

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

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

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

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

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-101
Revised July 18, 2013

ARTESIA DISTRICT
☐ AMENDED REPORT
SEP 15 2015
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APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address Strata Production Company PO Box 1030 Roswell, NM 88202-1030		2. OGRID Number 21712
4. Property Code 28510	3. Property Name Forty-Niner Ridge <i>Unit</i>	5. API Number 30-015-43357
		6. Well No. 160 #32S

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
O	16	23S	30E	NA	330'	FSL	2310'	FEL	Eddy

8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
	16	23S	30E	NA	340'	FSL	2067'	FEL	Eddy

9. Pool Information

Pool Name Forty-Niner Ridge Delaware	Pool Code 24750
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Additional Well Information

11. Work Type N	12. Well Type O	13. Cable/Rotary R	14. Lease Type S	15. Ground Level Elevation 3170'
16. Multiple No	17. Proposed Depth 7750'	18. Formation Delaware	19. Contractor TBD	20. Spud Date 01/01/2016
Depth to Ground water 150'		Distance from nearest fresh water well 1500'		Distance to nearest surface water NA

☒ We will be using a closed-loop system in lieu of lined pits

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
H40	17-1/2"	13-3/8"	48#	400'	765	Circ to Surf
J55	12-1/4"	9-5/8"	36#	3480'	900	Circ to Surf
N80	8-3/4"	7"	26#	7540'	600	Circ to +/- 3000'

Casing/Cement Program: Additional Comments

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22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Hydraulically Operated - 2 Ram w/ annular	3000	3000	Schaffer

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that I have complied with 19.15.14.9 (A) NMAC <input type="checkbox"/> and/or 19.15.14.9 (B) NMAC <input type="checkbox"/> if applicable. Signature: <i>Paul Ragsdale</i>		OIL CONSERVATION DIVISION Approved By: <i>[Signature]</i> Title: <i>Dist. H Supervisor</i> Approved Date: <i>9/16/2015</i> Expiration Date: <i>9/16/2017</i>	
Printed name: Paul Ragsdale Title: Operations Manager E-mail Address: pragsdale@stratanm.net		Conditions of Approval Attached	
Date: 08-27-2015 Phone: 575-622-1127 Ext #18			

NM OIL CONSERVATION

ARTESIA DISTRICT

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

SEP 15 2015

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

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District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-015-43357		2 Pool Code 24750	3 Pool Name FORTY NINER RIDGE DELAWARE
4 Property Code 28510	5 Property Name FORTY NINER RIDGE UNIT 160		6 Well Number 32S
7 GRID NO. 21712	8 Operator Name STRATA PRODUCTION COMPANY		9 Elevation 3170'

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
0	16	23S	30E		330	SOUTH	2310	EAST	EDDY

11 Bottom Hole Location If Different From Surface

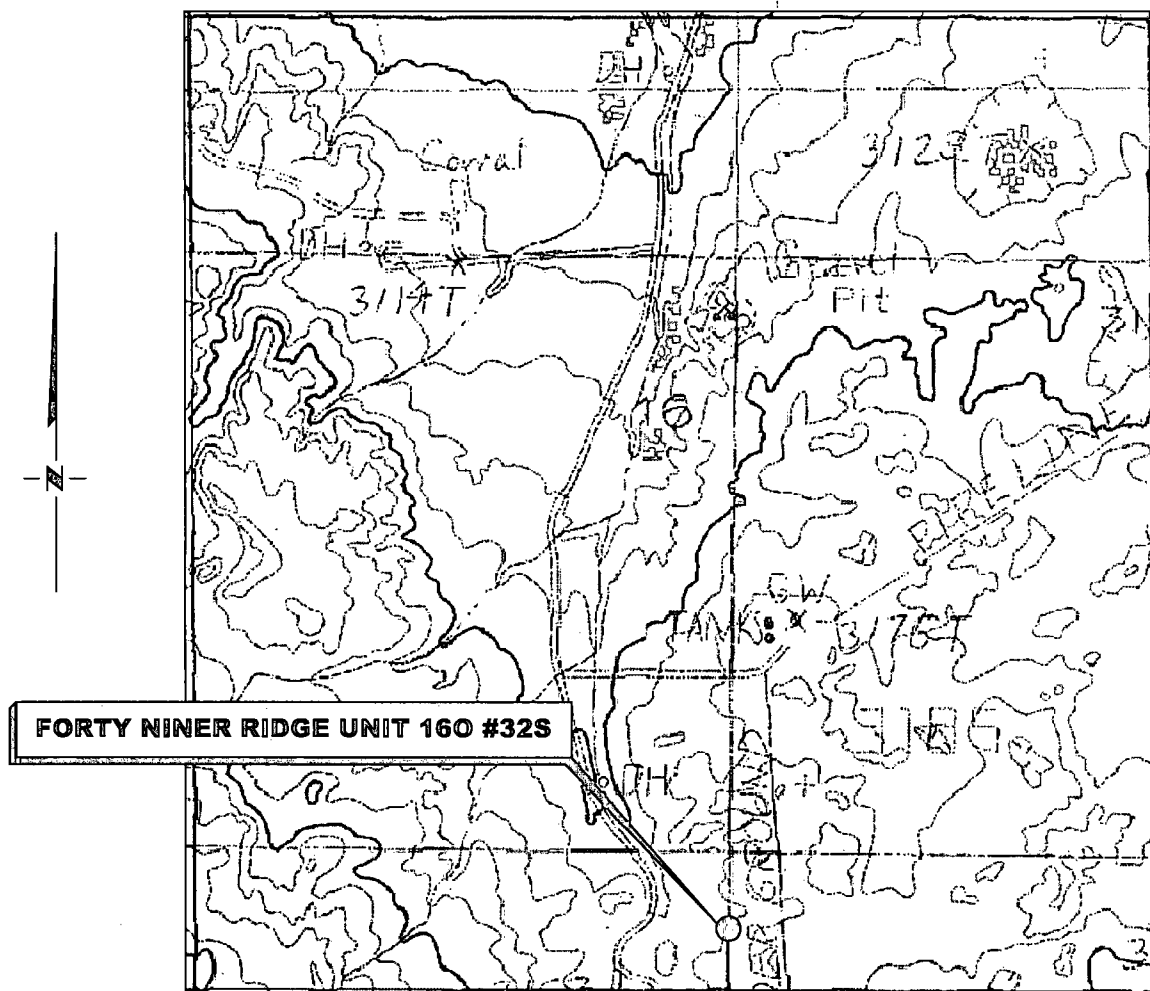
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	16	23S	30E		340	SOUTH	2067	EAST	EDDY

12 Dedicated Acres 40	13 Joint or Infill	14 Consolidation Code	15 Order No.
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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.

<p>16 (C) GEODETIC DATA NAD 27 GRID - NM EAST</p> <p>SURFACE LOCATION N 472627.8 - E 638639.0</p> <p>LAT: 32.29857297° N LONG: 103.88464514° W</p> <p>BOTTOM HOLE N 472637.4 - E 638881.9</p> <p>CORNER DATA NAD 27 GRID - NM EAST</p> <p>A: FOUND BRASS CAP "1942" N 472308.2 - E 635598.7</p> <p>B: FOUND BRASS CAP "1942" N 474964.6 - E 635627.9</p> <p>C: FOUND BRASS CAP "1942" N 477600.4 - E 635580.6</p> <p>D: FOUND BRASS CAP "1942" N 477595.3 - E 638258.8</p> <p>E: FOUND BRASS CAP "1942" N 477590.1 - E 640938.6</p> <p>F: FOUND BRASS CAP "1942" N 474942.2 - E 640944.0</p> <p>G: FOUND BRASS CAP "1942" N 472293.3 - E 640949.1</p> <p>H: FOUND BRASS CAP "1942" N 472298.7 - E 638273.7</p>	<p>17 OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the Division.</p> <p>Signature: <i>Paul Ragsdale</i> Date: <i>9/2/15</i></p> <p>Printed Name: Paul Ragsdale</p> <p>E-mail Address: pragsdale@stratanm.com</p> <p>18 SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>Date of Survey: 8-17-2015</p> <p>Signature and Seal of Professional Surveyor: <i>Robert M. Howett</i></p> <p>Certificate Number: 19680</p>
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LOCATION VERIFICATION MAP



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

OPERATOR: Strata Production Company
LEASE: Forty Niner Ridge Unit 160
WELL NO.: 32S
ELEVATION: 3170'

LOCATION: 330' FSL & 2310' FEL
CONTOUR INTERVAL: 10'
USGS TOPO. SOURCE MAP:
Remuda Basin, NM (P. E. 1985)

Firm No.: TX 10193838 NM 4655451

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NO.	REVISION	DATE
JOB NO.:	LS1508463	
DWG. NO.:	1508463LVM	

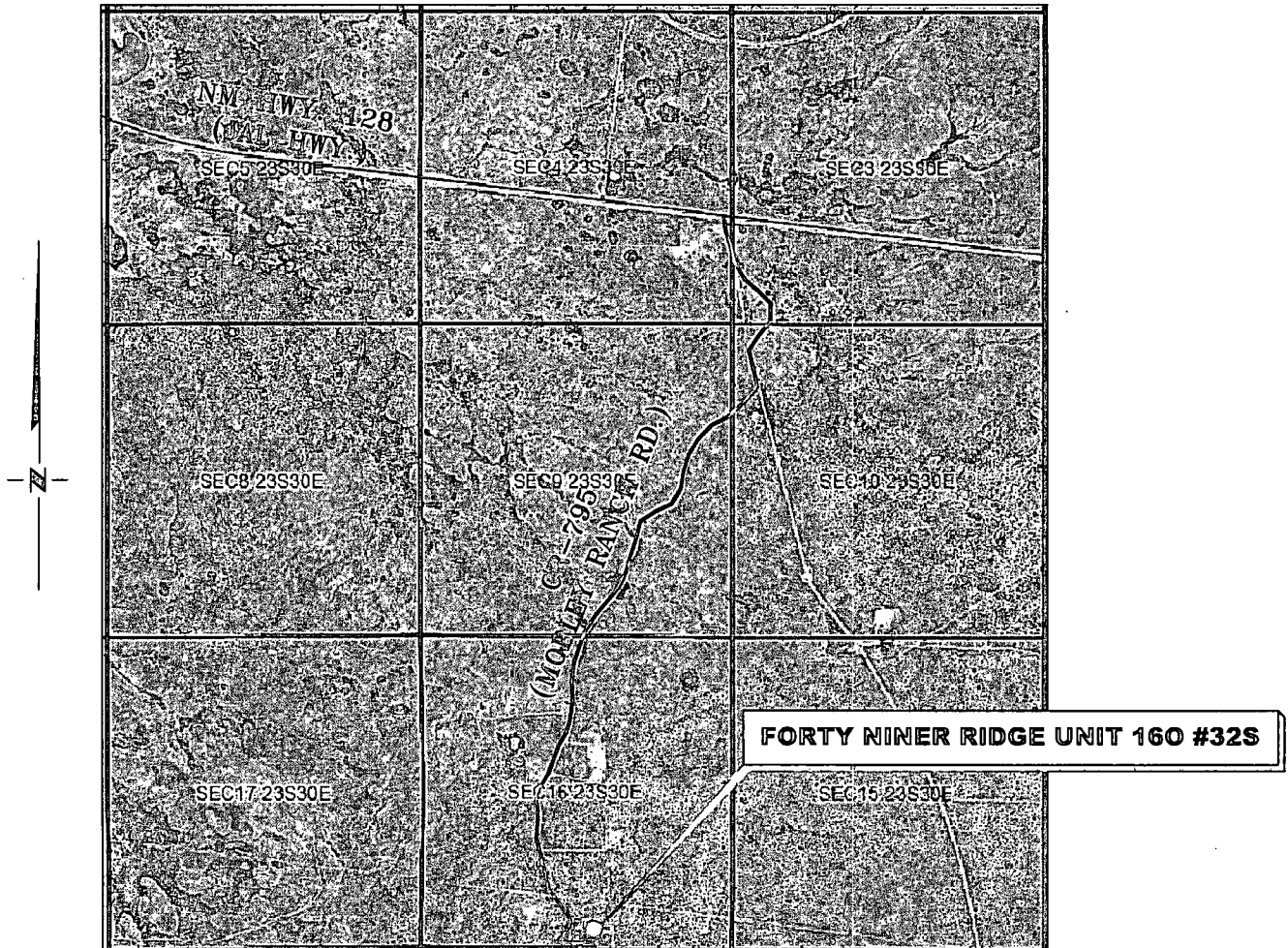
RRC

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

SCALE: 1000'
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: Strata Production Company
LEASE: Forty Niner Ridge Unit 160
WELL NO.: 32S

LOCATION: 330' FSL & 2310' FEL
ELEVATION: 3170'

Firm No.: TX 10193838 NM 4655451

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NO.	REVISION	DATE
JOB NO.: LS1508463		
DWG. NO.: 1508463VM		

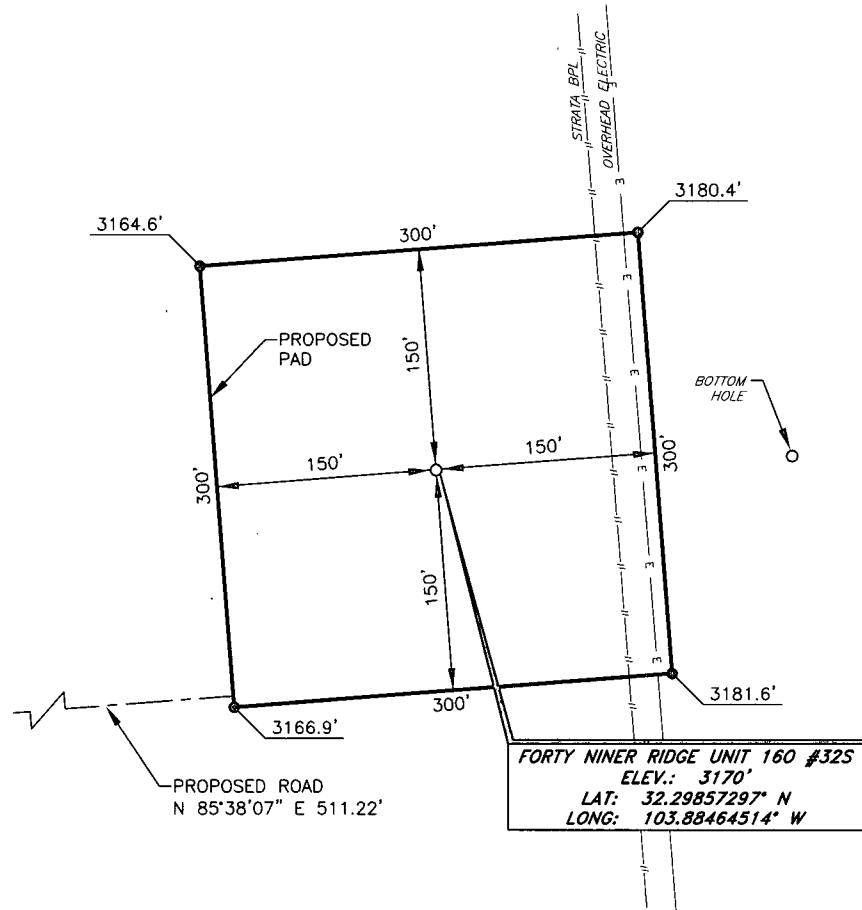
RRC

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

STRATA PRODUCTION COMPANY

FORTY NINER RIDGE UNIT 160 #32S
(330' FSL & 2310' FEL)
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 left;
Turn left and go East approx. 0.1.
Location is on the left.

SCALE: 1" = 100'
0 50 100

BEARINGS ARE
NAD 27 GRID - NM EAST
DISTANCES ARE GROUND

Firm No.: TX 10193838 NM 4655451

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NO.	REVISION	DATE
JOB NO.:	LS1508463	
DWG. NO.:	1508463PAD	

RRC

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, 160 #32S
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	5168' (Refer to attached plan)
TD	7540'

3. 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 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. Casing Program:

<u>Hole size</u>	<u>Depth</u>	<u>OD Csg</u>	<u>Weight, Grade, Collars, New/Used</u>
17 ½"	400'	13 3/8"	48#, H-40, STC, New
12 ¼"	3480'	9 5/8"	40#, J-55, STC, New
8 ¾"	7540'	7"	26#, N-80 LTC, New

Cementing Program:

Surface Casing:

13 3/8" casing will be set at +/-400' and cemented with 600 sacks Class C with 2% CAC12, 14.8 lb/gal, 1.34 cu. Ft. yield, 6.34 gal/sk H2O. Calculated with 100% excess. Cement in sufficient quantity to circulate to surface will be utilized.

Intermediate Casing: 9 5/8" casing will be set at 3480' and cemented with 900 sacks EconoCem HLC Cement with 5% salt, 5lb/bbl Kol-Seal plus 0.3% HR-800, 12.9 lb/gal, 1.88 cu ft. yield, 10.58 gal/sk H2O. 150 sacks tail of Class C Cement 14.8 lb/gal, 1.33 yield, 6.32 gal/sk H2P. Calculated to surface will be utilized.

Production Casing:

It is proposed that 7" casing will be run from the surface to the total depth of the well at 7540' and cemented with 450 sx of (35:65) Poz (Fly Ash) :Class H Cement + 4% bwoc Bentonite + 5% bwoc MPA-5 +0.2% bwoc FL-52 + 0.3% bwoc Sodium Metasilicate + 5% bwoc Sodium Chloride + 5 lbs/sack LCM-1+0.005 lbs/sack Static Free + 1 gals/100 sack FP-6L +0.125lbs/sack Cello Flake +106.5% Fresh Water. 12.5 density, 2.19 yield, 11.1 gal/sk H2O. 150 sacks tail 50/50 Poz/Class H Cement + 0.3% bwoc FL-52 + 0.005 lbs/sack Static Free + 1 gals/100 sack FP-6L + 46.2% Fresh Water. 15.6 density, 1.21 hole and 10% excess in the cased annulus. Cement volumes are sufficient to circulate cement to the surface but will be recalculated using a fluid caliper.

5. 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 nipped 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.

6. 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.

7. 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.

8. 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.

9. 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.

10. 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:

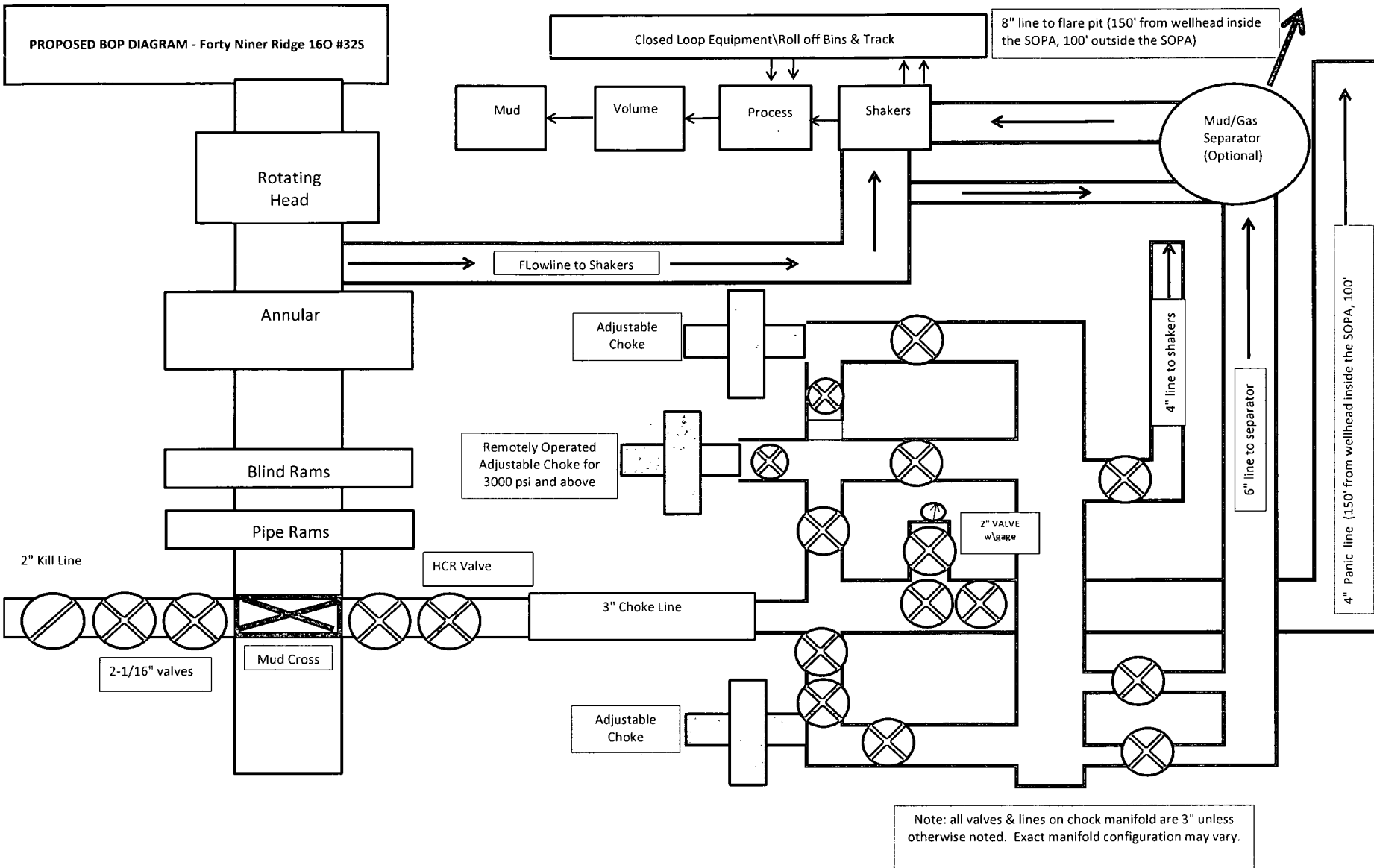
	911
Carlsbad Medical Emergency	575-887-4100
Eunice Medical Emergency	575-394-2112
Hobbs Medical Emergency	575-397-9308
Jal Medical Emergency	575-395-2221
Lovington Medical Emergency	575-396-2359

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

[illegible]

PROPOSED BOP DIAGRAM - Forty Niner Ridge 160 #325



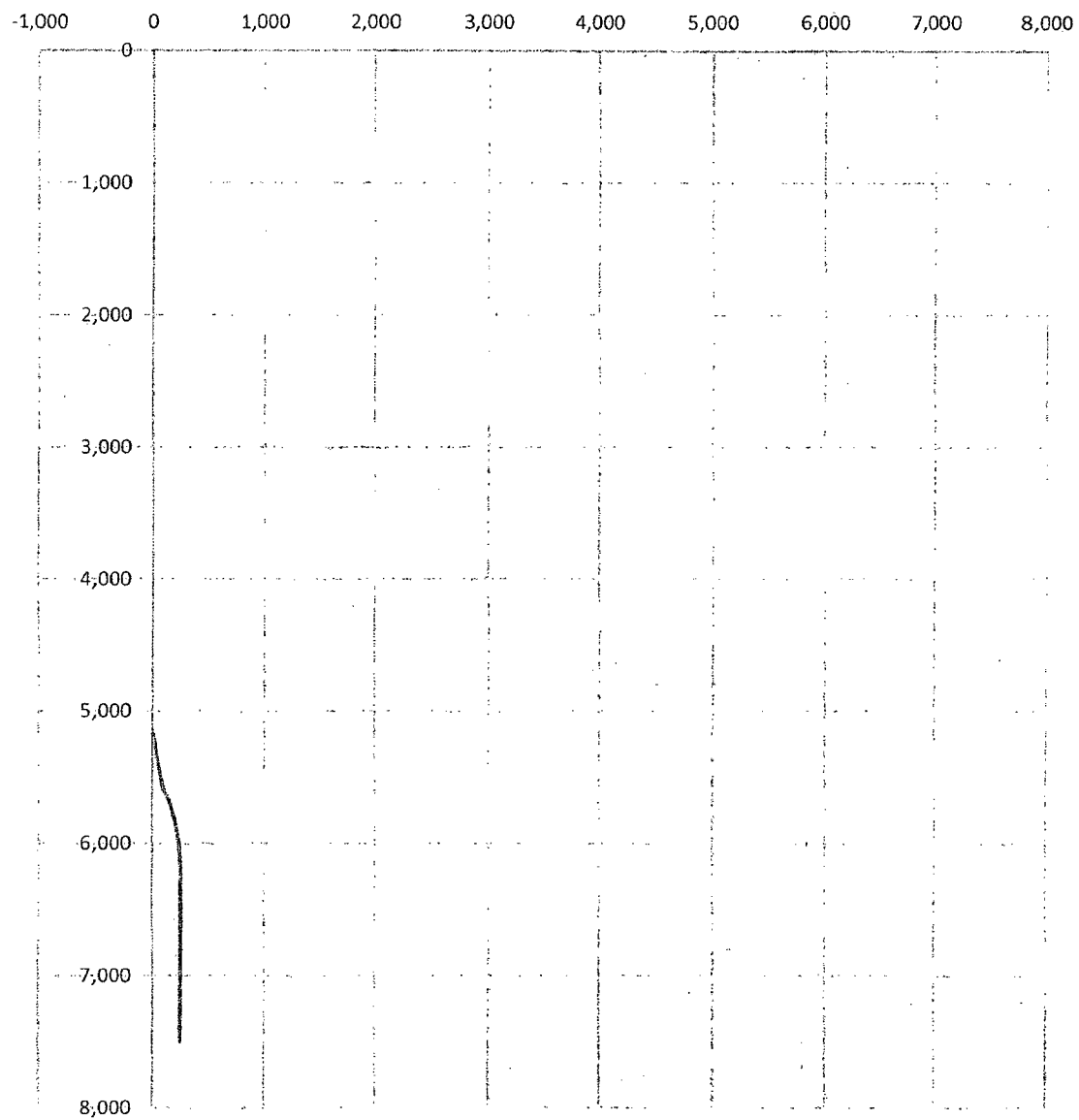
**13-5/8" X 3-M BOPE (2 Rams and Rotating Head) &
Closed Loop System Equipment Schematic**

Directional Drilling Plan
STRATA PRODUCTION COMPANY
FORTY NINER RIDGE UNIT 160 #32S
SECTION 16-23S-30E

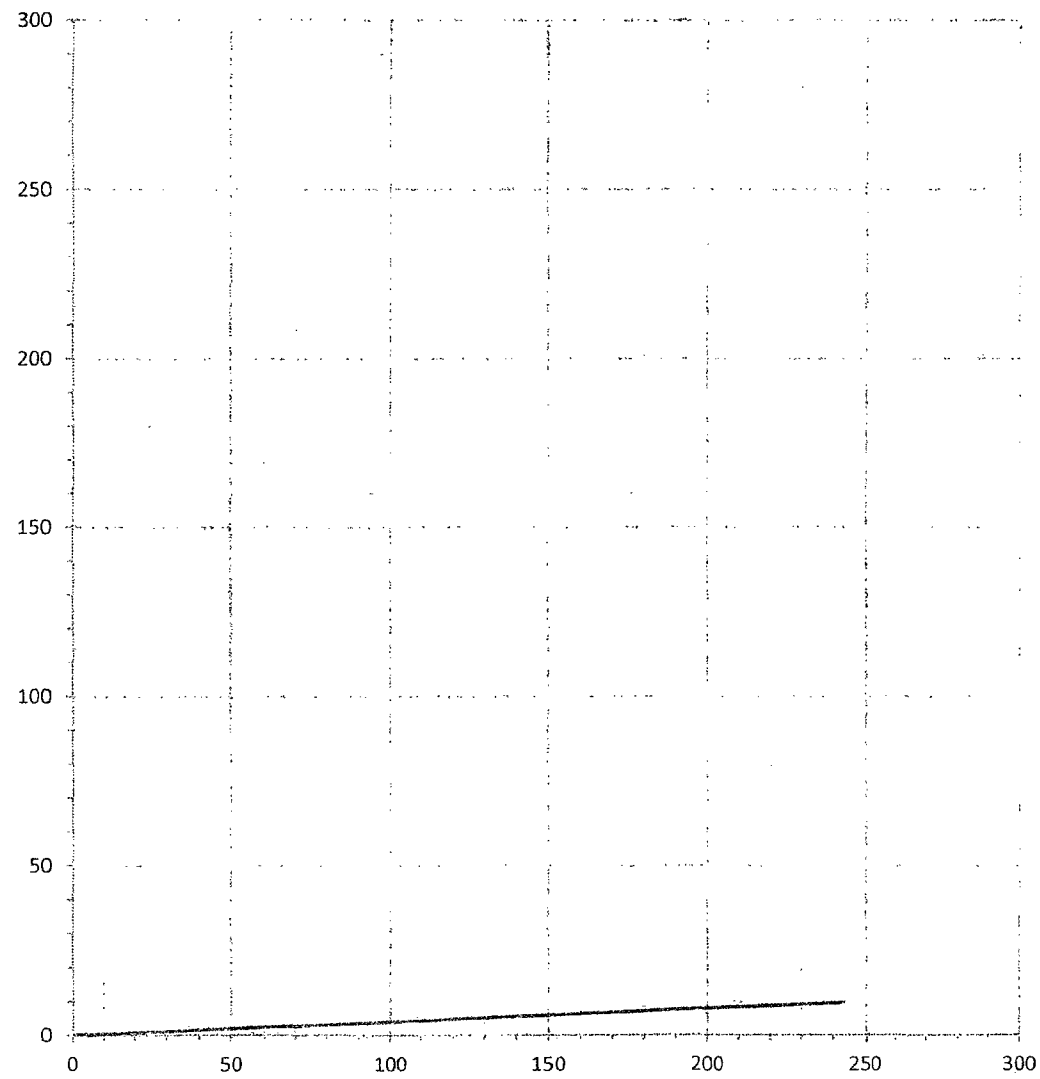
SL 330' FSL & 2310' FEL BHL 340' FSL & 2067' FEL

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			472,627.80	638,639.00
5168	0	0	5,167.70	0.00	0.00	0.00	0.00	472,627.80	638,639.00
5584	25	87.74	5,571.31	3.53	89.41	6.00	89.48	472,631.33	638,728.41
5736	25	87.74	5,708.70	6.05	153.42	0.00	153.54	472,633.85	638,792.42
6153	0	87.74	6,112.26	9.58	242.82	6.00	243.01	472,637.38	638,881.82
7540	0	87.74	7,500.00	9.58	242.82	0.00	243.01	472,637.38	638,881.82

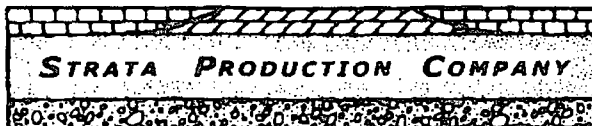
32S Vertical Section (87.74 deg Azimuth)



32S Horizontal Projection



POST OFFICE DRAWER 1030
ROSWELL, NM 88202-1030



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

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

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,

A handwritten signature in cursive script that reads "Paul Ragsdale".

Paul Ragsdale
Operations Manager

NM OIL CONSERVATION
ARTESIA DISTRICT

SEP 15 2015

RECEIVED

**STRATA PRODUCTION COMPANY
FORTY NINER RIDGE UNIT**

9 10 15 21 22 23S 30E

14,240 15,610 16,400 17,976 14,550 14,600 7,851 7,900 7,900 7,900 103H

11 SWD 104H

FSL BML

0 1,851 FEET

OCT 28 9/14/2016 10:31:58 AM

Paul Ragsdale

From: Rutley, James <jrutley@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 <jrutley@blm.gov>
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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