District I 1625 N. French Dr., Hobbs, NM 88240

Phone: (575) 393-6161 Fax: (575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720

District III

1000 Rio Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 District_IV

1220 S. St. Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico

Form C-101 Revised July 18, 2013

Energy Minerals and Natural Resources DISTRICT

Oil Conservation Division

SEP 1 5 2015

☐AMENDED REPORT

1220 South St. Francis Dr.

Santa Fe, NM 87505

RECEIVED

	<u></u>		Operator Na Strata Produc	me and Addre	y			3170	20GRID N 21712	umber	
								130-0)/5 ^{PI Num}		
* Prop 28	erty Code 8510				3. Prop Forty-1	oerty Name Niner Ridge	Unit	% Well No. 16NM#33S 33			
					7. Surfac	ce Locatio	n				
UL - Lot	Section	Township	Range	Lot I	i	Feet from	N/S Line	Feet From	E/W Line		
N	16	23\$	30E	N/	- 1	300	FSL	1980'	FWL	Eddy	
UL - Lot	Section	Township	Range	Lot I		Feet from	N/S Line	Feet From	E/W Line	: County	
M M	16	238	30E	N/	1	400'	FSL	400'	FWL	Eddy	
					9. Pool I	nformatio	n				
					Pool Name	;				Pool Code	
				Forty	-Niner Ridge I	Delaware				24750	
						Vell Inforr	nation				
	rk Type		^{12.} Well Type O	12. Well Type 13. Cable/Ro			tary 14. Lease Type S		15.	15. Ground Level Elevation 3169'	
^{16.} M	ultiple No		17. Proposed De 7750'					19. Contractor TBD		^{20.} Spud Date 01/01/2016	
Depth to Gro	and water		1	istance from	nearest fresh	water well	well Distance to nearest surface water				
150'			1500'				NA				
✓We will b	e using a c	closed-loop	system in lie	u of lined p	its			<u> </u>			
				21. Propos	ed Casing	and Cem	ent Program				
Туре	Hole	e Size	Casing Size	Cas	sing Weight/	ft	Setting Depth Sacks of Ce		Cement	Estimated TOC	
H40	17-	1/2"	13-3/8"		48#		400'	76	55	Circ to Surf	
J55	12-1	/4"	9-5/8"		36#		3480'	3480' 900		Circ to Surf	
N80	8-3	3/4"	7"		26#		8019 md 650 Circ to +/				
			Ca	sing/Ceme	ent Progra	am: Addit	ional Commen	ts			
			· 	22. Duonas	ad Dlawa	4 D	ion Program				
	Tune			Working F		ut Frevent	Test Pre	00000	T	Manufacturer	
			3000 3000			Schat					
			on given above			ne	OIL CONSERVATION DIVISION				
best of my knowledge and belief. I further certify that I-have complied with 19.15.14.9 (A) NMAC and/or						/or	Approved By:				
19.15.14.9 (I Signature:	B) NMAC (, if applic	able.	1		App	roved By:	//)00	0		
	<u> </u>	ydala	Layel	ll :		m1.1	5	#5.00	<u> </u>		
Printed name: Paul Ragsdale Title: Operations Manager							Title: 1)15 HOUNSO				
Title: Operat			net	<u></u>		Appi	roved Date: 7//	ojcuis I	expiration Dat	e: 9/16/2017	
E mail Add-		-mail Address:pragsdale@stratanm.net ate: 08-27-2015 Phone:575-622-1127 Ext #18									
					vt #18	Con	litions of Approval	Attached Par	tich	Restrictions	

NM OIL CONSERVATION

District I 1625 N. French Dr., Hobbs, NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720

District II 811 S. First St., Artesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720 District III

1000 Rio Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico

ARTESIA DISTRICT

Form C-102

Energy, Minerals & Natural Resources Department SEP 1 5 2015 Revised August 1, 2011 District Office

1220 South St. Francis Dr. Santa Fe, NM 87505

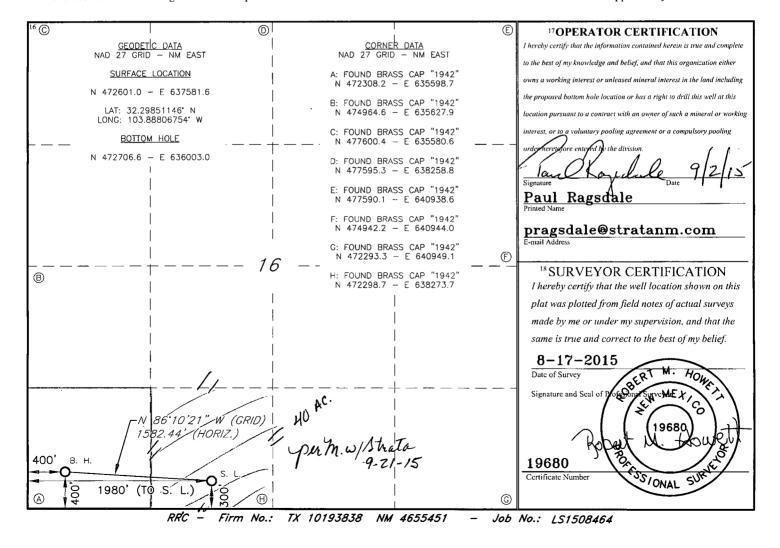
RECEIVED

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

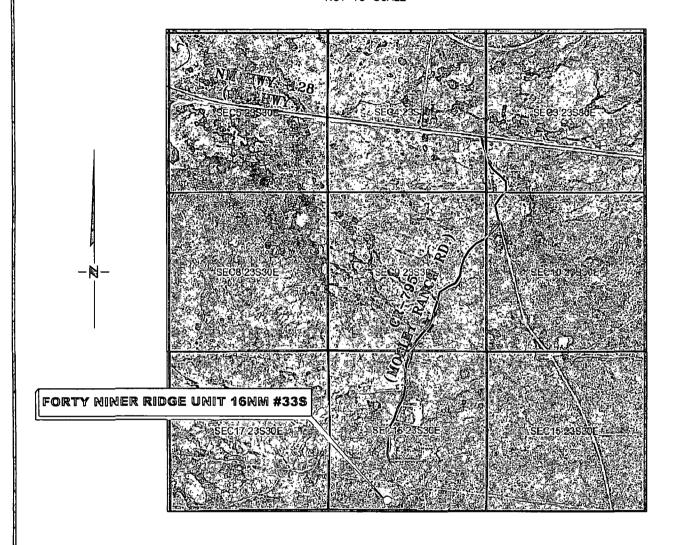
30-01	3358		² Pool Code 24750 FORTY NINER RIDGE DEL					WARE		
⁴ Property Co 2851 0		•		FORTY	S Property Name NINER RIDGE UNIT 16NM 33					
a Color							⁹ Elevation 3169 '			
					10 Surface	Location				
UL or lot no.	Section	Township	Township Range Lot Idn Feet from the North/South line Feet From the East/West line Cou							
N	16	23S	30E				EDDY			
			11]	Bottom H	ole Location	If Different Fro	om Surface			
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	e County	
0	16	23S	30E		400	SOUTH	400	WEST	EDDY	
12 Dedicated Acre	s 13 Joint	or Infill 14 (Consolidation	Code 15 C	Order No.					
40		j								

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



VICINITY MAP

NOT TO SCALE



SECTION 16, TWP. 23 SOUTH, RGE. 30 EAST, N. M. P. M., EDDY CO., NEW MEXICO

OPERATOR: <u>Strata Production Company</u> LEASE: <u>Forty Niner Ridge Unit 16NM</u>

WELL NO.: 33S

LOCATION: 300' FSL & 1980' FWL

ELEVATION: 3169'

Firm No.: TX 10193838 NM 4655451

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NO. REVISION DATE

JOB NO.: LS1508464

DWG. NO.: 1508464VM

RRC

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

SCALE: NTS

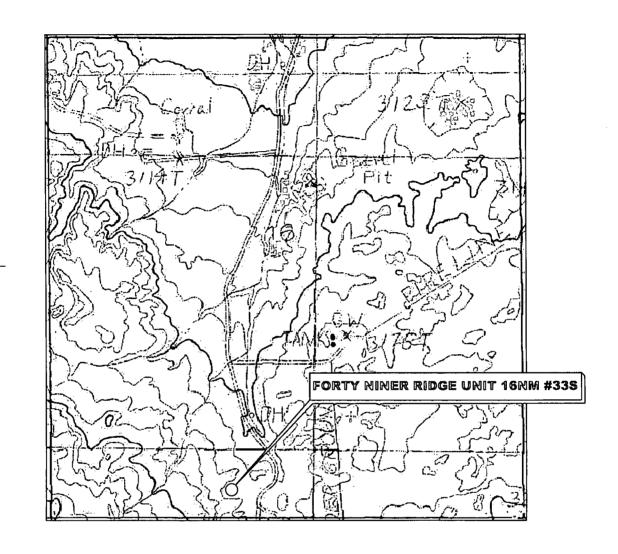
DATE: 8-17-2015

SURVEYED BY: BK/CE DRAWN BY: LPS

APPROVED BY: RMH

SHEET: 1 OF 1

LOCATION VERIFICATION MAP



SECTION 16, TWP. 23 SOUTH, RGE. 30 EAST, N. M. P. M., EDDY CO., NEW MEXICO

OPERATOR: Strata Production Company LOCATION: 300' FSL & 1980' FWL LEASE: Forty Niner Ridge Unit 16NM WELL NO.: 33S

CONTOUR INTERVAL: 10' USGS TOPO. SOURCE MAP:

Remuda Basin, NM (P. E. 1985)

Firm No.: TX 10193838 NM 4655451

ELEVATION: 3169'

Copyright 2015 - All Rights Reserved SCALE: 1000'

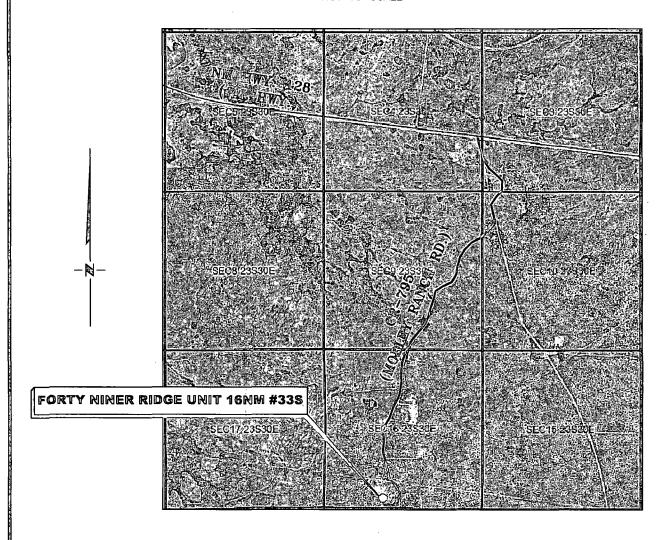
NO. REVISION DATE JOB NO.: LS1508464 DWG. NO.: 1508464LVM

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

DATE: 8-17-2015 SURVEYED BY: BK/CE DRAWN BY: LPS APPROVED BY: RMH SHEET: 1 OF 1

VICINITY MAP

NOT TO SCALE



SECTION 16, TWP. 23 SOUTH, RGE. 30 EAST, N. M. P. M., EDDY CO., NEW MEXICO

OPERATOR: <u>Strata Production Company</u> LEASE: <u>Forty Niner Ridge Unit 16NM</u>

WELL NO.: 33S

LOCATION: 300' FSL & 1980' FWL

ELEVATION: 3169'

Firm No.: TX 10193838 NM 4655451

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NO. REVISION DATE

JOB NO.: LS1508464

DWG. NO.: 1508464VM



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

SCALE: NTS

DATE: 8-17-2015

SURVEYED BY: BK/CE

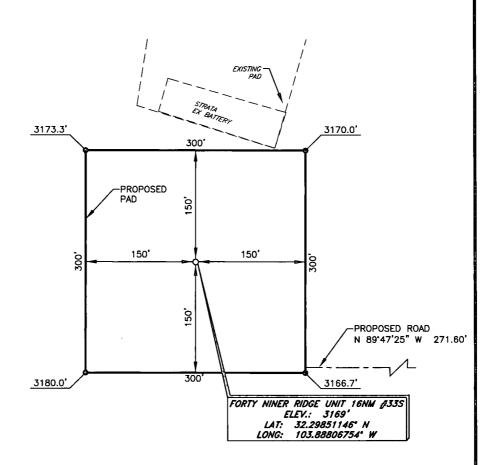
DRAWN BY: LPS

APPROVED BY: RMH

SHEET: 1 OF 1

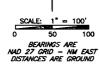
STRATA PRODUCTION COMPANY

FORTY NINER RIDGE UNIT 16NM #33S (300' FSL & 1980' FWL)
SECTION 16, T23S, R30E
N. M. P. M., EDDY COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

From the intersection of NM Hwy. 128 and CR-795 (Mobley Ranch Rd.)
Go South on CR-795 approx. 2.6 miles to a proposed road on the right;
Turn right and go West approx. 0.1.
Location is on the right.



Firm No.: TX 10193838 NM 4655451

NO. REVISION DATE

JOB NO.: LS1508464

DWG. NO.: 1508464PAD 308 W.



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

SCALE: 1" = 100'

DATE: 8-17-2015 SURVEYED BY: BK/CE DRAWN BY: LPS

APPROVED BY: RMH

SHEET: 1 OF 1

DRILLING PROGNOSIS

APPLICATION FOR PERMIT TO DRILL

STRATA PRODUCTION COMPANY

FORTY NINER RIDGE, 16NM #33S

SECTION 16-23S-30E

1. Geologic Name of Surface Formation:

Permian

2. Estimated Tops:

MD/TVD

Rustler

150'

Top of Salt

470'

Base of Salt

3359'

Delaware

4380' - 5256'

Cherry Canyon

5408' - 5512'

KOP

4350' (Refer to attached plan)

TD

7500' TVD 8019' MD

Estimated Depths of Anticipated Fresh Water, Oil or Gas & Drilling Plan:

Surface

+/- 150'

Fresh Water

Delaware

+/- 3900' - TD

Oil and Gas

No other formations are expected to produce oil, gas or fresh water in measurable quantities. The surface fresh water sands will be protected by setting 13 3/8" casing at +/- 400' and by setting 9 5/8 casing at +/-3480' and circulation cement back to surface. A $8 \frac{3}{4}$ " hole will be drilled from below the 9 5/8" casing shoe until TD is reached. A string of 7" production casing will be run to TD and cemented back to tie in the surface casing at minimum.

4. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) shown in Exhibit "A" will consist of a two ram type (3000 psi WP) preventer and a bag-type (hydrill) preventer (3000 psi WP). All units will be equipped with blind rams on top and 4 ½" drill pipe rams on bottom. The 13 5/8", 3m, BOP's will be nippled up on the 13 3/8" surface casing and used continuously until TD is reached. All BOP's and accessory equipment will be tested to 3000 psi before drilling out surface casing. Before drilling out of intermediate casing, the ram-type BOP and accessory equipment will be tested to 3000 psi and the hydrill to 70% of rated working pressure (2100 psi). Low pressure tests at 250 psi will be conducted prior to the high pressure test.

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 sheet. A 2" kill line and 3" choke line will be included in the drilling spool located below the ram-type BOP. Other floor safety valve (inside BOP) and choke lines and choke manifold with 3000 psi WP rating.

5. Proposed Mud System: 0-450' – fresh water with native mud sweeps. 8. 4-8.9 lb/gal, LCM as needed 450'-3800' brine water 10.0 lb/gal with LCM and gel sweeps 3800'-7200' cut brine 8.9-9.2 lb/gal with LCM and cut brine 8.9-9.2 lb/gal as required with sliders and gel sweeps sufficient mud materials to maintain weight, viscosity and combat lost circulation will be kept on location. Mud monitoring shall include equipment to monitor the circulation system which shall include but not be limited to daily records of pumps 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.

6. Auxiliary Well Control and Monitoring Equipment:

- A. A Kelly cock will be kept in the drill string at all times.
- B. A full opening drill pipe stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.
- C. Hydrogen Sulfide detection equipment will be in operation after drilling out the 13 3/8" casing shoe until the 7" casing is cemented. Breathing equipment will be on location upon drilling the 13 3/8" shoe until total depth is reached.

7. Testing, Logging and Coring Program:

Two man mudlogging until from 9 5/8" intermediate casing to TD and DLL-MSFL, CNL-Density. Gamma Ray, Caliper.

Mudlogging until will be employed from approximately 3500' 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. In some cases, Strata elects to run rotary sidewall cores from selected intervals dependent upon logging results.

8. Abnormal Conditions, Pressures, Temperatures and Potential Hazards:

No abnormal pressures or temperatures are anticipated. BHT should not exceed 150 F and BHP should not exceed 3500 psi.

Loss of circulation is possible in the Delaware section of the hole, however, no major loss circulation zones have been reported in offsetting wells. Strata has drilled and completed a number of wells in the immediate area.

To date, Hydrogen Sulfide has not been encountered. However, if Hydrogen Sulfide is encountered, a Hydrogen Sulfide alarm on the drilling rig would be activated. All personnel have had Hydrogen Sulfide training and appropriate breathing apparatus is located on site. If necessary, the well can be shut in utilizing the blowout preventer and other equipment to prevent the migration of Hydrogen Sulfide to the surface.

9. Anticipated Starting Date and Duration of Operations:

Work will not begin until approval has been received from the OCD. The anticipated spud date is January 1, 2016. Once commenced, the drilling operation should be finished in approximately 30 days. If the well is productive, an additional 15 days will be required for completion and testing before a decision is made to install permanent facilities.

STRATA PRODUCTION COMPANY

Emergency Contact List

Strata Personnel:

Paul Ragsdale, Operations Manager

575-626-7903

Virgil Smith, Production Superintendent

575-626-0528

Dwight Adamson, Ast. Production Superintendent 575-626-8657

Sheriff's Departments:

Eddy County

575-887-1888

Lea County

575-396-3611

New Mexico State Police

575-392-5588

Fire Departments:

911

Carlsbad

575-885-3125

Eunice

575-394-2111

Hobbs

575-397-3908

Jal

575-395-2221

Lovington

575-396-2359

Hospitals:

911

Carlsbad Medical Emergency

575-887-4100

Eunice Medical Emergency

575-394-2112

Hobbs Medical Emergency 575-397-9308

Jal Medical Emergency 575-395-2221

Lovington Medical Emergency 575-396-2359

Agent Notification:

Bureau of Land Management 575-393-3612

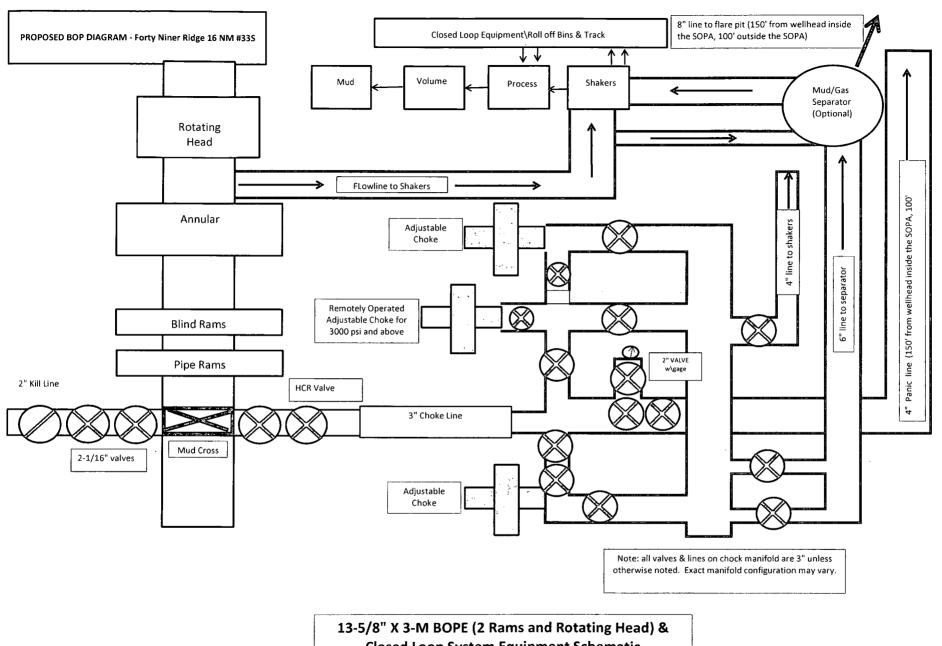
New Mexico Oil Conservation Division 575-393-6161

Mosaic Potash - Carlsbad 575-887-2871

Intrepid Potash - Carlsbad 800-451-2888

COMPANY		LEASE TYPE			API NO.		SPUD DATE	
STRATA PRODUCTION CO		X STATE [] FEE] FE	DERAL			1/1/2016
WELL NAME	TWI	۶,	RANGE		COUNTY / STATE EDDY / NM		COMP. DATE	
FORTY NINER RIDGE Unit 16NM #33S	23-S		30-E					
FOOTAGE	KELLY B	JSHING =	STAT			DEPTH =	P.B.T.D.	
SL 300' FSL & 1980' FWL BHL 400' FSL & 400' FWL	3169' GL	<u>.</u>	0, 0,	0 0			00 tvd	5 "
FIELD/POOL/AREA	CLIDE CACINO	Size	Sks. Cmt.	Circ Depth	Weight	Grade	Thread	Depth
FORTY NINER RIDGE	SURF. CASING	13 3/8"	600	Surface	48#	H-40	STC	400'
LOCATION DESCRIPTION	INT. CASING	9 5/8""	900	Surface	36#	J-55	STC	3480'
12 MLE OF LOVING NM	CASING	7"	500	Surface	26#	N80	LTC	7500 tvd/8019 md
12 MI E OF LOVING,NM Depth ft.			escription			O.D.	Length	Depth
400	13 3/8" CSG. 48#	@400' w/600 sa	cks					

						-	-	
								.,, ., .
3480	9 5/8" CSG. 36# S	ET @ 3480' w/9	00 sacks					
 								
		· · · · · · · · · · · · · · · · · · ·						
				•				
<u> </u>						-		
								
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				·· · · · · · · · · · · · · · · · · · ·		-		
						· 		
							-	·
						 	-	
							 	
 								
						-		
	7" CSG. 26# SET	@ 8019' MD 7	500' TVD w/ 6	50 sacks		STRA	TA PRODU	CTION CO
8019' TD	TD = 8019'	PBTD =				P.O. BOX 1030		
COMMENTS:	<u> </u>				-	ROS	WELL, NEW 88202	
							Revised 08/21/20	15



Closed Loop System Equipment Schematic

Directional Drilling Plan

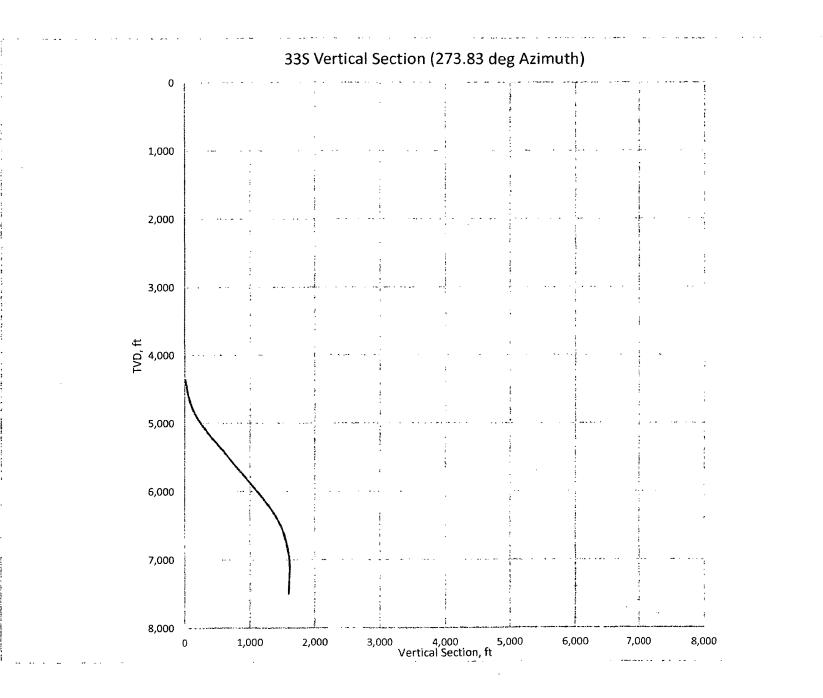
STRATA PRODUCTION COMPANY

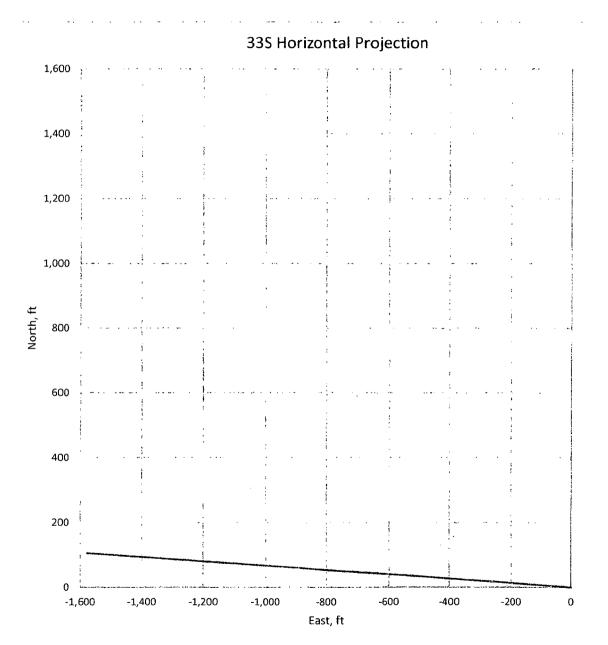
FORTY NINER RIDGE UNIT 16 NM #33S

SECTION 16-23S-30E

SL 300' FSL & 1980' FWL BHL 400' FSL & 400' FWL

MD	Inc	Az	TVD	N	E	DLS	V/S	N	E
ft	deg	deg	ft	ft	ft	deg/100'	ft	ft	ft
0	0	0	0.00	0.00	0.00			472,601.00	637,581.60
4350	0	0	4,349.76	0.00	0.00	0.00	0.00	472,601.00	637,581.60
5016	40	273.83	4,963.57	14.92	-222.91	6.00	223.41	472,615.92	637,358.69
6782	40	273.83	6,316.43	90.75	1,355.56	0.00	1,358.59	472,691.75	636,226.04
7449	0	273.83	6,930.24	105.67	1,578.47	6.00	1,582.00	472,706.67	636,003.13
8019	0	273.83	7,500.00	105.67	- 1,578.47	0.00	1,582.00	472,706.67	636,003.13





POST OFFICE DRAWER 1030 ROSWELL, NM 88202-1030



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

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

September 11, 2015

HAND DELIVERED

Mr. Randy Dade District Supervisor NMOCD 811 S. First Artesia, NM 88210

Re: STRATA Production APD's

Dear Randy,

Please find in the enclosed packet 5 APD's for drilling new wells in the Forty Niner Ridge Unit in Eddy County. All of these proposed wells are inside the Potash Area. Strata, the BLM and Mosaic Potash have developed the "Olive Branch Drill Island". A map of the Drill Island is attached and a copy of an email from Jim Rutley with the BLM to Mosaic is also attached.

Please let me know if you need any other information. I can be reached at 575-622-1127 ext. 18 or at pragsdale@stratanm.com.

Thanks very much,

Paul Ragsdale

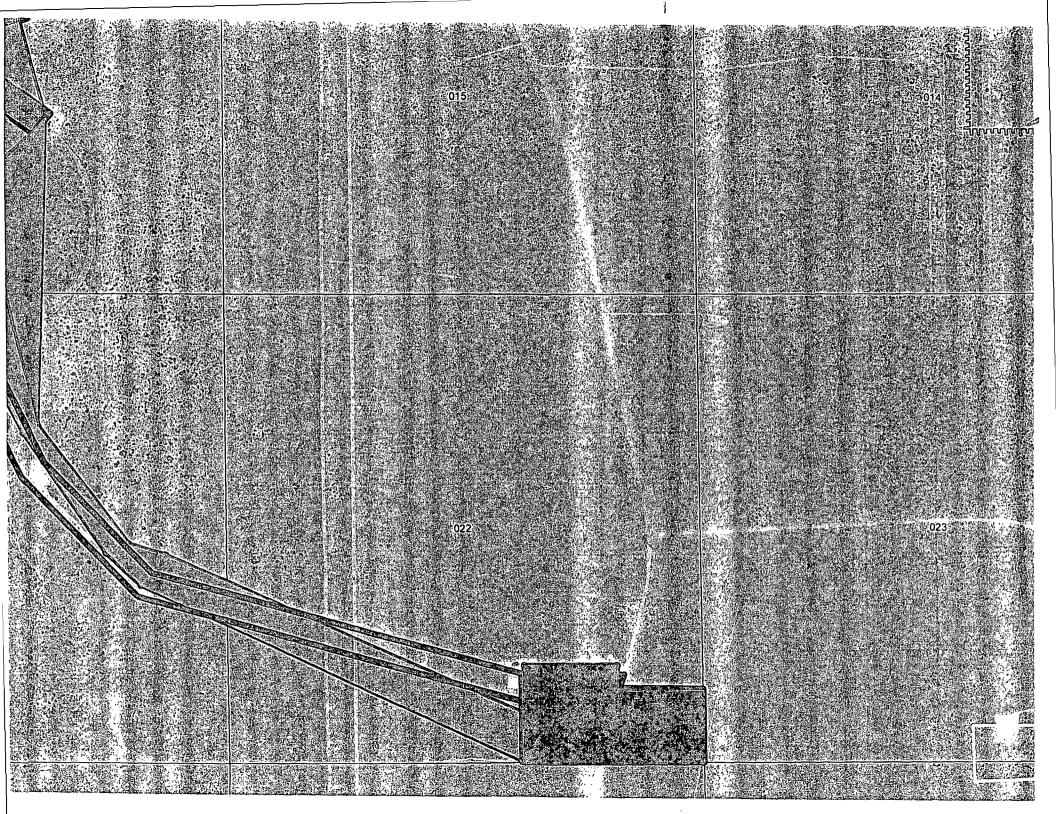
Operations Manager

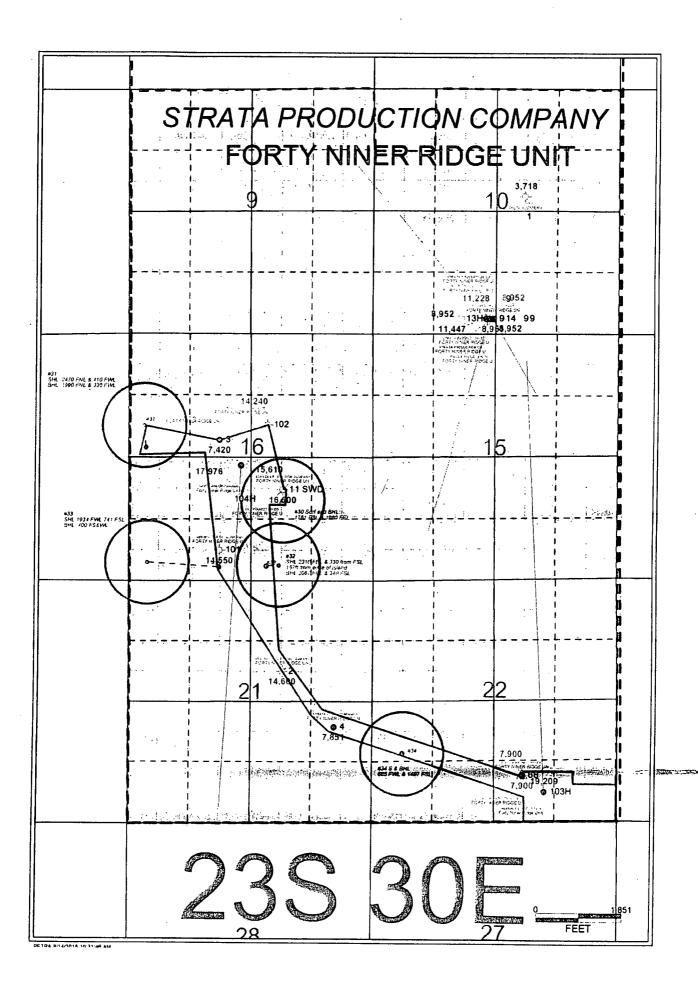
NM OIL CONSERVATION

ARTESIA DISTRICT

SEP 1 5 2015

RECEIVED





Paul Ragsdale

From:

Rutley, James < irutley@blm.gov>

Sent:

Wednesday, September 9, 2015 12:23 PM

To:

Mitch Krakauskas; Paul Ragsdale; David Lanning

Cc:

James Stovall; George MacDonell

Subject:

Fwd: Strata Olive Branch request to modify approved drill island

Attachments:

Strata request to expand approved olive branch DI to include orange modification.pdf

David,

This is an e-mail to Mosaic requesting a modification to existing approved drill island.

Thanks

Jim

James S. Rutley Geologist Carlsbad Field Office Bureau of Land Management (575) 234-5904

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----- Forwarded message -----

From: **Rutley, James** < <u>irutley@blm.gov</u>> Date: Tue, Aug 18, 2015 at 3:39 PM

Subject: Strata Olive Branch request to modify approved drill island

To: dan.morehouse@mosaicco.com, "Bell, Ric - Carlsbad (Third Party)" < Ric.Bell@mosaicco.com >, Indra

Dahal <idahal@blm.gov>

Dan and Ric,

Attached is a map of the "Approved" Olive Branch Drill Island. The green is for shallow wells as currently classified and the purple is for deep wells as currently classified. The original proposal is in black outline.

Strata has requested to modify (expand) the drill island to include the "orange" triangle. Most of Strata's projects are vertically drilled with a few being drilled as "S" curves which allow them to drill from an allowable surface location then directionally drill to their preferred vertical horizon. The request is for shallow projects only.

Is Mosaic amenable to the modification?

Thanks

Jim

James S. Rutley Geologist Carlsbad Field Office Bureau of Land Management (575) 234-5904

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Permit Conditions of Approval

API: 3	0-0/5-43358	Forty-nine	Redge Unil # 33H
OCD Reviewer	Condition)	# 33H
<i>8</i> 20		ound water contamination through whole or partial ption through the fresh water zone or zones and	

"As Drilled" C102 submitted with completion packet should provide footages from the section lines of the producing area