Fax: (505) 744-0720  
District III  
1000 Rio Grande Road, Artesia, NM 88210  
Phone: (505) 334-6178 Fax: (505) 334-6170  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87501  
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, NM 87505

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

☐ AMENDED REPORT

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

API Number <b>30-015-43906</b>	Pool Code <b>96238</b>	Pool Name <b>Cornal Draw Bone Spring</b>
Property Code <b>316106</b>	Property Name <b>CEDAR CANYON "22" FEDERAL COM</b>	Well Number <b>6MY</b>
OGRID No. <b>16696</b>	Operator Name <b>OXY USA INC.</b>	Elevation <b>2939.1'</b>

**Surface Location**

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>M</b>	<b>22</b>	<b>24 SOUTH</b>	<b>29 EAST, N.M.P.M.</b>		<b>1040'</b>	<b>SOUTH</b>	<b>207'</b>	<b>WEST</b>	<b>EDDY</b>

**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
<b>P</b>	<b>22</b>	<b>24 SOUTH</b>	<b>29 EAST, N.M.P.M.</b>		<b>880'</b>	<b>SOUTH</b>	<b>250'</b>	<b>EAST</b>	<b>EDDY</b>

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
<b>160</b>	<b>Y</b>		

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

Signature of the Operator

*David Stewart* 9/9/16  
Signature Date

David Stewart Sr. Reg. Adv.  
Printed Name

David\_stewart@oxy.com  
E-mail Address

**SURVEYOR CERTIFICATION**

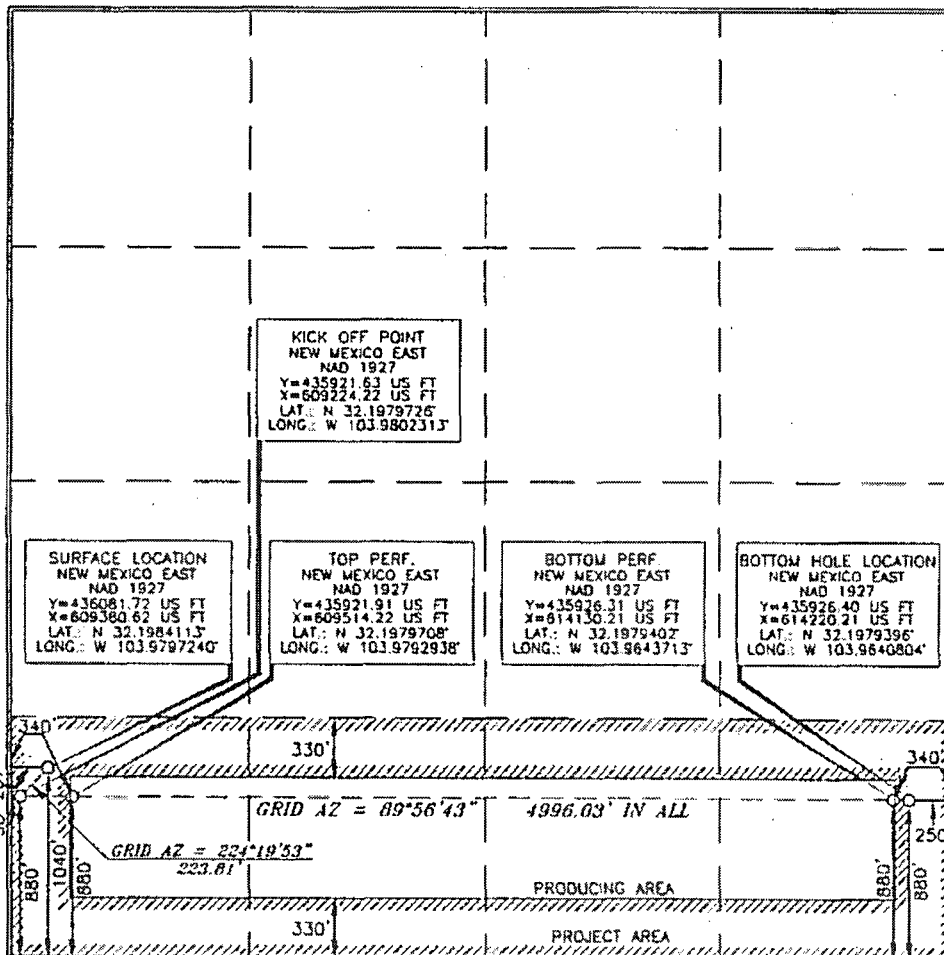
I hereby certify that the information shown on this plat was prepared by me or under my supervision and that the same is true and correct to the best of my belief.

15079  
Date of Survey  
SEPTEMBER 6 2016

Signature and Stamp  
Professional Surveyor

*Terry J. Paul* 9/7/2016  
Certificate Number 15079

WOF 151109W1-b (Rev. C) (W)



SEP 14 2016

**PECOS DISTRICT  
CONDITIONS OF APPROVAL**

RECEIVED

OPERATOR'S NAME:	OXY USA Inc.
LEASE NO.:	NMNM13996
WELL NAME & NO.:	Cedar Canyon 22 Federal Com_6Y
SURFACE HOLE FOOTAGE:	1040'/S & 207'/W
BOTTOM HOLE FOOTAGE	880'/S & 250'/E
LOCATION:	Section 22, T 24 S., R 29 E., NMPM
COUNTY:	Eddy County, New Mexico

This application is approved in accordance with the original approval of the Cedar Canyon 22 Fed Com 6H(API: 30-015-43759) with the following amendments: The surface location has been moved 20 feet South because the original wellbore was plugged due to hole problems.

**TABLE OF CONTENTS**

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

- ☐ General Provisions
- ☐ Permit Expiration
- ☐ Archaeology, Paleontology, and Historical Sites
- ☐ Noxious Weeds
- ☒ Special Requirements
  - Avian Protection
  - Cave/Karst
  - VRM
  - Communitization Agreement
- ☐ Construction
  - Notification
  - Topsoil
  - Closed Loop System
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- ☐ Road Section Diagram
- ☒ Drilling
  - Medium Cave/Karst
  - Logging Requirements
  - Waste Material and Fluids
- ☒ Production (Post Drilling)
  - Well Structures & Facilities

Pipelines  
Electric Lines

- ☐ Interim Reclamation
- ☐ Final Abandonment & Reclamation

## **I. GENERAL PROVISIONS**

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

## **II. PERMIT EXPIRATION**

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

## **III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES**

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

## **IV. NOXIOUS WEEDS**

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

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

### **Avian protection**

Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006. The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all power line structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. The holder without liability or expense shall make such modifications and/or additions to the United States.

### **Cave and Karst**

**\*\*** Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.

### **Cave/Karst Surface Mitigation**

The following stipulations will be applied to minimize impacts during construction, drilling and production.

#### **Construction:**

In the advent that any underground voids are opened up during construction activities, construction activities will be halted and the BLM will be notified immediately.

#### **No Blasting:**

No blasting will be utilized for pad construction. The pad will be constructed and leveled by adding the necessary fill and caliche.

#### **Pad Berming:**

The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.

- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g. caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised. (Any access road crossing the berm cannot be lower than the berm height.)

**Tank Battery Liners and Berms:**

Tank battery locations and all facilities will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

**Leak Detection System:**

A method of detecting leaks is required. The method could incorporate gauges to measure loss, siting valves and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

**Automatic Shut-off Systems:**

Automatic shut off, check valves, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

**Cave/Karst Subsurface Mitigation**

The following stipulations will be applied to protect cave/karst and ground water concerns:

**Rotary Drilling with Fresh Water:**

Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

**Directional Drilling:**

Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

**Lost Circulation:**

ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported in the drilling report.

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

**Abandonment Cementing:**

Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

**Pressure Testing:**

Annual pressure monitoring will be performed by the operator on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

**Communitization Agreement**

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, 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.



## **VI. CONSTRUCTION**

### **A. NOTIFICATION**

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

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

### **B. TOPSOIL**

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

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

### **C. CLOSED LOOP SYSTEM**

Tanks are required for drilling operations: No Pits.

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

### **D. FEDERAL MINERAL MATERIALS PIT**

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

### **E. WELL PAD SURFACING**

Surfacing of the well pad is not required.

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

### **F. EXCLOSURE FENCING (CELLARS & PITS)**

**Exclosure Fencing**

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

**G. ON LEASE ACCESS ROADS****Road Width**

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

**Surfacing**

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

**Crowning**

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

**Ditching**

Ditching shall be required on both sides of the road.

**Turnouts**

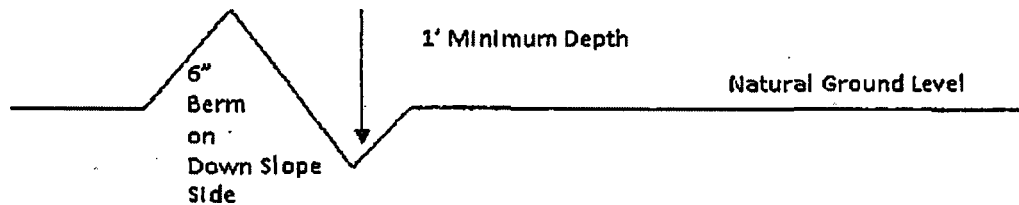
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

### **Drainage**

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outslowing and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

**Cross Section of a Typical Lead-off Ditch**



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

### **Formula for Spacing Interval of Lead-off Ditches**

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

### **Cattleguards**

An appropriately sized cattleguard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattleguards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguards that are in place and are utilized during lease operations.

### **Fence Requirement**

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

### **Public Access**

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

### Construction Steps

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

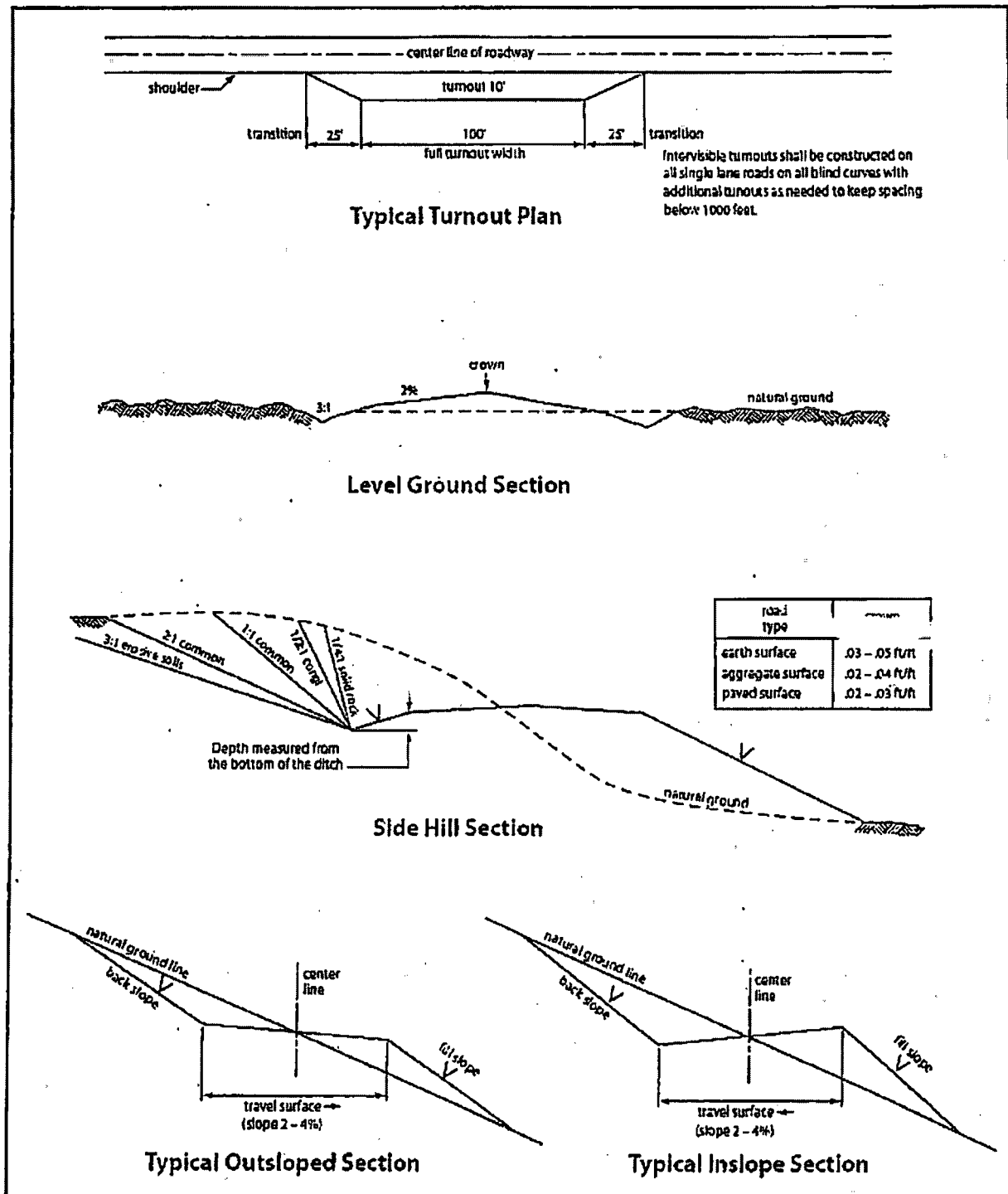


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

## **VII. DRILLING**

### **A. DRILLING OPERATIONS 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

1. **Hydrogen Sulfide (H<sub>2</sub>S) monitors shall be installed prior to drilling out the surface shoe. If H<sub>2</sub>S 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.**
2. **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.**
3. **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 is located, this does not include the dog house or stairway area.**
4. **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.**

### **B. CASING**

**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.

**Centralizers required on surface casing per Onshore Order 2.III.B.1.f.**

**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. (For surface casing the BOP can be nipped up after the cement has reached 500 psi compressive strength.)

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

**Medium cave/karst**

**Possible water flows in Castile and Salado.**

**Possible lost circulation in Rustler, Red Beds and Delaware.**

1. The 10 3/4 inch surface casing shall be set at approximately 400 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. If salt is encountered, the operator shall set the casing 25' above the salt.
  - 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 is to include the lead cement slurry.
  - 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.

**Formation below the 10-3/4" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight**

necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

The 7-5/8 inch intermediate casing must be kept liquid filled while running into hole to meet minimum BLM requirements for collapse.

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

a. First stage to DV tool:

- ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

Operator has proposed a contingency DV tool at 2900'. If operator circulates cement on the first stage, operator is approved to inflate the ACP and run the DV tool cancellation plug and cancel the second stage of the proposed cement plan. If cement does not circulate, operator will inflate ACP and proceed with the second stage.

b. Second stage above DV tool:

- ☒ 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.

If cement does not circulate to surface on the intermediate casing, the cement on the production casing must come to surface.

Formation below the 7-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

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

- ☒ Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification.

4. 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.

### **C. 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. Variance approved to use flex line from BOP to choke manifold. 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. If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).
3. 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. Operator shall perform the intermediate casing integrity test to 70% of the casing burst. This will test the multi-bowl seals.
  - 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.

**5M 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. 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. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer.
- c. 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.
- d. The results of the test shall be reported to the appropriate BLM office.
- e. 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.
- f. 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.

#### **D. DRILL STEM TEST**

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

#### **E. 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.

**MHH04292016**

## **VIII. PRODUCTION (POST DRILLING)**

### **A. WELL STRUCTURES & FACILITIES**

#### **Placement of Production Facilities**

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

#### **Exclosure Netting (Open-top Tanks)**

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

#### **Chemical and Fuel Secondary Containment and Exclosure Screening**

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

#### **Open-Vent Exhaust Stack Exclosures**

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

#### **Containment Structures**

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the

largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

**Painting Requirement**

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

**VRM Facility Requirement**

Low-profile tanks not greater than eight-feet-high shall be used.

**B. PIPELINES**

**STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES**

A copy of the Grant and attachments, including stipulations, survey plat(s) and/or map(s), shall be on location during construction. BLM personnel may request to review a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, Holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC § 2601 *et seq.* (1982) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant (*see* 40 CFR, Part 702-799 and in particular, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193). Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. Holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. § 9601, *et seq.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et seq.*) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way Holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way Holder on the Right-of-Way. This provision applies

without regard to whether a release is caused by Holder, its agent, or unrelated third parties.

4. Holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. Holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

- a. Activities of Holder including, but not limited to: construction, operation, maintenance, and termination of the facility;
- b. Activities of other parties including, but not limited to:
  - (1) Land clearing
  - (2) Earth-disturbing and earth-moving work
  - (3) Blasting
  - (4) Vandalism and sabotage;

c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars (\$1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of Holder, regardless of fault. Upon failure of Holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he/she deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of Holder. Such action by the Authorized Officer shall not relieve Holder of any responsibility as provided herein.

6. All construction and maintenance activity shall be confined to the authorized right-of-way width of 20 feet. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline shall be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline shall be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity shall be confined to existing roads or right-of-ways.

7. No blading or clearing of any vegetation shall be allowed unless approved in writing by the Authorized Officer.
8. Holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of dune areas, the pipeline shall be "snaked" around hummocks and dunes rather than suspended across these features.
9. The pipeline shall be buried with a minimum of 24 inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.
10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.
11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.
12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – Shale Green, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.
13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.
14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.
15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all

operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

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

17. Surface pipelines shall be less than or equal to 4 inches and a working pressure below 125 psi.

### **C. ELECTRIC LINES**

#### **STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES**

**A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.**

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the

Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrent shall be placed on all vertical poles that extend past the cross arms.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

11. Special Stipulations:

- For reclamation remove poles, lines, transformer, etc. and dispose of properly.
- Fill in any holes from the poles removed.

## **IX. INTERIM RECLAMATION**

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

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

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

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

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

## **X. FINAL ABANDONMENT & RECLAMATION**

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



Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

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

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

## Seed Mixture 2, for Sandy Sites

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

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

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

<u>Species</u>	<u>lb/acre</u>
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

\*Pounds of pure live seed:

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

# Oxy USA Inc. - Cedar Canyon 22 Fed Com #62Y

## 1. Geologic Formations

TVD of target	8,720'	Pilot hole depth	N/A
MD at TD:	13,430'	Deepest expected fresh water:	354'

## Delaware Basin

Formation	TVD - RKB	Expected Fluids
T. Rustler	354	--
T. Salt	766	--
T. Delaware / Lamar / B. Anhydrite	2,969	Oil/Gas
T. Bell Canyon*	3,017	Water/Oil/Gas
T. Brushy Canyon*	5,092	Oil/Gas
T. 1 <sup>st</sup> BSPG	6,661	Oil/Gas
T. 2 <sup>nd</sup> BSPG	7,913	Oil/Gas
Target 2 <sup>nd</sup> BSPG	8,702	Oil/Gas
T. 3 <sup>rd</sup> BSPG	8,849	Oil/Gas

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

## 2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
	From	To							
14.75"	0	400	10.75"	40.5	J55	BTC	8.05	1.4	3.98
9.875"	0	8,100	7.625"	26.4	L80	BTC	2.82	1.25	2.01
6.75"	0	8,750	5.5"	17	P-110	Ultra SF	1.7	1.20	2.23
6.75"	8,750	13,430	4.5"	11.6	P-110	DQX	1.7	1.20	1.96
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet

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 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 cancellation cone and not pump the second stage.

	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.	

**Oxy USA Inc. - Cedar Canyon 22 Fed Com #6HY**

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?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

**3. Cementing Program**

Casing	# Sks	Wt. lb/gal	Yld ft/sack	H <sub>2</sub> O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	260	14.8	1.35	6.53	6:50	Premium Plus Cement 2% Calcium Chloride - Flake (Accelerator)
Inter.	910	10.3	3.05	15.63	15:07	TUNED LIGHT (TM) SYSTEM 0.80% HR-601(Retarder), 3 lbm/sk Kol-Seal (Lost Circulation Additive), 0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)
	250	13.2	1.65	8.45	12:57	Super H Cement, 0.1 % HR-800 (Retarder), 0.5 % Halad(R)-344 (Low Fluid Loss Control), 0.3 % CFR-3 (Dispersant), 2 lbm Kol-Seal (Lost Circulation Additive), 3 lbm Salt (Salt)
	DV/ECP Tool @ ~3,020' (We request the option to cancel the second stage if cement is circulated to surface during the first stage of cement operations)					
	465	12.9	1.85	9.86	12:44	Halliburton Light Premium Plus Cement with 5% Salt (Accelerator), 0.125 lbs/sk Poly-E-Flake (Lost Circulation Additive), 5 lbs/sk Kol-Seal (Lost Circulation Additive), 0.35% HR-800 (Retarder)
	190	14.8	1.33	6.34	6:31	Premium Plus cement
Prod.	550	13.2	1.631	8.37	15:15	Super H Cement, 0.1 % HR-800 (Retarder), 0.5 % Halad(R)-344 (Low Fluid Loss Control), 0.4 % CFR-3 (Dispersant), 3 lbm Salt (Salt)

Casing String	TOC	% Excess (Lead/Tail)
Surface	0'	50%
Intermediate	0'	100% / 20%
Intermediate Contingency 2 <sup>nd</sup> Stage	0'	75% / 125%
Production	7,100'	15%

**4. Pressure Control Equipment**

BOP installed	Size?	Min.	Type	✓	Tested to:
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**Oxy USA Inc. - Cedar Canyon 22 Fed Com #6**

and tested before drilling which hole?		Required WP			
9.875" Intermediate	13-3/8"	5M	Annular	✓	70% of working pressure
			Blind Ram	✓	250/5000psi
			Pipe Ram		
			Double Ram	✓	
			Other*		

\*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
Y	Are anchors required by manufacturer?
	A multibowl wellhead is being used. 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. See attached schematic. 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.

### 5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. shoe	FW Gel	8.4-8.8	28-38	N/C
Surf csg	2,950'	Saturated Brine	9.8-10	28-32	N/C
2,950'	Int shoe	EnerSeal (MMH)	8.8-9.6	38-50	N/C
Int shoe	TD	OBM	8.8-9.4	28-100	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.

## Oxy USA Inc. - Cedar Canyon 22 Fed Com #6

Oxy proposes to drill out the 10-3/4" surface casing shoe with a saturated brine system from 400'-2,970', which is the base of the salt system. At this point we will swap fluid systems to a high viscosity mixed metal hydroxide system. We will drill with this system to the intermediate TD @ 8,100'.

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
No	PEX

### 7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	3984 psi
Abnormal Temperature	No

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

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

### 8. Other facets of operation

Yes/No

**Oxy USA Inc. - Cedar Canyon 22 Fed Com #611Y**

Will the well be drilled with a walking/skidding operation? If yes, describe. <ul style="list-style-type: none"><li>• We plan to drill the three well pad in batch by section: all surface sections, intermediate sections and production sections. The wellhead will be secured with a night cap whenever the rig is not over the well.</li></ul>	Yes
Will more than one drilling rig be used for drilling operations? If yes, describe.	No

**Attachments**

- ☒ Directional Plan  
☒ H2S Contingency Plan  
☒ Flex III Attachments

**9. Company Personnel**

<u>Name</u>	<u>Title</u>	<u>Office Phone</u>	<u>Mobile Phone</u>
Richard Mercer	Drilling Engineer	(713)366-5174	(832) 523-6392
Diego Tellez	Drilling Engineering Team Lead	(713)350-4602	(713) 303-4932
Ryan Farrell	Drilling Engineer Supervisor	(713)366-5058	(832) 914-7443
Travis Samford	Drilling Superintendent	(713)522-8652	(281) 684-6897
Daniel Holderman	Drilling Manager	(713)497-2006	(832) 525-9029

# Schlumberger

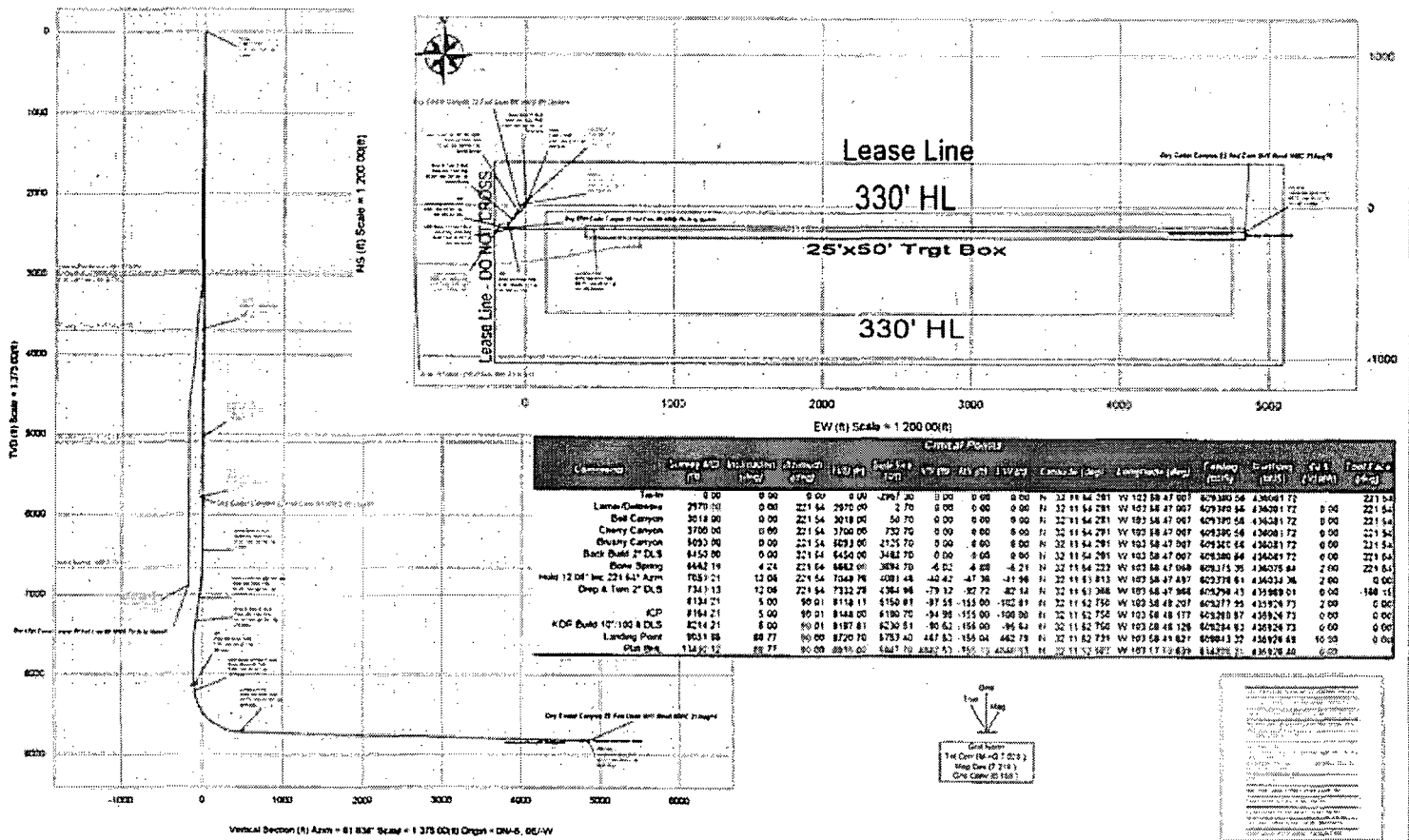
Rev0

OXY

RKB: 28.2 FT



Wellhead				Name				Structure			
Oxy CC 22 Fed Com 6HY - Orig. Hole				Oxy Cedar Canyon 22 Fed Com 6HY				Oxy Cedar Canyon 22 Fed Com 6HY - NSHL			
Oxy CC 22 Fed Com 6HY - Orig. Hole				Oxy Cedar Canyon 22 Fed Com 6HY				Oxy Cedar Canyon 22 Fed Com 6HY - NSHL			
Oxy CC 22 Fed Com 6HY - Orig. Hole				Oxy Cedar Canyon 22 Fed Com 6HY				Oxy Cedar Canyon 22 Fed Com 6HY - NSHL			





# Oxy Cedar Canyon 22 Fed Com 6HY Rev0 MMC 31Aug16 Proposal

## Geodetic Report

(Non-Def Plan)



<b>Report Date:</b>	September 07, 2016 - 01:14 PM	<b>Survey / DLS Computation:</b>	Minimum Curvature / Lubinski
<b>Client:</b>	OXY	<b>Vertical Section Azimuth:</b>	91.838 ° (Grid North)
<b>Field:</b>	NM Eddy County (NAD 27)	<b>Vertical Section Origin:</b>	0.000 ft, 0.000 ft
<b>Structure / Slot:</b>	Oxy Cedar Canyon 22 Fed Com 6HY - NSHL / Oxy Cedar Canyon 22 Fed Com 6H - NSHL	<b>TVD Reference Datum:</b>	RKB
<b>Well:</b>	Oxy Cedar Canyon 22 Fed Com 6HY	<b>TVD Reference Elevation:</b>	2987.300 ft above MSL
<b>Borehole:</b>	Oxy CC 22 Fed Com 6HY - Orig. Hole	<b>Seabed / Ground Elevation:</b>	2939.100 ft above MSL
<b>UWI / API#:</b>	Unknown / Unknown	<b>Magnetic Declination:</b>	7.216 °
<b>Survey Name:</b>	Oxy Cedar Canyon 22 Fed Com 6HY Rev0 MMC 31Aug16	<b>Total Gravity Field Strength:</b>	998.4670mgN (9.80665 Based)
<b>Survey Date:</b>	August 31, 2016	<b>Gravity Model:</b>	GARM
<b>Tort / AHD / DDI / ERD Ratio:</b>	111.851 ° / 5148.643 ft / 5.942 / 0.534	<b>Total Magnetic Field Strength:</b>	48205.782 nT
<b>Coordinate Reference System:</b>	NAD27 New Mexico State Plane, Eastern Zone, US Feet	<b>Magnetic Dip Angle:</b>	60.048 °
<b>Location Lat / Long:</b>	N 32° 11' 54.28070", W 103° 58' 47.00705"	<b>Declination Date:</b>	August 21, 2016
<b>Location Grid N/E Y/X:</b>	N 438081.720 NUS, E 609380.560 NUS	<b>Magnetic Declination Model:</b>	HDGM 2016
<b>CRS Grid Convergence Angle:</b>	0.1884 °	<b>North Reference:</b>	Grid North
<b>Grid Scale Factor:</b>	0.99992279	<b>Grid Convergence Used:</b>	0.1884 °
<b>Version / Patch:</b>	2.9.370.0	<b>Total Corr Mag North-&gt;Grid North:</b>	7.0272 °
		<b>Local Coord Referenced To:</b>	Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (NUS)	Easting (EUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Tie-In	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	100.00	0.00	221.54	100.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	200.00	0.00	221.54	200.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	300.00	0.00	221.54	300.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	400.00	0.00	221.54	400.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	500.00	0.00	221.54	500.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	600.00	0.00	221.54	600.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	700.00	0.00	221.54	700.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	800.00	0.00	221.54	800.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	900.00	0.00	221.54	900.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	1000.00	0.00	221.54	1000.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	1100.00	0.00	221.54	1100.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	1200.00	0.00	221.54	1200.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	1300.00	0.00	221.54	1300.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	1400.00	0.00	221.54	1400.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	1500.00	0.00	221.54	1500.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	1600.00	0.00	221.54	1600.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	1700.00	0.00	221.54	1700.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	1800.00	0.00	221.54	1800.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	1900.00	0.00	221.54	1900.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	2000.00	0.00	221.54	2000.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	2100.00	0.00	221.54	2100.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	2200.00	0.00	221.54	2200.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	2300.00	0.00	221.54	2300.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	2400.00	0.00	221.54	2400.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	2500.00	0.00	221.54	2500.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	2600.00	0.00	221.54	2600.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	2700.00	0.00	221.54	2700.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	2800.00	0.00	221.54	2800.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	2900.00	0.00	221.54	2900.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	3000.00	0.00	221.54	3000.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	3100.00	0.00	221.54	3100.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	3200.00	0.00	221.54	3200.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	3300.00	0.00	221.54	3300.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	3400.00	0.00	221.54	3400.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	3500.00	0.00	221.54	3500.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	3600.00	0.00	221.54	3600.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	3700.00	0.00	221.54	3700.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	3800.00	0.00	221.54	3800.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	3900.00	0.00	221.54	3900.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	4000.00	0.00	221.54	4000.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	4100.00	0.00	221.54	4100.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	4200.00	0.00	221.54	4200.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	4300.00	0.00	221.54	4300.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	4400.00	0.00	221.54	4400.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	4500.00	0.00	221.54	4500.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	4600.00	0.00	221.54	4600.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	4700.00	0.00	221.54	4700.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	4800.00	0.00	221.54	4800.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	4900.00	0.00	221.54	4900.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	5000.00	0.00	221.54	5000.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	5100.00	0.00	221.54	5100.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	5200.00	0.00	221.54	5200.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	5300.00	0.00	221.54	5300.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	5400.00	0.00	221.54	5400.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	5500.00	0.00	221.54	5500.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	5600.00	0.00	221.54	5600.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	5700.00	0.00	221.54	5700.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	5800.00	0.00	221.54	5800.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	5900.00	0.00	221.54	5900.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	6000.00	0.00	221.54	6000.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	6100.00	0.00	221.54	6100.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	6200.00	0.00	221.54	6200.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	6300.00	0.00	221.54	6300.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	6400.00	0.00	221.54	6400.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
Back Build 2" DLS	6450.00	0.00	221.54	6450.00	0.00	0.00	0.00	0.00	436081.72	609380.56	N 32 11 54.28 W	103 58 47.01
	6500.00	1.00	221.54	6500.00	-0.28	-0.33	-0.29	2.00	436081.39	609380.27	N 32 11 54.28 W	103 58 47.01
	6600.00	3.00	221.54	6599.93	-2.51	-2.94	-2.60	2.00	436078.78	609377.68	N 32 11 54.25 W	103 58 47.04
	6700.00	5.00	221.54	6699.88	-6.98	-8.16	-7.23	2.00	436073.56	609373.33	N 32 11 54.20 W	103 58 47.00
	6800.00	7.00	221.54	6799.13	-13.64	-15.68	-14.16	2.00	436065.74	609366.40	N 32 11 54.12 W	103 58 47.17
	6900.00	9.00	221.54	6898.15	-22.53	-26.40	-23.39	2.00	436055.32	609357.17	N 32 11 54.02 W	103 58 47.28
	7000.00	11.00	221.54	6896.63	-33.62	-39.40	-34.90	2.00	436042.33	609345.66	N 32 11 53.89 W	103 58 47.41
Hold 12.06° Inc 221.54° Azm	7053.21	12.06	221.54	7048.76	-40.42	-47.36	-41.96	2.00	436034.38	609338.61	N 32 11 53.81 W	103 58 47.50
	7100.00	12.06	221.54	7094.52	-48.66	-64.68	-48.44	0.00	436027.04	609332.12	N 32 11 53.74 W	103 58 47.57
	7200.00	12.06	221.54	7192.31	-60.01	-70.32	-62.30	0.00	436011.40	609318.28	N 32 11 53.59 W	103 58 47.73
	7300.00	12.06	221.54	7290.10	-72.36	-85.97	-79.18	0.00	435995.76	609304.41	N 32 11 53.43 W	103 58 47.90

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N° S° W°)	Longitude (E° W°)
Drop & Turn 2° DLS	7343.13	12.06	221.54	7332.28	-79.12	-92.72	-82.14	0.00	435989.01	609298.43	N 32 11 53.37 W 103 58 47.97	
	7400.00	10.96	220.11	7388.00	-86.27	-101.30	-89.56	2.00	435980.43	609291.00	N 32 11 53.28 W 103 58 48.05	
	7500.00	9.05	218.76	7488.49	-99.60	-114.89	-100.40	2.00	435968.85	609280.17	N 32 11 53.15 W 103 58 48.18	
	7600.00	7.18	211.67	7585.48	-104.27	-126.50	-108.38	2.00	435955.23	609272.18	N 32 11 53.03 W 103 58 48.27	
	7700.00	5.41	203.14	7684.87	-109.09	-136.15	-113.52	2.00	435945.56	609267.05	N 32 11 52.64 W 103 58 48.33	
	7800.00	3.88	187.17	7784.54	-111.12	-143.82	-115.79	2.00	435937.91	609264.78	N 32 11 52.68 W 103 58 48.36	
	7900.00	2.93	156.65	7884.36	-110.34	-149.51	-116.20	2.00	435932.23	609265.37	N 32 11 52.81 W 103 58 48.35	
	8000.00	3.20	118.83	7984.24	-108.77	-153.19	-111.74	2.00	435928.54	609268.83	N 32 11 52.77 W 103 58 48.31	
	8100.00	4.48	95.07	8084.02	-100.41	-154.88	-105.43	2.00	435928.85	609275.14	N 32 11 52.75 W 103 58 48.24	
	8134.21	5.00	90.01	8118.11	-97.59	-155.00	-102.81	2.00	435928.73	609277.95	N 32 11 52.75 W 103 58 48.21	
ICP	8164.21	5.00	90.01	8148.00	-84.88	-155.00	-100.00	0.00	435928.73	609280.57	N 32 11 52.75 W 103 58 48.18	
	8200.00	5.00	90.01	8183.66	-81.88	-155.00	-98.88	0.00	435928.73	609283.89	N 32 11 52.75 W 103 58 48.14	
KOP Build 10"/100 ft DLS	8214.21	5.00	90.01	8197.81	-80.62	-155.00	-95.64	0.00	435928.73	609284.93	N 32 11 52.75 W 103 58 48.13	
	8300.00	13.58	90.01	8282.40	-78.79	-155.00	-81.81	10.00	435928.73	609298.76	N 32 11 52.75 W 103 58 47.96	
	8400.00	23.58	90.01	8377.07	-44.99	-155.01	-49.89	10.00	435928.73	609330.58	N 32 11 52.75 W 103 58 47.59	
	8500.00	33.58	90.00	8464.77	2.77	-155.01	-2.21	10.00	435928.72	609378.95	N 32 11 52.75 W 103 58 47.04	
	8600.00	43.58	90.00	8542.95	05.01	-155.01	60.07	10.00	435928.72	609440.63	N 32 11 52.74 W 103 58 46.31	
	8700.00	53.58	90.00	8608.92	139.87	-155.02	134.97	10.00	435928.71	609515.51	N 32 11 52.74 W 103 58 45.44	
	8800.00	63.58	90.00	8660.99	225.05	-155.03	220.19	10.00	435928.71	609600.74	N 32 11 52.74 W 103 58 44.45	
	8900.00	73.58	90.00	8697.48	317.98	-155.03	313.17	10.00	435928.70	609683.70	N 32 11 52.74 W 103 58 43.37	
	9000.00	83.58	90.00	8717.24	415.83	-155.04	411.08	10.00	435928.69	609791.69	N 32 11 52.73 W 103 58 42.23	
Landing Point	9051.88	88.77	90.00	8720.70	487.53	-155.04	482.79	10.00	435928.69	609843.32	N 32 11 52.73 W 103 58 41.63	
	9100.00	88.77	90.00	8721.73	515.63	-155.05	510.92	0.00	435928.69	609891.44	N 32 11 52.73 W 103 58 41.07	
	9200.00	88.77	90.00	8723.89	615.58	-155.05	610.90	0.00	435928.68	609961.41	N 32 11 52.73 W 103 58 39.90	
	9300.00	88.77	90.00	8726.04	715.48	-155.06	710.87	0.00	435928.67	610061.38	N 32 11 52.72 W 103 58 38.74	
	9400.00	88.77	90.00	8728.20	815.41	-155.07	810.85	0.00	435928.67	610181.35	N 32 11 52.72 W 103 58 37.58	
	9500.00	88.77	90.00	8730.35	915.33	-155.07	910.83	0.00	435928.66	610281.31	N 32 11 52.72 W 103 58 36.41	
	9600.00	88.77	90.00	8732.50	1015.26	-155.08	1010.80	0.00	435928.65	610381.28	N 32 11 52.71 W 103 58 35.25	
	9700.00	88.77	90.00	8734.66	1115.18	-155.09	1110.78	0.00	435928.65	610481.25	N 32 11 52.71 W 103 58 34.09	
	9800.00	88.77	90.00	8736.81	1215.11	-155.09	1210.78	0.00	435928.64	610581.22	N 32 11 52.71 W 103 58 32.92	
	9900.00	88.77	90.00	8738.97	1315.03	-155.10	1310.73	0.00	435928.63	610681.19	N 32 11 52.70 W 103 58 31.78	
	10000.00	88.77	90.00	8741.12	1414.96	-155.11	1410.71	0.00	435928.63	610781.16	N 32 11 52.70 W 103 58 30.60	
	10100.00	88.77	90.00	8743.27	1514.89	-155.11	1510.69	0.00	435928.62	610881.13	N 32 11 52.70 W 103 58 29.43	
	10200.00	88.77	90.00	8745.43	1614.81	-155.12	1610.68	0.00	435928.61	610981.10	N 32 11 52.69 W 103 58 28.27	
	10300.00	88.77	90.00	8747.58	1714.74	-155.13	1710.64	0.00	435928.61	611081.07	N 32 11 52.69 W 103 58 27.11	
	10400.00	88.77	90.00	8749.74	1814.66	-155.13	1810.62	0.00	435928.60	611181.03	N 32 11 52.69 W 103 58 25.94	
	10500.00	88.77	90.00	8751.89	1914.59	-155.14	1910.59	0.00	435928.59	611281.00	N 32 11 52.68 W 103 58 24.78	
	10600.00	88.77	90.00	8754.04	2014.51	-155.15	2010.57	0.00	435928.59	611381.07	N 32 11 52.68 W 103 58 23.62	
	10700.00	88.77	90.00	8756.20	2114.44	-155.15	2110.55	0.00	435928.58	611481.04	N 32 11 52.68 W 103 58 22.45	
	10800.00	88.77	90.00	8758.35	2214.36	-155.16	2210.52	0.00	435928.57	611581.01	N 32 11 52.67 W 103 58 21.29	
	10900.00	88.77	90.00	8760.50	2314.29	-155.16	2310.50	0.00	435928.57	611681.00	N 32 11 52.67 W 103 58 20.13	
	11000.00	88.77	90.00	8762.66	2414.22	-155.17	2410.48	0.00	435928.56	611781.05	N 32 11 52.67 W 103 58 18.96	
	11100.00	88.77	90.00	8764.81	2514.14	-155.18	2510.48	0.00	435928.55	611881.02	N 32 11 52.66 W 103 58 17.80	
	11200.00	88.77	90.00	8766.97	2614.07	-155.18	2610.43	0.00	435928.55	611981.09	N 32 11 52.66 W 103 58 16.64	
	11300.00	88.77	90.00	8769.12	2713.99	-155.19	2710.41	0.00	435928.54	612081.05	N 32 11 52.66 W 103 58 15.47	
	11400.00	88.77	90.00	8771.27	2813.92	-155.20	2810.39	0.00	435928.53	612181.02	N 32 11 52.65 W 103 58 14.31	
	11500.00	88.77	90.00	8773.43	2913.84	-155.20	2910.36	0.00	435928.53	612281.09	N 32 11 52.65 W 103 58 13.15	
	11600.00	88.77	90.00	8775.58	3013.77	-155.21	3010.34	0.00	435928.52	612381.06	N 32 11 52.65 W 103 58 11.99	
	11700.00	88.77	90.00	8777.74	3113.69	-155.22	3110.32	0.00	435928.51	612481.03	N 32 11 52.64 W 103 58 10.82	
	11800.00	88.77	90.00	8779.89	3213.62	-155.22	3210.29	0.00	435928.51	612581.00	N 32 11 52.64 W 103 58 9.65	
	11900.00	88.77	90.00	8782.04	3313.55	-155.23	3310.27	0.00	435928.50	612681.07	N 32 11 52.64 W 103 58 8.49	
	12000.00	88.77	90.00	8784.20	3413.47	-155.24	3410.25	0.00	435928.49	612781.04	N 32 11 52.63 W 103 58 7.33	
	12100.00	88.77	90.00	8786.35	3513.40	-155.24	3510.22	0.00	435928.49	612881.01	N 32 11 52.63 W 103 58 6.16	
	12200.00	88.77	90.00	8788.50	3613.32	-155.25	3610.20	0.00	435928.48	612981.07	N 32 11 52.63 W 103 58 5.00	
	12300.00	88.77	90.00	8790.66	3713.25	-155.26	3710.18	0.00	435928.47	613081.04	N 32 11 52.62 W 103 58 3.84	
	12400.00	88.77	90.00	8792.81	3813.17	-155.26	3810.15	0.00	435928.47	613181.01	N 32 11 52.62 W 103 58 2.67	
	12500.00	88.77	90.00	8794.97	3913.10	-155.27	3910.13	0.00	435928.46	613281.08	N 32 11 52.61 W 103 58 1.51	
	12600.00	88.77	90.00	8797.12	4013.02	-155.28	4010.11	0.00	435928.45	613381.05	N 32 11 52.61 W 103 58 0.35	
	12700.00	88.77	90.00	8799.27	4112.95	-155.28	4110.08	0.00	435928.45	613481.02	N 32 11 52.61 W 103 57 59.18	
	12800.00	88.77	90.00	8801.43	4212.88	-155.29	4210.06	0.00	435928.44	613581.09	N 32 11 52.60 W 103 57 58.02	
	12900.00	88.77	90.00	8803.58	4312.80	-155.30	4310.04	0.00	435928.43	613681.06	N 32 11 52.60 W 103 57 56.86	
	13000.00	88.77	90.00	8805.74	4412.73	-155.30	4410.01	0.00	435928.43	613781.03	N 32 11 52.60 W 103 57 55.69	
	13100.00	88.77	90.00	8807.89	4512.65	-155.31	4509.99	0.00	435928.42	613881.09	N 32 11 52.59 W 103 57 54.53	
	13200.00	88.77	90.00	8810.04	4612.58	-155.32	4609.97	0.00	435928.42	613981.06	N 32 11 52.59 W 103 57 53.37	
	13300.00	88.77	90.00	8812.20	4712.50	-155.32	4709.94	0.00	435928.41	614081.03	N 32 11 52.59 W 103 57 52.20	
	13400.00	88.77	90.00	8814.35	4812.43	-155.33	4809.92	0.00	435928.40	614181.00	N 32 11 52.58 W 103 57 51.04	
Plat BHL	13430.12	88.77	90.00	8815.00	4842.53	-155.33	4840.00	0.00	435928.40	614220.21	N 32 11 52.58 W 103 57 50.69	

Survey Type: Non-Def Plan

Survey Error Model: ISCWSA Rev 0 \*\*\* 3-D 95 000% Confidence 2.7855 sigma  
Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EDU Freq (ft)	Hole Size Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey
	1	0.000	28.200	1/100.000	30.000	30.000	NAL_MWD_PLUS_0.5_DEG Depth Only	Oxy CC 22 Fed Com 6HY - Orig. Hole / Oxy Cedar Canyon 22 Fed Com 6HY Rev0 MMC 31Aug18
	1	28.200	13430.119	1/100.000	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Oxy CC 22 Fed Com 6HY - Orig. Hole / Oxy Cedar Canyon 22 Fed



# Oxy Cedar Canyon 22 Fed Com 6HY Rev0 MMC 31Aug16 Anti-Collision Summary Report

Analysis Date-Time: September 07, 2016 - 12:10

Client: OXY

Field: NM Eddy County (NAD 27)

Structure: Oxy Cedar Canyon 22 Fed Com 6HY - NSHL

Slot: Oxy Cedar Canyon 22 Fed Com 6HY - NSHL

Well: Oxy Cedar Canyon 22 Fed Com 6HY

Borehole: Oxy CC 22 Fed Com 6HY - Orig. Hole

Scan MD Range: 0 00ft - 13430.12ft

Analysis Method: 3D Least Distance

Reference Trajectory: Oxy Cedar Canyon 22 Fed Com 6HY Rev0 MMC 31Aug16 (Non-Def Plan)

Depth Interval: Every 10 00 Measured Depth (ft)

Rule Set: NAL Procedure: D&amp;M AntiCollision Standard S002

Min Pts: All local maxima indicated.

Version / Patch: 2.9.370.0

Database / Project: us1153app452 dr.alb comdrilling-nm Eddy County 2.9

Trajectory Error Model: ICSW5A0 J-D 85 000% Confidence 2.7955 sigma

## Offset Trajectories Summary

## Offset Selection Criteria

Wellhead distance scan:

Selection filters:

Not performed:

Definitive Surveys - Definitive Plans - Definitive surveys exclude definitive plans

- All Non-Def Surveys when no Def-Survey is set in a borehole - All Non-Def Plans when no Def-Plan is set in a borehole

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	CI-Cl (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
Oxy Cedar Canyon 22 Fed Com 6HY MWD CH-Update (Non-Def Survey)													
20.00	18.50	17.50	3.50	N/A	MAS = 5.03 (m)	0.00	0.00	CRCl=16m+19.00				Enter Alert	Fall Major
20.00	18.50	17.50	3.50	N/A	MAS = 5.03 (m)	28.20	28.20					WRP	
19.84	18.50	18.78	3.44	10.56	MAS = 5.03 (m)	350.00	350.00					MinPts	
19.83	18.50	12.70	4.15	4.80	MAS = 5.03 (m)	630.00	630.00					MinPts	
18.78	18.50	15.13	2.28	4.48	MAS = 5.03 (m)	680.00	680.00					MinPts	
19.37	18.50	12.99	2.80	4.36	MAS = 5.03 (m)	750.00	750.00					MinPts	
21.24	18.50	13.07	4.50	3.39	MAS = 5.03 (m)	1270.00	1270.00					MinPts	
21.52	18.84	8.24	2.80	1.77	OSF1.50	2460.00	2460.00					MinPts	
21.53	20.48	7.05	1.05	1.59	OSF1.50	2730.00	2730.00					MinPts	
21.81	21.85	6.40	-0.05	1.50	OSF1.50	2920.00	2920.00			OSF+1.50		Enter Minor	
21.81	23.66	6.31	-1.74	1.38	OSF1.50	3210.00	3210.00					MinPts	
21.28	28.05	1.75	-8.76	1.10	OSF1.50	3680.00	3680.00					MinPts	
21.31	29.10	1.01	-7.88	1.08	OSF1.50	4030.00	4030.00					MinPts	
21.78	31.44	-0.04	-8.68	1.00	OSF1.50	4370.00	4370.00					Enter Major	
21.71	32.27	-0.63	-10.66	0.97	OSF1.50	4500.00	4500.00				OSF+1.00	MinPts	
22.19	36.62	-3.02	-14.36	0.87	OSF1.50	5180.00	5180.00					MinPts	
22.37	37.68	-3.58	-15.31	0.80	OSF1.50	5330.00	5330.00					MinPts	
22.41	37.76	-3.55	-15.34	0.85	OSF1.50	5340.00	5340.00					MinPts	
22.52	37.88	-3.67	-15.34	0.85	OSF1.50	5380.00	5380.00					MinPts	
26.99	39.14	-0.03	-12.28	1.00	OSF1.50	5640.00	5640.00				OSF+1.00	Exit Minor	
40.72	40.74	12.73	-0.01	1.50	OSF1.50	6770.00	6770.00					Exit Major	
76.76	27.16	87.80	49.88	4.62	OSF1.50	5850.00	5850.00			OSF+1.50		Exit Minor	
4082.78	64.25	4045.78	4029.63	118.21	OSF1.50	11330.00	8759.77					Exit Alert	
6747.43	68.07	8702.66	8681.38	135.57	OSF1.50	13430.12	8816.00					MinPts	TD

Oxy Cedar Canyon 22 Fed Com 6HY MWD Tie-In to Update (Non-Def Survey)

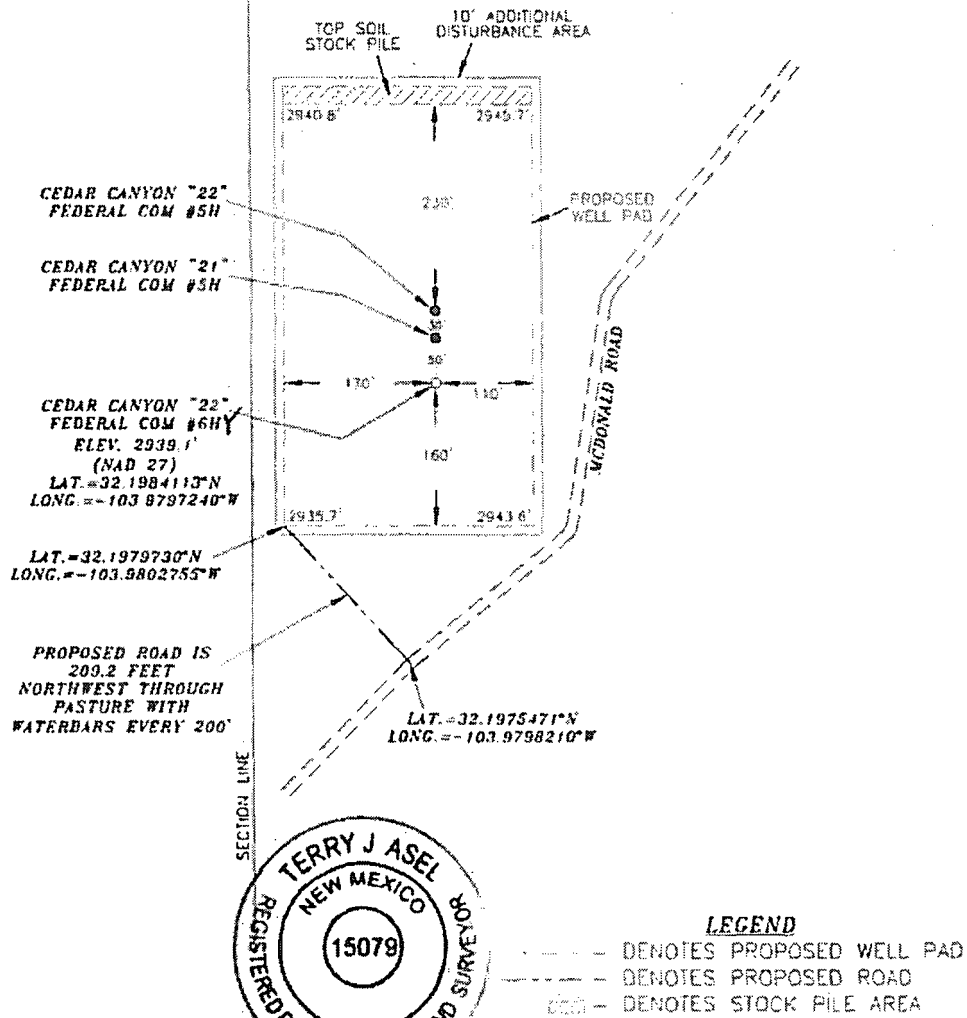
20.00	18.50	17.50	3.50	N/A	MAS = 5.03 (m)	0.00	0.00	CRCl=16m+18.00			Enter Alert	Fall Minor
20.00	18.50	17.50	3.50	N/A	MAS = 5.03 (m)	28.20	28.20				WRP	
19.84	18.50	18.78	3.44	10.56	MAS = 5.03 (m)	350.00	350.00				MinPts	
19.83	18.50	12.70	3.16	4.80	MAS = 5.03 (m)	630.00	630.00				MinPts	
18.78	18.50	15.13	2.28	4.48	MAS = 5.03 (m)	680.00	680.00				MinPts	
19.37	18.50	12.99	2.80	4.36	MAS = 5.03 (m)	750.00	750.00				MinPts	
21.24	18.50	13.07	4.50	3.39	MAS = 5.03 (m)	1270.00	1270.00				MinPts	
21.52	18.50	8.24	2.80	1.77	OSF1.50	2460.00	2460.00				MinPts	
21.53	20.48	7.05	1.05	1.59	OSF1.50	2730.00	2730.00				MinPts	
21.81	21.85	6.40	-0.05	1.50	OSF1.50	2920.00	2920.00				Enter Minor	
21.81	23.76	6.40	-1.29	1.40	OSF1.50	3060.00	3060.00		OSF+1.50		MinPts	
21.52	22.81	6.47	-1.32	1.40	OSF1.50	3070.00	3070.00				MinPts	
22.70	23.06	6.49	-0.36	1.47	OSF1.50	3110.00	3110.00				Enter Minor	
76.13	24.73	58.82	51.41	4.97	OSF1.50	3400.00	3400.00		OSF+5.00	OSF+1.50	Exit Alert	
235.67	36.13	210.70	199.48	10.40	OSF1.50	5000.00	5000.00				MinPts	
238.61	37.33	209.80	190.29	10.04	OSF1.50	5170.00	5170.00				MinPts	
238.44	44.37	208.08	182.12	8.38	OSF1.50	6280.00	6280.00				MinPts	
238.11	45.63	204.88	180.40	8.15	OSF1.50	6500.00	6500.00				MinPts	
200.62	43.68	170.88	157.12	7.25	OSF1.50	6910.00	6908.03				MinPts	
200.21	43.43	170.63	154.84	7.25	OSF1.50	6920.00	6917.88				MinPts	
2517.25	41.02	2489.08	2478.22	57.91	OSF1.50	10110.00	8743.49				MinPts	
5378.30	64.06	6340.80	6323.31	153.62	OSF1.50	13430.12	8816.00				TD	

Oxy - MWD 0 to 10752 ft (Def Survey)

816.13	32.81	812.63	782.33	N/A	MAS = 10.00 (m)	0.00	0.00				Warning Alert	
814.49	32.81	811.02	781.84	12801.82	MAS = 10.00 (m)	20.00	20.00				Surface	
814.37	32.81	811.82	781.56	17978.65	MAS = 10.00 (m)	28.20	28.20				MinPts	
812.14	32.81	807.88	778.79	383.48	MAS = 10.00 (m)	510.00	510.00				WRP	
808.13	32.81	797.84	773.32	138.43	MAS = 10.00 (m)	1220.00	1220.00				MinPts	
803.28	32.81	780.55	770.41	78.34	MAS = 10.00 (m)	2240.00	2240.00				MinPts	
803.31	32.81	780.40	770.50	77.86	MAS = 10.00 (m)	2260.00	2260.31				MinPts	
802.82	47.14	788.72	784.68	26.26	OSF1.50	6500.00	6600.00				MINPT-O-EQU	
803.67	48.08	772.11	757.83	27.64	OSF1.50	6820.00	6818.97				MinPts	
803.84	45.06	772.13	757.82	27.88	OSF1.50	6830.00	6828.69				MINPT-O-EQU	
803.43	45.06	772.12	757.85	27.49	OSF1.50	6840.00	6838.80				MinPts	
238.65	73.78	188.50	164.89	4.98	OSF1.50	7770.00	7764.62		OSF+5.00		Enter Alert	
238.12	73.72	188.04	164.34	4.97	OSF1.50	7780.00	7784.59				MinPts	
238.07	73.57	188.08	164.44	4.98	OSF1.50	7790.00	7774.67		OSF+5.00		Exit Alert	
1258.83	38.14	1232.36	1220.46	67.38	OSF1.50	9780.00	8736.38				MinPts	
4363.88	64.06	6346.21	6329.71	125.22	OSF1.50	13430.12	8816.00				TD	

OXY USA INC.  
CEDAR CANYON "22" FEDERAL COM #6HY  
SITE PLAN

FAA PERMIT: NO



**SURVEYORS CERTIFICATE**

I, TERRY J. ASEL, NEW MEXICO PROFESSIONAL SURVEYOR NO. 15079, DO HEREBY CERTIFY THAT I CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND MEETS THE "MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO" AS ADOPTED BY THE NEW MEXICO STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND SURVEYORS.

*Terry J. Asel* 9/7/2016  
Terry J. Asel, N.M. R.P.L.S. No. 15079

Asel Surveying

P.O. BOX 393 - 310 W TAYLOR  
HOBBS, NEW MEXICO - 575-393-9146

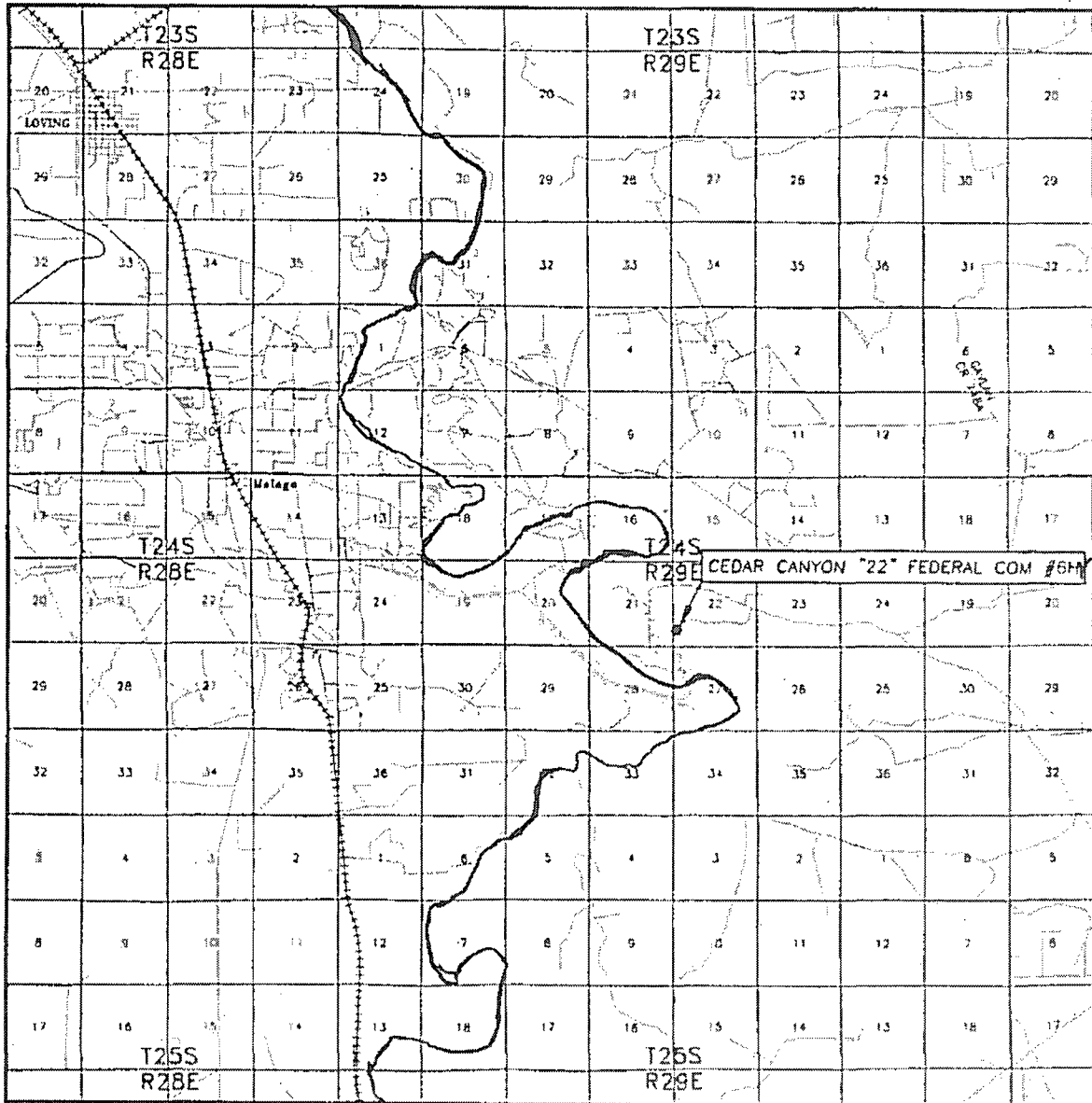


OXY USA INC.

CEDAR CANYON "22" FEDERAL COM #6HY  
LOCATED AT 1040' FSL & 207' FWL IN  
SECTION 22, TOWNSHIP 24 SOUTH, RANGE 29  
EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

Survey Date: 09/06/16	Sheet 1 of 1 Sheets
W.O. Number: 151109WL-b (Rev. C)	Drawn By: KA Rev: C
Date: 09/07/16	151109WL-b Scale: 1"=200'

# VICINITY MAP



SEC. 22 TWP. 24-S RGE. 29-E  
 SURVEY N.M.P.M.  
 COUNTY EDDY  
 DESCRIPTION 1040' FSL & 207' FWL  
 ELEVATION 2939.1'  
 OPERATOR OXY USA INC.

SCALE: 1" = 2 MILES

Asel Surveying

P.O. BOX 393 - 310 W. TAYLOR  
 HOBBS, NEW MEXICO - 575-393-9146



LEASE CEDAR CANYON "22" FEDERAL COM #60Y

DIRECTIONS FROM THE INTERSECTION OF U.S. HWY. #285 AND BLACK RIVER VILLAGE ROAD IN MALAGA, GO EAST ON COUNTY ROAD #720 FOR 1.3 MILES, TURN RIGHT ON COUNTY ROAD #746 (MCDONALD ROAD) AND GO SOUTH FOR 0.8 MILES, CONTINUE SOUTHEAST/EAST FOR 4.8 MILES, CURVE TO THE LEFT FOR 0.4 MILES, TURN LEFT AND GO WEST FOR 0.1 MILES, TURN RIGHT AND GO NORTH FOR 0.5 MILES, TURN LEFT ON PROPOSED ROAD AND GO NORTHWEST FOR 209.2 FEET TO LOCATION.

# AERIAL MAP



SCALE: NOT TO SCALE

SEC. 22 TWP. 24-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 1040' FSL & 207' FWL

ELEVATION 2939.1'

OPERATOR OXY USA INC.

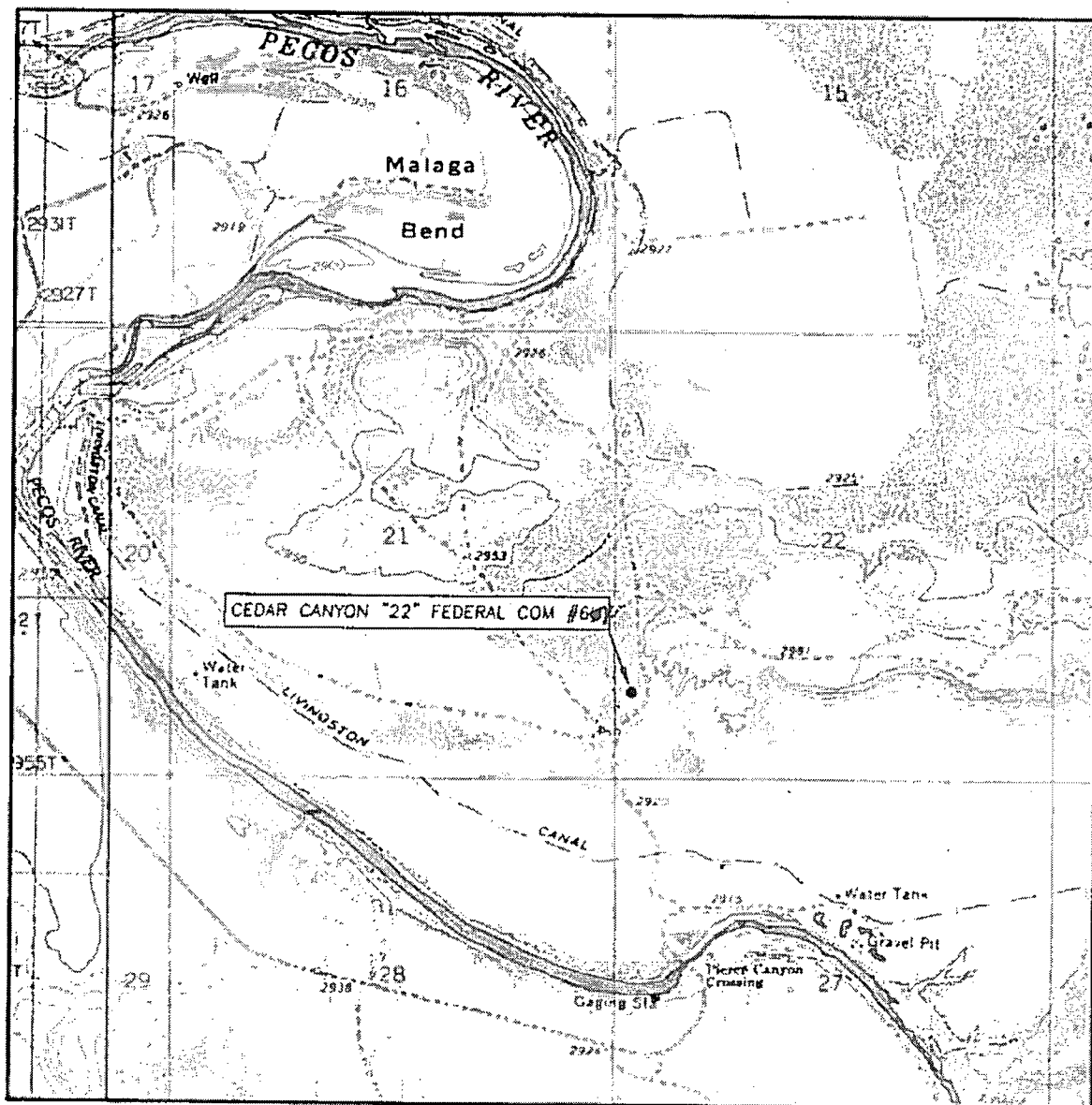
LEASE CEDAR CANYON "22" FEDERAL COM #6BY

Asel Surveying

P.O. BOX 393 - 310 W TAYLOR  
HOBBS, NEW MEXICO - 575-393-9146



# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'

SEC. 22 TWP. 24-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 1040' FSL & 207' FWL

ELEVATION 2939.1'

OPERATOR OXY USA INC.

LEASE CEDAR CANYON "22" FEDERAL COM #669

U.S.G.S. TOPOGRAPHIC MAP  
PIERCE CANYON, N.M.

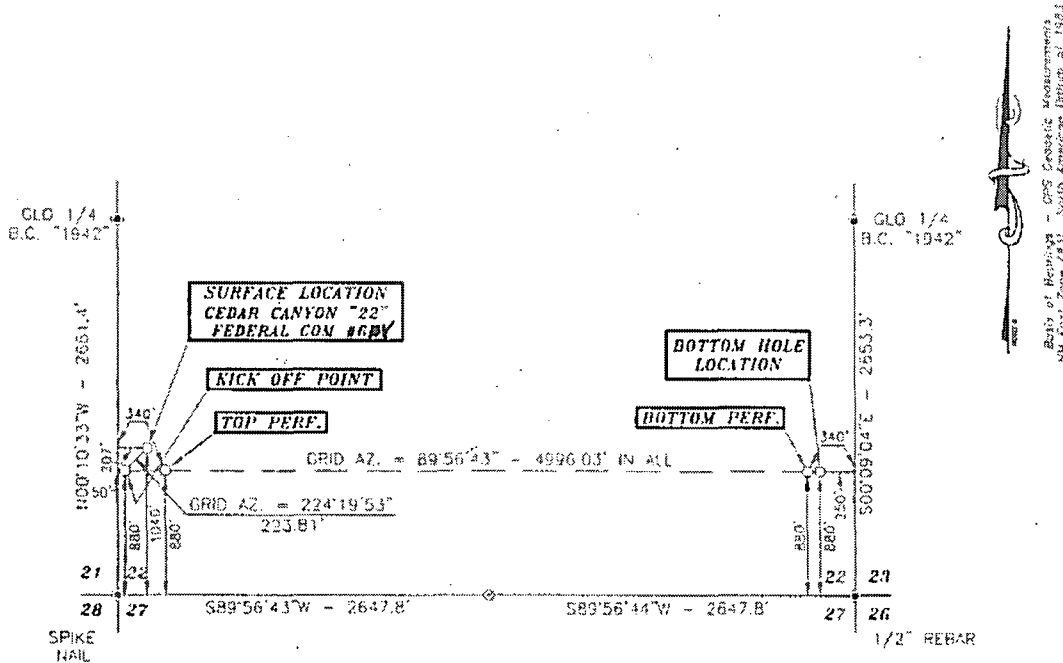
Asel Surveying

P.O. BOX 393 - 310 W. TAYLOR  
HOBBS, NEW MEXICO - 575-393-9148





SECTION 22, TOWNSHIP 24 SOUTH, RANGE 29 EAST, N.M.P.M.,  
EDDY COUNTY NEW MEXICO



DRIVING DIRECTIONS:  
FROM THE INTERSECTION OF U.S. HWY  
#285 AND BLACK RIVER VILLAGE ROAD IN  
MALAGA, GO EAST ON COUNTY ROAD #720  
FOR 1.3 MILES, TURN RIGHT ON COUNTY  
ROAD #746 (MCDONALD ROAD) AND GO  
SOUTH FOR 0.6 MILES, CONTINUE  
SOUTHEAST/EAST FOR 4.8 MILES, CURVE TO  
THE LEFT FOR 0.4 MILES, TURN LEFT AND  
GO WEST FOR 0.1 MILES, TURN RIGHT AND  
GO NORTH FOR 0.5 MILES, TURN LEFT ON  
PROPOSED ROAD AND GO NORTHWEST FOR  
209.2 FEET TO LOCATION



**SURVEYORS CERTIFICATE**

I, TERRY J. ASEL, NEW MEXICO PROFESSIONAL SURVEYOR  
NO. 15079, DO HEREBY CERTIFY THAT I CONDUCTED AND AM  
RESPONSIBLE FOR THIS SURVEY. THAT THIS SURVEY IS  
TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND  
BELIEF, AND MEETS THE MINIMUM STANDARDS FOR  
SURVEYING IN NEW MEXICO AS ADOPTED BY THE NEW  
MEXICO STATE BOARD OF REGISTRATION FOR  
PROFESSIONAL ENGINEERS AND SURVEYORS

*Terry J. Asel* 9/7/2016  
Terry J. Asel, N.M. R.P.L.S. No. 15079

Asel Surveying



P.O. BOX 393 - 310 W TAYLOR  
ROBBS, NEW MEXICO - 875-393-9148

**LEGEND**

- - DENOTES FOUND MONUMENT AS NOTED
- ⊙ - DENOTES CALCULATED CORNER

1000' 0 1000' 2000' FEET  
SCALE: 1"=1000'

**OXY USA INC.**

CEDAR CANYON "22" FEDERAL COM #6PY  
LOCATED AT 1040' FSL & 207' FWL IN  
SECTION 22, TOWNSHIP 24 SOUTH, RANGE 29  
EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

Survey Date: 09/06/16	Sheet 1 of 1 Sheets
W.D. Number: 151109WL-b (Rev. C)	Drawn By: KA Rev: C
Date: 09/07/16	151109WL-b Scale: 1"=1000'