Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM114356

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☐ Gas Well ☑ Other INJ-DIS

1c. Type of Completion: ☐ Hydraulic Fracturing ☑ Single Zone ☐ Multiple Zone

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

8. Lease Name and Well No.
SANDY FEDERAL-SWD
10 327164

2. Name of Operator
STRATA PRODUCTION COMPANY 21712

9. API Well No.
30-015-46745

3a. Address
1301 N Sycamore Roswell NM 88202

3b. Phone No. *(include area code)*
(575)622-1127

10. Field and Pool, or Exploratory
~~FORTY NINER RIDGE~~ / DEVONIAN SWD 96101

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface LOT E / 2430 FNL / 460 FWL / LAT 32.2910477 / LONG -103.8414891
At proposed prod. zone LOT E / 2430 FNL / 460 FWL / LAT 32.2910477 / LONG -103.8414891

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 24 / T23S / R30E / NMP

14. Distance in miles and direction from nearest town or post office*
20 miles

12. County or Parish
EDDY

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
460 feet

16. No of acres in lease
640

17. Spacing Unit dedicated to this well
0

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

19. Proposed Depth
16500 feet / 16500 feet

20. BLM/BIA Bond No. in file
FED: NM1538

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3255 feet

22. Approximate date work will start*
03/01/2019

23. Estimated duration
30 days

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Shammy Dennis / Ph: (575)622-1127	10/19/2018

Title
Administrative Support

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	09/30/2019

Title	Office
Assistant Field Manager Lands & Minerals	CARLSBAD

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

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

APPROVED WITH CONDITIONS
Approval Date: 09/30/2019

(Continued on page 2)

*(Instructions on page 2)

RW 2-17-20

INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM I: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the wen, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionany drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

ITEM 24: If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160
PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service wen or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.
ROUTINE USE: Information from the record and/or the record win be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.
EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM conects this information to anow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Conection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

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Original

Additional Operator Remarks

Location of Well

1. SHL: LOT E / 2430 FNL / 460 FWL / TWSP: 23S / RANGE: 30E / SECTION: 24 / LAT: 32.2910477 / LONG: -103.8414891 (TVD: 0 feet, MD: 0 feet)
   PPP: (TVD: 0 feet, MD: 0 feet)
   BHL: LOT E / 2430 FNL / 460 FWL / TWSP: 23S / RANGE: 30E / SECTION: 24 / LAT: 32.2910477 / LONG: -103.8414891 (TVD: 16500 feet, MD: 16500 feet)

BLM Point of Contact

Name: Linda (Cathleen) Queen
Title: Project Manager-Carlsbad Field Office
Phone: 5752345962
Email: cqueen@blm.gov

CONFIDENTIAL

Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

CONFIDENTIAL

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**STRATA PRODUCTION COMPANY**
LEASE NO.:	**NMNM114356**
WELL NAME & NO.:	**SANDY FEDERAL SWD 10**
SURFACE HOLE FOOTAGE:	**2430' FNL & 460' FWL**
BOTTOM HOLE FOOTAGE	**2430' FNL & 460' FWL**
LOCATION:	**Section 24, T. 23 S., R 30 E., NMPM**
COUNTY:	**Eddy County, New Mexico**

COA

H2S	◉ Yes	○ No	
Potash	○ None	○ Secretary	◉ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
Variance	◉ None	○ Flex Hose	○ Other
Wellhead	◉ Conventional	○ Multibowl	○ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☑ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☑ Water Disposal	☐ COM	☐ Unit

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Corral Canyon** formation. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **20** inch surface casing shall be set at approximately **385** feet (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **24 hours in the Potash Area** or 500 pounds compressive strength, whichever

is greater. (This is to include the lead cement)

c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **13-3/8** inch first intermediate casing is:

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

3. The minimum required fill of cement behind the **9-5/8** inch second intermediate casing is:

    - Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Excess cement calculates to 18%, additional cement might be required. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

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

4. The minimum required fill of cement behind the **7** inch production casing is:

Operator has proposed a DV tool at **11,500** feet , the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

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

b. Second stage above DV tool:

    - Cement should tie back at least **500 feet** into previous casing. If cement does not circulate, contact the appropriate BLM office.

C. PRESSURE CONTROL

1. 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.

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13-3/8** inch intermediate casing shoe shall be **10,000 (10M)** psi.

D. SPECIAL REQUIREMENT (S)

WELL COMPLETION

The operator shall supply the BLM with a copy of a mudlog over the permitted disposal interval and estimated insitu water salinity based on open-hole logs. If hydrocarbon shows occur while drilling, the operator shall notify the BLM.

The operator shall provide to the BLM a summary of formation depth picks based on mudlog and geophysical logs along with a copy of the mudlog and open hole logs from TD to top of Devonian

A NOI sundry with the completion procedure for this well shall be submitted and approved prior to commencing completion work. The procedure will be reviewed to verify that the completion proposal will allow the operator to:

1. **Properly evaluate the injection zone utilizing open hole logs, swab testing and/or any other method to confirm that hydrocarbons cannot be produced in paying quantities. This evaluation shall be reviewed by the BLM prior to injection commencing.**
2. **Restrict the injection fluid to the approved formation.**
3. **If a step rate test will be run an NOI sundry shall be submitted to the BLM for approval**

If off-lease water will be disposed in this well, the operator shall provide proof of right-of-way approval.
JJP04172019

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ Chaves and Roosevelt Counties
Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
During office hours call (575) 627-0272.
After office hours call (575)

☒ Eddy County
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

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

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

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

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the

plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

e. The results of the test shall be reported to the appropriate BLM office.

f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

STRATA PRODUCTION COMPANY

Sandy Federal SWD
#10 2430' FNL 460'
FWL
Sec. 24-T23S-R30E
Eddy County, NM

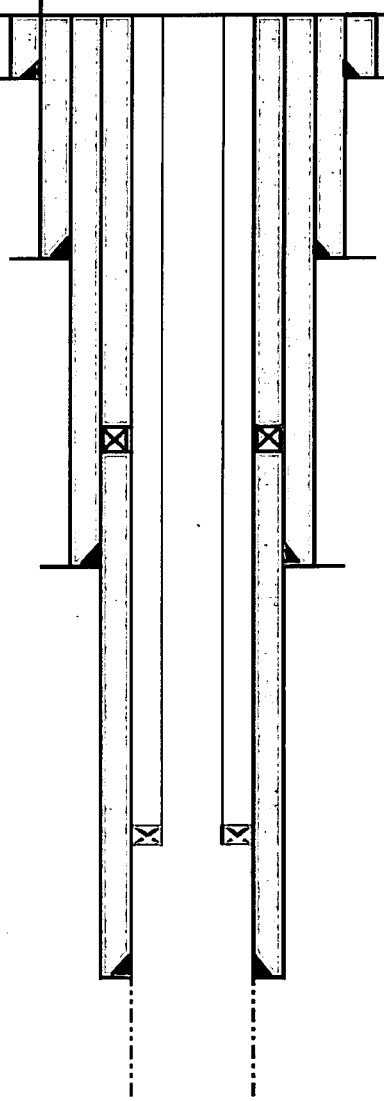
CASING ASSUMPTIONS WORKSHEET

CASING ID	String Type	Hole Size (IN)	Top Set MD	Top Set TVD	Top Set MSL	Bottom Set MD	Bottom Set TVD	Bottom Set MSL	Calculated Csg Length MD	Casing Size	Grade	Weight	Joint Type	Condition	Standard	Tapered String	Collapse Safety Factor	Burst Safety Factor	Tensile SF Type	Tensile SF
1	SURFACE	26	0	0	3255	385	385	2870	385	20	H-40	94	STC	NEW	API	N	1.125	1.1	DRY	1.8
2	INTERMEDIATE	17.5	0	0	3255	3800	3800	-545	3800	13.375	N-80	72	STC	NEW	API	N	1.125	1.1	DRY	1.8
3	INTERMEDIATE STAGE 2	12.25	0	0	3255	12000	12000	-8745	12000	9.625	P-110	53.5	LTC	NEW	API	N	1.125	1.1	DRY	1.8
4	PRODUCTION	8.5	0	0	3255	16500	16500	-13245	16500	7	P-110	32	BUTT	NEW	API	N	1.125	1.1	DRY	1.8

Approval Date: 09/30/2019

General				
	Company:	Strata Production Company	Prospect:	Forty Niner Ridge
	Well Name:	Sandy Federal #10 SWD	TD (MD/TVD):	16,500' TVD
	County:	Eddy	Elevation:	N/A
	State:	New Mexico	Latitude & longitude:	N/A
	API Number:	N/A	Section-Township-Range	Section 24 - T23S - R30E
	DIRECTIONS: From Loving, Go east to NM State Highway 128, turn right (toward Jal) and go 7 miles to mile marker 7, turn right at Mobley Ranch Road (CR 795), go ½ mile to Y, take left fork and go 2.5 miles to lease road on left (look for Strata – Sandy Sign), turn left 2 miles, turn left at "T" and follow road ¼ mile to location.		Surface Location:	2430' FNL & 460' FWL
			Bottom Hole Location:	NA

Hole size, casing specs, & depth	Casing Profile
26" x 20" 94# H40 STC casing set @ 385' Cemented w/1000 sx circulated to surface	
17 1/2" x 13 3/8" 72# N80 STC casing set @ 3800' Cemented w/1850 sx circulated to surface	
12 1/4" x 9 5/8" 53.5# P110 LTC casing set at 12,000' Cemented w/2100 sx circulated to surface	DV Tool set @ 11,500' 2nd stage cement with 1000 sx
1st stage cement with 600 sx	Injection String: 5" 18# IPC tubing
8 1/2" x 7" 32# P110 BTC casing set @ 0'-15,600' Cemented with 600 sx	Arrowset 1X Nickel Pltd Pkr set @ 15,500'
6 3/4 " Open hole TD @ 15,545'	Injection Interval 15,545'



Comments	

Approval Date: 09/30/2019

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	STRATA PRODUCTION COMPANY
LEASE NO.:	NMNM
WELL NAME & NO.:	10 – SANDY FEDERAL SWD
SURFACE HOLE FOOTAGE:	2430'/N & 460'/W
BOTTOM HOLE FOOTAGE	2430'/N & 460'/W
LOCATION:	SECTION 24, T23S, R30E, NMPM
COUNTY:	EDDY

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.

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)

Range Stipulations / Conditions of Approvals

Cattleguards

Where a permanent cattlegaurd is approved, an appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s). Any existing cattleguard(s) on the access road 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 cattleguard(s) that are in place and are utilized during lease operations. A gate shall be constructed on one side of the cattleguard and fastened securely to H-braces.

Fence Requirement

Where entry granted across a fence line, the fence must be braced and tied off on both sides of the passageway prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Livestock Watering Requirement

Structures that provide water to livestock, such as windmills, pipelines, drinking troughs, and earthen reservoirs, will be avoided by moving the proposed action.

Potash Minerals Stipulations / Conditions of Approvals

Lessees must comply with the 2012 Secretarial Potash Order. The Order is designed to manage the efficient development of oil, gas, and potash resources. Section 6 of the Order provides general provisions which must be followed to minimize conflict between the industries and ensure the safety of operations.

To minimize impacts to potash resources, the proposed well is confined within the boundaries of the established Deep Sandy Drill Island (See Potash Memo and Map in attached file for Drill Island description).

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.

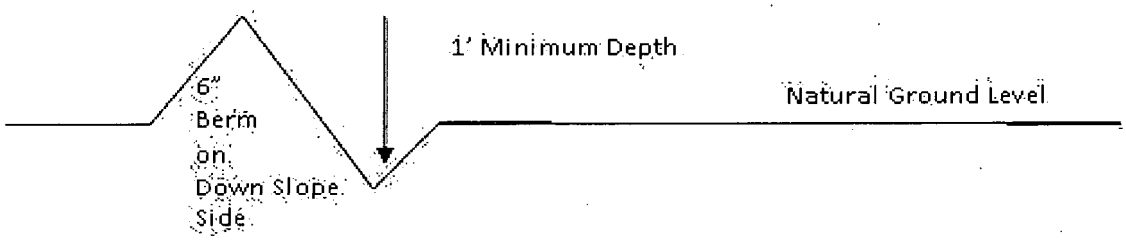
Ditching
Ditching shall be required on both sides of the road.

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

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards 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 cattle guards 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

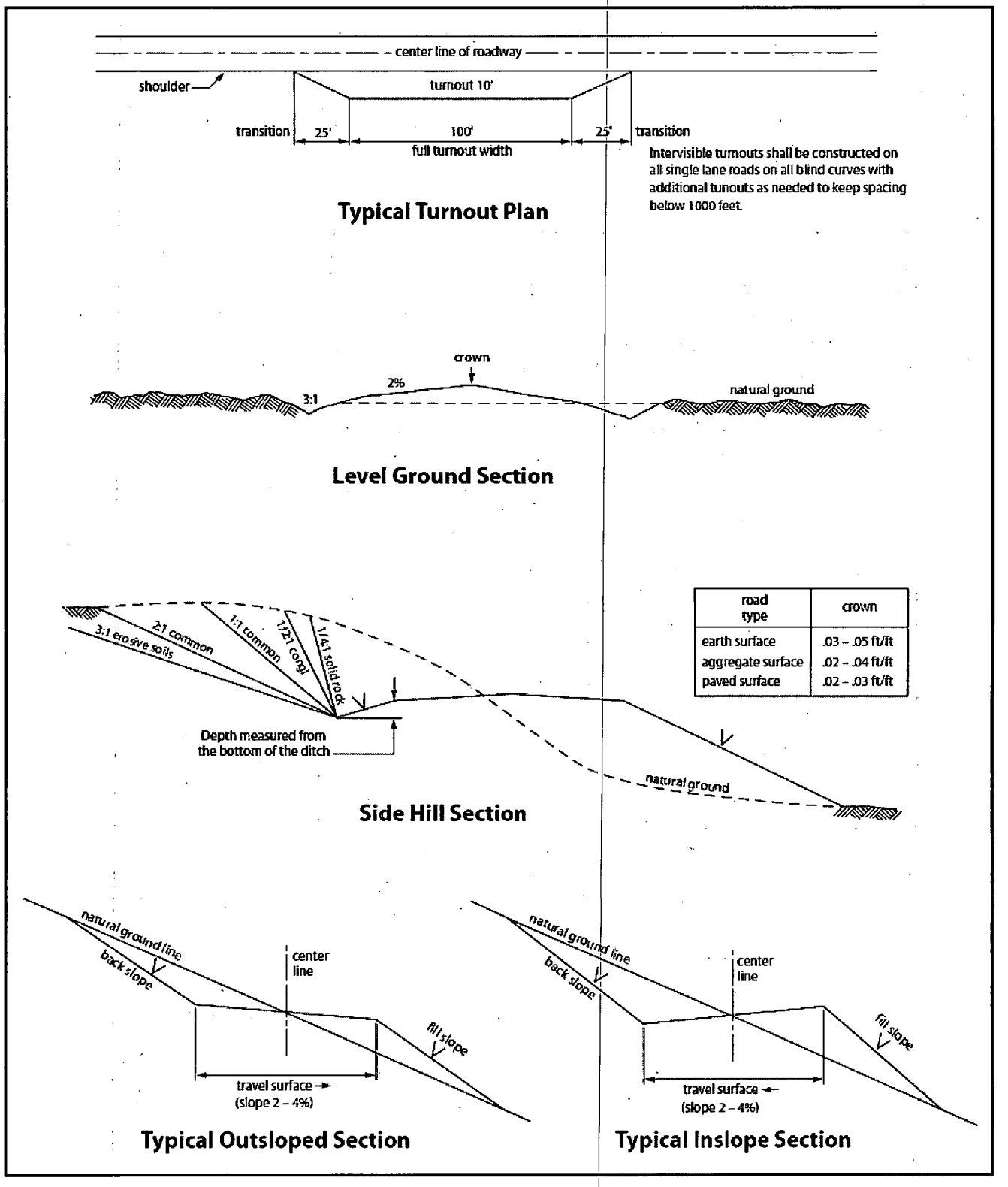


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. 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).

B. OIL AND GAS RELATED SITES

STANDARD STIPULATIONS FOR OIL AND GAS RELATED SITES

A copy of the application (Grant/Sundry Notice) and attachments, including stipulations and map, will be on location during construction. BLM personnel may request to view a copy of your permit during construction to ensure compliance with all stipulations.

The holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer, BLM.

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 and for all response costs, penalties, damages, claims, and other costs arising from the provisions of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Chap. 82, Section 6901 et. seq., from the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. Chap. 109, Section 9601 et. seq., and from other applicable environmental statues.

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 U.S.C. 2601, et. seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized by this 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). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the site or related pipeline(s), any oil or other pollutant should be discharged from site facilities, the pipeline(s) or from containers or vehicles impacting Federal lands, the control and total removal, disposal, and cleanup of such oil of other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages to Federal lands resulting therefrom, the Authorized Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any liability or responsibility.

5. Sites shall be maintained in an orderly, sanitary condition at all times. Waste materials, both liquid and solid, shall be disposed of promptly at an appropriate, authorized waste disposal facility in accordance with all applicable State and Federal laws. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, petroleum products, brines, chemicals, oil drums, ashes, and equipment.

6. The operator will notify the Bureau of Land Management (BLM) authorized officer and nearest Fish and Wildlife Service (FWS) Law Enforcement office within 24 hours, if the operator discovers a dead or injured federally protected species (i.e., migratory bird species, bald or golden eagle, or species listed by the FWS as threatened or endangered) in or adjacent to a pit, trench, tank, exhaust stack, or fence. (If the operator is unable to contact the FWS Law Enforcement office, the operator must contact the nearest FWS Ecological Services office.)

7. All above-ground structures not subject to safety requirements 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" designated by the Rocky Mountain Five-State Interagency Committee. The color selected for this project is **Shale Green**, Munsell Soil Color Chart Number 5Y 4/2.

8. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The 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 the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

9. A sales contract for removal of mineral material (caliche, sand, gravel, fill dirt) from an authorized pit, site, or on location must be obtained from the BLM prior to commencing construction. There are several options available for purchasing mineral material: contact the BLM office (575-234-5972).

10. 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.

11. Once the site is no longer in service or use, the site must undergo final abandonment. At final abandonment, the site 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 the abandonment of the site. All pads and 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. 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).

12. The holder shall stockpile an adequate amount of topsoil where blading occurs. The topsoil to be stripped is approximately ___6___ inches in depth. The topsoil will be segregated from other spoil piles. The topsoil will be used for final reclamation.

13. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

( ) seed mixture 1	( ) seed mixture 3
(X) seed mixture 2	( ) seed mixture 4
( ) seed mixture 2/LPC	( ) Aplomado Falcon Mixture

14. In those areas where erosion control structures are required to stabilize soil conditions, the holder shall install such structures as are suitable for the specific soil

conditions being encountered and which are in accordance with sound management practices. Any earth work will require prior approval by the Authorized Officer.

15. Open-topped Tanks - 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

16. 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.

17. 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.

18. 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.

19. Special Stipulations:

- The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The berm shall be maintained through the life of the well and after interim reclamation has been completed.
- Any water erosion that may occur due to the construction of the well pad during the life of the well will be corrected within two weeks and proper measures will be taken to prevent future erosion.

VIII. 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).

IX. 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:

Species	lb/acre
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

AFMSS

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

Operator Certification Data Report

02/14/2020

Operator Certification

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

NAME: Shammy Dennis **Signed on:** 10/19/2018

Title: Administrative Support

Street Address: 1301 N Sycamore Ave

City: Roswell **State:** NM **Zip:** 88201

Phone: (575)622-1127

Email address: sdennis@stratanm.com

Field Representative

Representative Name:

Street Address: 1301 N. Sycamore Ave.

City: Roswell **State:** NM **Zip:** 88201

Phone: (575)622-1127

Email address: pragsdale@stratanm.com

AFMSS

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

Application Data Report

02/14/2020

APD ID: 10400034265
Submission Date: 10/19/2018
Operator Name: STRATA PRODUCTION COMPANY
Well Name: SANDY FEDERAL SWD
Well Number: 10
Well Type: INJECTION - DISPOSAL
Well Work Type: Drill

Highlighted data reflects the most recent changes
Show Final Text

Section 1 - General

APD ID: 10400034265
Tie to previous NOS? Y
Submission Date: 10/19/2018
BLM Office: CARLSBAD
User: Shammy Dennis
Title: Administrative Support
Federal/Indian APD: FED
Is the first lease penetrated for production Federal or Indian? FED
Lease number: NMNM114356
Lease Acres: 640
Surface access agreement in place?
Allotted?
Reservation:
Agreement in place? NO
Federal or Indian agreement:
Agreement number:
Agreement name:
Keep application confidential? YES
Permitting Agent? NO
APD Operator: STRATA PRODUCTION COMPANY
Operator letter of designation:

Operator Info

Operator Organization Name: STRATA PRODUCTION COMPANY
Operator Address: 1301 N Sycamore
Zip: 88202
Operator PO Box: PO Box 1030
Operator City: Roswell
State: NM
Operator Phone: (575)622-1127
Operator Internet Address: pragsdale@stratanm.com

Section 2 - Well Information

Well in Master Development Plan? NO
Master Development Plan name:
Well in Master SUPO? NO
Master SUPO name:
Well in Master Drilling Plan? NO
Master Drilling Plan name:
Well Name: SANDY FEDERAL SWD
Well Number: 10
Well API Number:
Field/Pool or Exploratory? Field and Pool
Field Name: FORTY NINER RIDGE
Pool Name: DEVONIAN

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL SWD **Well Number:** 10

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

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** NO **New surface disturbance?**

Type of Well Pad: SINGLE WELL **Multiple Well Pad Name:** **Number:**

Well Class: VERTICAL **Number of Legs:** 1

Well Work Type: Drill

Well Type: INJECTION - DISPOSAL

Describe Well Type:

Well sub-Type: INJECTION - DISPOSAL

Describe sub-type:

Distance to town: 20 Miles **Distance to nearest well:** 246 FT **Distance to lease line:** 460 FT

Reservoir well spacing assigned acres Measurement: 0 Acres

Well plat: SANDY_FEDERAL_SWD__10_Survey_Plat_Updated_20181019141716.pdf

Well work start Date: 03/01/2019 **Duration:** 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: **Reference Datum:**

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
SHL Leg #1	2430	FNL	460	FWL	23S	30E	24	E	32.2910477	-103.8414891	EDDY	NEW MEXI	NEW MEXI	F	NMNM 114356	3255	0	0	
BHL Leg #1	2430	FNL	460	FWL	23S	30E	24	E	32.2910477	-103.8414891	EDDY	NEW MEXI	NEW MEXI	F	NMNM 114356	-13245	16500	16500	

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
	96100	

4 Property Code	5 Property Name	6 Well Number
	SANDY FEDERAL SWD	10

7 OGRID NO.	8 Operator Name	9 Elevation
21712	STRATA PRODUCTION COMPANY	3255'

10 Surface Location

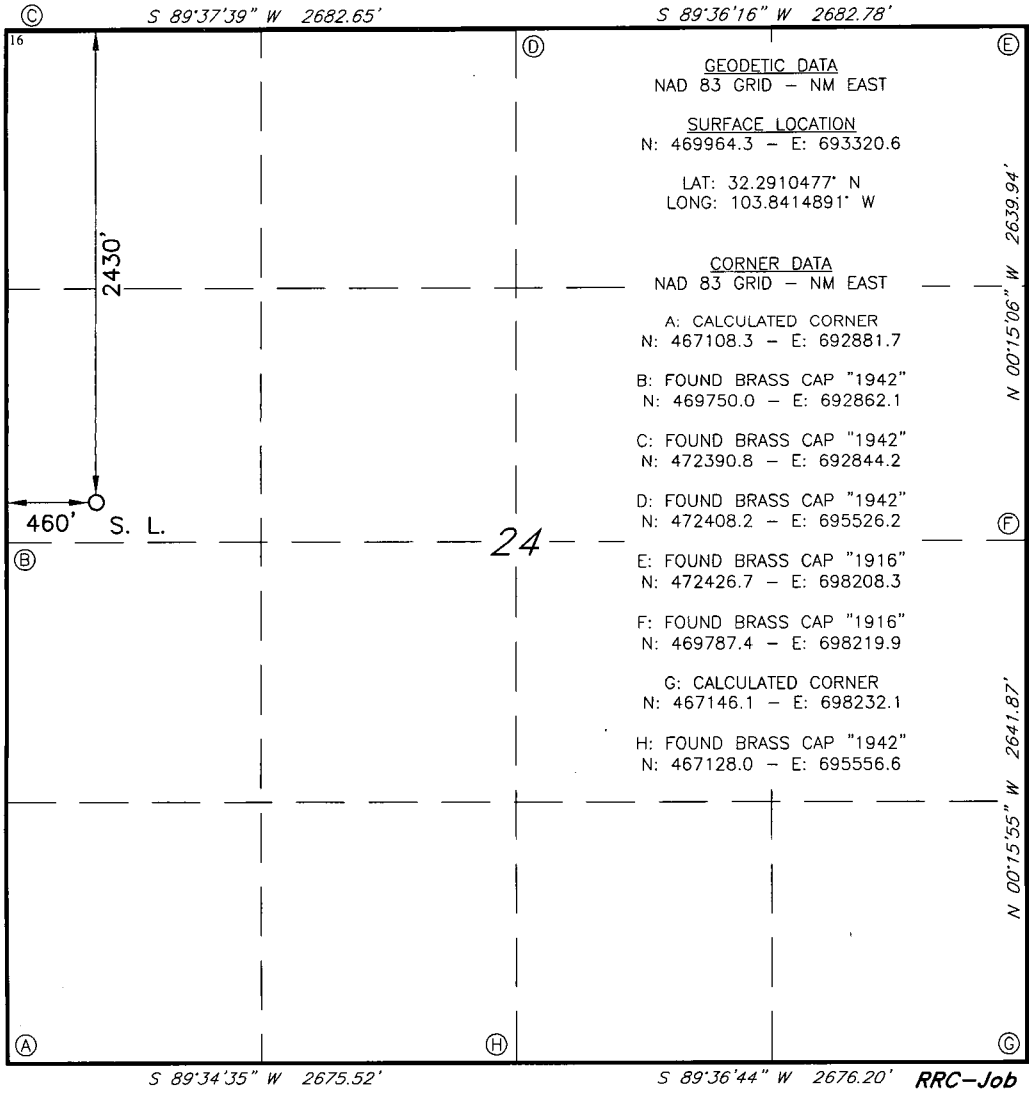
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
E	24	23S	30E		2430	NORTH	460	WEST	EDDY

11 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

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.

No allowable will be assigned to this completion until all interest have been consolidated or a non-standard unit has been approved by the division.



GEODETIC DATA
NAD 83 GRID – NM EAST

SURFACE LOCATION
N: 469964.3 – E: 693320.6

LAT: 32.2910477° N
LONG: 103.8414891° W

CORNER DATA
NAD 83 GRID – NM EAST

A: CALCULATED CORNER
N: 467108.3 – E: 692881.7

B: FOUND BRASS CAP "1942"
N: 469750.0 – E: 692862.1

C: FOUND BRASS CAP "1942"
N: 472390.8 – E: 692844.2

D: FOUND BRASS CAP "1942"
N: 472408.2 – E: 695526.2

E: FOUND BRASS CAP "1916"
N: 472426.7 – E: 698208.3

F: FOUND BRASS CAP "1916"
N: 469787.4 – E: 698219.9

G: CALCULATED CORNER
N: 467146.1 – E: 698232.1

H: FOUND BRASS CAP "1942"
N: 467128.0 – E: 695556.6

17 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 unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Paul Ragsdale 10/15/18
Signature Date

Paul Ragsdale
Printed Name

pragsdale@stratanm.com
E-mail Address

18 SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

8-23-18
Date of Survey

Signature and Seal of Professional Surveyor

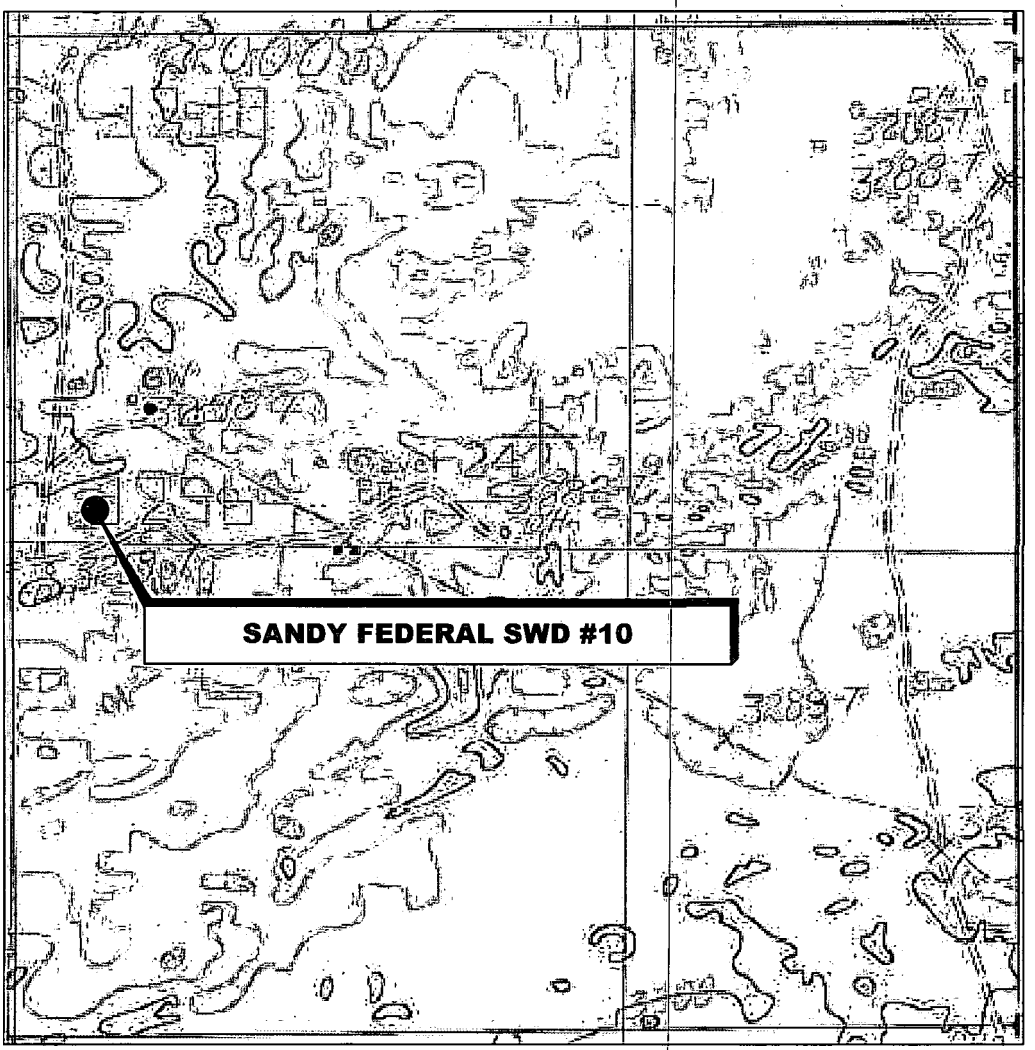
ROBERT M. HOWETT
NEW MEXICO
19680
PROFESSIONAL SURVEYOR

19680
Certificate Number

RRC–Job No.: LS1808981A

LOCATION VERIFICATION MAP

NOT TO SCALE



SECTION 24, TWP. 23 SOUTH, RGE. 30 EAST,
N. M. P. M., EDDY CO., NEW MEXICO

OPERATOR: Strata Production Company
LEASE: Sandy Federal SWD
WELL NO.: 10
ELEVATION: 3255'

LOCATION: 2430' FNL & 460' FWL
CONTOUR INTERVAL: 10'
USGS TOPO. SOURCE MAP:
Los Medaños, NM (P.E. 1985)

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NO.	REVISION	DATE

JOB NO.: LS1808981A
DWG. NO.: 1808981A_LVM

RRC

308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

SCALE: N. T. S.
DATE: 6-4-18
SURVEYED BY: BK/AS
DRAWN BY: GA
APPROVED BY: RMH
SHEET: 1 OF 1

VICINITY MAP

NOT TO SCALE

SECTION 24, TWP. 23 SOUTH, RGE. 30 EAST,
N. M. P. M., EDDY CO., NEW MEXICO

OPERATOR: Strata Production Company
LEASE: Sandy Federal SWD
WELL NO.: 10

LOCATION: 2430' FNL & 460' FWL
ELEVATION: 3255'

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NO.	REVISION	DATE

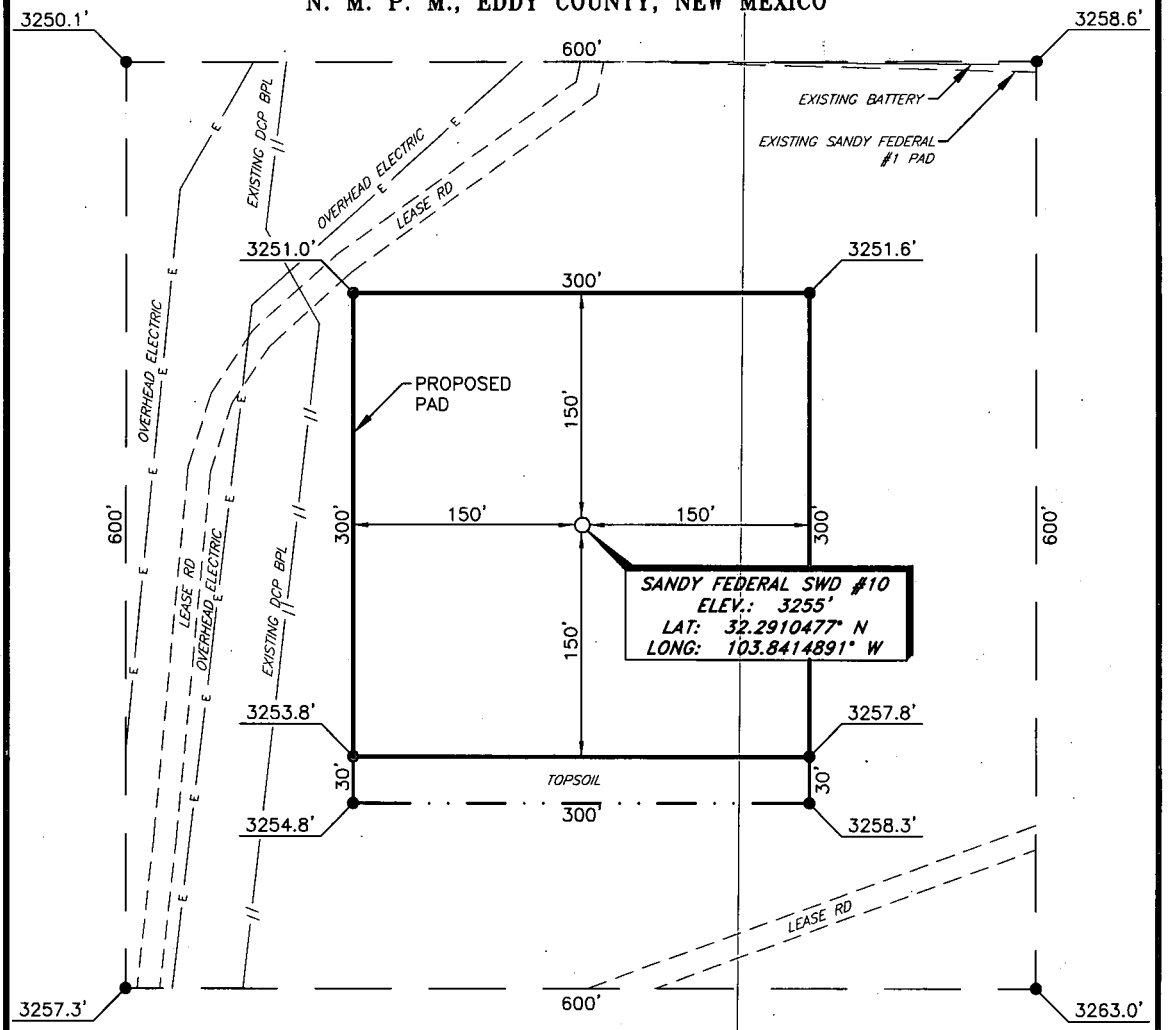
JOB NO.: LS1808981A
DWG. NO.: 1808981A_VM

RRC

308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

SCALE: N. T. S.
DATE: 8-23-18
SURVEYED BY: BK/AS
DRAWN BY: GA
APPROVED BY: RMH
SHEET: 1 OF 1

STRATA PRODUCTION COMPANY
SANDY FEDERAL SWD #10
(2430' FNL & 460' FWL)
SECTION 24, T23S, R30E
N. M. P. M., EDDY COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

From the intersection of CR-795 (Mobley Ranch Rd.) and N.M. Hwy 128 (Jal Hwy).

Go South on CR-795 approx. 0.6 miles to a "Y";

keep left at "Y" go South on lease road approx. 2.5 miles to a lease road on the left;

Turn left and go East approx. 1.1 miles to a "Y";

Keep left at "Y" and go North approx. 0.1 miles to a location on the right.

SCALE: 1" = 100'
0 50 100

BEARINGS ARE NAD 83 GRID - NM EAST
DISTANCES ARE GROUND

I, R. M. Howett, a N. M. Professional Surveyor, hereby certify that I prepared this unclassified survey of a well location from an actual survey made on the ground under my direct supervision, said survey and plat meet the Min. Stds. for Land Surveying in the State of N. M. and are true and correct to the best of my knowledge and belief.

Robert M. Howett
Robert M. Howett NM PS 19680

ROBERT M. HOWETT
NEW MEXICO
19680
8-28-18
PROFESSIONAL SURVEYOR

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NO.	REVISION	DATE

JOB NO.: LS1808981A
DWG. NO.: 1808981APAD

RRC

308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

SCALE: 1" = 100'
DATE: 8-23-18
SURVEYED BY: BK/AS
DRAWN BY: GA
APPROVED BY: RMH
SHEET: 1 OF 1

Drilling Plan Data Report

02/14/2020

APD ID: 10400034265 **Submission Date:** 10/19/2018

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL SWD **Well Number:** 10

Well Type: INJECTION - DISPOSAL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
305188	RUSTLER	3265	150	150	OTHER : Redbeds	NONE	N
421668	SALADO	2795	470	470	ANHYDRITE, SALT	NONE	N
421669	BASE OF SALT	975	2290	2290	ANHYDRITE, SALT	NONE	N
421670	DELAWARE LIME	-603	3868	3868	ANHYDRITE, LIMESTONE	NONE	N
421671	BONE SPRING	-4473	7738	7738	LIMESTONE, SANDSTONE, SHALE	NONE	N
421672	BONE SPRING 3RD	-7420	10685	10685	LIMESTONE, SANDSTONE, SHALE	NONE	N
421673	WOLFCAMP	-7875	11140	11140	LIMESTONE, SANDSTONE, SHALE	NONE	N
421674	STRAWN	-9755	13020	13020	LIMESTONE, SHALE	NONE	N
421675	ATOKA	-9920	13185	13185	LIMESTONE, SHALE	NONE	N
421676	MORROW LIME	-10695	13960	13960	LIMESTONE, SHALE	NONE	N
421677	MORROW SAND	-10957	14222	14222	LIMESTONE, SANDSTONE, SHALE	NONE	N
421678	MORROW LOWER	-11462	14727	14727	LIMESTONE, SANDSTONE, SHALE	NONE	N
421689	DEVONIAN	-12280	15545	15545	DOLOMITE, LIMESTONE	NONE	Y

Section 2 - Blowout Prevention

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL SWD **Well Number:** 10

Pressure Rating (PSI): 10M **Rating Depth:** 15545

Equipment: Annular, blind ram, double ram, mud gas separator, HCR valve, remote kill line and other equipment as listed on 10M attachment.

Requesting Variance? NO

Variance request:

Testing Procedure: BOPE will be tested by an independent service company to 250# psi low pressure and 10000# psi high pressure per Onshore Order 2 requirements.

Choke Diagram Attachment:

Sandy_Fed_SWD__10___10M_BOP_Choke_Schematic_20190318132742.pdf

BOP Diagram Attachment:

Sandy_Fed_SWD__10___10M_BOP_Diagram_20190318132822.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	26	20.0	NEW	API	N	0	385	0	385	3255	2870	385	H-40	94	ST&C	1.43	1.75	DRY	15	DRY	20
2	INTERMEDIATE	17.5	13.375	NEW	API	N	0	3800	0	3800	3255	-545	3800	H-40	48	LT&C	1.2	1.42	DRY	3.5	DRY	3.5
3	INTERMEDIATE	12.25	9.625	NEW	API	N	0	12000	0	12000	3255	-8745	12000	L-80	47	LT&C	2	1	DRY	2	DRY	2
4	PRODUCTION	8.5	7.0	NEW	API	N	0	15545	0	15545	3255	-13245	15545	P-110	32	BUTT	1.07	1.05	DRY	2.12	DRY	2.6

Casing Attachments

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL SWD **Well Number:** 10

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Sandy_Federal_SWD__10___Casing_Assumptions_Worksheet_20190325123254.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Sandy_Federal_SWD__10___Casing_Assumptions_Worksheet_20190325123313.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Sandy_Federal_SWD__10___Casing_Assumptions_Worksheet_20190325123332.pdf

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL SWD **Well Number:** 10

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Sandy_Federal_SWD__10___Casing_Assumptions_Worksheet_20190325123349.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	385	1000	1.32	14.8	1320	100	Class C	NONE
INTERMEDIATE	Lead		0	3800	1800	1.8	12.6	3240	100	Class C	Salt and LCM
INTERMEDIATE	Tail		0	3800	200	1.32	14.8	264	50	Class C	Salt
PRODUCTION	Lead	11500	0	11500	1000	2.12	12.5	2120	25	50/50 Poz Class H	Retarder fluid loss and defoamer
INTERMEDIATE	Lead		0	12000	2000	2.12	12.5	4240	100	Class H	Gel retarder and defoamer
INTERMEDIATE	Tail		0	12000	250	1.12	15.6	280	25	Class H	Retarder and fluid loss
PRODUCTION	Lead	11500	11500	16500	700	1.54	13.6	1078	25	50/50 Poz Class H	Retarder fluid loss and defoamer

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL SWD **Well Number:** 10

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

Describe what will be on location to control well or mitigate other conditions: Lost circulation material, Sweeps, Mud scavengers in surface hole

Describe the mud monitoring system utilized: Pason, PVT, and Visual monitoring

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	385	SPUD MUD	8.6	9							
385	3800	SALT SATURATED	10	10							
3800	12000	WATER-BASED MUD	8.6	9.8		0.25	8	25	10000	0	
12000	15545	WATER-BASED MUD	10	13		0.25	8	25	10000	50	

Section 6 - Test, Logging, Coring

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

We will run open hole logs from Surface to TD.

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

CALIPER,CBL,CNL/FDC,CDL,CNL,DS,DIL,DLL,MUDLOG

Coring operation description for the well:

NONE

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL SWD **Well Number:** 10

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 11154 **Anticipated Surface Pressure:** 7524

Anticipated Bottom Hole Temperature(F): 165

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Sandy_Fed__SWD__10_H2S_Plan_20190325162029.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Sandy_Federal__10_SWD_Wellbore_DIAGRAM__.xls_20190325152203.pdf

Other proposed operations facets description:

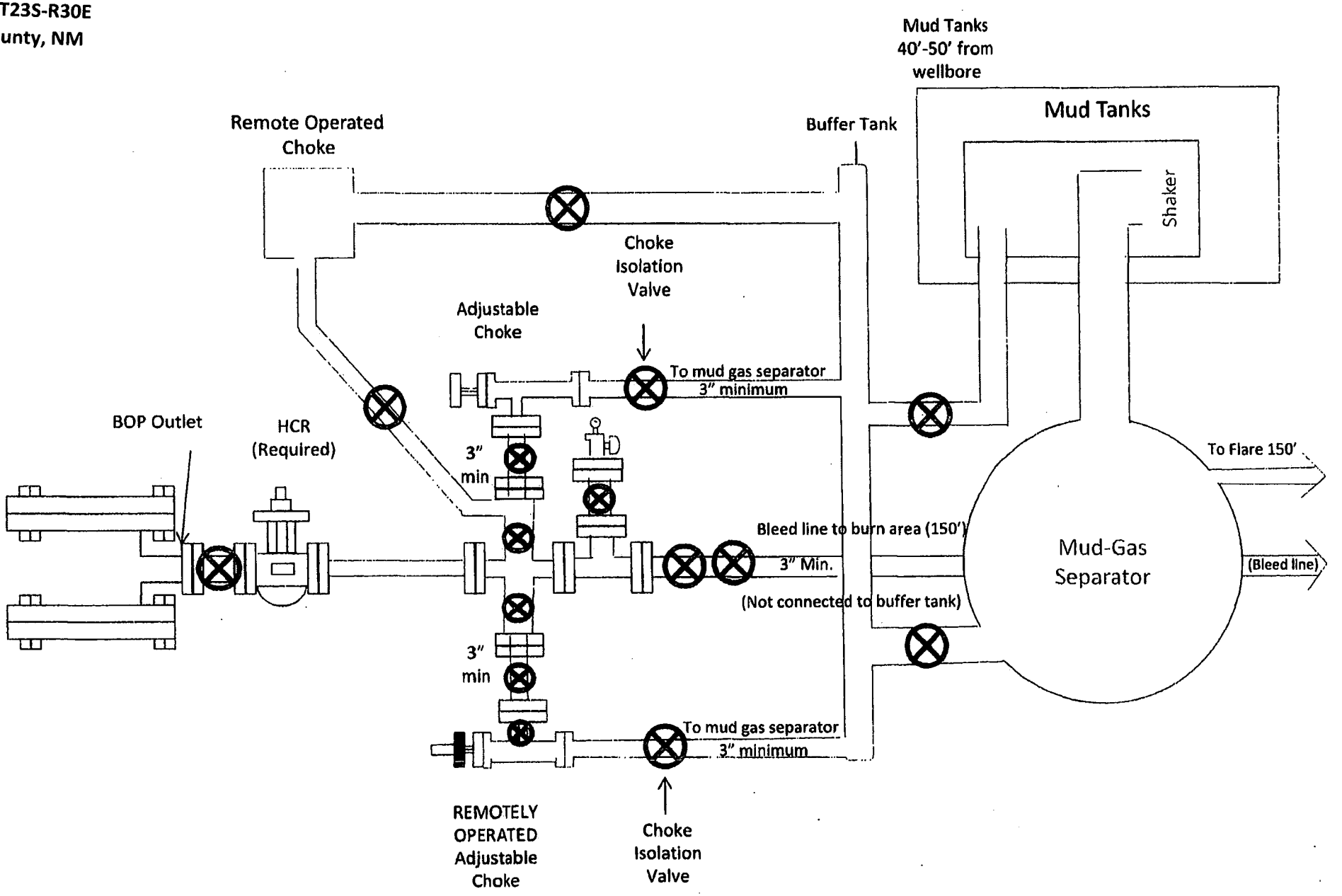
None

Other proposed operations facets attachment:

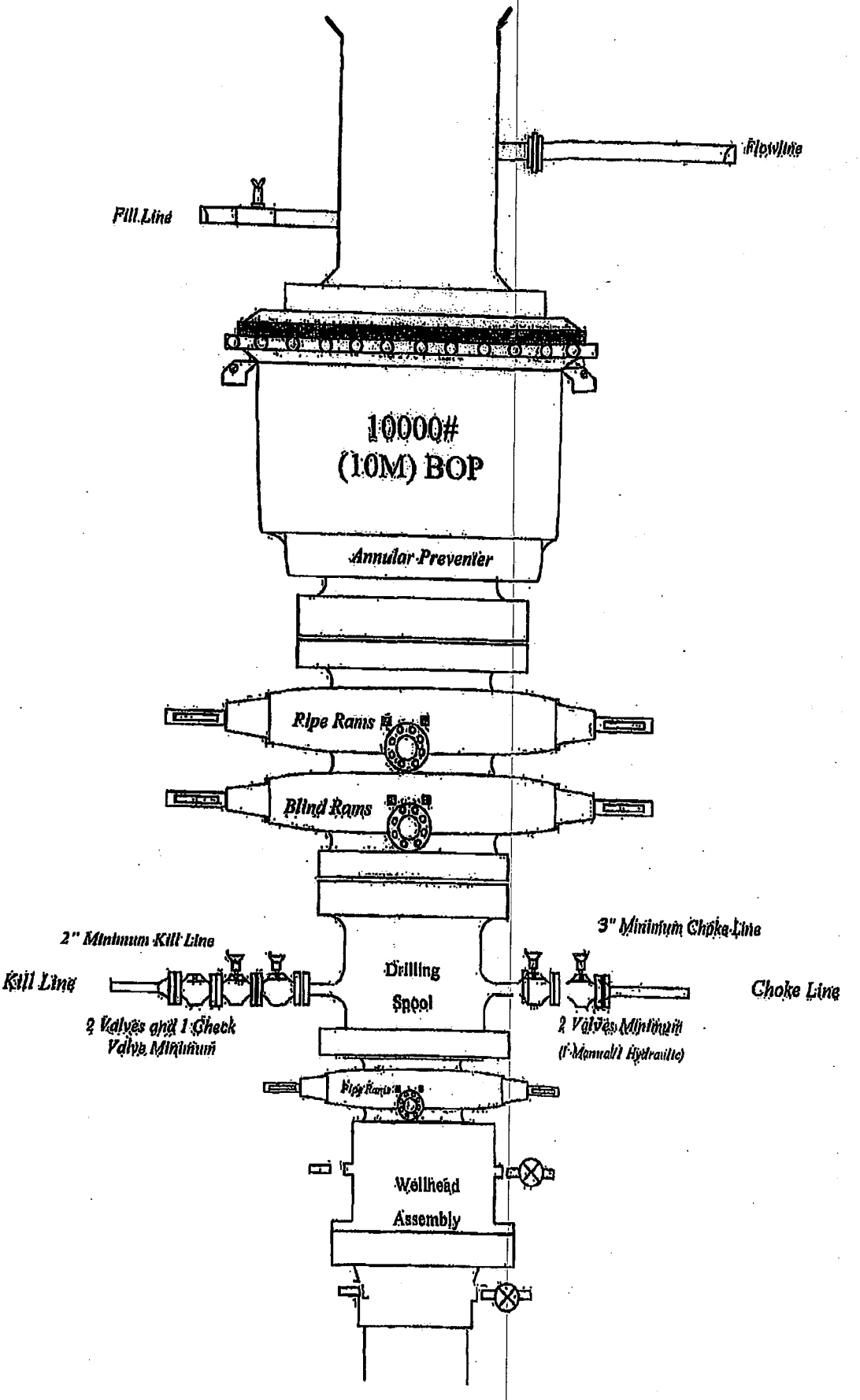
Other Variance attachment:

STRATA PRODUCTION COMPANY
Sandy Federal SWD #10
2430' FNL & 460' FWL
Sec. 24-T23S-R30E
Eddy County, NM

10M Choke Manifold Diagram



STRATA PRODUCTION COMPANY
Sandy Federal SWD #10
2430' FNL & 460' FWL
Sec. 24-T23S-R30E
Eddy County, NM



STRATA PRODUCTION COMPANY
Sandy Federal SWD #10
2430' FNL 460' FWL
Sec. 24-T23S-R30E
Eddy County, NM

CASING ASSUMPTIONS WORKSHEET

CASING ID	String Type	Hole Size (IN)	Top Set MD	Top Set TVD	Top Set MSL	Bottom Set MD	Bottom Set TVD	Bottom Set MSL	Calculated Csg Length MD	Casing Size	Grade	Weight	Joint Type	Condition	Standard	Tapered String	Collapse Safety Factor	Burst Safety Factor	Jt Tensile SF Type	Jt Tensile SF	Body Tensile SF Type	Body Tensile SF
1	SURFACE	26	0	0	3255	385	385	2870	385	20	H-40	94	STC	NEW	API	N	1.43	1.75	DRY	15	DRY	20
2	INTERMEDIATE	17.5	0	0	3255	3800	3800	-545	3800	13.375	H-40	48	LTC	NEW	API	N	1.2	1.42	DRY	3.5	DRY	3.5
3	INTERMEDIATE STAGE 2	12.25	0	0	3255	12000	12000	-8745	12000	9.625	L-80	47	LTC	NEW	API	N	2	1	DRY	2	DRY	2
4	PRODUCTION	8.5	0	0	3255	16500	16500	-13245	16500	7	P-110	32	BUTT	NEW	API	N	1.07	1.05	DRY	2.12	DRY	2.6

STRATA PRODUCTION COMPANY
Sandy Federal SWD #10
2430' FNL 460' FWL
Sec. 24-T23S-R30E
Eddy County, NM

CASING ASSUMPTIONS WORKSHEET

CASING ID	String Type	Hole Size (IN)	Top Set MD	Top Set TVD	Top Set MSL	Bottom Set MD	Bottom Set TVD	Bottom Set MSL	Calculated Csg Length MD	Casing Size	Grade	Weight	Joint Type	Condition	Standard	Tapered String	Collapse Safety Factor	Burst Safety Factor	Jt Tensile SF Type	Jt Tensile SF	Body Tensile SF Type	Body Tensile SF
1	SURFACE	26	0	0	3255	385	385	2870	385	20	H-40	94	STC	NEW	API	N	1.43	1.75	DRY	15	DRY	20
2	INTERMEDIATE	17.5	0	0	3255	3800	3800	-545	3800	13.375	H-40	48	LTC	NEW	API	N	1.2	1.42	DRY	3.5	DRY	3.5
3	INTERMEDIATE STAGE 2	12.25	0	0	3255	12000	12000	-8745	12000	9.625	L-80	47	LTC	NEW	API	N	2	1	DRY	2	DRY	2
4	PRODUCTION	8.5	0	0	3255	16500	16500	-13245	16500	7	P-110	32	BUTT	NEW	API	N	1.07	1.05	DRY	2.12	DRY	2.6

STRATA PRODUCTION COMPANY
Sandy Federal SWD #10
2430' FNL 460' FWL
Sec. 24-T23S-R30E
Eddy County, NM

CASING ASSUMPTIONS WORKSHEET

CASING ID	String Type	Hole Size (IN)	Top Set MD	Top Set TVD	Top Set MSL	Bottom Set MD	Bottom Set TVD	Bottom Set MSL	Calculated Csg Length MD	Casing Size	Grade	Weight	Joint Type	Condition	Standard	Tapered String	Collapse Safety Factor	Burst Safety Factor	Jt Tensile SF Type	Jt Tensile SF	Body Tensile SF Type	Body Tensile SF
1	SURFACE	26	0	0	3255	385	385	2870	385	20	H-40	94	STC	NEW	API	N	1.43	1.75	DRY	15	DRY	20
2	INTERMEDIATE	17.5	0	0	3255	3800	3800	-545	3800	13.375	H-40	48	LTC	NEW	API	N	1.2	1.42	DRY	3.5	DRY	3.5
3	INTERMEDIATE STAGE 2	12.25	0	0	3255	12000	12000	-8745	12000	9.625	L-80	47	LTC	NEW	API	N	2	1	DRY	2	DRY	2
4	PRODUCTION	8.5	0	0	3255	16500	16500	-13245	16500	7	P-110	32	BUTT	NEW	API	N	1.07	1.05	DRY	2.12	DRY	2.6

STRATA PRODUCTION COMPANY
Sandy Federal SWD #10
2430' FNL 460' FWL
Sec. 24-T23S-R30E
Eddy County, NM

CASING ASSUMPTIONS WORKSHEET

CASING ID	String Type	Hole Size (IN)	Top Set MD	Top Set TVD	Top Set MSL	Bottom Set MD	Bottom Set TVD	Bottom Set MSL	Calculated Csg Length MD	Casing Size	Grade	Weight	Joint Type	Condition	Standard	Tapered String	Collapse Safety Factor	Burst Safety Factor	Jt Tensile SF Type	Jt Tensile SF	Body Tensile SF Type	Body Tensile SF
1	SURFACE	26	0	0	3255	385	385	2870	385	20	H-40	94	STC	NEW	API	N	1.43	1.75	DRY	15	DRY	20
2	INTERMEDIATE	17.5	0	0	3255	3800	3800	-545	3800	13.375	H-40	48	LTC	NEW	API	N	1.2	1.42	DRY	3.5	DRY	3.5
3	INTERMEDIATE STAGE 2	12.25	0	0	3255	12000	12000	-8745	12000	9.625	L-80	47	LTC	NEW	API	N	2	1	DRY	2	DRY	2
4	PRODUCTION	8.5	0	0	3255	16500	16500	-13245	16500	7	P-110	32	BUTT	NEW	API	N	1.07	1.05	DRY	2.12	DRY	2.6

Strata Production Company

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

I. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

A. The hazards and characteristics of hydrogen sulfide (H_2S).

B. The proper use and maintenance of personal protective equipment and life support systems.

C. The proper use of H_2S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.

D. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

A. The effects of H_2S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.

B. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.

C. The contents and requirements of the H_2S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H_2S zone (within 3 days or 500 feet) and weekly H_2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H_2S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

II. H_2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H_2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H_2S.

A. Well Control Equipment:
All BOP and BOP equipment is shown in the attachments.
Flare line.
Choke manifold with a remotely operated choke as shown in Attachment #5.
Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
Auxiliary equipment to include annular preventer, mud-gas separator, rotating head.

B. Protective equipment for essential personnel:
Mark II Surviveair 30-minute units located in the dog house and at briefing areas.

C. H_2S detection and monitoring equipment:

2 - portable H_2S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H_2S levels of 20 ppm are reached.

D. Visual warning systems:

Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate.

Wind Direction indicators as seen in the H2S Well Site Diagram.

E. Mud Program: The mud program has been designed to minimize the volume of H_2S circulated to the surface.

F. Metallurgy:

All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H_2S service.

G. Communication:

Company vehicles equipped with cellular telephone.

WARNING

YOU ARE ENTERING AN H_2S AREA
AUTHORIZED PERSONNEL ONLY

1. ***BEARDS OR CONTACT LENSES NOT ALLOWED***
2. ***HARD HATS REQUIRED***
3. ***SMOKING IN DESIGNATED AREAS ONLY***
4. ***BE WIND CONSCIOUS AT ALL TIMES***
5. ***CK WITH STRATA FOREMAN AT MAIN OFFICE***

STRATA PRODUCTION COMPANY

575-622-1127 EXT 18
575-626-7909

EMERGENCY NUMBERS

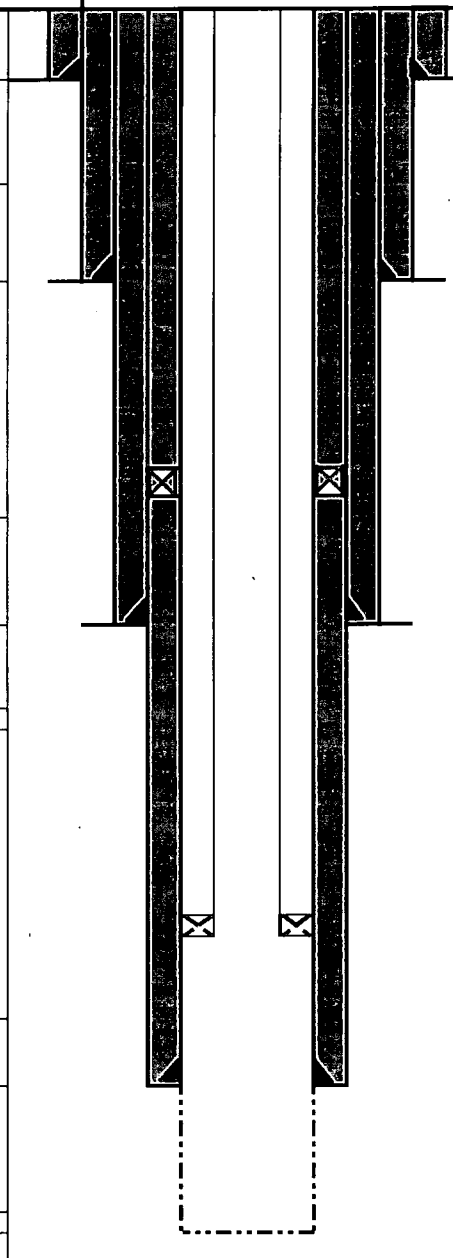
911 Must have Correct County & State & Directions to your location

Eddy County Sheriff's Office	**575-887-7551**
Lea County Sherrif's Office (Lovington)	**575-396-3611**
New Mexico State Police (Roswell)	**575-622-7200**
Eastern NM Medical Center (Roswell)	**575-622-8170**
Lea Regional Hospital (Hobbs)	**575-492-5000**
Carlsbad Hospital	**575-887-4100**
Carlsbad Fire Department	**575-885-3125**
Ambulance Service	**575-885-2111**

BLM Carlsbad	**575-234-5972**
BLM Hobbs	**575-393-3612**
Strata Office	**575-622-1127**
Paul Ragsdale	**575-626-7903**
Dwight Adamson	**575-626-8657**
	575-840-3126 personal
Mitch Krakauskas	**575-420-1181**
Richard Marr	**575-626-1479**
Perry Nichols	**575-626-7220**

General

Company:	*Strata Production Company*	**Prospect:**	*Forty Niner Ridge*
Well Name:	*Sandy Federal #10 SWD*	**TD (MD/TVD):**	*16,500' TVD*
County:	*Eddy*	**Elevation:**	*N/A*
State:	*New Mexico*	**Latitude & longitude:**	*N/A*
API Number:	*N/A*	**Section-Township-Range**	*Section 24 - T23S - R30E*
DIRECTIONS: From Loving, Go east to NM State Highway 128, turn right (toward Jal) and go 7 miles to mile marker 7, turn right at Mobley Ranch Road (CR 795), go ½ mile to Y, take left fork and go 2.5 miles to lease road on left (look for Strata – Sandy Sign), turn left 2 miles, turn left at "T" and follow road ¼ mile to location.		**Surface Location:**	*2430' FNL & 460' FWL*
		Bottom Hole Location:	*NA*

Hole size, casing specs, & depth	Casing Profile	
26" x 20" J-55 STC casing set @ 385' Cemented w/1000 sx circulated to surface		
17 1/2" x 13 3/8" 61# J-55 STC casing set @ 3800' Cemented w/1850 sx circulated to surface		
		DV Tool set @ 11,500'
		2nd stage cement with 1000 sx
12 1/4" x 9 5/8" 43.5# HCL80 LTC casing set at 12,000' ***Cemented w/2100 sx circulated to surface***		
1st stage cement with 600 sx		
		Injection String: 5" 18# IPC tubing
		Arrowset 1X Nickel Pltd Pkr set @ 15,500'
8 1/2" x 7" P110 BTC casing set @ 0'-15,600' Cemented with 600 sx		
		Injection Interval 15,545'
6 3/4 " Open hole TD @ 15,545'		

Comments

APD ID: 10400034265 **Submission Date:** 10/19/2018

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL SWD **Well Number:** 10

Well Type: INJECTION - DISPOSAL **Well Work Type:** Drill

Highlighted data reflects the most recent changes
Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Sandy_Federal_SWD__10___Existing_Road_Map_20181018160825.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT **Row(s) Exist?** YES

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? NO

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

Sandy_Federal_SWD__10___Existing_Wells_Map_20181018163322.pdf

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL SWD **Well Number:** 10

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

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: The battery site for the SWD will be on the East side of the location. It will be a 400 x 400 Caliche pad with 10 - 500 bbl water tanks, 1 - 750 bbl gun-barrel, 1-500 bbl oil tank and 2-1000 hp H Pumps and associated equipment

Production Facilities map:

Sandy_Federal_SWD__10___Facilities_Diagram_20181018163355.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source type: OTHER

Describe type: null

Water source use type: SURFACE CASING
STIMULATION
DUST CONTROL
INTERMEDIATE/PRODUCTION CASING

Source latitude: 32.31488 **Source longitude:** -104.12622

Source datum: NAD83

Water source permit type: WATER WELL
PRIVATE CONTRACT

Water source transport method: TRUCKING

Source land ownership: PRIVATE

Source transportation land ownership: STATE

Water source volume (barrels): 3240 **Source volume (acre-feet):** 0.41761363

Source volume (gal): 136080

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL SWD **Well Number:** 10

Water source and transportation map:

Sandy_Federal_SWD__10___water_location_map_20181016152032.pdf

Water source comments:

New water well? NO

New Water Well Info

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

Well target aquifer:

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

Aquifer comments:

Aquifer documentation:

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

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

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

Drilling method: **Drill material:**

Grout material: **Grout depth:**

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

Well Production type: **Completion Method:**

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Using any construction materials: YES

Construction Materials description: Caliche from State pit off Mobley Ranch Road

Construction Materials source location attachment:

Sandy_Federal_SWD__10___State_Caliche_Pit_Map_20181018163610.pdf

Section 7 - Methods for Handling Waste

Waste type: GARBAGE

Waste content description: Garbage and trash

Amount of waste: 1500 pounds

Waste disposal frequency : One Time Only

Safe containment description: Enclosed trash trailer

Safe containmant attachment:

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL SWD **Well Number:** 10

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

Disposal type description:

Disposal location description: Waste Management Facility in Carlsbad, NM

Waste type: SEWAGE

Waste content description: Human waste and Grey water

Amount of waste: 1500 gallons

Waste disposal frequency : Weekly

Safe containment description: 2000 gallon plastic container

Safe containmant attachment:

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

Disposal type description:

Disposal location description: City of Carlsbad Water Treatment Facility

Waste type: DRILLING

Waste content description: Drill cuttings

Amount of waste: 10000 pounds

Waste disposal frequency : Weekly

Safe containment description: Haul to commercial disposal facility

Safe containmant attachment:

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

Disposal type description:

Disposal location description: NMOCD approved disposal locations are CRI or Lea Land, both facilities are located on HWY 62/180, Sec 27-T20S-R32E.

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

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

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

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

Reserve pit liner

Reserve pit liner specifications and installation description

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL SWD **Well Number:** 10

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? NO

Description of cuttings location

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

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

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

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

SANDY_FEDERAL_SWD__10_Survey_Plat_Updated_20181018163759.pdf

Comments: Please see page 4 of Survey Plat attachment. An attachment was needed, so attached Survey Plat again.

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance **Multiple Well Pad Name:**

Multiple Well Pad Number:

Recontouring attachment:

Drainage/Erosion control construction: None

Drainage/Erosion control reclamation: None

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL SWD **Well Number:** 10

Well pad proposed disturbance (acres): 7
Road proposed disturbance (acres): 0
Powerline proposed disturbance (acres): 0
Pipeline proposed disturbance (acres): 0
Other proposed disturbance (acres): 0
Total proposed disturbance: 7

Well pad interim reclamation (acres): 0
Road interim reclamation (acres): 0
Powerline interim reclamation (acres): 0
Pipeline interim reclamation (acres): 0
Other interim reclamation (acres): 0
Total interim reclamation: 0

Well pad long term disturbance (acres): 7
Road long term disturbance (acres): 0
Powerline long term disturbance (acres): 0
Pipeline long term disturbance (acres): 0
Other long term disturbance (acres): 0
Total long term disturbance: 7

Disturbance Comments: This site is on the Sandy Drill Island and interim reclamation will not be utilized.

Reconstruction method: This site is on the Sandy Drill Island and interim reclamation will not be utilized.

Topsoil redistribution: Topsoil will be evenly spread and re-vegetated over the entire disturbed area upon abandonment. Seed the area with the proper seed mixture, free of noxious weeds will be used.

Soil treatment: NA

Existing Vegetation at the well pad: Various brush, grass and Mesquite

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: Various brush, grass and Mesquite

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: NA

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: Various brush, grass and Mesquite

Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL SWD **Well Number:** 10

Seed Management

Seed Table

Seed Summary

Total pounds/Acre:

Seed Type	Pounds/Acre

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: **Last Name:**

Phone: (575)622-1127 **Email:** pragsdale@stratanm.com

Seedbed prep: Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking or other imprinting in order to break the soil crust and create seed germination micro-sites.
Seed BMP: To seed the area with the proper seed mixture, free of noxious weeds.

Seed method: Drilling of broadcasting over entire reclaimed area

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: NA

Weed treatment plan attachment:

Monitoring plan description: All reclaimed area will be monitored periodically to ensure that revegetation occurs and that the area is not re-disturbed and that erosion and noxious weeds are controlled.
Monitoring plan attachment:

Success standards: Regrowth in 1 full growing season of reclamation.

Pit closure description: NA

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL SWD **Well Number:** 10

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Disturbance type: EXISTING ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL SWD **Well Number:** 10

Section 12 - Other Information

Right of Way needed? NO **Use APD as ROW?**

ROW Type(s):

ROW Applications

SUPO Additional Information:

Use a previously conducted onsite? YES

Previous Onsite information: Drill Island for Sandy area

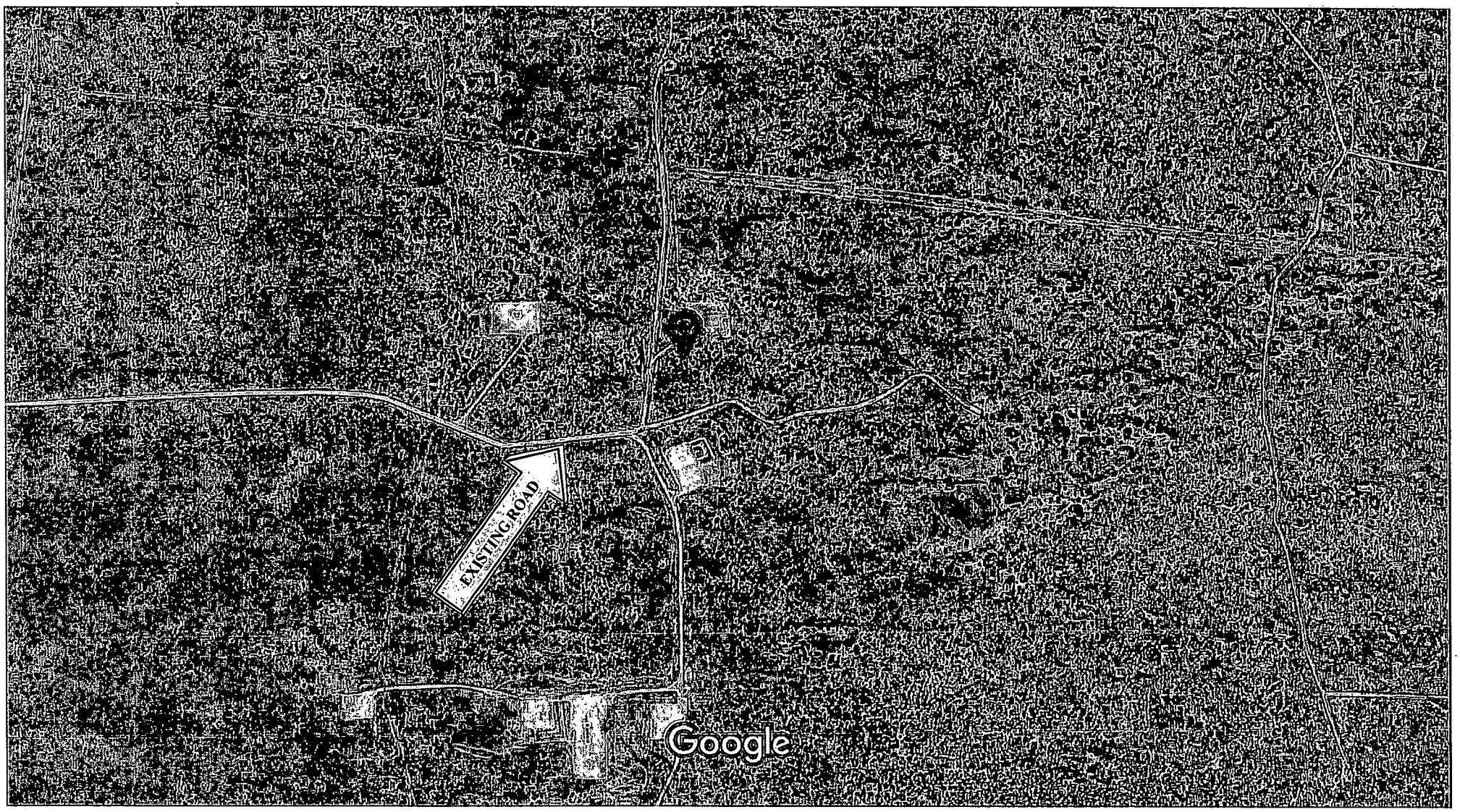
Other SUPO Attachment

Sandy_Federal_SWD__10___Roadrunner_Drill_Island_20181019134952.pdf

Google Maps 32°17'27.8"N 103°50'29.4"W

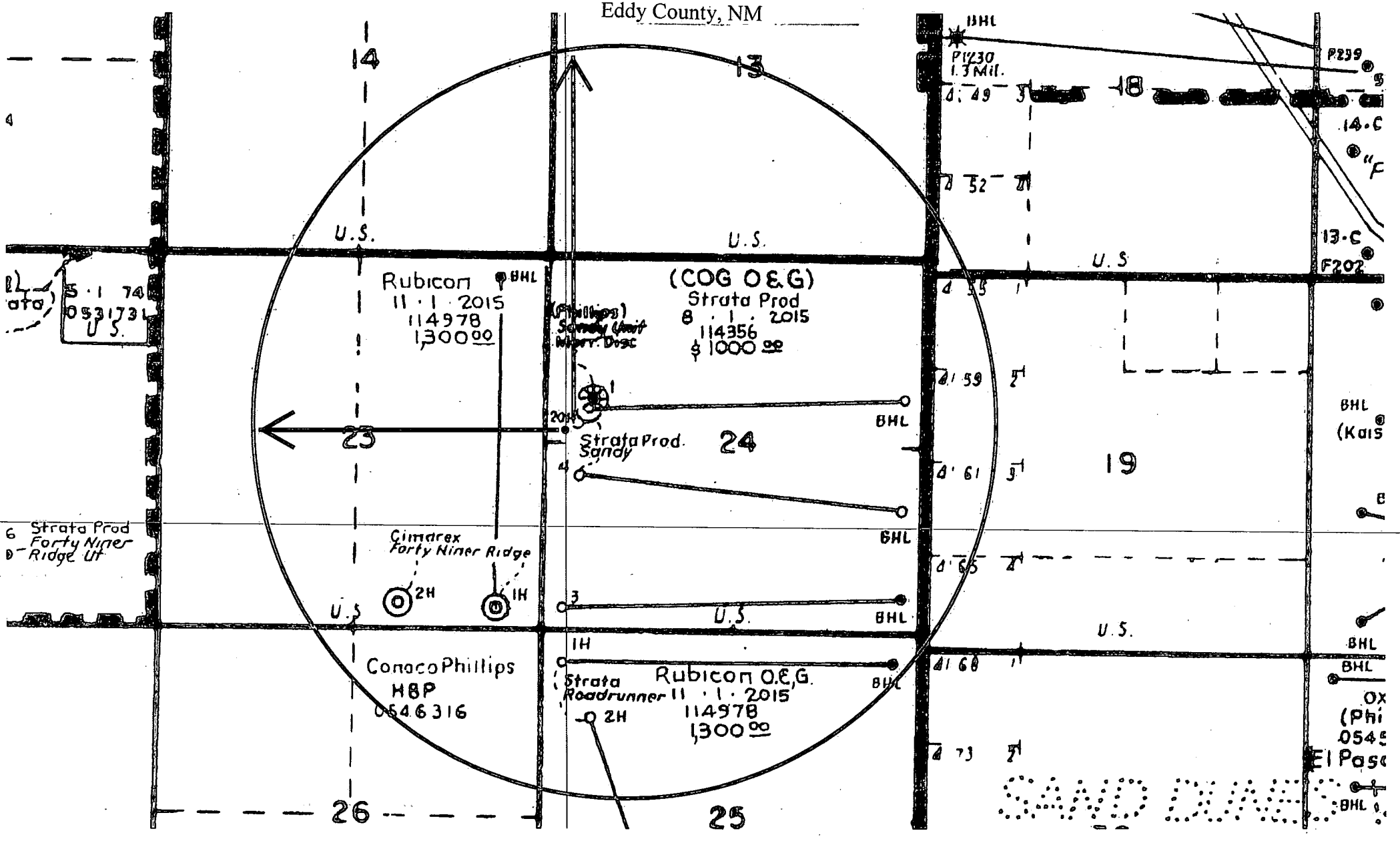
EXISTING ROAD MAP STRATA PRODUCTION COMPANY

Sandy Federal SWD #10, 2430' FNL & 460' FWL, Sec. 24, T23S, R30E, Eddy County, NM

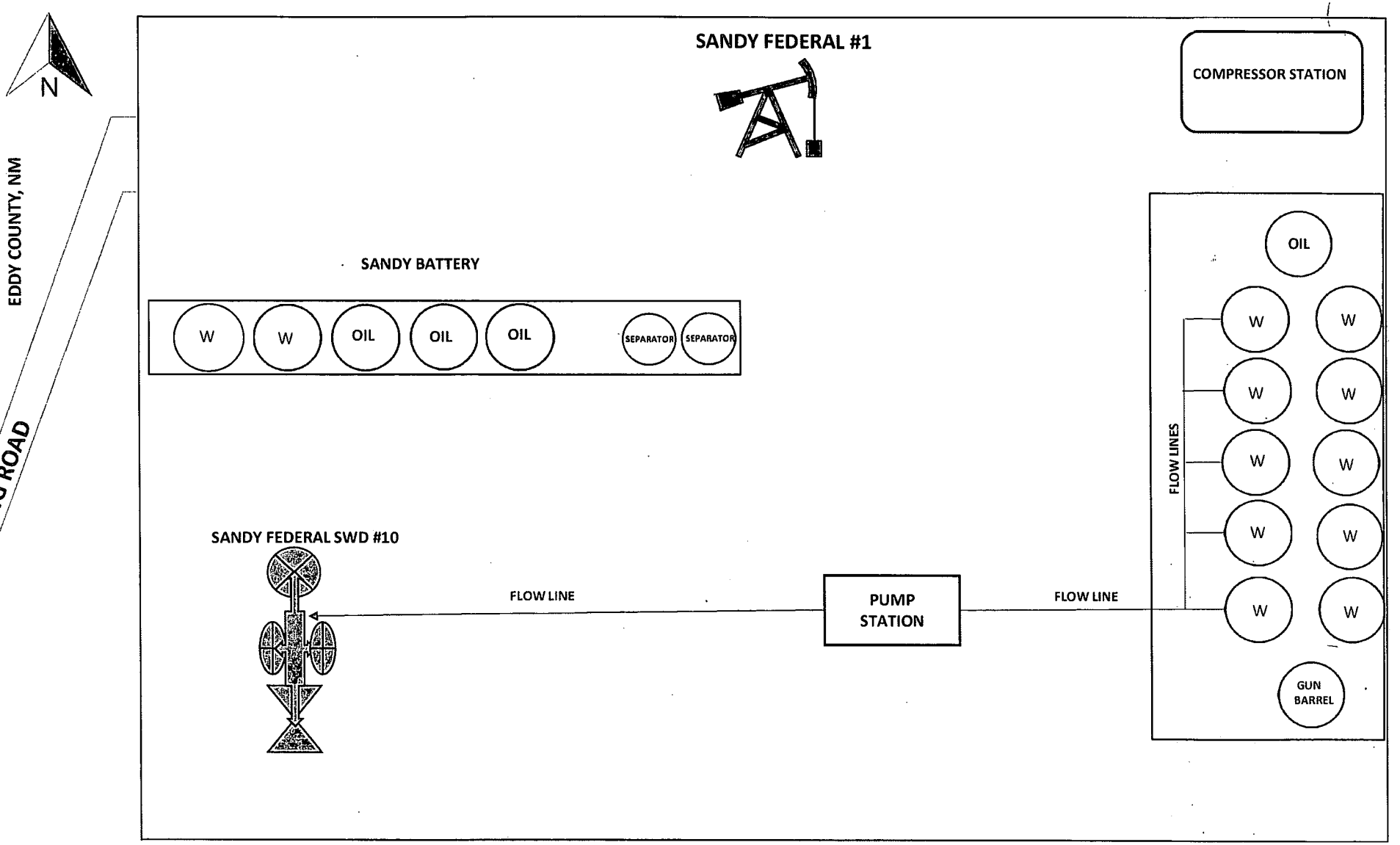


Imagery ©2018 Google, Map data ©2018 Google 1000 ft

Strata Production Company
Sandy Federal SWD #10
2430' FNL & 460' FWL
Section 24-T23S-R30E
Eddy County, NM



PRODUCTION FACILITIES DIAGRAM
STRATA PRODUCTION COMPANY
SANDY FEDERAL SWD #10
2430' FNL & 460' FWL
SEC. 24-T23S-R30E
EDDY COUNTY, NM



Google Maps

32.2910477, -103.8414891 to US Hwy 285 & NM-31, New Mexico 88220

Drive 19.6 miles, 33 min

WATER LOCATION MAP
Sandy Federal SWD #10, 2430' FNL & 460' FWL, SEC. 24, T23S, R30E, Eddy County, NM

Imagery ©2018 Google, Map data ©2018 Google 2 mi

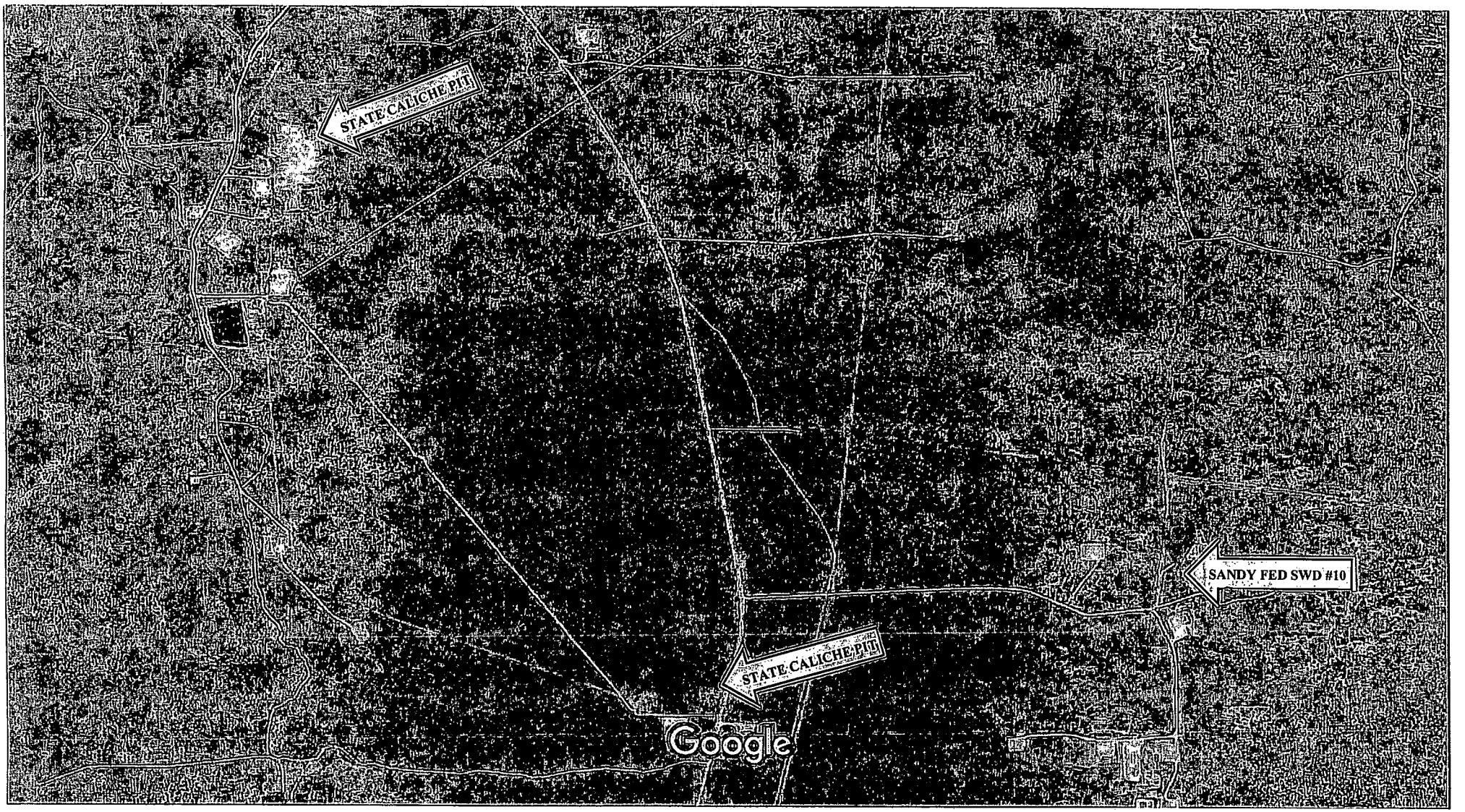
Google Maps

32°17'27.8"N 103°50'29.4"W

STRATA PRODUCTION COMPANY

State Caliche Pits

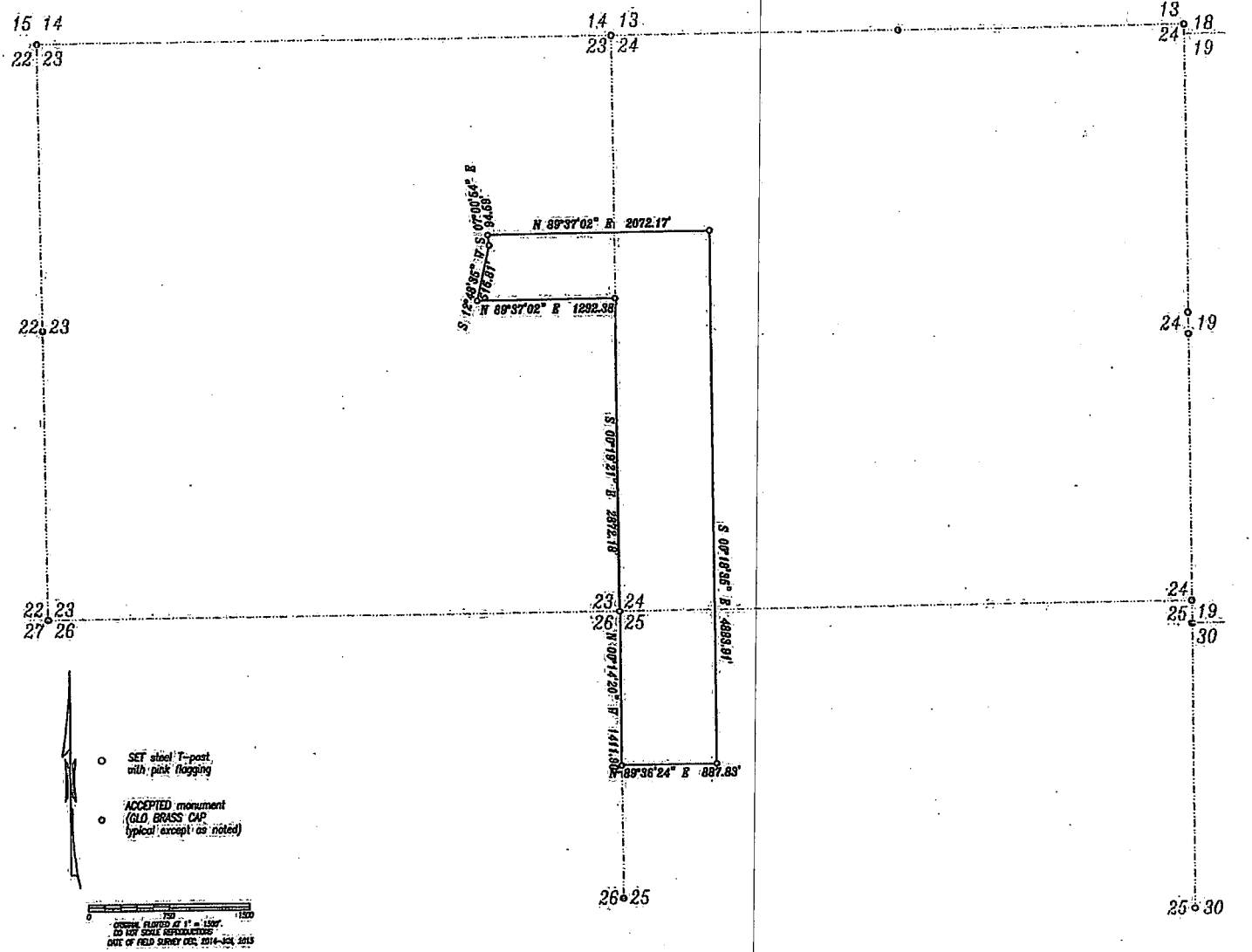
Sandy Federal SWD #10, 2430' FNL & 460' FWL, Sec. 24, T23S, R30E, Eddy County, NM



Imagery ©2018 Google, Map data ©2018 Google 2000 ft

STRATA PRODUCTION COMPANY
Sandy Federal SWD #10
2430' FNL & 460' FWL
Section 24 - T23S - R30E
Eddy County, NM

"RoadRunner", a Drill Island within Sections, 23, 24, & 25, Twp. 23S, Rge. 30E, N.M.P.M., Eddy County., New Mexico



CERTIFICATE OF SURVEYOR

I, P. R. Patton, New Mexico Professional Surveyor No. 8112, do hereby certify that this survey plat and the actual survey on the ground upon on which it is based were performed by me or under my direct supervision; that I am responsible for this survey; that this survey and plat comply with the Minimum Standards for Surveying in New Mexico; and that it is true and correct to the best of my knowledge and belief.

P. R. Patton NMPLS 8112 DATE

528 Petroleum Building, Roswell, NM 88203-4676
(575) 622-9106

P. R. PATTON
STATE OF
8112
NEW MEXICO
REGISTERED PROFESSIONAL LAND SURVEYOR

P.R. Patton & Associates
Consulting Engineers
Surveyors
Petroleum Bldg.
Roswell, N.M. 88203
575 / 622-9106

APD ID: 10400034265 **Submission Date:** 10/19/2018

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL SWD **Well Number:** 10

Well Type: INJECTION - DISPOSAL **Well Work Type:** Drill

Section 1 - General

Would you like to address long-term produced water disposal? YES

Water quality analysis:

PWD Map:

Sandy_Federal_SWD__10___Existing_Wells_Map_20181018164436.pdf

Average monthly evaporation (in.): 4 **Average monthly precipitation (in.):** 1

Do you have a Produced Water Management Plan? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

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

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL SWD **Well Number:** 10

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

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

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

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

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

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

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL SWD **Well Number:** 10

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

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? YES

Produced Water Disposal (PWD) Location: ONLEASE

PWD surface owner: BLM **PWD disturbance (acres):** 7

Injection PWD discharge volume (bbl/day): 10000

Injection well mineral owner: FED

Injection well type: NEW

Injection well number: 10 **Injection well name:** Sandy Federal SWD

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

Injection well new surface disturbance (acres): 7

Minerals protection information: The surface and sub-surface minerals are protected by strings of cemented casing which will prevent the injected fluids from entering the productive zones.

Mineral protection attachment:

Sandy_Federal_SWD_10___filed_C_108_20181019143915.pdf

Underground Injection Control (UIC) Permit? NO

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

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

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL SWD **Well Number:** 10

Produced Water Disposal (PWD) Location:

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

Other PWD discharge volume (bbl/day):

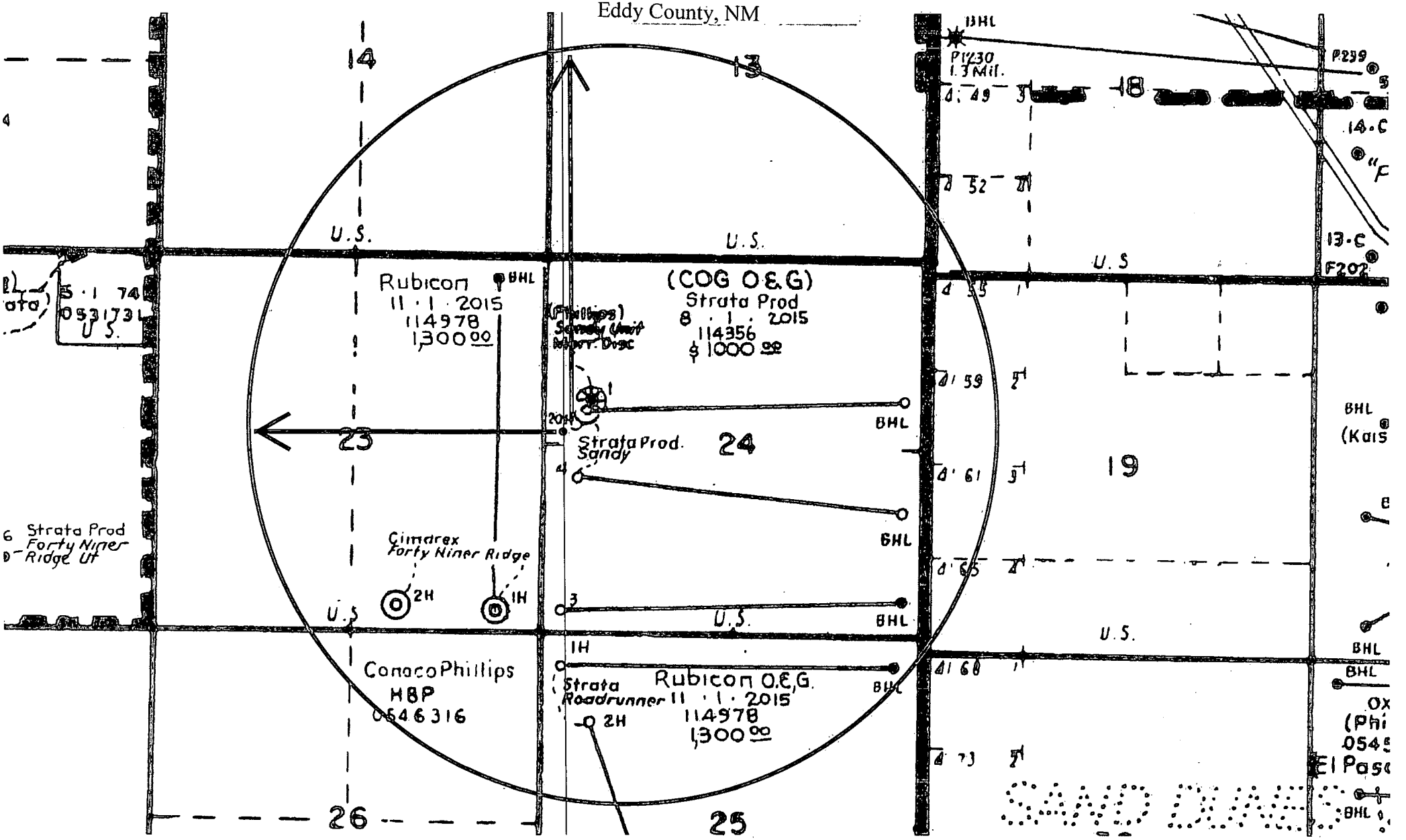
Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

Strata Production Company
Sandy Federal SWD #10
2430' FNL & 460' FWL
Section 24-T23S-R30E
Eddy County, NM



POST OFFICE DRAWER 1030
ROSWELL, NM 88202-1030

1301 NORTH SYCAMORE AVENUE
ROSWELL, NEW MEXICO 88201
www.stratanm.com

TELEPHONE (575) 622-1127
FACSIMILE (575) 623-3533

August 23, 2018

VIA CERTIFIED MAIL

Carlsbad Field Office
Bureau of Land Management
620 E. Greene St.
Carlsbad, NM 88220

Re: Application for Salt Water Disposal
Sandy Federal #10 SWD
Devonian Formation
2430' FNL & 460' FWL
Unit Letter E, Sec 24-T23S-R30E
Eddy County, NM

Ladies and Gentlemen:

Enclosed, please find an Application that has been filed with the New Mexico Oil Conservation Division requesting approval to drill the Sandy Federal #10 salt water disposal well to dispose of produced water in the non-commercial Devonian formation at 16,500' located 2430' FNL & 460' FWL Unit E-Section 24-T23S-R30E, Eddy County, New Mexico.

As you know, any interested party may file an objection of the Application or may request a public hearing. Any objection or request for hearing must be filed with the Oil Conservation Division, PO Box 2088, Santa Fe, NM 87504-2088 within 15 days from the date of publication. Failure to object will preclude you from contesting this matter at a later date.

Sincerely yours,

Paul Ragsdale
Operations Manager
Strata Production Company

Enclosure: APPLICATION FOR AUTHORIZATION TO INJECT

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance __X__ Disposal _____ Storage
Application qualifies for administrative approval? _____ Yes _____ No

II. OPERATOR: **Strata Production Company**

ADDRESS: **PO Box 1030, Roswell, NM 88202**

CONTACT PARTY: **Paul Ragsdale, Operations Manager** PHONE: **575-622-1127 ext. 18**

III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? _____ Yes __X__ No
If yes, give the Division order number authorizing the project: _____

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).

*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: **Shammy Dennis** TITLE: **Admin Support**

SIGNATURE: *Shammy Dennis* DATE: **8/22/18**

E-MAIL ADDRESS: **sdennis@stratanm.com**

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

(2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;

(3) The formation name and depth with expected maximum injection rates and pressures; and,

(4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

Side 1

INJECTION WELL DATA SHEET

OPERATOR: **Strata Production Company**

WELL NAME & NUMBER: **Sandy Federal #10 SWD**

WELL LOCATION:	**2430 FNL & 460 FWL**	**E**	**24**	**23S**	**30E**
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: **26"** Casing Size: **20" @385'**

Cemented with: **1000** sx. *or* _____ ft^3

Top of Cement: **Surface** Method Determined: **Circulated**

Intermediate Casing

Hole Size: **17 ½"** Casing Size **13 3/8" @ 3800'**

Cemented with: **1850** sx. *or* _____ ft^3

Top of Cement: **Surface** Method Determined: **Circulated**

Intermediate Casing 2

Hole Size: **12 ¼"** Casing Size: **9 5/8" @ 12,000'**

Cemented with: **2100** sx. *or* _____ ft^3

Top of Cement: **Surface** Method Determined: **Circulated**

ATTACHMENT 1 (1 OF 4)

Production Casing

Hole Size: **8 1/2"** Casing Size: **7" 26#**

Cemented with: **1000** sx. *or* _____ ft^3

Top of Cement: **Surface** Method Determined: **Circulated**

Total Depth: **16,500'**

Injection Interval

15,545' feet to **16,500'**

(Perforated or Open Hole; indicate which) **Open Hole**

ATTACHMENT 1 (2 OF 4)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 4 ½" 13.5# Lining Material: TK99 IPC

Type of Packer: Arrowset 1X (nickel plated)

Packer Setting Depth: +/- 15,500

Other Type of Tubing/Casing Seal (if applicable): External Casing Packer @ 15,580'

Additional Data

1. Is this a new well drilled for injection? **X** Yes _____ No

   If no, for what purpose was the well originally drilled? _____

2. Name of the Injection Formation: **Devonian**

3. Name of Field or Pool (if applicable): **Forty Niner Ridge**

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. **N/A**

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: **Morrow, 13,960' – 14,727'**

   No underlying producing zone

ATTACHMENT 1 (3 OF 4)

AFMSS

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

Bond Info Data Report

02/14/2020

APD ID: 10400034265

Submission Date: 10/19/2018

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL SWD

Well Number: 10

Well Type: INJECTION - DISPOSAL

Well Work Type: Drill

Highlighted data reflects the most recent changes
Show Final Text

Bond Information

Federal/Indian APD: FED

BLM Bond number: NM1538

BIA Bond number:

Do you have a reclamation bond? YES

Is the reclamation bond a rider under the BLM bond? YES

Is the reclamation bond BLM or Forest Service? BLM

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount: $ 50,000

Additional reclamation bond information attachment: