

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

## APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

## 1a. TYPE OF WORK

DRILL ☒DEEPEN ☐PLUG BACK ☐

## b. TYPE OF WELL

OIL  
WELL ☐GAS  
WELL ☒

OTHER

SINGLE  
ZONE ☐MULTIPLE  
ZONE ☒

## 2. NAME OF OPERATOR

Southland Royalty Company

## 3. ADDRESS OF OPERATOR

P. O. Drawer 570, Farmington, New Mexico 87401

## 4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.\*)

At surface

14 1590' FNL &amp; 1070' FEL

At proposed prod. zone

## 14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

Approximately 7 miles NW of Aztec, New Mexico

## 15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST

PROPERTY OR LEASE LINE, FT.

(Also to nearest drlg. unit line, if any)

1070'

## 18. DISTANCE FROM PROPOSED LOCATION\*

TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

720'

## 16. NO. OF ACRES IN LEASE

2400

## 19. PROPOSED DEPTH

7450'

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

E/320

160

## 20. ROTARY OR CABLE TOOLS

Rotary

## 21. ELEVATIONS (Show whether DF, RT, GR, etc.)

6183' GR

## 22. APPROX. DATE WORK WILL START\*

February 1, 1980

## 23. PROPOSED CASING AND CEMENTING PROGRAM

| SIZE OF HOLE | SIZE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | QUANTITY OF CEMENT    |
|--------------|----------------|-----------------|---------------|-----------------------|
| 12 1/4"      | 9 5/8"         | 32.30#          | 200'          | 110 sacks             |
| 8 3/4"       | 7"             | 23#             | 4930'         | 100 sacks (Stage One) |
|              |                |                 |               | 240 sacks (Stage Two) |
| 6 1/4"       | 4 1/2"         | 10.5#           | 4780'-7000'   | 315 sacks             |
| 6 1/4"       | 4 1/2"         | 11.6#           | 7000'-7450'   |                       |

ATTENTION: NEW MEXICO PERMIT TO NEW MEXICO ORDER R-1670-V.  
APPROVED FOR THE DISTRICT, 1979.

Surface formation is Nacimiento.

Top of Fruitland sand is at 2395'.

Top of Pictured Cliffs sand is at 2745'.

Fresh water mud will be used to drill from surface to Intermediate TD.

Gas will be used to drill from Intermediate TD to Total Depth.

It is anticipated that an IES and GR-Density log will be run from total depth to surface casing.

No abnormal pressures or poisonous gases are anticipated in this well.

It is expected that this well will be drilled before July 31, 1980. This depends on time required for approval, rig availability and the weather.

Gas is dedicated.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

TITLE District Production Manager

DATE 11-6-79

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

ok Fred

NMOCC

30-045-24019

5. LEASE DESIGNATION AND SERIAL NO.

SF-077651

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Richardson

9. WELL NO.

#8E

10. FIELD AND POOL, OR WILDCAT

Basin Dakota

Blanco Pictured Cliffs cat

11. SEC., T., R., M., OR BLK.

AND SURVEY OR AREA

Section 10, T31N, R12W

12. COUNTY OR PARISH

13. STATE

San Juan

New Mexico

All distances must be from the outer boundaries of the Section.

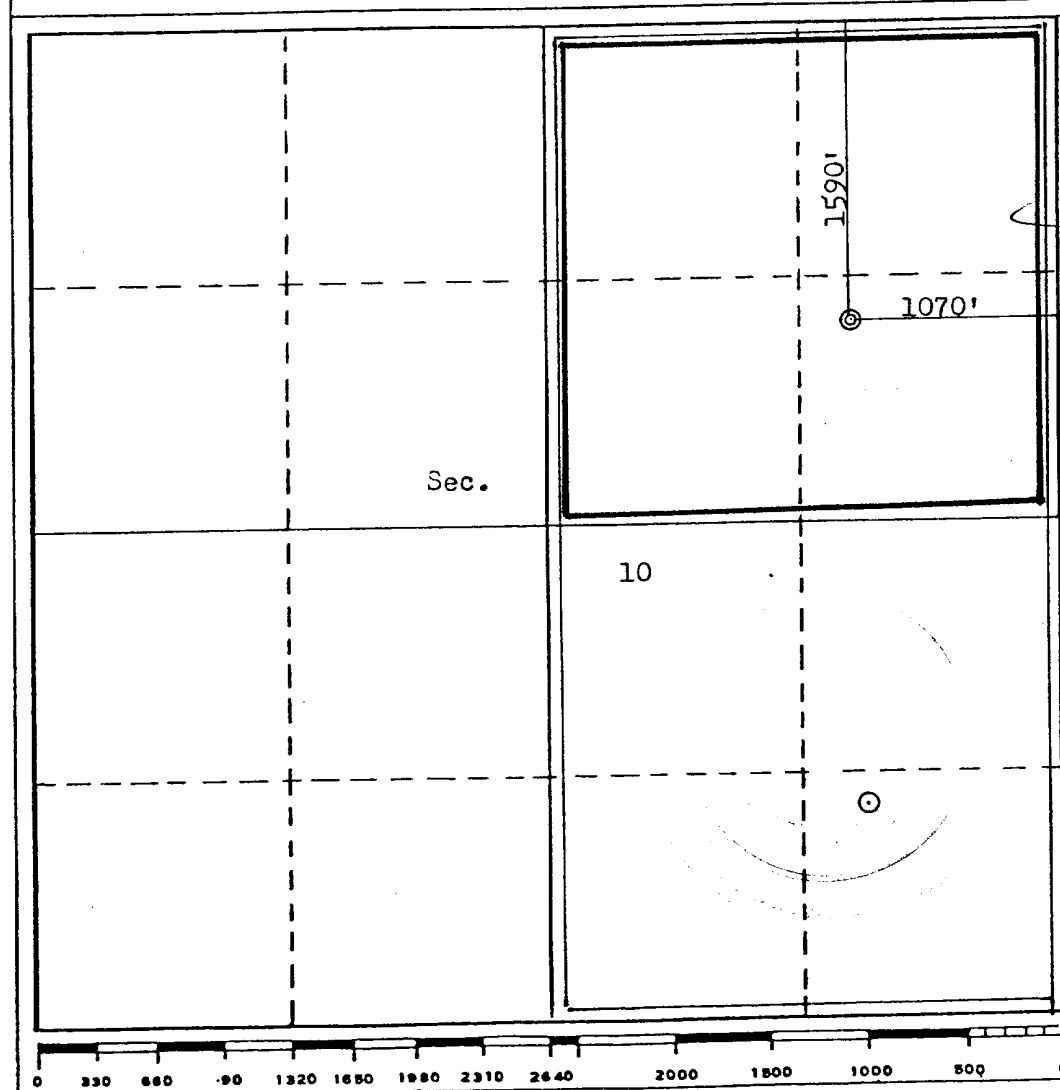
|  |  |                        |                               |  |                        |
|--|--|------------------------|-------------------------------|--|------------------------|
| Operator<br><b>SOUTHLAND ROYALTY COMPANY</b>   |  |                        | Lease<br><b>RICHARDSON</b>    |  | Well No.<br><b>8-E</b> |
| Unit Letter<br><b>H</b>  | Section<br><b>10</b>                                   | Township<br><b>31N</b> | Range<br><b>12W</b>           | County<br><b>San Juan</b>                    |                        |
| Actual Footage Location of Well:<br><b>1590</b> feet from the <b>North</b> line and <b>1070</b> feet from the <b>East</b> line |  |                        |                               |  |                        |
| Ground Level Elev.<br><b>6183</b>  | Producing Formation<br><b>Dakota - Pictured Cliffs</b> |                        | Pool<br><b>Basin - Blanco</b> | Dedicated Acreage:<br><b>320 / 160</b> Acres |                        |

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation \_\_\_\_\_

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) \_\_\_\_\_

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



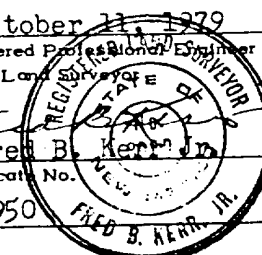
CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Name  
**L. O. Van Ryan**  
Position  
**District Production Manager**  
Company  
**Southland Royalty Company**  
Date  
**November 6, 1979**

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 knowledge and belief.

Date Surveyed  
**October 11, 1979**  
Registered Professional Engineer  
and/or Land Surveyor  
**Fred B. Kerr, Jr.**  
Certificate No.  
**3950**





**Southland Royalty Company**

November 6, 1979

United States Geological Survey  
P. O. Box 959  
Farmington, New Mexico

Attention: James Sims

Dear Sir:

Enclosed please find a map showing existing roads and planned access roads to Southland Royalty Company's Richardson #8E well. The locations of tank batteries and flow lines will be on location with well. A burn pit will be provided for disposal of trash. Cuttings, drilling fluid and produced fluids will be put into the reserve pit and properly disposed of depending on amount and type of fluids.

Contractor will furnish restroom facilities on location.

There will be no air strips or camps.

Also, enclosed is a location layout showing approximate location of rig, pits and pipe racks and cut required to build this location.

Water supply will be Farmers Ditch.

The location will be restored according to Bureau of Land Management standards. This work will begin when all related construction is finished.

Mr. Ross Lankford will be Southland Royalty Company's field representative supervising these operations.

Yours truly,

L. O. Van Ryan  
District Production Manager

LOVR/dg

## DRILLING SCHEDULE - RICHARDSON #8E

Location: 1590' FNL & 1070' FEL, Section 10, T31N, R12W, San Juan County, New Mexico

Field: Basin Dakota/Blanco Pictured Cliffs

Elevation: 6183' GR

### Geology:

|                 |                 |        |               |       |
|-----------------|-----------------|--------|---------------|-------|
| Formation Tops: | Ojo Alamo       | 1465'  | Point Lookout | 4980' |
|                 | Fruitland       | 2395'  | Gallup        | 6345' |
|                 | Pictured Cliffs | 2745'  | Graneros      | 7160' |
|                 | Cliff House     | 4255'  | Dakota        | 7250' |
|                 | Intermediate TD | 4930'* | Total Depth   | 7450' |

\*INTERMEDIATE TD IS CRITICAL. DO NOT DRILL PAST 4930'. ACCURATE STRAP WILL BE NECESSARY.

Logging Program: IES and GR-Density from Intermediate TD to surface casing.  
GR-Induction and GR-Density from TD to Intermediate casing.

Coring Program: None.

Natural Gauges: Gauge well at TD. Also gauge any noticeable increases in gas.  
Record all gauges in tour book and turn in on morning report.

### Drilling:

Contractor:

Tool Pusher:

SRC Ans. Service: 325-1841

SRC Representative:

Dispatch Number: 325-7391

Mud Program: Fresh water mud from surface to Intermediate TD. Anticipate some lost circulation in Menefee at approximately 4500'. Have LCM available on location. Drill with gas from Intermediate casing to TD.

### Materials:

| Casing Program: | Hole Size | Depth       | Casing Size | Wt. & Grade |
|-----------------|-----------|-------------|-------------|-------------|
|                 | 12 1/4"   | 200'        | 9 5/8"      | 32.30# H-40 |
|                 | 8 3/4"    | 4930'       | 7"          | 23# K-55    |
|                 | 6 1/4"    | 4780'-7000' | 4 1/2"      | 10.5# K-55  |
|                 | 6 1/4"    | 7000'-7450' | 4 1/2"      | 11.6# K-55  |

### Float Equipment:

9-5/8" Surface Casing: Pathfinder type "A" guide shoe.

7" Intermediate Casing: Pathfinder type "A" guide shoe. Self-fill insert float valve run 2 joints above shoe. 5 Pathfinder bow type stabilizers run every other joint above shoe. Run Dowell stage tool at 2950'. Run cement basket below and 5 Pathfinder rigid stabilizers above tool.

4-1/2" Liner: Liner hanger with neoprene pack off. Pathfinder type "AP" guide shoe and type "A" float collar.

Wellhead Equipment: 9 5/8" X 10", 2000# casing head with 7" casing hanger  
10", 2000 # X 6", 2000# tubing head and tree

Cementing Program

9-5/8" surface casing: 110 sacks (125 cu. ft.) of Class "B" with 1/4# gel flake per sack & 3%  $\text{CaCl}_2$ . WOC 12 hours. Test to 600# prior to drilling out. (Volume is 100% excess.)

7" Intermediate casing: STAGE ONE - 100 sacks (152 cu. ft.) of 50/50 Class "B" Poz with 6% gel (mixed w/7.2 gals wtr/sx). (Volume is 50% excess to cover Cliff House.)

STAGE TWO - 170 sacks (335 cu. ft.) of 50/50 Poz with 6% gel, followed by 70 sacks of Class "B" with 2%  $\text{CaCl}_2$ . (Volume is 50% excess to cover top of Ojo Alamo.)

WOC and circulate between stages as required by well conditions.  
WOC 12 hours and test to 1000 psi prior to drilling out.

4-1/2" Liner: 315 sacks (466 cu. ft.) of 50/50 Poz with 6% gel, 1/4# gel flake per sack, 0.6% Halad 9 or equivalent (70% excess).

If hole gets wet and mist drilling is required, use 370 sacks (548 cu. ft.) for 100% excess.

Precede cement with 20 barrels of gelled water.

\_\_\_\_\_  
L. O. Van Ryan

\_\_\_\_\_  
Date



**Southland Royalty Company**

United States Geological Survey  
P. O. Box 959  
Farmington, New Mexico 87401

Attention: James Sims

Dear Sir:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein be performed by Southland Royalty Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

Date: November 6, 1979

Name: 

Title: District Production Manager



**Southland Royalty Company**

November 6, 1979

United States Geological Survey  
P. O. Box 959  
Farmington, New Mexico

Attention: James Sims

Re: Blowout Preventer Plan

Dear Sir:

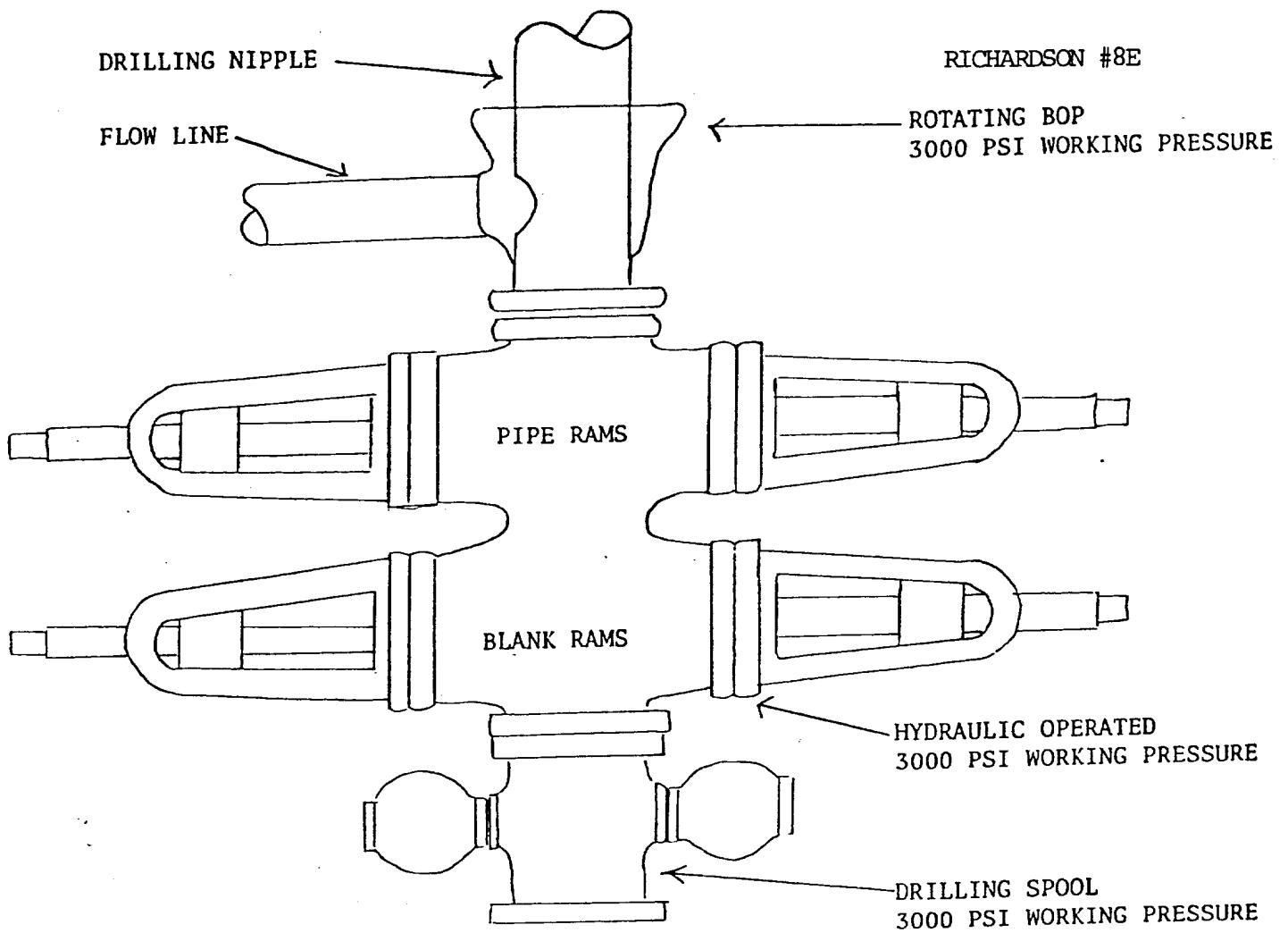
All drilling and completion rigs will be equipped with 6" or larger double hydraulic blowout preventers and a hydraulic closing unit with steel lines.

The preventer is 3000# working pressure and 6000# test.

All crews will be thoroughly trained in the operation of this preventer. The preventer will be tested frequently enough to insure proper operation.

Yours truly,

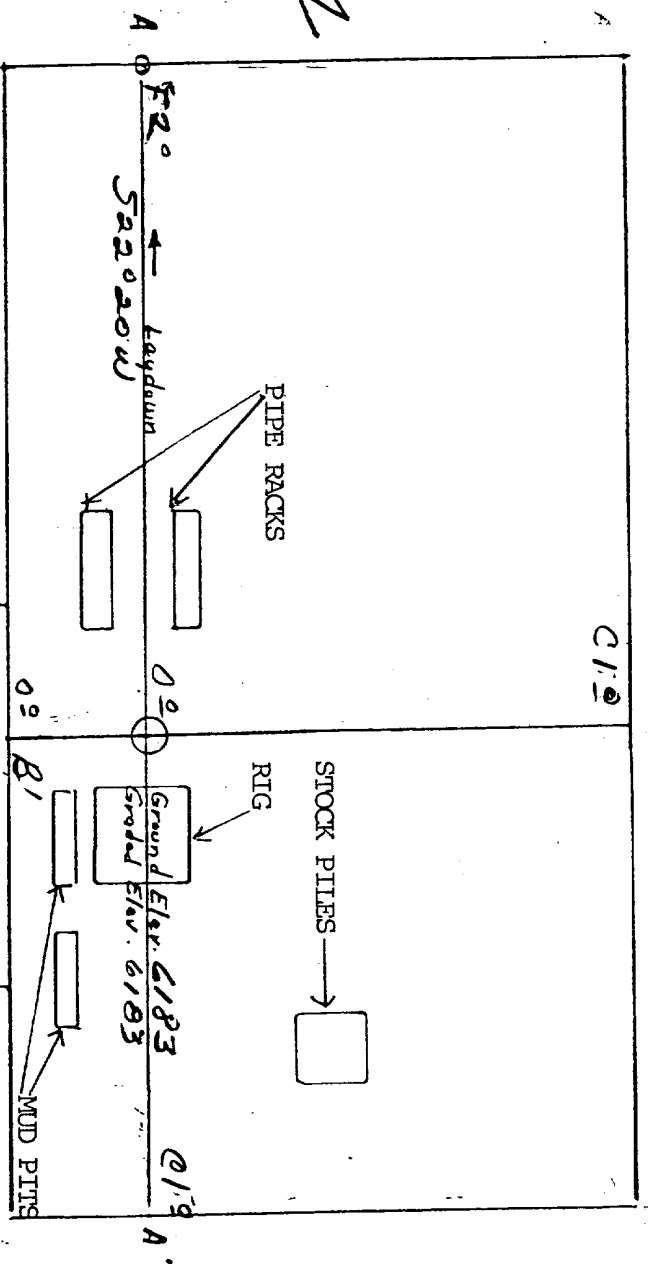
L. O. Van Ryan  
District Production Manager



PREVENTERS AND SPOOLS ARE TO HAVE  
THROUGH BORE OF 6" - 3000 PSI OR LARGER



SAN JUAN COUNTY, NEW MEXICO



| Vert. 1"=40' | A - A' | Horiz. 1"=100' |
|--------------|--------|----------------|
| 6190         |        |                |
| 6180         |        |                |
| 6170         |        |                |

| B-B' |       | £ |
|------|-------|---|
| 6190 |       |   |
| 6180 | ~~~~~ |   |
| 6170 |       |   |

Reserve  
Rt  
F40  
X

[illegible][illegible]

KERR LAND SURVEYING  
Date: 10-11-79





Proposed Location  
 Existing Locations  
 Proposed Road  
 Existing Roads

Vicinity Map for  
 SOUTHLAND ROYALTY CO. #3E RICHARDSON  
 1590'FNL 1070'FEL Sec 10-T31N-R12W  
 SAN JUAN COUNTY NEW MEXICO

FLORA VISTA  
 1357' E  
 LE 124007  
 3  
 1000 1000 500  
 HORIZONTAL INTERVAL 2 FEET  
 DATUM IS MEAN SEA LEVEL

49 MILS