

30-015 38502

STRATA PRODUCTION COMPANY  
H<sub>2</sub>S 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<sub>2</sub>S).
  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<sub>2</sub>S 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<sub>2</sub>S 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<sub>2</sub>S 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

### III. WELLSITE DIAGRAM

A. A complete wellsite diagram including the following information is attached.

1. Rig orientation
2. Terrain
3. Briefing areas
4. Ingress and egress
5. Pits and flare lines
6. Caution and danger signs
7. Wind indicators and prevailing wind direction

**STRATA PRODUCTION COMPANY**  
**Emergency Contact List**

**Strata Personnel:**

**Numbers:**

Frank Morgan, Drilling Superintendent	575-703-6866
Steve Forister, Production Superintendent	575-365-7853

**Sheriff's Departments:**

Eddy County	575-887-1888
Lea County	575-396-3611

<b>New Mexico State Police:</b>	575-392-5588
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**Fire Departments:**

	911
Carlsbad	575-885-3125
Eunice	575-394-2111
Hobbs	575-397-9308
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 Notifications:**

Bureau of Land Management	575-393-3612
New Mexico Oil Conservation Division	575-393-6161
Mosaic Potash- Carlsbad	575-887-2871

SURFACE USE PLAN  
APPLICATION FOR PERMIT TO DRILL  
STRATA PRODUCTION COMPANY  
FORTY NINER RIDGE UNIT #13  
330' FSL & 2555' FWL  
SECTION 10-23S-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 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.
- B. This well is being drilled on an extension of the same pad as the existing Forty Niner Unit #9 well so no additional roads will be necessary. The existing road to the location is illustrated in yellow on Exhibit "B" and is adequate for travel during drilling and production operations. Upgrading of the road prior to drilling will be done where necessary as determined during the on-site inspection.
- C. Directions to location: ~12 miles east from Loving, New Mexico and ~1 1/4 mile south of State Highway 128.
- 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 detailed 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 Hole Prognosis. The water will be purchased from commercial water stations in the area and trucked to the location by transport over the existing access roads shown in Exhibit "B". If a commercial fresh water source is nearby, pipeline 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 extension of 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/ Misc:

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 #1 SWD well. 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.

- D. 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.
- E. 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.

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 is shown in Exhibit "D". Dimensions of the pad and location of major rig components are shown. 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.
- B. Exhibit "D" shows the planned orientation for the rig and associated drilling equipment and closed loop system. No permanent living facilities are planned but a temporary foreman/toolpusher's trailer will also be on location during the drilling operations.

9. Plan for Restoration of the Surface:

- A. Upon completion of the proposed operations, if the well

is to be abandoned and no other wells are planned for this multiple well pad, 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 final 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 drillsite not needed for future drilling, 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. Exhibit E shows the approximate layout of the current facilities and the proposed drilling pad and location of future wells and tankage.

10. Surface Ownership:

The wellsite and lease is located entirely 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. An archaeological study has been conducted for the location and new access road. The report is included in this packet.

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

### 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 Strata Production Company, 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.

EXECUTED THIS 2<sup>ND</sup> DAY OF September, 2010.

BY: Sean A. Myers

TITLE: Vice - Pres

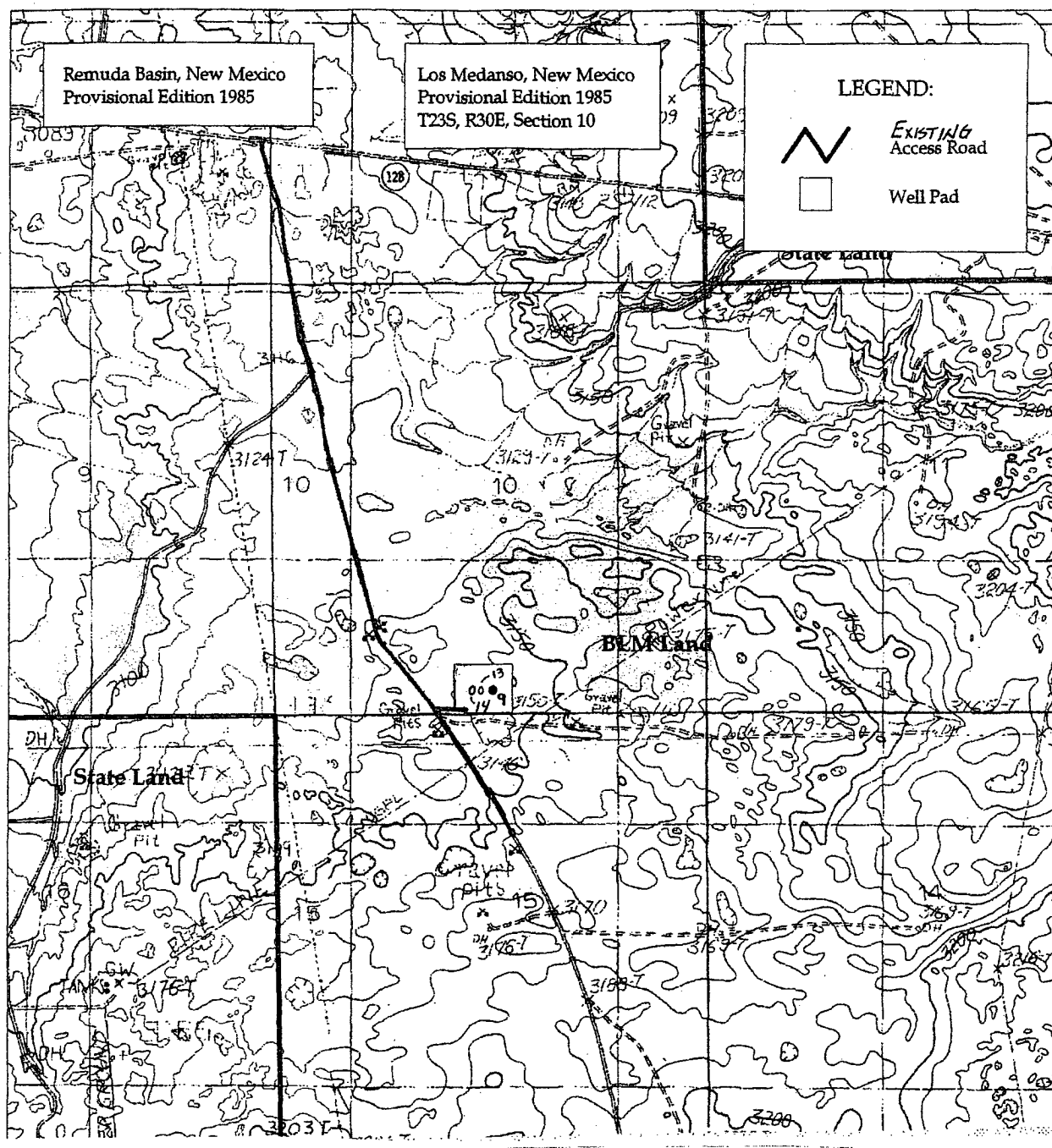
ADDRESS: Strata Production Company  
PO Drawer 1030  
Roswell, NM 88202-1030  
575-622-1127

FIELD REPRESENTATIVE (If not above signatory) \_\_\_\_\_

ADDRESS (If different than above) \_\_\_\_\_

TELEPHONE (If different than above) \_\_\_\_\_

Agents not directly employed by the operator must submit a letter from the operator authorizing that agent to act or file this application on their behalf.



## EXHIBIT "B"

**FORTY NINER RIDGE UNIT #13**

**330' FSL & 2555' FWL**

**SEC. 10, T23S-R30E**

**EDDY COUNTY, NM**



Attachment to Exhibit "C"

STATUS OF WELLS WITHIN ONE MILE RADIUS

FORTY NINER RIDGE UNIT #13

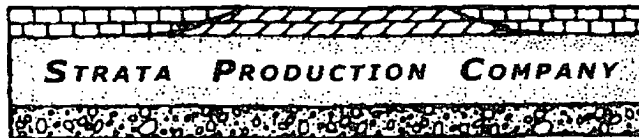
Section 10-23S-30E

330' FSL & 2555' FWL

Eddy County, NM

<u>Operator</u>	<u>Well</u>	<u>Location</u>	<u>Status/Formation</u>
Neil H. Wills et al	Montgomery #1	Sec 10,23S-30E 2340' FNL & 2050' FEL	Dry Hole
Strata Production Co	Forty Niner Ridge Unit #9	Sec 10, 23S-30E 330' FSL & 2630' FWL	Producing/Delaware
Mewbourne Oil Co	Forty Niner Ridge Unit #102	Sec 16,23S-30E 1980' FNL & 2310' FEL	Producing/Atoka

POST OFFICE DRAWER 1030  
ROSWELL, NM 88202-1030



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www.stratanm.com

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

September 2, 2010

Mr. Dan Morehouse  
Mine Engineering Superintendent  
Mosaic Potash Carlsbad, Inc  
PO Box 71  
Carlsbad, NM 88220

Re: Application to Drill in Potash Area  
Forty Niner Ridge Unit #13  
Section 10-23S-30E  
Eddy County, NM

Dear Mr. Morehouse,

In accordance with the State of New Mexico Oil Conservation Division Rule R-111-P, enclosed herewith please find the following for your review and further action:

1. Form 3160-3 Application For Permit To Drill
2. Form C-102 Well Location and Acreage Dedication Plat

State of New Mexico Public Land records reflect Mosaic Potash Carlsbad, Inc ("Mosaic") as potash lessee in the area of the captioned lands. Strata Production Company ("Strata"), a New Mexico Corporation, hereby advises you of its intention to drill the subject well at a location of 330' FSL & 2555' FWL of Section 10, T23S-R30E, Eddy County, New Mexico.

This well is on the same pad as the Forty Niner Ridge Unit #9 well, which Mosaic has previously agreed could serve as a drilling island for future wells drilled by Strata in the immediate area. If you are in agreement with Strata that drilling at the proposed location will not interfere with potash operations, please sign and return one copy of this letter within 30 days of receipt.

Please contact me if you have any questions or require additional information.

Regards,

Mitch Krakauskas  
Land Coordinator

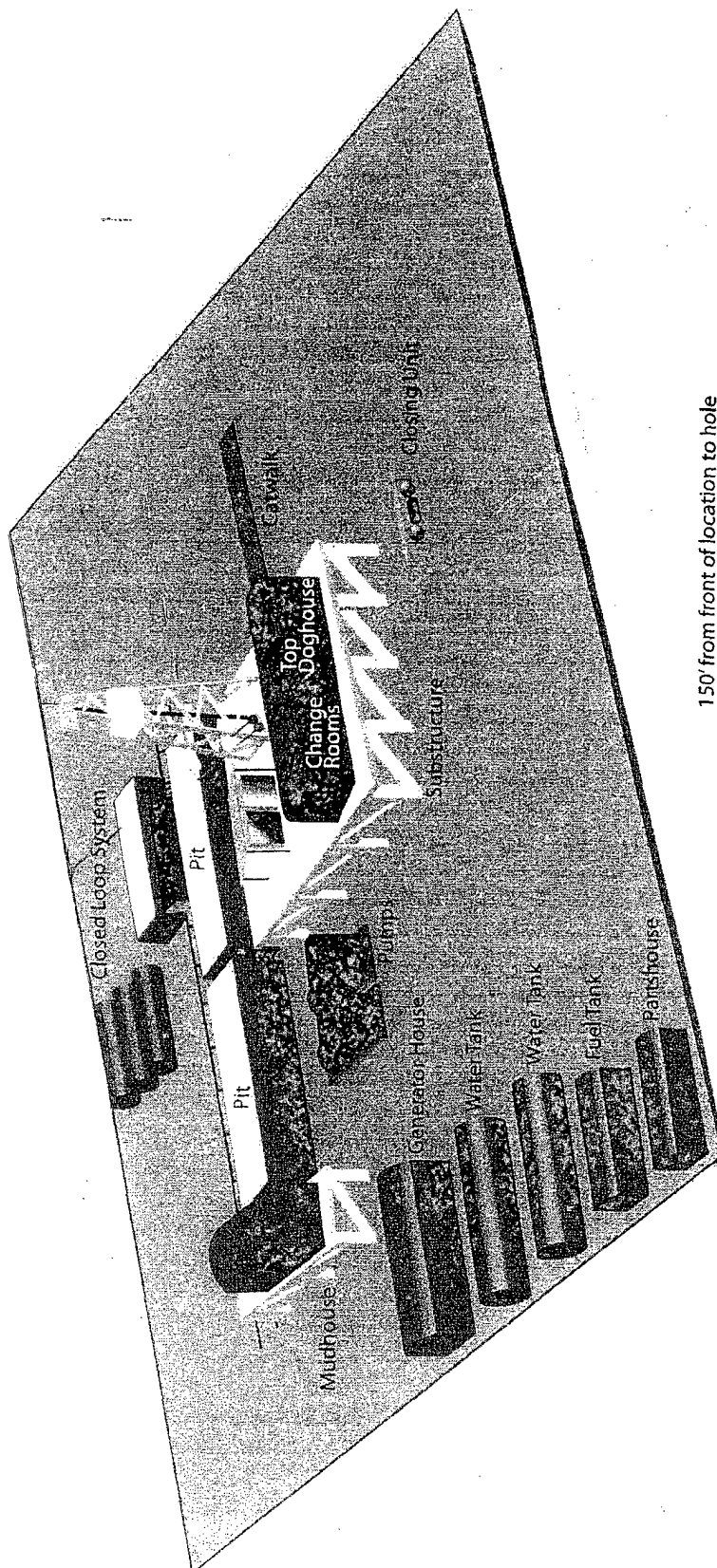
AGREED TO AND ACCEPTED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2010.

BY: \_\_\_\_\_ TITLE: \_\_\_\_\_

cc: Bureau of Land Management, Carlsbad, NM

## EXHIBIT "D"

### TYPICAL WELL SITE LAYOUT PLAN SILVEROAK DRILLING

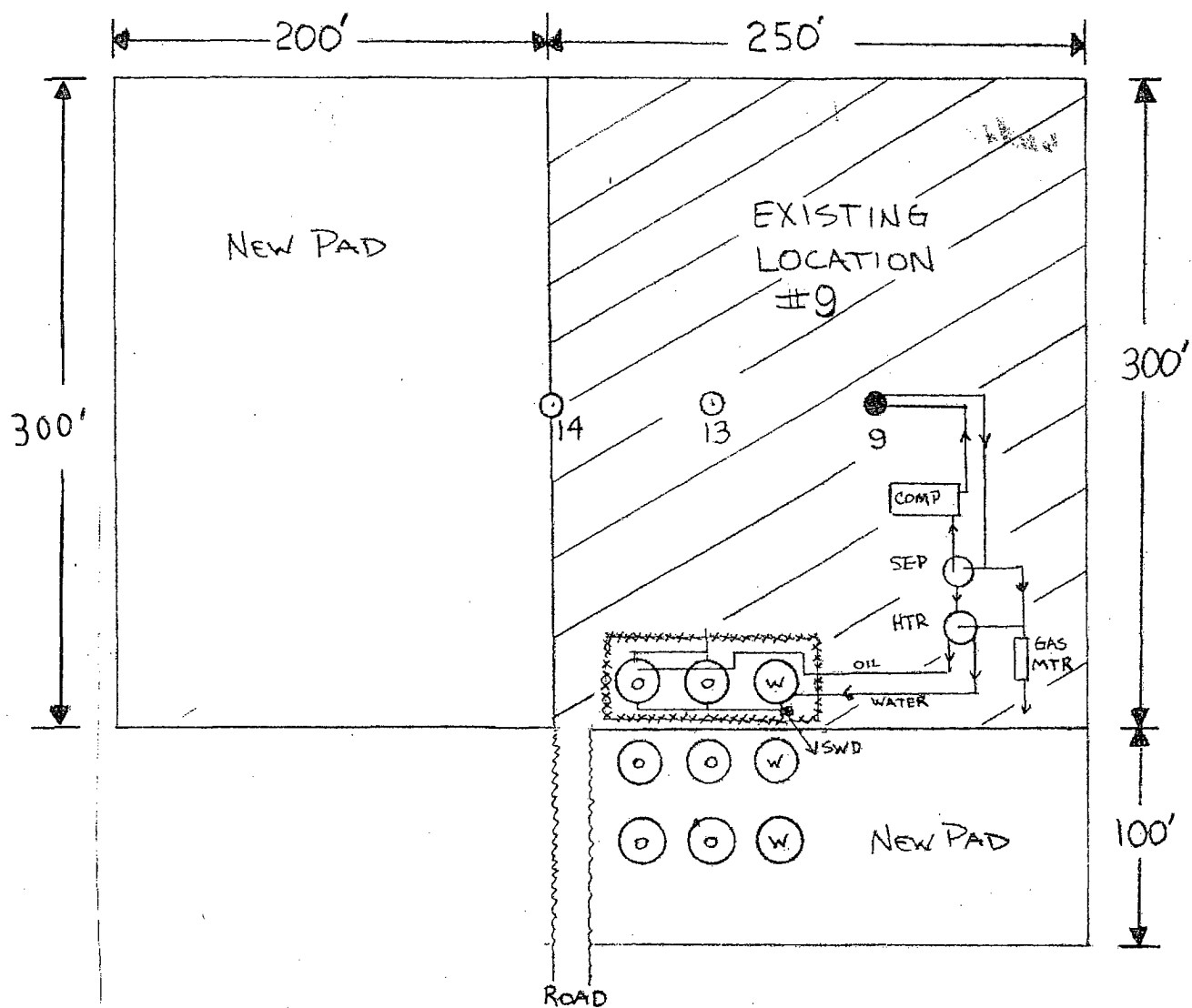


150' from front of location to hole

175' from left of location to hole

150' from hole to back of location

Location size with Closed Loop System  
300' Deep X 325' Wide



## EXHIBIT "E"

### Forty Niner Ridge Unit #9, #13, & #14

Pad Dimensions are Approximate Scale

Additional wells are planned to be drilled from this drilling island so pad reclamation will not take place until all drilling is completed.