NM OIL CONSERVATION
ARTESIA DISTRICT
FEB 20 2018
RECEIVED

Form 3160-3
(March 2012)

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

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	
7. If Unit or CA Agreement, Name and No.	
8. Lease Name and Well No.	SANDY FEDERAL #4H 39123
9. API Well No.	30-015-41042
10. Field and Pool, or Exploratory	FORTY NINER RIDGE / DELAWARE
11. Sec., T. R. M. or Blk. and Survey or Area	SEC 24 / T23S / R30E / NMP
12. County or Parish	EDDY
13. State	NM

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

2. Name of Operator: STRATA PRODUCTION COMPANY 21712

3a. Address: 1301 N Sycamore Roswell NM 88202

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

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface: NWSW / 2180 FSL / 515 FWL / LAT 32.2891976 / LONG -103.8413049

At proposed prod. zone: NESE / 1710 FSL / 330 FEL / LAT 32.2879358 / LONG -103.8267052

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

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 515 feet	16. No. of acres in lease: 640	17. Spacing Unit dedicated to this well: 160
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 990 feet	19. Proposed Depth: 7712 feet / 11945 feet	20. BLM/BIA Bond No. on file: FED: NM1538
21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3265 feet	22. Approximate date work will start*: 04/01/2018	23. Estimated duration: 30 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

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 required by the BLM.

25. Signature	Name *(Printed/Typed)*: Paul Ragsdale / Ph: (575)622-1127	Date
Title: Operations Manager		
Approved by *(Signature)*: (Electronic Submission)	Name *(Printed/Typed)*: Cody Layton / Ph: (575)234-5959	Date: 02/14/2018
Title: Supervisor Multiple Resources	Office: CARLSBAD	

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

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

(Continued on page 2)

*(Instructions on page 2)

APPROVED WITH CONDITIONS

Approval Date: 02/14/2018

RWP 2-23-18

AFMSS

U.S. Department of the Interior
Bureau of Land Management

Application for Permit to Drill

Carlsbad Field Office
OCD Artesia

APD Package Report

Date Printed: 02/15/2018 06:32 AM

APD ID: 10400014522 Well Status: AAPD
APD Received Date: Well Name: SANDY FEDERAL
Operator: STRATA PRODUCTION COMPANY Well Number: #4H

APD Package Report Contents

- Form 3160-3

NM OIL CONSERVATION
ARTESIA DISTRICT
FEB 20 2018
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- Operator Certification Report

- Application Report
- Application Attachments
  -- Well Plat: 1 file(s)

- Drilling Plan Report
- Drilling Plan Attachments
  -- Blowout Prevention Choke Diagram Attachment: 1 file(s)
  -- Blowout Prevention BOP Diagram Attachment: 1 file(s)
  -- Casing Design Assumptions and Worksheet(s): 3 file(s)
  -- Hydrogen sulfide drilling operations plan: 2 file(s)
  -- Proposed horizontal/directional/multi-lateral plan submission: 1 file(s)

- SUPO Report
- SUPO Attachments
  -- Existing Road Map: 1 file(s)
  -- Attach Well map: 1 file(s)
  -- Water source and transportation map: 1 file(s)
  -- Safe containment attachment: 1 file(s)
  -- Well Site Layout Diagram: 1 file(s)
  -- Other SUPO Attachment: 1 file(s)

- PWD Report
- PWD Attachments
  -- None

- Bond Report
- Bond Attachments
  -- None

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 1: 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 well, 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 directionally 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.

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 well 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 will 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 collects this information to allow 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 Collection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

(Continued on page 3)

Additional Operator Remarks

Location of Well

1. SHL: NWSW / 2180 FSL / 515 FWL / TWSP: 23S / RANGE: 30E / SECTION: 24 / LAT: 32.2891976 / LONG: -103.8413049 (TVD: 7832 feet, MD: 11945 feet)
   PPP: NWSW / 2180 FSL / 515 FWL / TWSP: 23S / RANGE: 30E / SECTION: 24 / LAT: 32.2891976 / LONG: -103.8413049 (TVD: 7832 feet, MD: 11945 feet)
   BHL: NESE / 1710 FSL / 330 FEL / TWSP: 23S / RANGE: 30E / SECTION: 24 / LAT: 32.2879358 / LONG: -103.8267052 (TVD: 7712 feet, MD: 11945 feet)

BLM Point of Contact

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

Approval Date: 02/14/2018

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.

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	STRATA PRODUCTION COMPANY
LEASE NO.:	NMNM114356
WELL NAME & NO.:	4H – SANDY FEDERAL
SURFACE HOLE FOOTAGE:	2180'/S & 515'/W
BOTTOM HOLE FOOTAGE	1710'/S & 330'/E
LOCATION:	Section 24 T.23 S., R.30 E., NMP
COUNTY:	EDDY County, New Mexico

Potash	○ None	○ Secretary	◉ R-111-P
Cave/Karst Potential	○ Low	◉ Medium	○ High
Variance	◉ None	○ Flex Hose	○ Other
Wellhead	◉ Conventional	○ Multibowl	
Other	☐4 String Area	☐Capitan Reef	☐WIPP

A. Hydrogen Sulfide

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

B. CASING

1. The **13 3/8** inch surface casing shall be set at approximately **330** feet (a minimum of 25 feet 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

Approval Date: 02/14/2018

AFMSS

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

Drilling Plan Data Report
02/15/2018

APD ID: 10400014522

Submission Date:

Highlighted data reflects the most recent changes

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL

Well Number: #4H

Show Final Text

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	RUSTLER	3265	0	0	ANHYDRITE	USEABLE WATER	No
2	TOP SALT	2563	700	700	SALT	NONE	No
3	DELAWARE	-607	3870	3870	LIMESTONE,SANDSTONE	NATURAL GAS,OIL	Yes
4	BONE SPRING	-4467	7732	7732	LIMESTONE,SANDSTONE	NATURAL GAS,OIL	No

Section 2 - Blowout Prevention

Pressure Rating (PSI): 3M **Rating Depth:** 10000

Equipment: SHAFFER DOUBLE RAM BOP

Requesting Variance? NO

Variance request:

Testing Procedure: THE BLOWOUT PREVENTER EQUIPMENT (BOP) SHOWN IN BOP ATTACHMENT WILL CONSIST OF A DOUBLE RAM-TYPE (3000 PSI WP) PREVENTER AND A BAG-TYPE (HYDRIL) PREVENTER (3000 PSI WP). BOTH UNITS WILL BE HYDRAULICALLY OPERATED AND THE RAM-TYPE PREVENTER WILL BE EQUIPPED WITH BLIND RAMS ON TOP AND 4 1/2" DRILL PIPE RAMS ON BOTTOM. BOTH BOP'S WILL BE NIPPLED UP ON THE 13 3/8" SURFACE CASING AND USED CONTINUOUSLY UNTIL TD IS REACHED. BEFORE DRILLING OUT OF SURFACE CASING, THE RAM-TYPE BOP AND ACCESSORY EQUIPMENT WILL BE TESTED TO 250 PSI LOW AND 3000 PSI HIGH AND THE HYDRIL 250 PSI LOW AND 70% OF RATED WORKING PRESSURE (2100 PSI). PIPE RAMS WILL BE OPERATIONALLY CHECKED EACH 24 HOUR PERIOD. BLIND RAMS WILL BE OPERATIONALLY CHECKED ON EACH TRIP OUT OF THE HOLE. THESE CHECKS WILL BE NOTED ON THE DAILY TOUR SHEETS. A 2" KILL LINE AND 3" CHOKE LINE WILL BE INCLUDED IN THE DRILLING SPOOL LOCATED BELOW THE RAM-TYPE BOP. OTHER ACCESSORIES TO THE BOP EQUIPMENT WILL INCLUDE A KELLY COCK AND FLOOR SAFETY VALVE (INSIDE BOP) AND CHOCK LINES AND CHOKE MANIFOLD WITH 3000 PSI WP RATING.

Choke Diagram Attachment:

SANDY_FED_4_CHOKE_DIAG_10_9_2017_20171009123302.pdf

BOP Diagram Attachment:

SANDY_FED_4_BOP_DIAG_05-24-2017.pdf

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL **Well Number:** #4H

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	330	0	330	-4569	-4899	330	H-40	48	STC	1.125	1	DRY	1.8	DRY	1.8
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	3860	0	3860	-4569	-8429	3860	J-55	40	STC	1.125	1	DRY	1.8	DRY	1.8
3	PRODUCTION	8.75	5.5	NEW	API	N	0	11945	0	7712	-4569	-12281	11945	HCP-110	20	LTC	1.125	1	DRY	1.8	DRY	1.8

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

SANDY_FED_4_CASING_PROGRAM_05-24-2017.pdf

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL **Well Number:** #4H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

SANDY_FED_4_CASING_PROGRAM_05-24-2017.pdf

Casing ID: 3 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

SANDY_FED_4_CASING_PROGRAM_05-24-2017.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	330	341	1.34	14.8	456.94	100	CLASS C	2% CACL2
INTERMEDIATE	Lead	2000	0	2000	575	2.07	12.6	1190.25	100	35/65 POZ/C	5% SALT, 5LB/SK KOL-SEAL
INTERMEDIATE	Tail		0	2000	100	1.32	14.8	132	100	CLASS C	2% CACL2
INTERMEDIATE	Lead	2000	2000	3860	450	2.06	12.6	927	100	35/65 POZ/C	5% PF44, 6% PF20 +3LB/SK SALT

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL **Well Number:** #4H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Tail		2000	3860	200	1.33	14.8	266	100	CLASS C	.2% PF13
PRODUCTION	Lead		0	11945	1500	2.2	12	3300	50	5050 POZ H	4.5% BENTONITE + 5% SALT + 5LB/SK LCM
PRODUCTION	Tail		0	11945	1750	1.24	14.8	2170	50	5050 POZ H	5% SALT + 5LB/SK LCM

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: BLOWOUT PREVENTOR AND SUFFICIENT MUD MATERIALS TO MAINTAIN WEIGHT, VISCOSITY AND COMBAT LOSS CIRCULATION

Describe the mud monitoring system utilized: SHALL INCLUDE EQUIPMENT TO MONITOR THE CIRCULATION SYSTEM WHICH SHALL INCLUDE BUT NOT BE LIMITED TO DAILY RECORDS OF PUMP SPEEDS, VISUAL MUD MONITORING EQUIPMENT TO DETECT VOLUME CHANGES SUCH AS PIT VOLUMES, ELECTRONIC/MECHANICAL MONITORING EQUIPMENT FOR PIT VOLUME TOTALIZERS, STROKE COUNTERS AND FLOW SENSORS. DAILY MUD TESTS TO DETERMINE, AS APPLICABLE, DENSITY, VISCOSITY, GEL STRENGTH, FILTRATION AND PH SHALL BE CONDUCTED. GAS DETECTING EQUIPMENT WILL BE UTILIZED BELOW THE INTERMEDIATE CASING. GAS FLARE LINES AND MUD-GAS SEPARATORS WILL BE UTILIZED AS NECESSARY.

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
3860	7943	WATER-BASED MUD	8.8	9.2	2	0.25	10	10	60000	10	
0	330	SPUD MUD	8.33	8.7	4	0	9	0	0	0	
330	3860	WATER-BASED MUD	9.7	10.1	1	0	10	5	160000	0	
7098	11945	POLYMER	9.1	9.5	9	0.1	10	25	60000	10	

Section 6 - Test, Logging, Coring

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

TWO MAN MUDLOGGING UNIT FROM 9 5/8" INTERMEDIATE CASING TO TD AND DLL-MSFL, CNL-DENSITY, GAMMA RAY, CALIPER.
MUDLOGGING UNIT WILL BE EMPLOYED FROM APPROXIMATELY 3860' TO TD. THE DUAL LATEROLOG WILL BE RUN FROM TD BACK TO THE INTERMEDIATE CASING AND THE COMPENSATED NEUTRON/DENSITY AND GAMMA RAY LOGS WILL BE RUN FROM TD BACK TO SURFACE.

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

CALIPER,CBL,CNL,DS,DIL,DLL,GR,MUDLOG,SP

Coring operation description for the well:

IN SOME CASES, STRATA ELECTS TO RUN ROTARY SIDEWALL CORES FROM SELECTED INTERVALS DEPENDENT UPON LOGGING RESULTS.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 3000 **Anticipated Surface Pressure:** 1276.96

Anticipated Bottom Hole Temperature(F): 120

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_4_H2S_12_29_2017_20171229095832.pdf
GasCapturePlanFormFinal_000_1_20171229111705.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Sandy_Fed_4_DRILLING_PLAN_05_24_2017_1_20171009104421.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Other Variance attachment:

Drilling Operations
Choke Manifold
Exhibit A-2

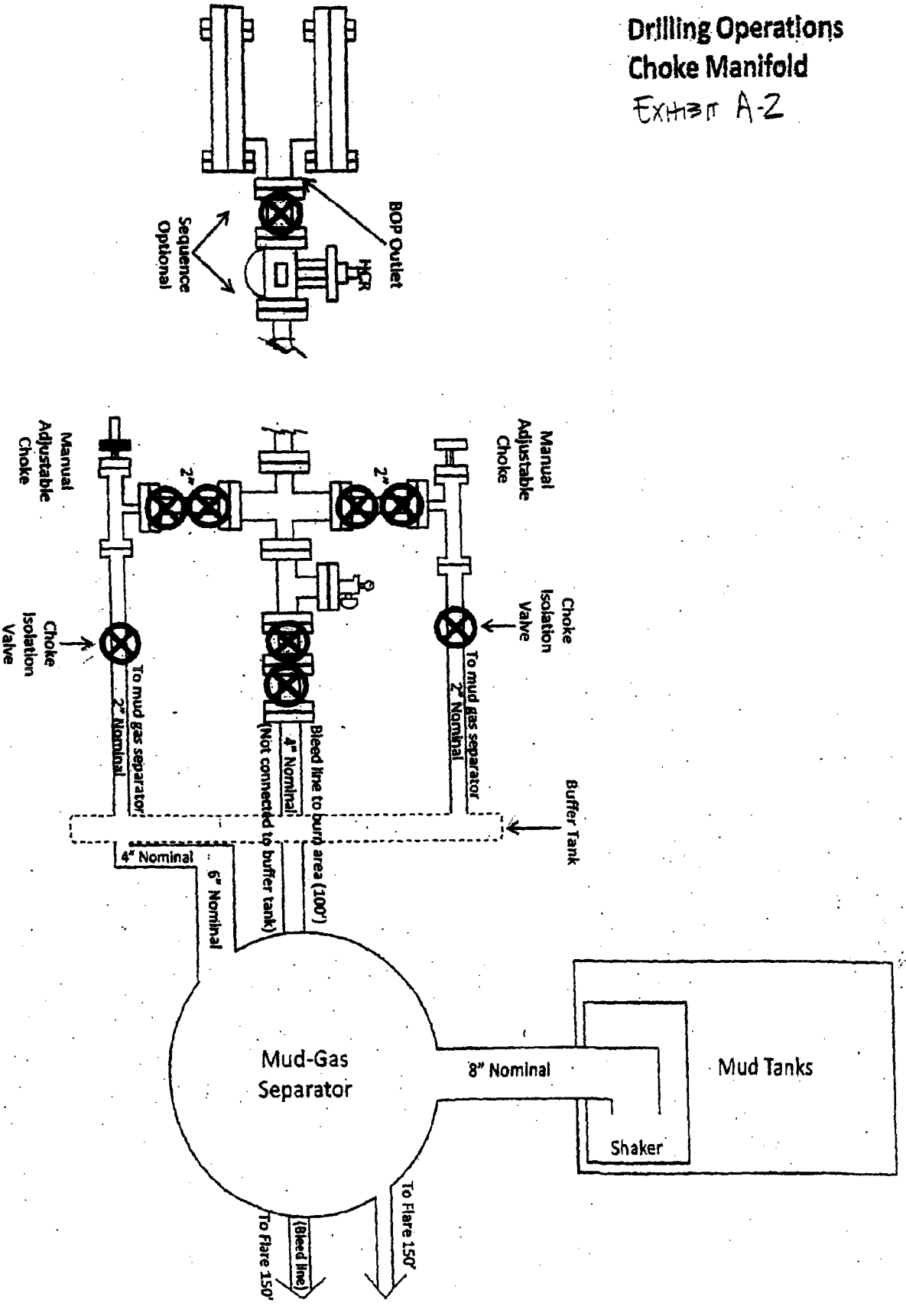


EXHIBIT "A"

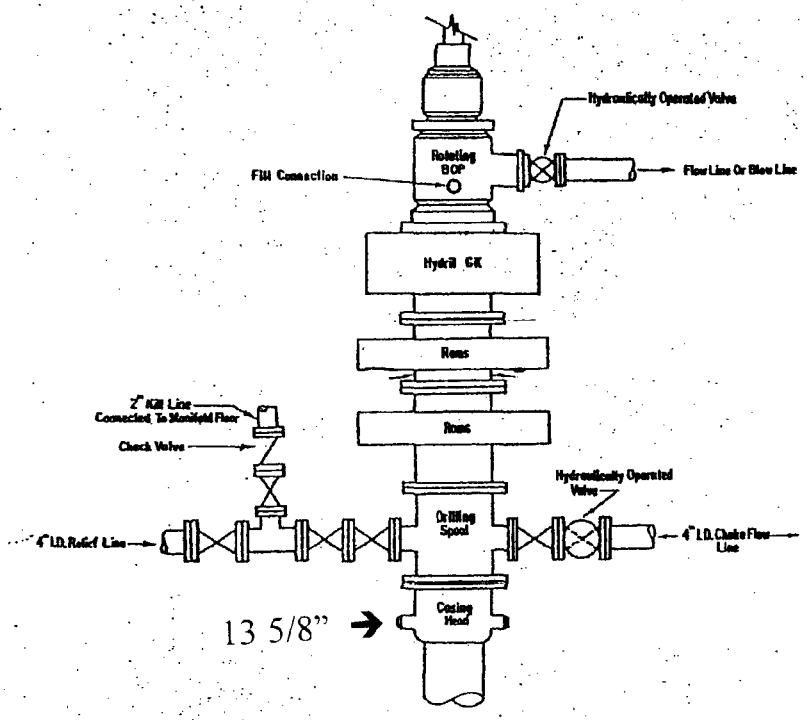
BLOWOUT PREVENTER EQUIPMENT DESCRIPTION

All equipment should be at least 3,000 psi WP or higher unless otherwise specified.

1. Bell nipple
2. Hydril bag type preventer
3. Ram type pressure operated blowout preventer with blind rams.
4. Flanged spool with one 3"and one 2"(minimum) outlet.
5. 2"(minimum) flanged plug or gate valve.
6. 2"x 2"x 2"(minimum) flanged.
7. 3"gate valve.
8. Ram type pressure operated blowout preventer with pipe rams.
9. Flanged type casing head with one side outlet.
10. 2" threaded (or flanged) plug or gate valve. Flanged on 5000# WP, threaded on 3000# WP or less.
11. 3" flanged spacer spool.
12. 3"x 2"x 2"x 2" flanged cross.
13. 2" flanged plug or gate valve.
14. 2" flanged adjustable choke.
15. 2" threaded flange.
16. 2" XXH nipple.
17. 2" forged steel 90° Ell.
18. Cameron (or equal) threaded pressure gauge.
19. Threaded flange.
20. 2" flanged tee.
21. 2" flanged plug or gate valve.
22. 2 1/2" pipe, 300' to pit, anchored.
23. 2 1/2" SE valve.
24. 2 1/2" line to steel pit or separator.

NOTES:

1). Items 3,4 and 8 may be replaced with double ram type preventer with side outlets between the rams.
2). The two valves next tho the stack on the fill and kill line to be closed unless drill string is being pulled.
3). Kill line is for emergency use only. This connection shall not be used for filling.
4). Replacement pipe rams and blind rams shall be on location at all times.
5). Only type U, LSW and QRC ram type preventers with secondary seals are acceptable for 5000 psi WP and higher BOP stacks.
6). Type E ram-type BOP's with factory modified side outlets may be used on 3000 psi or lower WP BOP stacks.



3000# PSI WORKING PRESSURE
BLOWOUT PREVENTER HOOK-UP

The blowout preventer assembly shall consist of one single type blind ram preventer and one single type pipe ram preventer, both hydraulically operated; a Hydril "GK" preventer; a rotating blowout preventer; valves; chokes and connections, as illustrated. If a tapered drill string is used, a ram preventer must be provided for each size of drill pipe. Casing and tubing rams to fit the preventers are to be available as needed. If correct in size, the flanged outlets of the ram preventer may be used for connecting to the 4-inch I.D. choke flow line and 4-inch I.D. relief line, except when air or gas drilling. All preventer connections are to be open-face flanged.

Minimum operating equipment for the preventers and hydraulically operated valves shall be as follows: (1)Multiple pumps, driven by a continuous source of power, capable of fluid charging the total accumulator volume from the nitrogen precharge pressure to its rated pressure within_____ minutes. Also, the pumps are to be connected to the hydraulic operating system which is to be a closed system. (2) Accumulators with a precharge of nitrogen of not less than 750 PSI and connected so as to receive the aforementioned fluid charge. With the charging pumps shut down, the pressurized fluid volume stored in the accumulators must be sufficient to close all the pressure-operated devices simultaneously within_____ seconds; after closure, the remaining accumulator pressure shall be not less than 1000 PSI with the remaining accumulator fluid volume at least_____ percent of the original. (3) When requested, an additional source of power, remote and equivalent, is to be available to operate the above pumps; or there shall be additional pumps operated by separate power and equal in performance capabilities.

The closing manifold and remote closing manifold shall have a separate control for each pressure-operated device. Controls are to be labeled, with control handles indicating open and closed positions. A pressure reducer and regulator must be provided for operating the Hydril preventer. When requested, a second pressure reducer shall be available to limit operating fluid pressures to ram preventers. Gulf Legion No. 38 hydraulic oil, an equivalent or better, is to be used as the fluid to operate the hydraulic equipment.

The choke manifold, choke flow line, relief line, and choke lines are to be supported by metal stands and adequately anchored. The choke flow line, relief line, and choke lines shall be constructed as straight as possible and without sharp bends. Easy and safe access is to be maintained to the choke manifold. If deemed necessary, walkways and stairways shall be erected in and around the choke manifold. All valves are to be selected for operation in the presence of oil, gas, and drilling fluids. The choke flow line valves and relief line valves connected to the drilling spool and all ram type preventers must be equipped with stem extensions, universal joints if needed, and hand wheels which are to extend beyond the edge of the derrick substructure. All other valves are to be equipped with handles.

* To include derrick floor mounted controls.

CASING PROGRAM:			
HOLE SIZE	DEPTH	OD CSG	WEIGHT, GRADE, COLLARS, NEW/USED
17 1/2"	330'	13 3/8"	48#, H-40, STC, NEW
12 1/4"	3860'	9 5/8"	40#, J-55, STC, NEW
8 3/4"	7943'	5 1/2"	20#, HCP-110, LTC/BTC, NEW
ON THE 5 1/2" CASING BTC WILL BE RUN THROUGH THE CURVE FROM 7198' - 7943'. MINIMUM CASING DESIGN FACTORS: COLLAPSE 1.125, BURST 1.0, JOINT STRENGTH 1.8			

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HOLE SIZE	DEPTH	OD CSG	WEIGHT, GRADE, COLLARS, NEW/USED
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STRATA PRODUCTION COMPANY

H_2S DRILLING OPERATIONS PLAN

I. HYDROGEN SULFIDE TRAINING

A. All contractors and subcontractors employed by Strata Production Company will receive or have received training from a qualified instructor within the last twelve months in the following areas prior to commencing drilling operations on the well.

1. The hazards and characteristics of hydrogen sulfide (H_2S).
2. Safety precautions.
3. Operations of safety equipment and life support systems.

B. In addition, contractor supervisory personnel will be trained or prepared in the following areas:

1. The effect of H_2S on metal components in the system. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-down procedures when drilling or reworking a well, blowout prevention and well control procedures, if the nature of work performed involves these items.
3. The contents and requirements of the contingency plan when such plan is required.

C. All personnel will be required to carry documentation of the above training on their person.

II. H_2S EQUIPMENT AND SYSTEMS

A. SAFETY EQUIPMENT

The following safety equipment will be on location.

1. Wind direction indicators as seen in attached diagram.
2. Automatic H_2S detection alarm equipment both audio and visual.

3. Clearly visible warning signs as seen on the attached diagram. Signs will use the words "POISON GAS" and "CAUTION" with a strong color contrast.
4. Protective breathing equipment will be located in the dog house and at briefing areas as seen in the attached Diagram.

B. WELL CONTROL SYSTEMS

1. Blowout Prevention Equipment

Equipment includes but is not limited to:

a. Pipe rams to accommodate all pipe sizes.
b. Blind rams.
c. Choke manifold.
d. Closing unit.

2. Communication

a. The rig contractor will be required to have two-way communication capability. Strata Production Company will have either land-line or mobile telephone capabilities.

3. Mud Program

a. The mud program has been designed to minimize the volume of H_2S circulated to surface. Proper mud weight, safe drilling practices and the use of H_2S scavengers, when appropriate, will minimize hazards when penetrating H_2S bearing zones.

4. Drill Stem Test intervals are as follows:

a. None planned

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Sandy Federal #4
Company:	Strata Production Co.	**TVD Reference:**	WELL @ 3280.0usft (Original Well Elev)
Project:	Eddy County New Mexico (NAD83)	**MD Reference:**	WELL @ 3280.0usft (Original Well Elev)
Site:	Sec 24 T23S R30E	**North Reference:**	Grid
Well:	Sandy Federal #4	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

Project	Eddy County New Mexico (NAD83)		
Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Sec 24 T23S R30E

Site Position:		**Northing:**	469,296.41 usft	**Latitude:**	32.2891976 N
From:	Lat/Long	**Easting:**	693,371.71 usft	**Longitude:**	-103.8413049 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.26 °

Well Sandy Federal #4

Well Position	**+N/-S**	0.0 usft	**Northing:**	469,296.41 usft	**Latitude:**	32.2891976 N
	+E/-W	0.0 usft	**Easting:**	693,371.71 usft	**Longitude:**	-103.8413049 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	3,263.0 usft

Wellbore Wellbore #1

Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	6/29/2012	7.59	60.18	48,523

Design Design #2

Audit Notes:

Version:	**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**
	0.0	0.0	0.0	96.03

Plan Sections

Measured Depth (usft)	**Inclination (°)**	**Azimuth (°)**	**Vertical Depth (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Dogleg Rate (°/100usft)**	**Build Rate (°/100usft)**	**Turn Rate (°/100usft)**	**TFO (°)**	**Target**
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
7,197.6	0.00	0.00	7,197.6	0.0	0.0	0.00	0.00	0.00	0.00	
7,943.2	89.47	96.03	7,675.0	-49.7	470.4	12.00	12.00	12.88	96.03	
11,945.1	89.47	96.03	7,712.0	-470.0	4,450.0	0.00	0.00	0.00	0.00	PBHL Sandy Feder

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Sandy Federal #4
Company:	Strata Production Co.	**TVD Reference:**	WELL @ 3280.0usft (Original Well Elev)
Project:	Eddy County New Mexico (NAD83)	**MD Reference:**	WELL @ 3280.0usft (Original Well Elev)
Site:	Sec 24 T23S R30E	**North Reference:**	Grid
Well:	Sandy Federal #4	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Build 12° / 100'									
7,197.6	0.00	0.00	7,197.6	0.0	0.0	0.0	0.00	0.00	0.00
7,200.0	0.29	96.03	7,200.0	0.0	0.0	0.0	12.00	12.00	0.00
7,300.0	12.29	96.03	7,299.2	-1.1	10.9	10.9	12.00	12.00	0.00
7,400.0	24.29	96.03	7,394.0	-4.4	42.0	42.3	12.00	12.00	0.00
7,500.0	36.29	96.03	7,480.2	-9.7	92.1	92.6	12.00	12.00	0.00
7,600.0	48.29	96.03	7,554.0	-16.8	158.9	159.8	12.00	12.00	0.00
7,700.0	60.29	96.03	7,612.3	-25.3	239.5	240.8	12.00	12.00	0.00
7,800.0	72.29	96.03	7,652.4	-34.9	330.4	332.2	12.00	12.00	0.00
7,900.0	84.29	96.03	7,672.7	-45.2	427.6	429.9	12.00	12.00	0.00
End of Curve / 89.47° Inc / 96.03° Azm / 7675' TVD									
7,943.2	89.47	96.03	7,675.0	-49.7	470.4	473.1	12.00	12.00	0.00
8,000.0	89.47	96.03	7,675.6	-55.7	526.9	529.9	0.00	0.00	0.00
8,100.0	89.47	96.03	7,676.5	-66.2	626.4	629.9	0.00	0.00	0.00
8,200.0	89.47	96.03	7,677.4	-76.7	725.8	729.9	0.00	0.00	0.00
8,300.0	89.47	96.03	7,678.3	-87.2	825.3	829.8	0.00	0.00	0.00
8,400.0	89.47	96.03	7,679.3	-97.7	924.7	929.8	0.00	0.00	0.00
8,500.0	89.47	96.03	7,680.2	-108.2	1,024.1	1,029.8	0.00	0.00	0.00
8,600.0	89.47	96.03	7,681.1	-118.7	1,123.6	1,129.8	0.00	0.00	0.00
8,700.0	89.47	96.03	7,682.0	-129.2	1,223.0	1,229.8	0.00	0.00	0.00
8,800.0	89.47	96.03	7,683.0	-139.7	1,322.5	1,329.8	0.00	0.00	0.00
8,900.0	89.47	96.03	7,683.9	-150.2	1,421.9	1,429.8	0.00	0.00	0.00
9,000.0	89.47	96.03	7,684.8	-160.7	1,521.4	1,529.8	0.00	0.00	0.00
9,100.0	89.47	96.03	7,685.7	-171.2	1,620.8	1,629.8	0.00	0.00	0.00
9,200.0	89.47	96.03	7,686.7	-181.7	1,720.2	1,729.8	0.00	0.00	0.00
9,300.0	89.47	96.03	7,687.6	-192.2	1,819.7	1,829.8	0.00	0.00	0.00
9,400.0	89.47	96.03	7,688.5	-202.7	1,919.1	1,929.8	0.00	0.00	0.00
9,500.0	89.47	96.03	7,689.4	-213.2	2,018.6	2,029.8	0.00	0.00	0.00
9,600.0	89.47	96.03	7,690.3	-223.7	2,118.0	2,129.8	0.00	0.00	0.00
9,700.0	89.47	96.03	7,691.3	-234.2	2,217.5	2,229.8	0.00	0.00	0.00
9,800.0	89.47	96.03	7,692.2	-244.7	2,316.9	2,329.8	0.00	0.00	0.00
9,900.0	89.47	96.03	7,693.1	-255.2	2,416.3	2,429.8	0.00	0.00	0.00
10,000.0	89.47	96.03	7,694.0	-265.7	2,515.8	2,529.8	0.00	0.00	0.00
10,100.0	89.47	96.03	7,695.0	-276.2	2,615.2	2,629.8	0.00	0.00	0.00
10,200.0	89.47	96.03	7,695.9	-286.7	2,714.7	2,729.8	0.00	0.00	0.00
10,300.0	89.47	96.03	7,696.8	-297.2	2,814.1	2,829.8	0.00	0.00	0.00
10,400.0	89.47	96.03	7,697.7	-307.7	2,913.6	2,929.8	0.00	0.00	0.00
10,500.0	89.47	96.03	7,698.7	-318.2	3,013.0	3,029.8	0.00	0.00	0.00
10,600.0	89.47	96.03	7,699.6	-328.7	3,112.4	3,129.8	0.00	0.00	0.00
10,700.0	89.47	96.03	7,700.5	-339.2	3,211.9	3,229.7	0.00	0.00	0.00
10,800.0	89.47	96.03	7,701.4	-349.7	3,311.3	3,329.7	0.00	0.00	0.00
10,900.0	89.47	96.03	7,702.3	-360.2	3,410.8	3,429.7	0.00	0.00	0.00
11,000.0	89.47	96.03	7,703.3	-370.7	3,510.2	3,529.7	0.00	0.00	0.00
11,100.0	89.47	96.03	7,704.2	-381.2	3,609.7	3,629.7	0.00	0.00	0.00
11,200.0	89.47	96.03	7,705.1	-391.7	3,709.1	3,729.7	0.00	0.00	0.00
11,300.0	89.47	96.03	7,706.0	-402.2	3,808.5	3,829.7	0.00	0.00	0.00
11,400.0	89.47	96.03	7,707.0	-412.8	3,908.0	3,929.7	0.00	0.00	0.00
11,500.0	89.47	96.03	7,707.9	-423.3	4,007.4	4,029.7	0.00	0.00	0.00
11,600.0	89.47	96.03	7,708.8	-433.8	4,106.9	4,129.7	0.00	0.00	0.00
11,700.0	89.47	96.03	7,709.7	-444.3	4,206.3	4,229.7	0.00	0.00	0.00
11,800.0	89.47	96.03	7,710.7	-454.8	4,305.8	4,329.7	0.00	0.00	0.00
11,900.0	89.47	96.03	7,711.6	-465.3	4,405.2	4,429.7	0.00	0.00	0.00
TD @ 11945' MD / 7712' TVD									

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Sandy Federal #4
Company:	Strata Production Co.	**TVD Reference:**	WELL @ 3280.0usft (Original Well Elev)
Project:	Eddy County New Mexico (NAD83)	**MD Reference:**	WELL @ 3280.0usft (Original Well Elev)
Site:	Sec 24 T23S R30E	**North Reference:**	Grid
Well:	Sandy Federal #4	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,945.1	89.47	96.03	7,712.0	-470.0	4,450.0	4,474.8	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL Sandy Federal - plan hits target center - Point	0.00	0.00	7,712.0	-470.0	4,450.0	468,826.41	697,821.71	32.2879358 N	-103.8267052 W

Plan Annotations

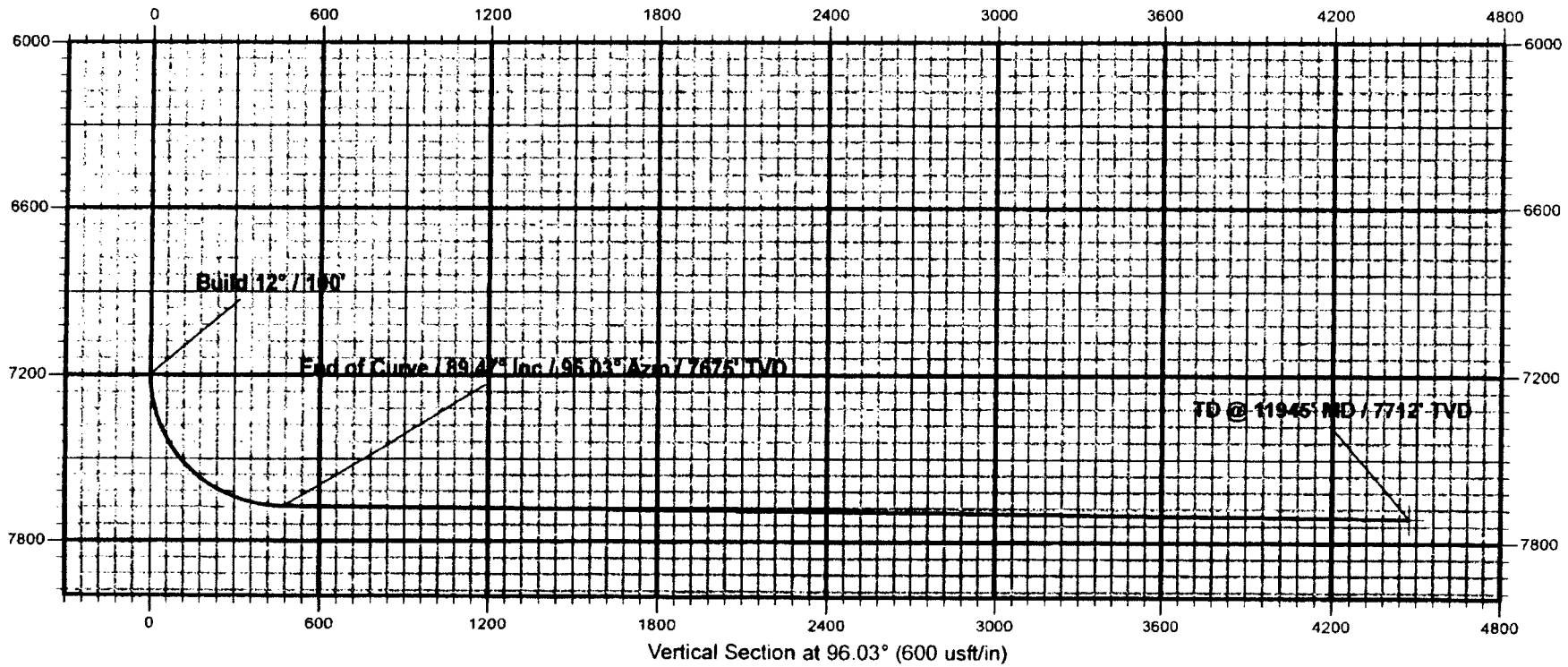
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
7,197.6	7,197.6	0.0	0.0	Build 12° / 100'
7,943.2	7,675.0	-49.7	470.4	End of Curve / 89.47° Inc / 96.03° Azm / 7675' TVD
11,945.1	7,712.0	-470.0	4,450.0	TD @ 11945' MD / 7712' TVD

Strata Production

QDC
The DIRE NAL DRILLING COMPANY

Eddy County New Mexico (NAD83)

Sandy Federal #4
Quote 120499
Design #2



Strata Production

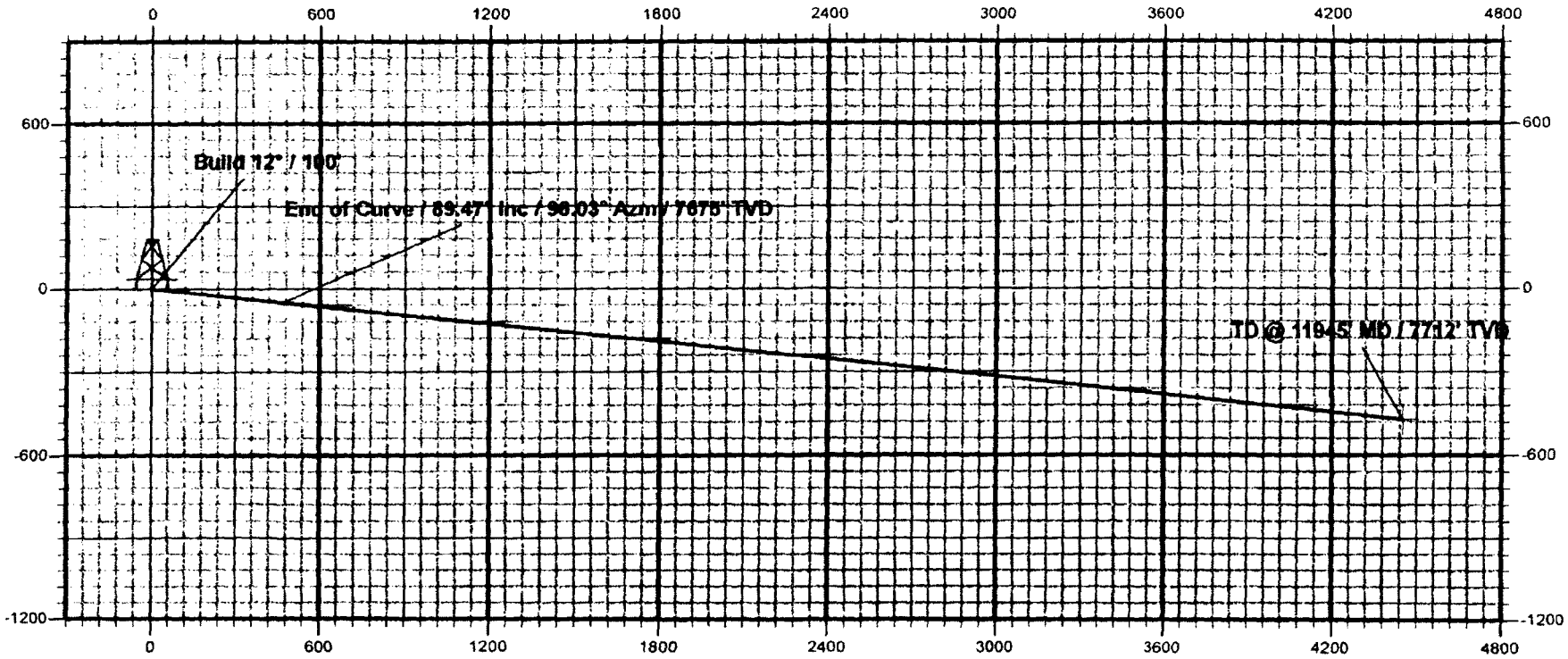
The DIRECTIONAL DRILLING COMPANY

Eddy County New Mexico (NAD83)

Sandy Federal #4

Quote 120499

Design #2



APD ID: 10400014522 **Submission Date:**

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL **Well Number:** #4H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Sandy_Fed_4_Road_Map_05-24-2017.pdf

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

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? NO

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

Sandy_Fed_4_Well_Map_05-24-2017.pdf

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL **Well Number:** #4H

Existing Wells description:

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

Submit or defer a Proposed Production Facilities plan? DEFER

Estimated Production Facilities description: EXISTING TANK BATTERY ON SANDY FEDERAL #1

Section 5 - Location and Types of Water Supply

Water Source Table

Water source use type: INTERMEDIATE/PRODUCTION CASING, STIMULATION, SURFACE CASING

Water source type: OTHER

Describe type: COMMERCIAL WATER

Source latitude:

Source longitude:

Source datum:

Water source permit type: TEMPORARY WATER USE PERMIT

Source land ownership: PRIVATE

Water source transport method: TRUCKING

Source transportation land ownership: COMMERCIAL

Water source volume (barrels): 2000

Source volume (acre-feet): 0.25778618

Source volume (gal): 84000

Water source and transportation map:

SANDY_FED_4_WATER_MAP_05-24-2017.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.):**

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL **Well Number:** #4H

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

Construction Materials description:

Construction Materials source location attachment:

Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: DRILL CUTTINGS

Amount of waste: 1000 barrels

Waste disposal frequency : Daily

Safe containment description: IN THE RESERVE PIT

Safe containmant attachment:

SANDY__4H_RESERVE_PIT_20171009114641.pdf

Waste disposal type: BURIAL ONSITE **Disposal location ownership:** FEDERAL

Disposal type description:

Disposal location description: IN THE RESERVE PIT

Reserve Pit

Reserve Pit being used? YES

Temporary disposal of produced water into reserve pit? N

Reserve pit length (ft.) 210 **Reserve pit width (ft.)** 210

Reserve pit depth (ft.) 10 **Reserve pit volume (cu. yd.)** 44774

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

Reserve pit liner SYNTHETIC

Reserve pit liner specifications and installation description 20 MIL LLDPE POLYLINER

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL **Well Number:** #4H

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? YES

Description of cuttings location BURIED PIT

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:

Well_Plat_Sandy__4_20180115095906.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: No New Surface Disturbance **Multiple Well Pad Name:**

Multiple Well Pad Number:

Recontouring attachment:

Drainage/Erosion control construction: THE PAD HAS ALREADY BEEN CONSTRUCTED FROM A PRIOR PERMIT.

Drainage/Erosion control reclamation: THE PAD WILL BE RETURNED TO IT'S ORIGINAL CONTOURS.

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL **Well Number:** #4H

Wellpad long term disturbance (acres): 1

Wellpad short term disturbance (acres): 1

Access road long term disturbance (acres): 5

Access road short term disturbance (acres): 5

Pipeline long term disturbance (acres): 0

Pipeline short term disturbance (acres): 0

Other long term disturbance (acres): 0

Other short term disturbance (acres): 0

Total long term disturbance: 6

Total short term disturbance: 6

Reconstruction method: IT WILL BE RETURNED TO IT'S ORIGINAL CONTOURS.

Topsoil redistribution: WILL BE STOCKPILED AND THEN RETURNED TO THE ORIGINAL SURFACE

Soil treatment: CALICHE

Existing Vegetation at the well pad:

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road:

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline:

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances:

Existing Vegetation Community at other disturbances attachment:

Non native seed used?

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project?

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation?

Seed harvest description:

Seed harvest description attachment:

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL **Well Number:** #4H

Seed Management

Seed Table

Seed type: **Seed source:**

Seed name:

Source name: **Source address:**

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre: **Proposed seeding season:**

Seed Summary

Total pounds/Acre:

Seed Type	Pounds/Acre

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: **Last Name:**

Phone: **Email:**

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: WEED PREVENTATIVE SPRAY

Weed treatment plan attachment:

Monitoring plan description: DAILY VISITS BY THE PUMPER

Monitoring plan attachment:

Success standards: TOPSOIL REPLACED TO ORIGINAL LOCATION AND RE-VEGETATION

Pit closure description: AS PER OCD REGULATIONS

Pit closure attachment:

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL **Well Number:** #4H

Section 11 - Surface Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Section 12 - Other Information

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

ROW Type(s):

ROW Applications

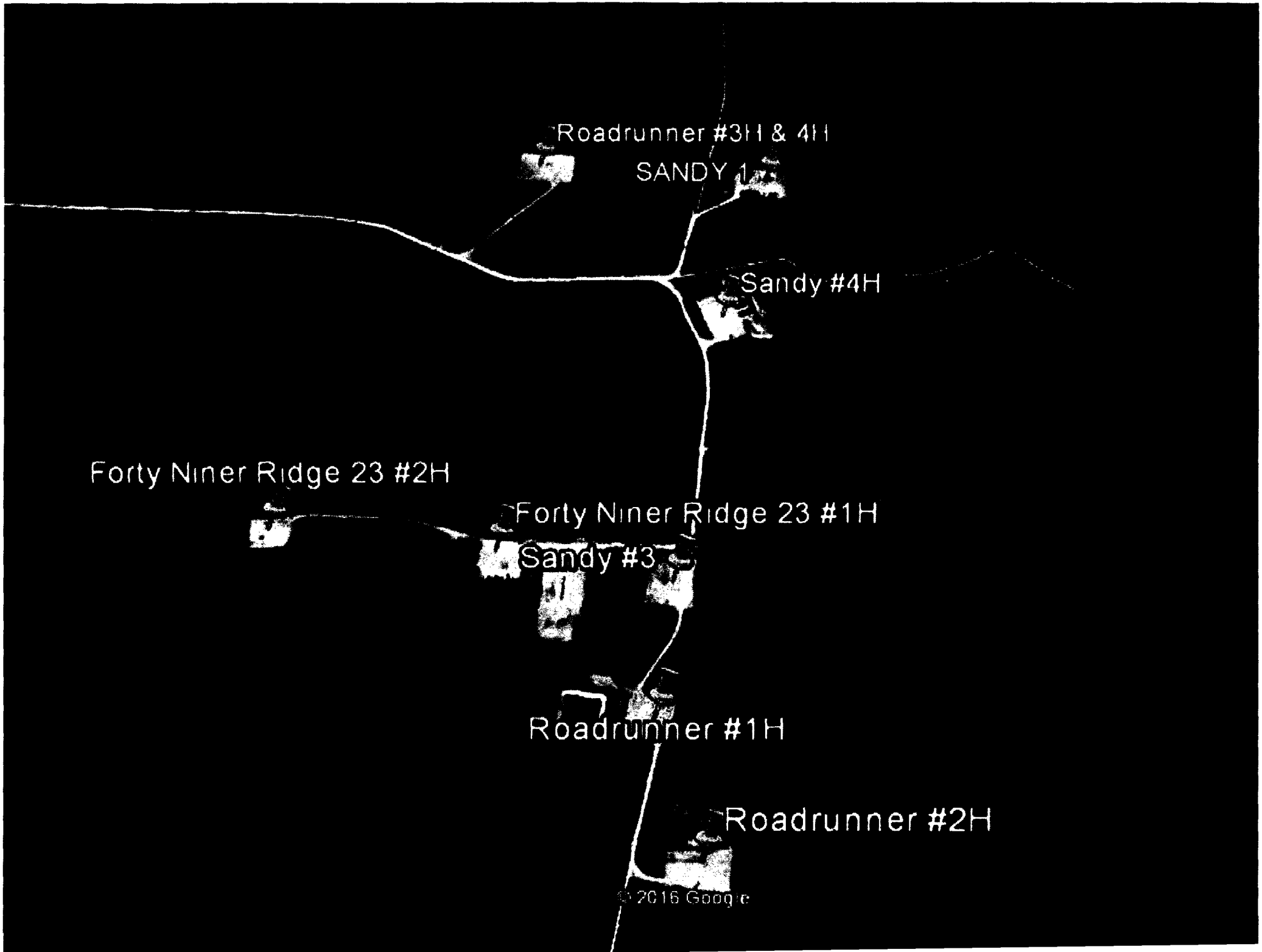
SUPO Additional Information:

Use a previously conducted onsite? YES

Previous Onsite information: THIS LOCATION WAS APPROVED IN A PRIOR APD. BLM APPROVALL ON 1/25/2013.

Other SUPO Attachment

SANDY_4_SUPO_1_20171009145943.pdf


Roadrunner #3H & 4H
SANDY 1
Sandy #4H
Forty Niner Ridge 23 #2H
Forty Niner Ridge 23 #1H
Sandy #3
Roadrunner #1H
Roadrunner #2H
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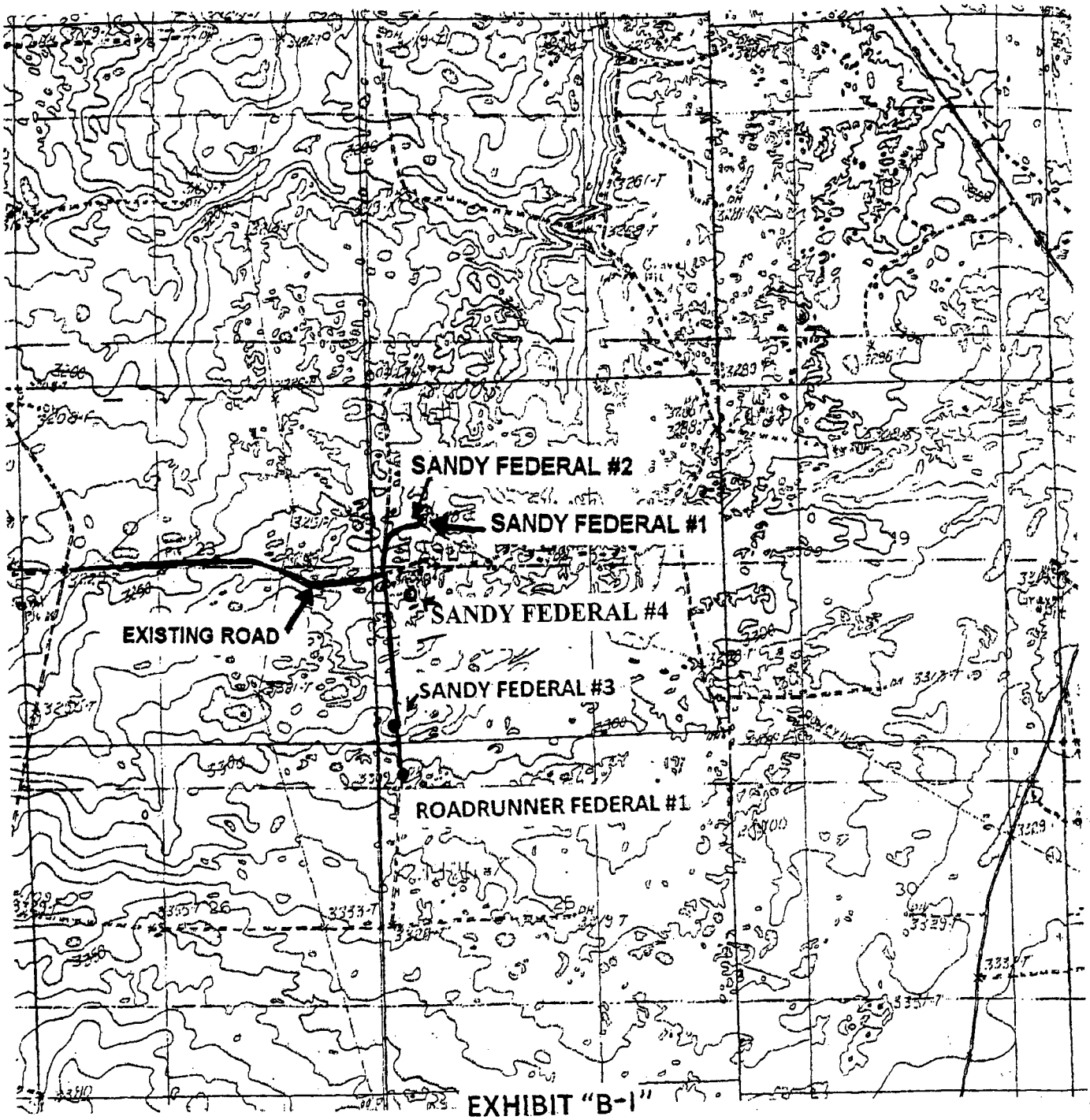
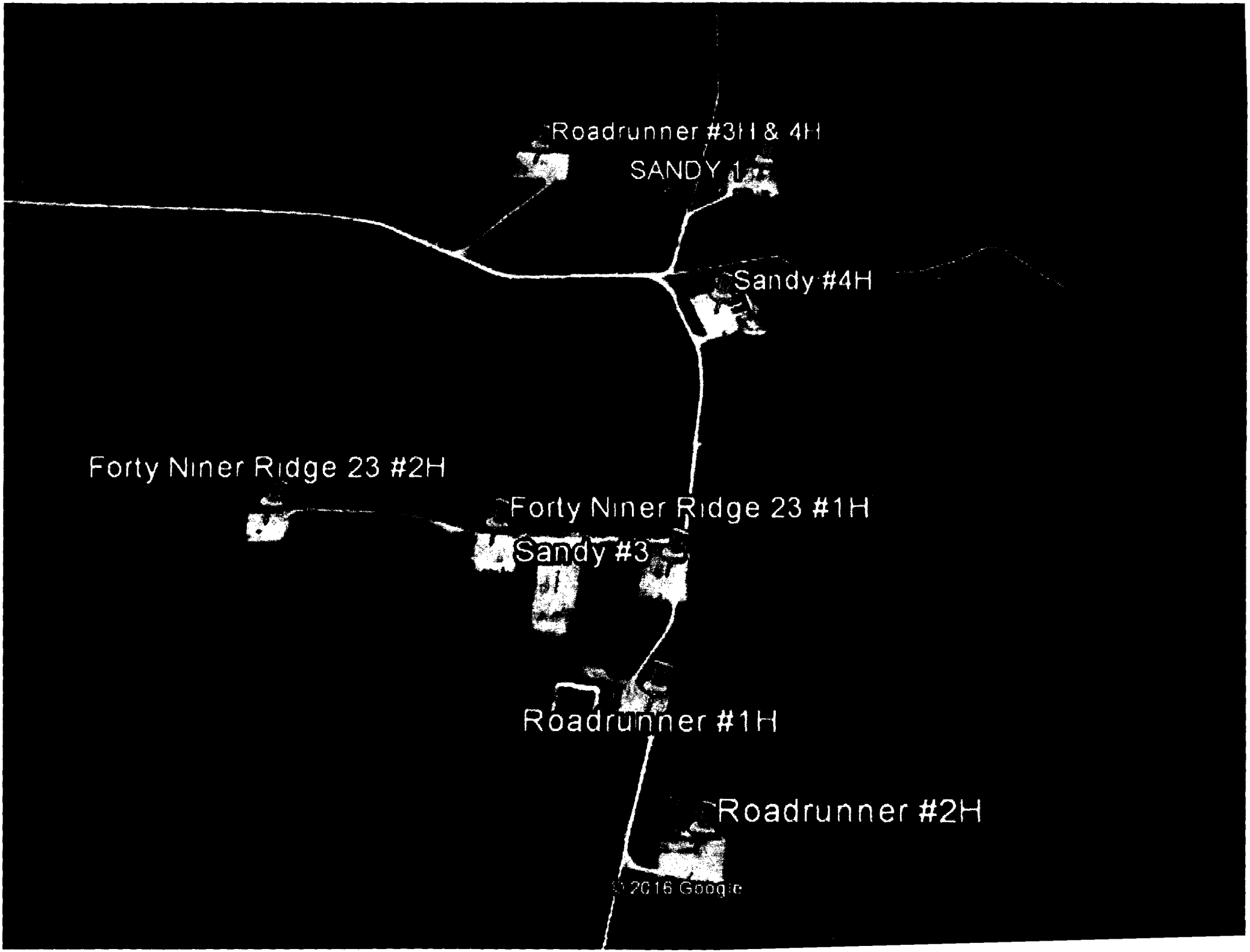


SANDY FEDERAL #4
2180' FSL & 500' FWL
SEC. 24, T23S-R30E
EDDY COUNTY, NM


Roadrunner #3H & 4H
SANDY 1
Sandy #4H
Forty Niner Ridge 23 #2H
Forty Niner Ridge 23 #1H
Sandy #3
Roadrunner #1H
Roadrunner #2H
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Google Maps Unnamed Road, Loving, NM 88256 to Loving, NM

Drive 19.9 miles, 32 min

Imagery ©2017 TerraMetrics, Map data ©2017 Google 2 mi

Unnamed Road

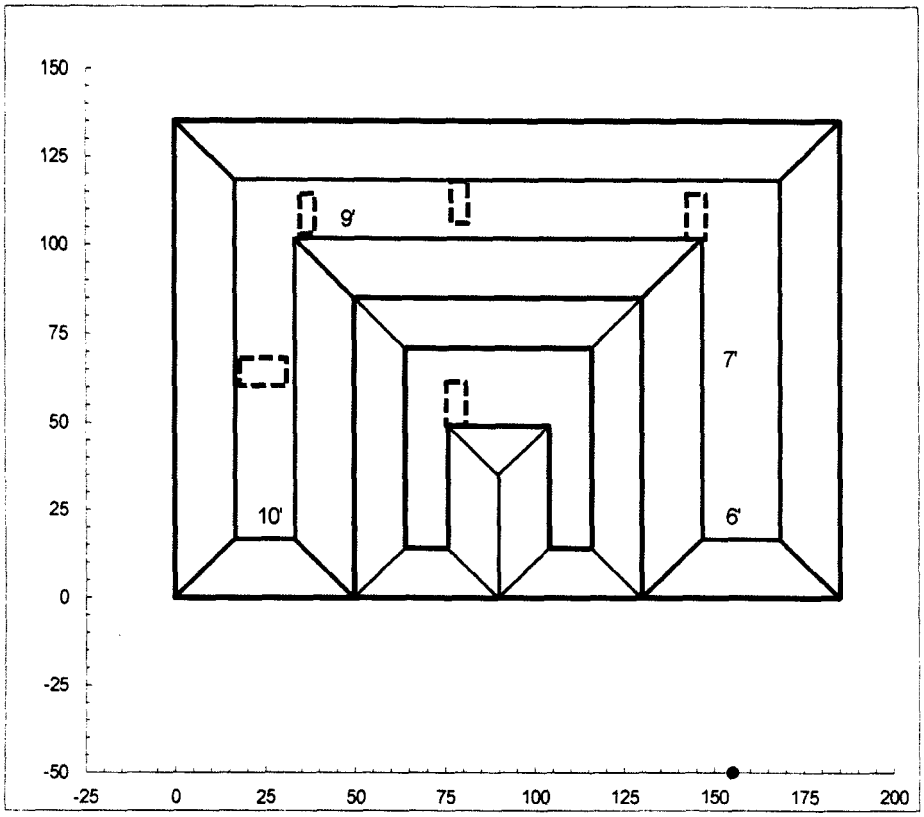
Loving, NM 88256

Continue to NM-128 W

13 min (4.2 mi)

1. Head west

1.0 mi



Drilling Cell Dimensions	
Drilling Cell Total Width	185.0
Drilling Cell Total Length	135.0
Slopes of Pit Horizontal Distance	2.00
Slopes of Pit Vertical Distance	1.00
Horseshoe divider width at surface	0.0
Inner Horseshoe Dimensions	
Total Width (left right)	80.0
Total Length (up down)	85.0
Depth	7.0
Length of Divider	35.0
Divider Width	0.0
Width of discharge floor	12.0
Width of suction floor	12.0
Outer Horseshoe Dimensions	
Width Discharge Side	55.0
Width Suction Side	50.0
Length Far Side (up down)	50.0
Width of discharge Floor	31.0
Width of Suction Floor	10.0
Width of Far Side Floor (right-left dimension)	111.0
Length of far side floor (Up-down dimension)	14.0
Depth of Discharge Side	6.0
Depth of Far Side	9.0
Depth of Suction Side	10.0

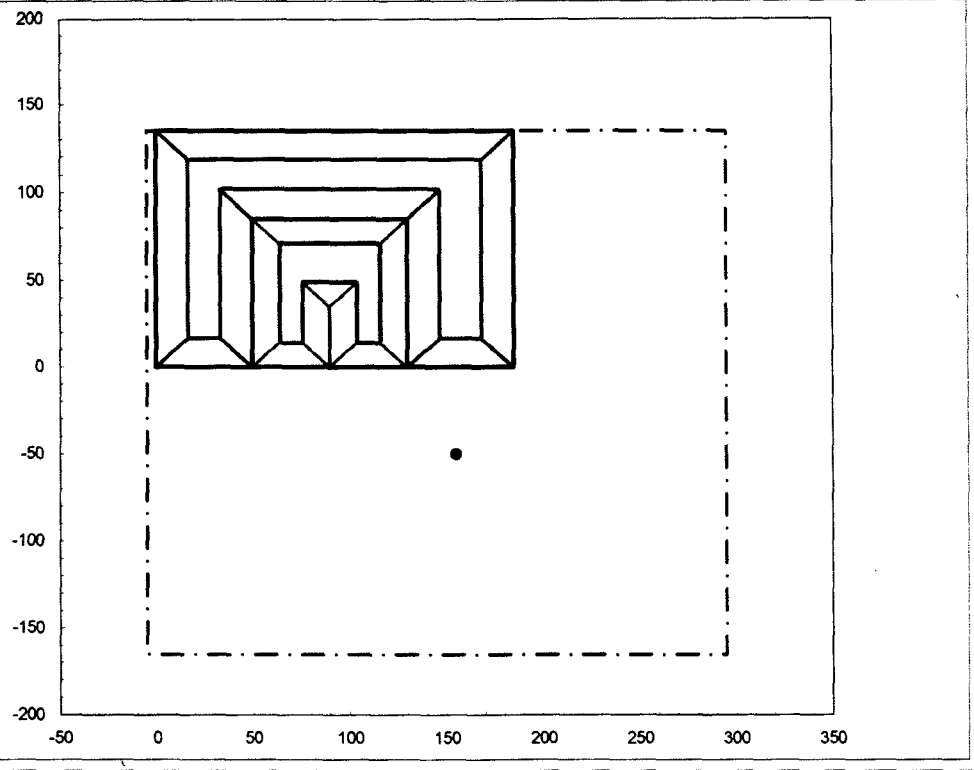
Speed Bump is 2-ft above Pit Floor

Inner Horseshoe Capacity 5313 bbl
Outer Horseshoe Capacity 18057 bbl

Fluid Cell Capacity 0 bbl
Total Capacity 23370 bbl

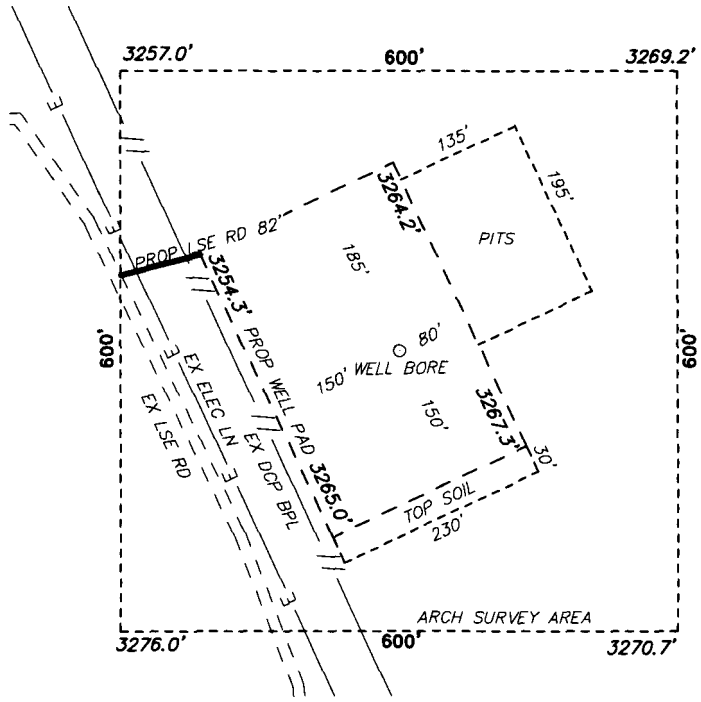
North

R.T. Hicks Consultants 901 Rio Grande Blvd. NW Suite F-142 Albuquerque, N. M. 87104	**Drawing of Drilling Cell** Bottom of Cell Not to Scale	**Plate 1**
	Strata Production - Sandy Federal 4H	**April 2014**



R.T. Hicks Consultants 901 Rio Grande Blvd. NW Suite F-142 Albuquerque, N. M. 87104	**Drawing of Temporary Pit and Well in Relation to Pad Boundary**	**Plate 2**
	Strata Production - Sandy Federal 4H	**April 2014**

SECTION 24, TOWNSHIP 23 SOUTH, RANGE 30 EAST, N.M.P.M.,
EDDY COUNTY, **NEW MEXICO.**



STRATA PRODUCTION CO.
SANDY FEDERAL #4H
ELEV. – 3265'
Lat – N 32°17'21.24"
Long – W 103°50'28.66"
NMSPCE– N 469302.5
E 693386.9
(NAD–83)

LOVING, NM IS ±14 MILES TO THE WEST OF LOCATION.

200 0 200 400 FEET
SCALE: 1" = 200'

Directions to Location:

FROM THE JUNCTION OF HWY 128 AND MOBLEY, GO SOUTH ON MOBLEY FOR 0.5 MILES TO LEASE ROAD, GO SOUTHEASTERLY 2.5 MILES, EAST 1.0 MILES TO PROPOSED LEASE ROAD.

STRATA PRODUCTION CO.

REF: SANDY FEDERAL #4H / WELL PAD TOPO

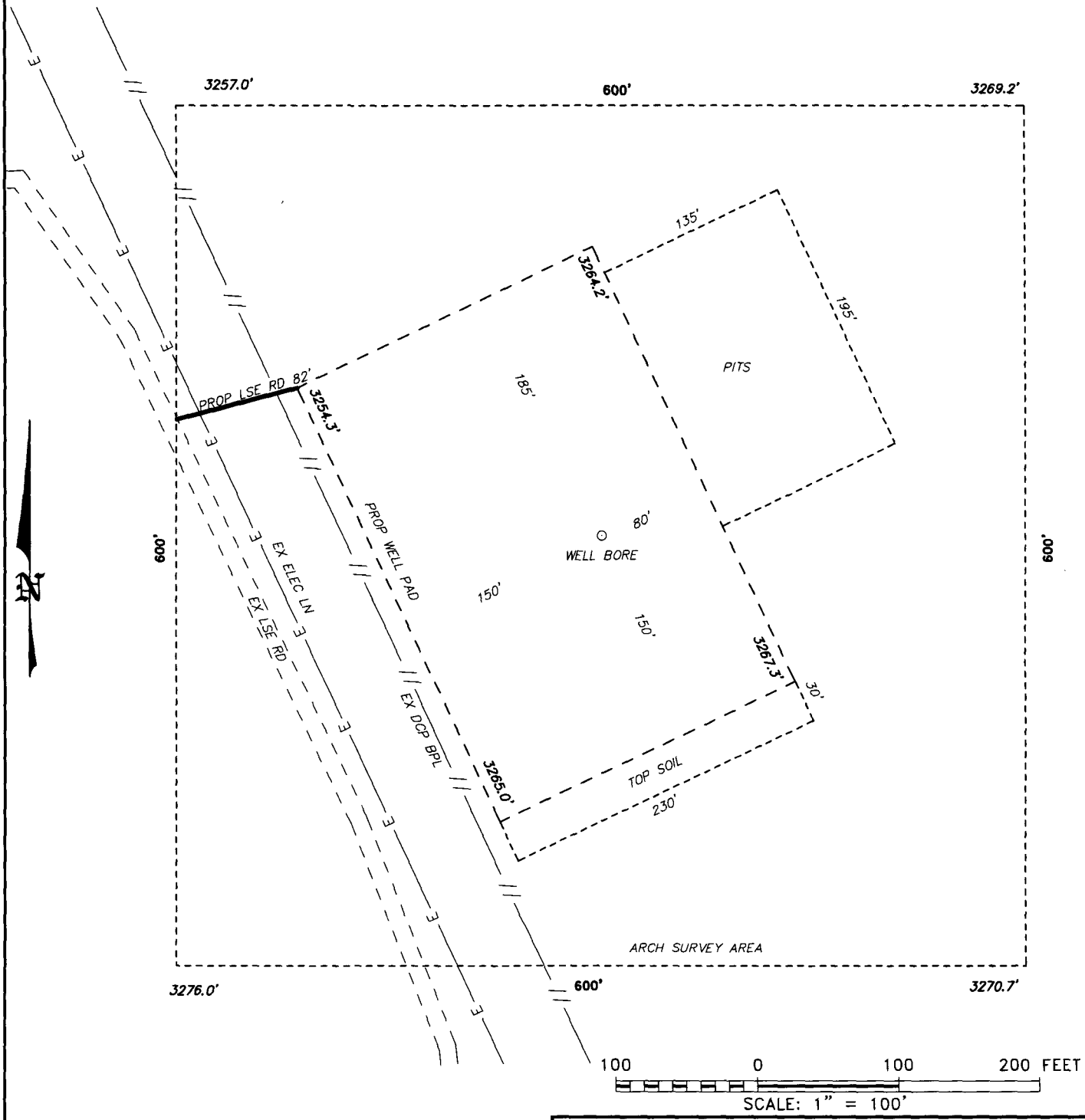
THE SANDY FEDERAL #4H LOCATED 2180'
FROM THE SOUTH LINE AND 515' FROM THE WEST LINE OF
SECTION 24, TOWNSHIP 23 SOUTH, RANGE 30 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

basin surveys
focused on excellence in the oilfield
P.O. Box 1786 (575) 393-7316 – Office
1120 N. West County Rd. (575) 392-2206 – Fax
Hobbs, New Mexico 88241 basinsurveys.com

W.O. Number: 30382	Drawn By: K. NORRIS	Date: 04–30–2014	Survey Date: 04–29–2014	Sheet 1 of 1 Sheets

SECTION 24, TOWNSHIP 23 SOUTH, RANGE 30 EAST, N.M.P.M.,

EDDY COUNTY, **NEW MEXICO.**



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W.O. Number: 30382	Drawn By: K. NORRIS	Date: 04-30-2014	Survey Date: 04-29-2014	Sheet 1 of 1 Sheets

SURFACE USE PLAN
APPLICATION FOR PERMIT TO DRILL
STRATA PRODUCTION COMPANY
SANDY FEDERAL #4
2180' FSL & 515' FWL
SECTION 24-23S-30E
EDDY COUNTY, NEW MEXICO

Submitted with Form 3160-3, Application For Permit to Drill, Deepen, or Plug Back covering the above captioned well. The purpose of the plan is to describe the location, the proposed construction activities and operations plan, the surface disturbance involved, and the rehabilitation of the surface after completion of said well so that an appraisal can be made of the environment affected by the proposed well.

1. Existing & Proposed Roads:

A. The well site and elevation plat for the proposed well is attached. It was staked by P.R. Patton, Engineer, Roswell, New Mexico. Mr. Patton's signature is in black vs blue ink and it is an original document.

B. As shown on the attached Exhibit "B" this well is being drilled approximately .2 mile south of the Sandy Federal #1 and <.1 mile of new access road to the well pad will be built from the existing caliche road directly west of the location.

C. Directions to location: ~14 miles east from Loving, New Mexico and ~3 miles south of State Highway 128. Travel on 128 east to mile marker 7. Turn south on CR-795, Mobley Ranch Rd. Stay left and follow caliche road ~3 miles. Turn east and follow for ~1.1 miles, turn south for ~.1 miles to the location.

D. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease.

2. Location of Existing Wells:

Exhibit "C" shows all existing wells within a one mile radius of the proposed well and a list of these wells is shown on the attachment to Exhibit "C".

3. Location of Existing and/or Proposed Facilities:

In the event the proposed well proves to be productive, Strata Production Company will furnish maps or plats showing On Well pad facilities and Off Well pad facilities (if needed) by Sundry Notice before construction of these facilities starts.

4. Location and Type of Water Supply:

The well will be drilled with a combination of brine and fresh water mud systems as outlined in the Prognosis. The water will be purchased from commercial water stations in the area and trucked to the location by transport over the access roads shown in Exhibit "B". If a commercial fresh water source is nearby, fasline may be laid along existing road ROW's and fresh water pumped to the well. No water well will be drilled on the location.

5. Source of Construction Materials:

All caliche required for the drill pad will be obtained from an approved caliche pit. The pad will be constructed of 6" rolled and compacted caliche.

6. Methods of Handling Water Disposal:

A. A closed loop system will be utilized. Drill cuttings not retained for evaluation purposes will be stored and then hauled to a state approved disposal facility. Drilling fluids will be contained in steel pits, cleaned and reused.

B. Water produced from the well during completion will be stored in steel tanks and disposed of in a state approved facility. After the well is permanently placed on production, produced water will be piped to the Forty Niner Ridge Unit SWD system if excess capacity is available. Produced oil will be collected in steel tanks until sold.

C. A portable chemical toilet will be provided on the location for human waste during the drilling and completion operations. Current laws and regulations pertaining to the disposal of human waste will be complied with.

E. Garbage and trash produced during drilling or completion operations will be disposed in a separate trash trailer on location. All waste material will be contained to prevent scattering by the wind. All other waste generated by the drilling, completion or testing of this well will be disposed of through the closed loop system. No toxic waste or hazardous chemicals will be produced by the operation.

F. After the rig is moved out and the well is either completed or abandoned, all waste materials will be cleaned up within 30 days. No adverse materials will be left on the location. Only that part of the pad required for production facilities will be kept in use. In the event of a dry hole, only a dry hole marker will remain.

7. Ancillary Facilities:

No airstrip, campsite or other facility will be built as a result of the operations of the proposed well.

8. Well Site Layout:

A. The drill pad layout and interim reclamation plan are shown in Exhibit "D". Initial dimensions of the pad will be 300' x 300' and the layout of major rig components and the closed loop system are shown. No permanent living facilities are planned but temporary trailers will also be on location during the drilling operations. Top soil, if available, will be stockpiled per BLM specifications as determined at the on-site inspection. Since the pad is almost level no major cuts will be required. After interim reclamation the well pad will be 225' x 225'.

9. Plan for Restoration of the Surface:

A. Upon completion of the proposed operations, if the well is to be abandoned, the original top soil will be returned to the location and it will be leveled and contoured to as nearly the original topography as possible. All trash and garbage will be hauled away in order to leave the location in an aesthetically pleasing condition. The location will be leveled within 120 days after abandonment.

B. The disturbed area will be revegetated by reseeding during the proper growing season with a seed mixture of native grasses as recommended by the BLM.

C. Upon completion of the proposed operations, if the well is completed, the caliche from any area of the original drill site not needed for production operations or facilities will be removed and used for construction of thicker pads or firewalls for the tank battery installation. Any additional caliche required for facilities will be obtained from a BLM approved caliche pit. Topsoil removed from the drill site will be used to recontour the unused portions of the drill pad to the original natural level and reseeded as per BLM specifications.

10. Surface Ownership:

The wellsite and lease are located on Federal surface.

11. Other Information:

A. The topography around the well site is rolling terrain with vegetation of sagebrush and native grass. The vegetation cover consists of prairie grasses and flowers. Wildlife in the area probably includes those typical of semi-arid desert land.

B. The soils are clayey sand over caliche base.

C. There are no permanent or live waters in the immediate area.

D. There are no residences and other structures in the area.

E. The land in the area is used primarily for grazing purposes.

F. Strata is participating in the Permian Basin MOA for compliance with Section 106 of the National Historic Preservation Act. Enclosed in this APD packet is the Confirmation of Payment Form, associated documentation and a separate check for the project.

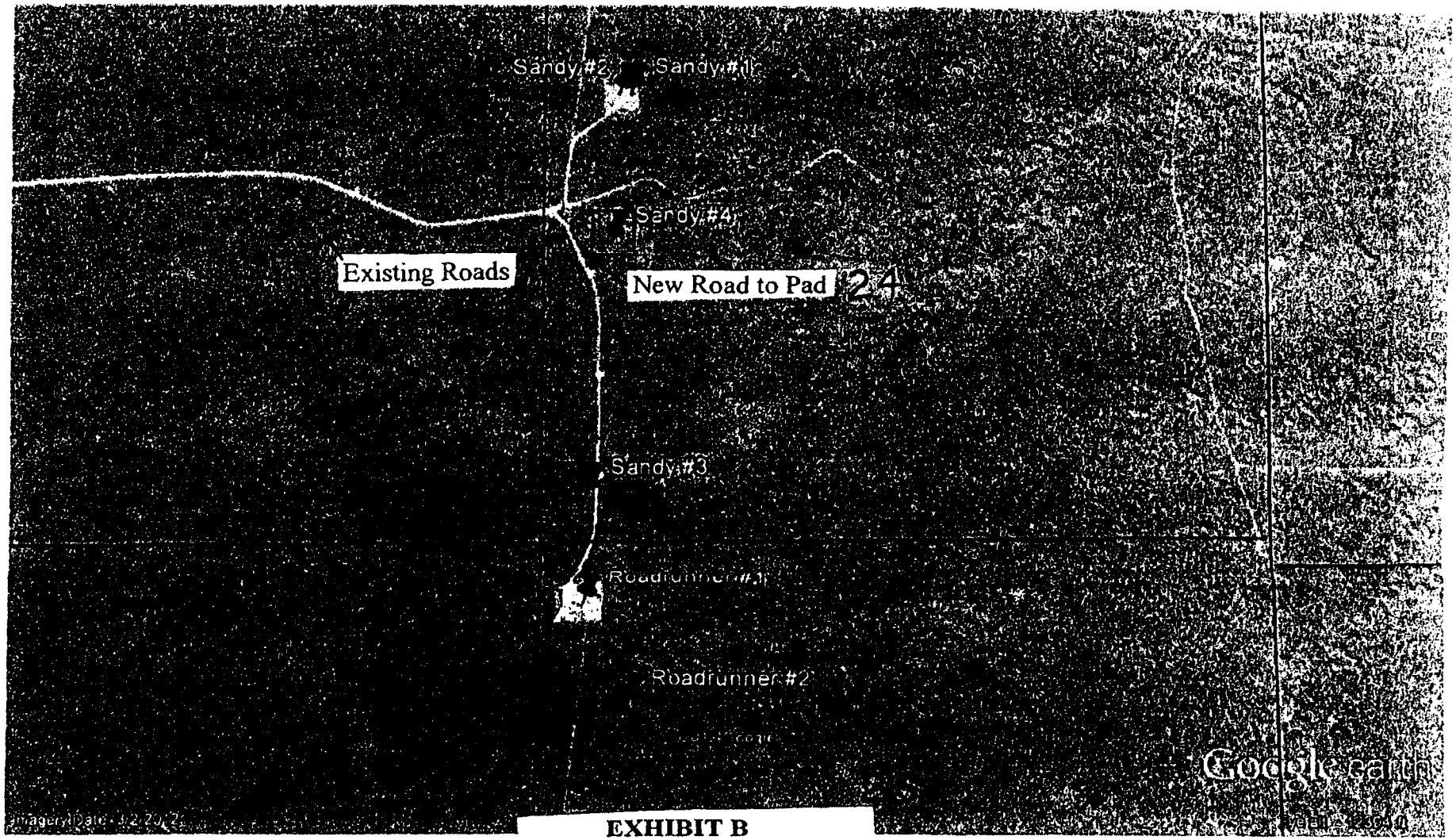
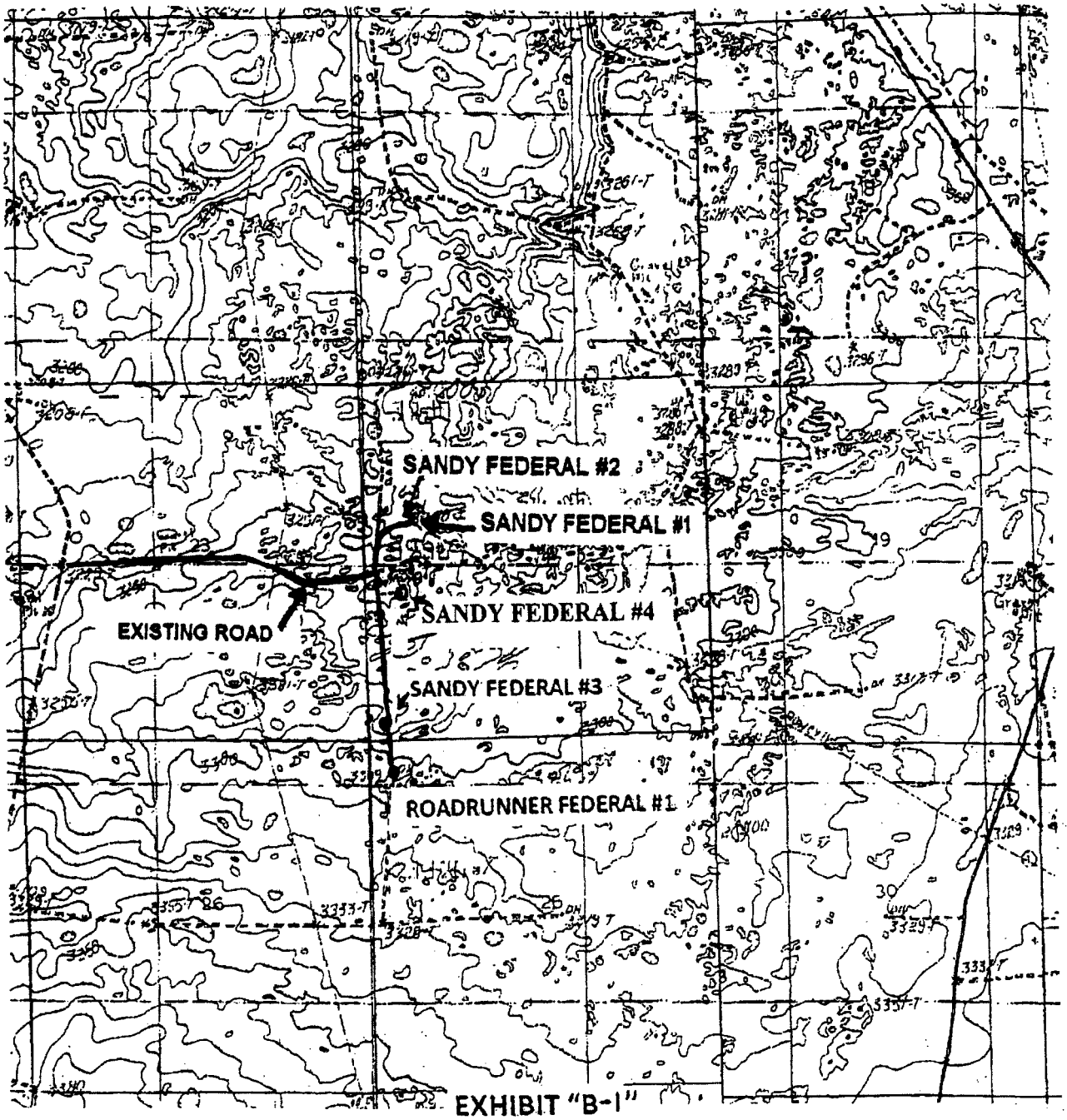


EXHIBIT B
SANDY FEDERAL #4
2180' FSL & 500' FWL
SEC. 24, T23S-R30E
EDDY COUNTY, NM



SANDY FEDERAL #4
2180' FSL & 500' FWL
SEC. 24, T23S-R30E
EDDY COUNTY, NM

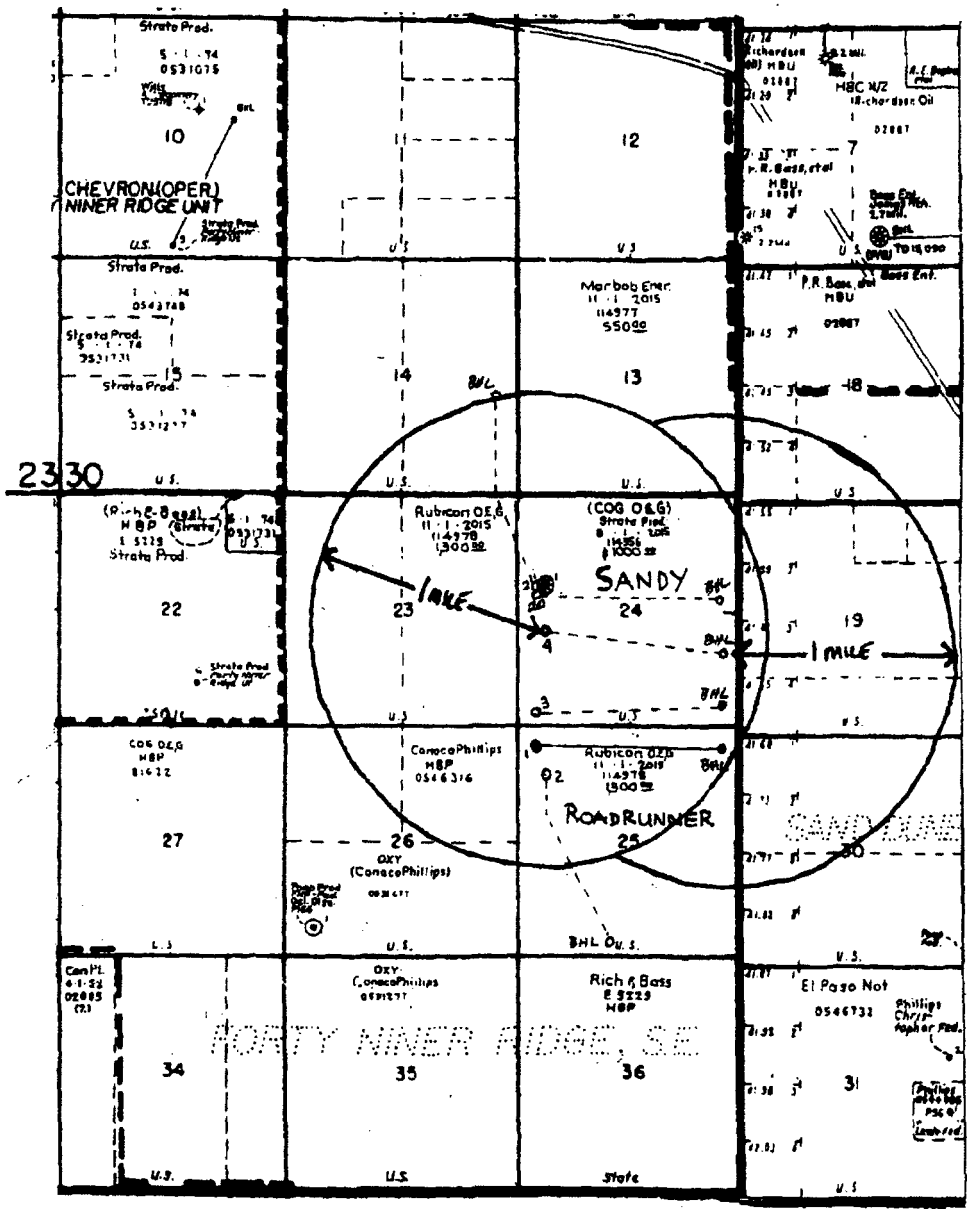


EXHIBIT C
ONE MILE RADIUS MAP
SANDY FEDERAL #4
2180' FSL & 500' FWL
SEC. 24, T23S-R30E
EDDY COUNTY, NM

Attachment to Exhibit "C"

STATUS OF WELLS WITHIN ONE MILE RADIUS

SANDY FEDERAL #4
Section 24-23S-30E
2180' FSL & 500' FWL
Eddy County, NM

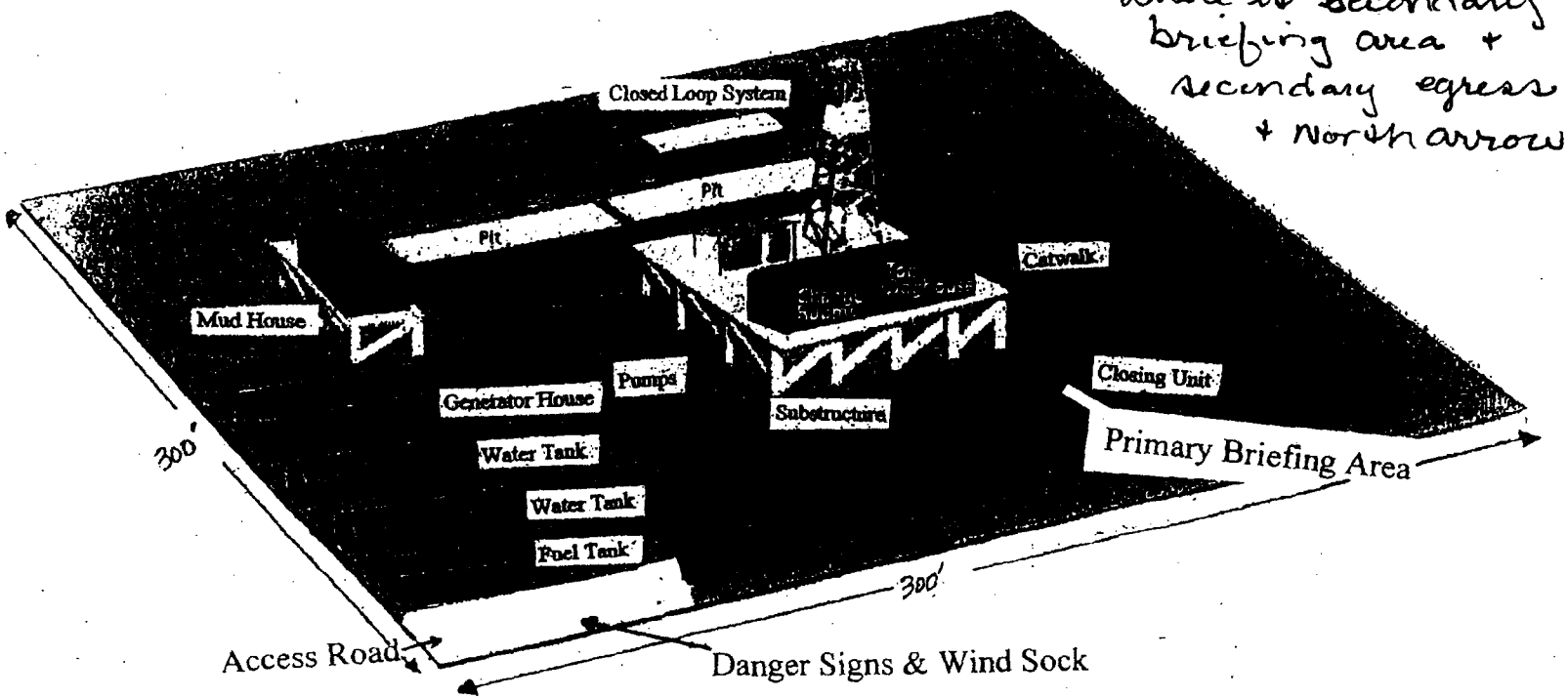
Operator	Well	Location	Status/Formation
Strata Production Co	Sandy #1	Sec 24, 23S-30E 1980' FNL & 660' FWL	Producing/Delaware
Strata Production Co	Sandy Federal #2	Sec 24, 23S-30E 1979' FNL & 585' FWL	Proposed/Delaware
Strata Production Co	Sandy Federal #3	Sec 24, 23S-30E 330' FSL & 330' FWL	Drilling/Delaware
Cimarex Energy	Sandy Federal #20H	Sec 24, 23S-30E 2114' FNL & 592'FWL	Proposed/Bone Spring
Strata Production Co	Roadrunner Federal #1	Sec 25, 23S-30E 460' FNL & 330' FWL	Producing/Delaware
Strata Production Co	Roadrunner Federal #2	Sec 25, 23S-30E 1220' FNL & 660' FWL	Proposed/Delaware

EXHIBIT "D"

SANDY FEDERAL #4

TYPICAL WELL SITE LAYOUT PLAN
SILVEROAK DRILLING

Where is secondary briefing area + secondary egress + North arrow



Prevailing Winds From South

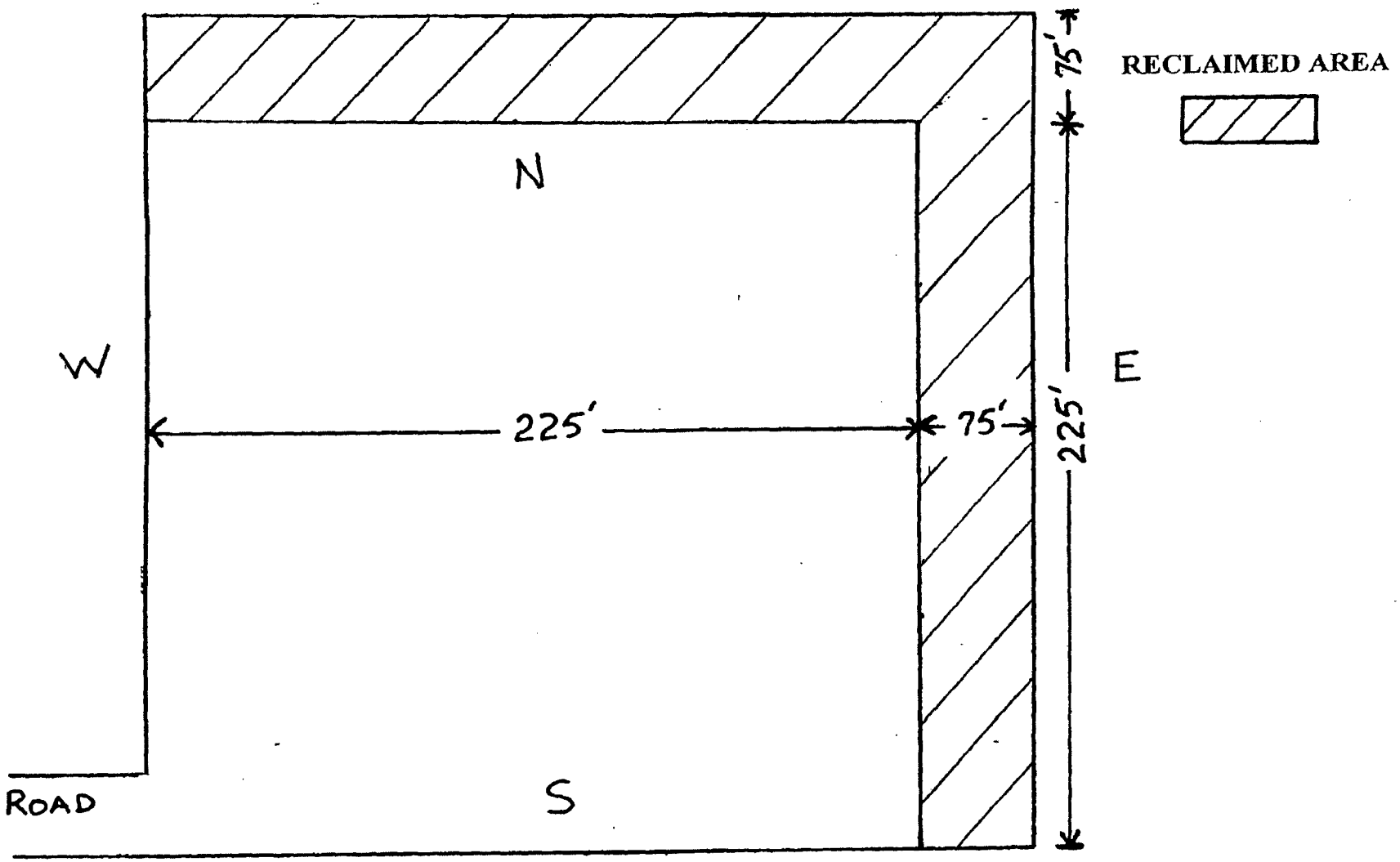
Location Size with Closed Loop System
300' Deep x 300' Wide

~150' from front of location to hole

~150' from left of location to hole

EXHIBIT D-1

SANDY FEDERAL #4
PROPOSED INTERIM RECLAMATION PLAN



Section 1 - General

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

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

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

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

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

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

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

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

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

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

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

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

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

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

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

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

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

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

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

AFMSS

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

Bond Info Data Report

02/15/2018

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:

after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9 5/8** inch production casing is:

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

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

   Operator has proposed DV tool at depth of 5500', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

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

   b. Second stage above DV tool:

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

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 **3000 (3M)** psi.

MHH 02132018

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. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
    e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

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.

BISON CONNECT

Haque, Mustafa <mhaque@blm.gov>

Sandy #4 Cementing

2 messages

Paul Ragsdale <pragsdale@stratanm.com> Mon, Feb 12, 2018 at 1:27 PM
To: Mustafa Haque <mhaque@blm.gov>

Mr. Haque,

We are proposing to run the 5 ½" casing to 11945' (measured depth) (and a TVD of + or -7700') and cement it in 2 stages with a DV tool set at 5500'.

The first stage will cement from 11,945' to the DV tool at 5500' will consist of:

1600 sacks 50/50 Poz/H + 5%PF44 (BWOW)(SALT) + 2%PF20(Bentonite Gel) + 0.7%PF606 (fluid loss) + 0.2% PF65

Density 14.4 lb/gal Yield 1.29 cu.ft/sk H2O 5.724 gal/sk

The Second stage will cement from the DV tool at 5500' to surface:

2nd stage lead: 780 sacks 50/50 Poz/C + 5%PF44 (BWOW)(SALT) + 10%PF20(Bentonite Gel) +3# KolSeal + 0.125# Celloflake

Density 11.9 lb/gal Yield 2.47 cu.ft/sk H2O 13.875 gal/sk

2nd stage tail: 100 sacks Class C + 0.2% PF13 Retarder

Density 14.8 lb/gal Yield 1.33 cu.ft/sk H2O 6.3 gal/sk

Please let me know if you need anything else.

Regards,

Paul

Paul Ragsdale
Strata Production Company
Operations Manager

(575) 622-1127 ext 18 Work
(575) 626-7903 Mobile
pragsdale@stratanm.com
PO Drawer 1030
Roswell NM 88202

Haque, Mustafa <mhaque@blm.gov> Mon, Feb 12, 2018 at 1:37 PM
To: Paul Ragsdale <pragsdale@stratanm.com>

Thank you Paul. I will most likely complete my review today.

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	STRATA PRODUCTION
LEASE NO.:	NM114356
WELL NAME & NO.:	4H-SANDY FEDERAL
SURFACE HOLE FOOTAGE:	2180'/S. & 500'/W.
BOTTOM HOLE FOOTAGE	1710'/S & 300'/E.
LOCATION:	Section 24, T. 23 S., R. 30 E., NMPM
COUNTY:	Eddy County, New Mexico

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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.

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

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

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

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

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

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

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

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

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The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-6235 at least 3 working days prior to commencing construction of the access road and/or well pad.

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The operator shall stockpile the topsoil in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately 4 inches in depth. The topsoil will be used for interim and final reclamation.

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Tanks are required for drilling operations: No Pits.

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

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

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Surfacing of the well pad is not required.

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The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. 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 (20) feet.

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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.

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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.

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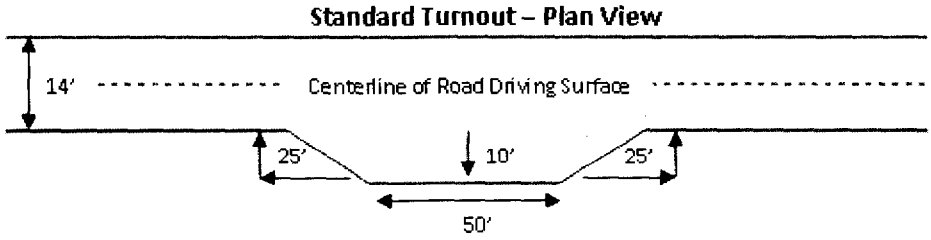
Ditching shall be required on both sides of the road.

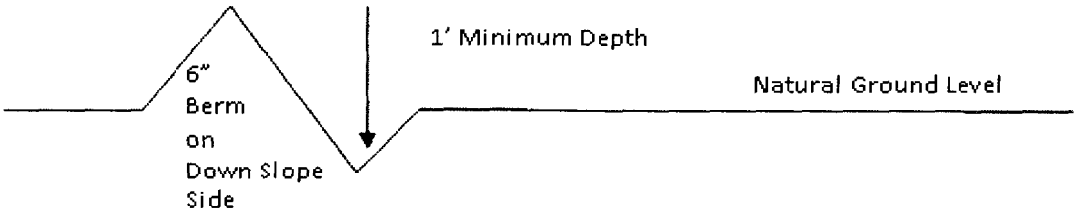
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



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



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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:

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

Culvert Installations
Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards
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 and fastened securely to H-braces.

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Where entry is required 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 fence(s).

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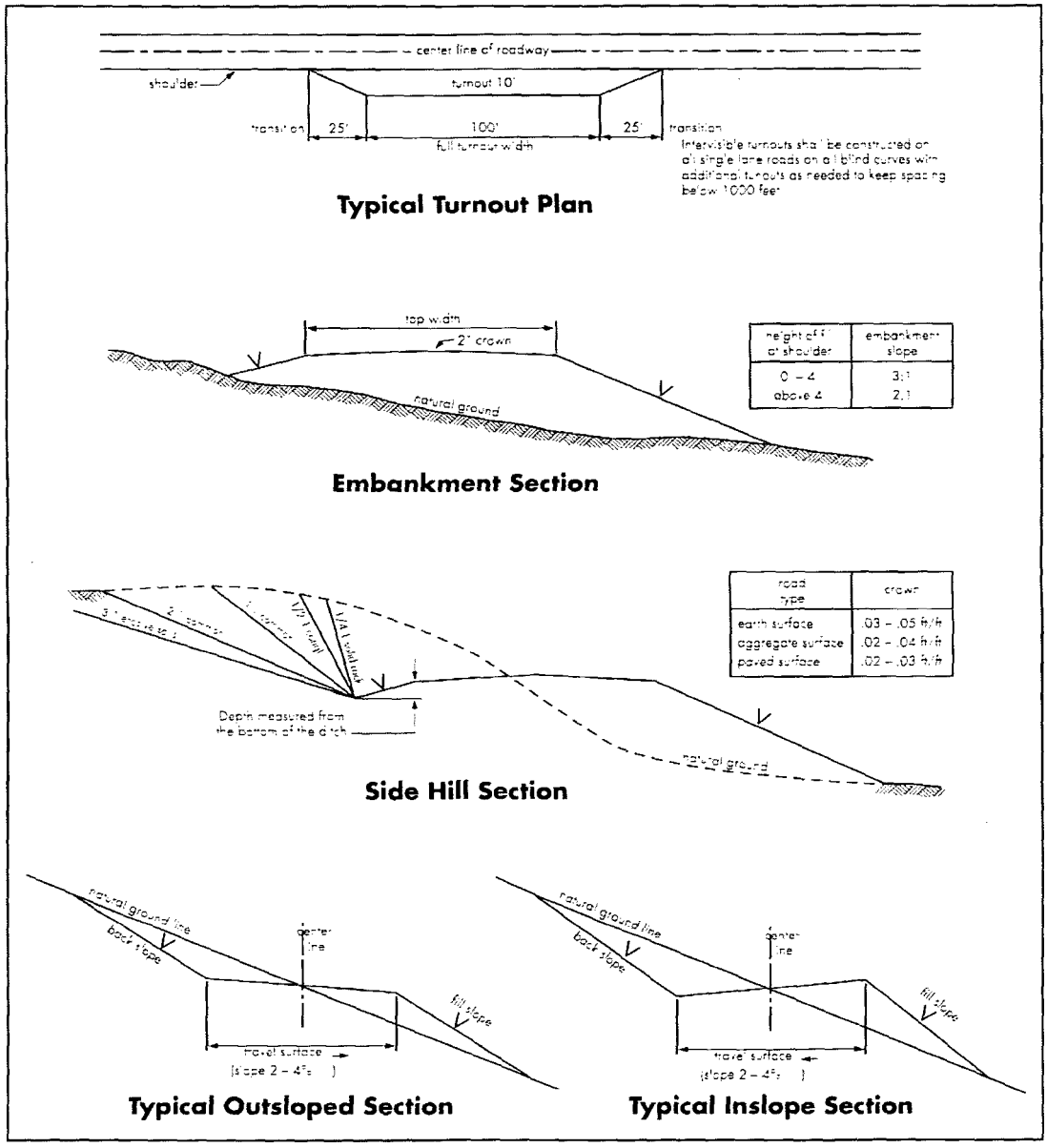
Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 – Cross Sections and Plans For Typical Road Sections



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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.

Containment Structures
The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

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, Munsell Soil Color Chart # 5Y 4/2

B. PIPELINES (not applied for in APD)

C. ELECTRIC LINES (not applied for in APD)

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).

X. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

Seed Mixture 2, for Sandy Sites

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

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

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

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

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	STRATA PRODUCTION
LEASE NO.:	NM114356
WELL NAME & NO.:	4H-SANDY FEDERAL
SURFACE HOLE FOOTAGE:	2180'/S. & 500'/W.
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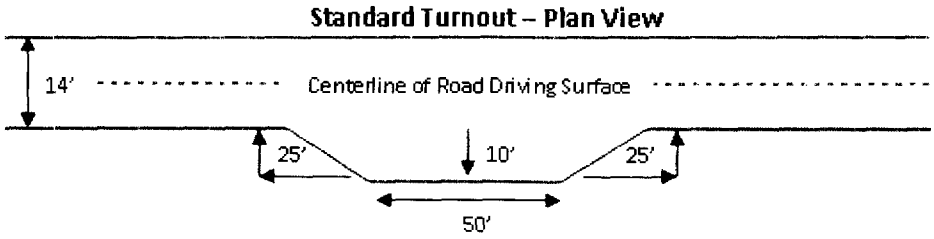

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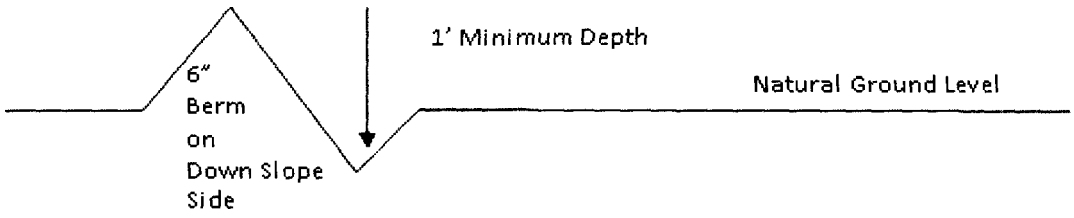
Cross Section of a Typical Lead-off Ditch



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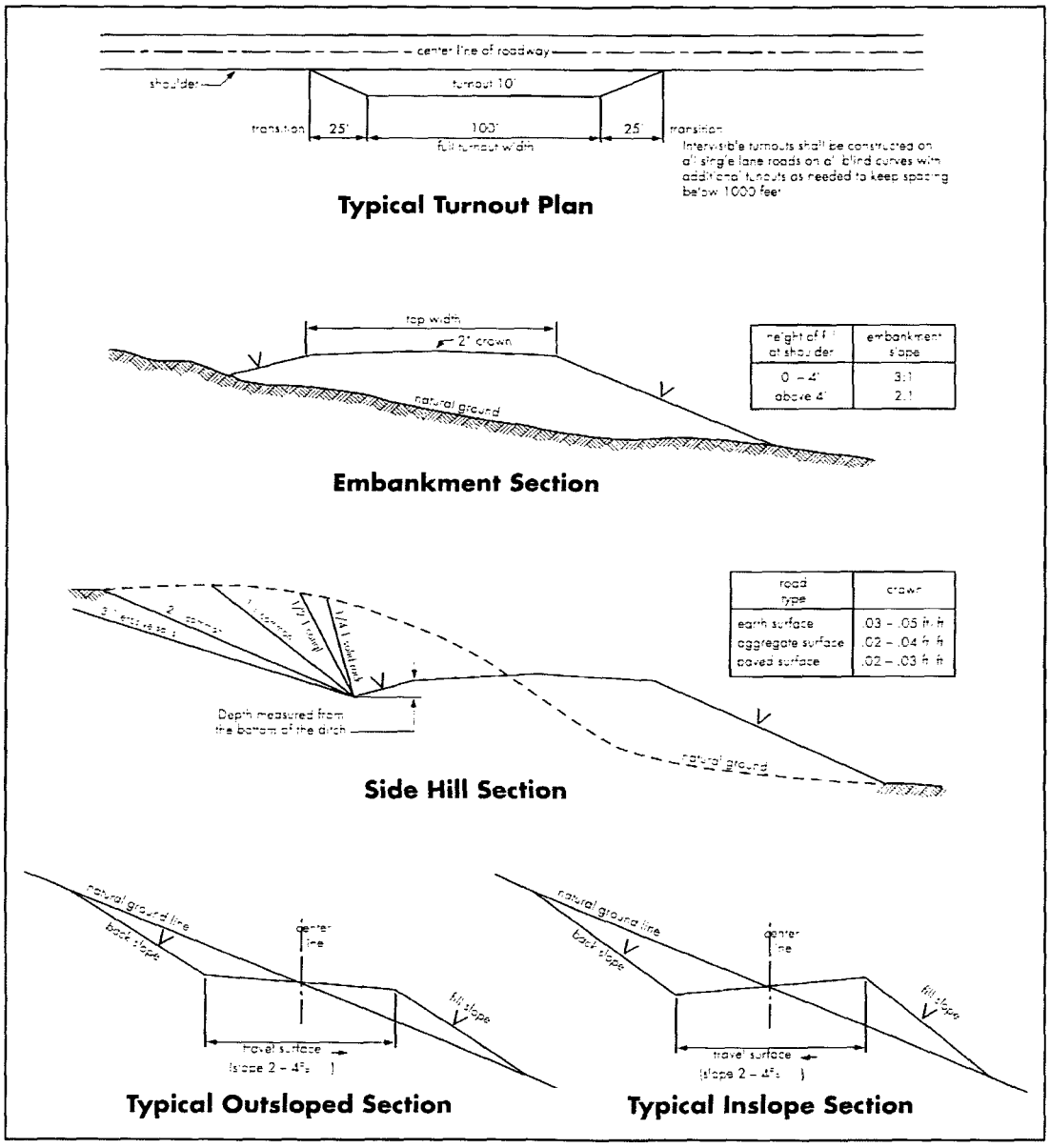

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The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

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, Munsell Soil Color Chart # 5Y 4/2

B. PIPELINES (not applied for in APD)

C. ELECTRIC LINES (not applied for in APD)

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).

X. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

Seed Mixture 2, for Sandy Sites

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

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

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

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

rator Certification Data Report

02/15/2018

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Paul Ragsdale **Signed on:** 05/24/2017

Title: Operations Manager

Street Address: 1301 N Sycamore

City: Roswell **State:** NM **Zip:** 88202

Phone: (575)622-1127

Email address: pragsdale@stratanm.com

Field Representative

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

AFMSS

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

Application Data Report

02/15/2018

APD ID: 10400014522

Submission Date:

Highlighted data reflects the most recent changes

Show Final Text

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL

Well Number: #4H

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - General

APD ID: 10400014522

Tie to previous NOS?

Submission Date:

BLM Office: CARLSBAD

User: Paul Ragsdale

Title: Operations Manager

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? NO

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

Mater 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

Well Number: #4H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: FORTY NINER RIDGE

Pool Name: DELAWARE

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

Operator Name: STRATA PRODUCTION COMPANY

Well Name: SANDY FEDERAL **Well Number:** #4H

Describe other minerals:

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** YES **New surface disturbance?** N

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

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

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: EXPLORATORY (WILDCAT)

Describe sub-type:

Distance to town: 14 Miles **Distance to nearest well:** 990 FT **Distance to lease line:** 515 FT

Reservoir well spacing assigned acres Measurement: 160 Acres

Well plat: Sandy__4_Plat_201709_20171009150341.pdf

Well work start Date: 04/01/2018 **Duration:** 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NGVD29

Survey number:

	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
SHL Leg #1	2180	FSL	515	FWL	23S	30E	24	Aliquot NWSW	32.2891976	-103.8413049	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 114356	3265	11945	7832
KOP Leg #1	2180	FSL	515	FWL	23S	30E	24	Aliquot NWSW	32.2891976	-103.8413049	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 114356	-3933	7198	7198
PPP Leg #1	2180	FSL	515	FWL	23S	30E	24	Aliquot NWSW	32.2891976	-103.8413049	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 114356	-4567	11945	7832