

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

Form C-101  
June 16, 2001

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Submit to appropriate District Office

☐ AMENDED REPORT

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN,  
PLUGBACK, OR ADD A ZONE**

|   |  |  |
|---|--|--|
| <sup>1</sup> Operator Name and Address<br>RKI EXPLORATION & PRODUCTION, LLC.<br>3817 NW Expressway, Suite 950, Oklahoma City, OK. 73112 |  | <sup>2</sup> OGRID Number<br>246289                                    |
| <sup>3</sup> Property Code<br>303271  | <sup>5</sup> Property Name<br>Pinnacle State | <sup>3</sup> API Number<br>30-019-38526<br><sup>6</sup> Well No.<br>29 |
| <sup>9</sup> Proposed Pool 1<br>South Culebra Bluff Bone Spring   |  | <sup>10</sup> Proposed Pool 2  |

<sup>7</sup> Surface Location

| UL or lot no.<br>P | Section<br>36 | Township<br>22S | Range<br>28E | Lot Idn | Feet from the<br>560 | North/South line<br>South | Feet from the<br>560 | East/West line<br>East | County<br>Eddy |
|--------------------|---------------|-----------------|--------------|---------|----------------------|---------------------------|----------------------|------------------------|----------------|
|--------------------|---------------|-----------------|--------------|---------|----------------------|---------------------------|----------------------|------------------------|----------------|

<sup>8</sup> Proposed 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 |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|

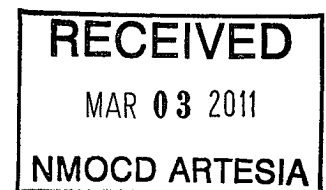
Additional Well Information

|                                   |                                      |  |                                    |  |
|-----------------------------------|--------------------------------------|--|------------------------------------|--|
| <sup>11</sup> Work Type Code<br>N | <sup>12</sup> Well Type Code<br>O    | <sup>13</sup> Cable/Rotary<br>Rotary   | <sup>14</sup> Lease Type Code<br>S | <sup>15</sup> Ground Level Elevation<br>3128 |
| <sup>16</sup> Multiple<br>No      | <sup>17</sup> Proposed Depth<br>9000 | <sup>18</sup> Formation<br>Bone Spring | <sup>19</sup> Contractor           | <sup>20</sup> Spud Date<br>ASAP              |

<sup>21</sup> Proposed Casing and Cement Program

| Hole Size | Casing Size | Casing weight/foot | Setting Depth | Sacks of Cement | Estimated TOC |
|-----------|-------------|--------------------|---------------|-----------------|---------------|
| 17 1/2"   | 13 3/8"     | 54.5#              | 450'          | 400             | Surface       |
| 12 1/4"   | 9 5/8"      | 40#                | 2840'         | 1059            | Surface       |
| 8 3/4"    | 5 1/2"      | 17#                | 9000'         | 1261            | 2540'         |
|           |             |                    |               |                 |               |
|           |             |                    |               |                 |               |

<sup>22</sup> Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.



|   |  |  |
|---|--|--|
| <sup>23</sup> I hereby certify that the information given above is true and complete to the best of my knowledge and belief.<br>Signature: <i>Barry W. Hunt</i><br>Printed name: Barry W. Hunt<br>Title: Permit Agent for RKI Exploration & Production, LLC.<br>E-mail Address: specialpermitting@gmail.com<br>Date: 2/16/11<br>Phone: 575-361-4078 |  | <p>OIL CONSERVATION DIVISION</p> <p>Approved by: <i>Jaqueline R. Geology</i><br/>Title: <i>Geologist</i><br/>Approval Date: 3/4/2011<br/>Expiration Date: 3/4/2013</p> <p>Conditions of Approval Attached <input type="checkbox"/></p> |
|---|--|--|

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RKI EXPLORATION & PRODUCTION, LLC.

Pinnacle 29  
560' FSL & 560' FEL  
36-22S-28E  
Eddy County, NM

1. The elevation of the unprepared ground is 3,145 feet above sea level.
2. The geologic name of the surface formation is Quaternary - Alluvium.
3. A rotary rig will be utilized to drill the well to 9,000' and run casing. This equipment will then be rigged down and the well will be completed with a workover rig.
4. Proposed total depth is 9,000'.
5. Estimated tops of important geologic markers:

|                                  |        |
|----------------------------------|--------|
| Lamar Lime                       | 2,820' |
| Intermediate Casing Pt           | 2,840' |
| Base of Lime                     | 2,860' |
| Delaware Top                     | 2,900' |
| Bell Canyon Sand                 | 2,900' |
| Cherry Canyon Sand               | 3,890' |
| Brushy Canyon Sand               | 4,885' |
| Bone Spring Lime                 | 6,410' |
| Bone Spring Avalon Sand          | 6,515' |
| Bone Spring 1 <sup>st</sup> Sand | 7,515' |
| Bone Spring 2 <sup>nd</sup> Sand | 8,285' |
| TD                               | 9,000' |

6. Estimated depths at which anticipated water, oil, gas or other mineral bearing formations are expected to be encountered:

|                                  |     |
|----------------------------------|-----|
| Bell Canyon                      | Oil |
| Cherry Canyon                    | Oil |
| Brushy Canyon                    | Oil |
| Bone Spring Avalon Sand          | Oil |
| Bone Spring 1 <sup>st</sup> Sand | Oil |

7. The proposed casing program is as follows:

Surface: 13-3/8" 54.5# J-55 ST&C casing set from 0' - 450'  
Tension SF 2.0, Collapse SF 1.125, Burst SF 1.8.

Intermediate: 9-5/8" 40# J-55 ST&C casing set from 0' – 2,840'  
Tension SF 2.0, Collapse SF 1.125, Burst SF 1.8.

Production: 5-1/2" 17# N-80 LT&C casing set from 0' - 9,000'  
Tension SF 2.0, Collapse SF 1.125, Burst SF 1.8.

8. Casing setting depth and cementing program:

- a. 13 3/8" surface casing set at 450' in 17-1/2" hole. Circulate cement to surface with **400 sx** Halcem with 2% Calcium Chloride mixed at 14.8 ppg (1.35 cf/sk).
- b. 9 5/8" intermediate casing set at 2,840' in 12 1/4" hole. Cement will be circulated to surface with **859 sx** Econocem with 5% Salt, .25 pps Pheno Seal mixed at 12.4 ppg (2.12 cf/sk) followed by **200 sx** Halcem mixed 14.8 ppg (1.33 cf/sk).
- c. 5-1/2" production casing set at 9,000' in 8 3/4" hole. Hole will be callipered to determine cement volume to bring TOC to 2,540'. The well will be cemented in two stages as follows: **Stage 1: 769 sx** Versacem with .5% LAP-1, .25 pps D-Air 3000, .4% CFR-3, 3 pps Salt mixed at 13.2 ppg (1.64 cf/sk). **Stage 2: 392 sx** Econocem mixed at 12.4 ppg (2.01 cf/sk) followed by **100 sx** Halcem mixed at 14.8 ppg (1.33 cf/sk). DV tool at approximately 5000'.

9. Pressure Control Equipment

Annular preventer (1,500 psi)  
BOP stack with pipe and blind rams (5,000 psi)  
Drilling spool with 2 side outlets (choke side will be 3" minimum diameter, kill side shall be 2" diameter)  
Choke line will be 3" diameter with 2 – 3" valves  
Kill line will be 2" with 2 – 2" valves and check valve  
2 chokes with 1 being remotely operated from rig floor  
Upper kelly cock valve with handle available  
Lower kelly cock valve with handle available  
Inside BOP or float sub available  
Pressure gauge in choke manifold  
Fill-up line above uppermost preventer

A drilling head will be installed on the 13 3/8" surface casing and utilized until the 9 5/8" casing is set. At this time a 3,000 psi casing head will be installed on the 9 5/8" casing and be utilized to TD. After setting the 13 3/8" casing all BOP's and associated equipment will be tested to rated pressure. Before drilling out the 13 3/8" casing shoe the casing will be tested to 1,500 psi. After setting the 9 5/8" casing all BOP's and associated equipment will be tested to rated pressure. Before drilling out the 9 5/8" casing will be tested to 1,500 psi. Pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These functional tests will be documented on the daily drillers log.

10. Mud Program:

|                 |  |
|-----------------|--|
| 0' - 450'       | Auagel/Lime mud. Paper for losses and seepage. 8.4 to 9.0 ppg, 32 to 34 vis, PV 1 to 3, YP 1 to 3, WL NC. Sweep hole with Aquagel pills. |
| 450' - 2,840'   | Brine. As needed LCM for losses and seepage. 10.0 to 10.2 ppg, 28 to 29 vis, PV 1, YP 1, WL NC. Sweep hole with Aquagel pills.           |
| 2,840' - 5,800' | Drill out with fresh water. 8.4 to 8.6 ppg, 28 to 29 vis, PV 1, YP 1, WL NC.   |
| 5,800' - 7,300' | Cut brine. 9.0 to 9.2 ppg, 36 to 38 vis, PV 6 to 10, YP 8 to 12, WL 18 to 25. Lower water loss <20. Sweep hole with Auagel pills.        |

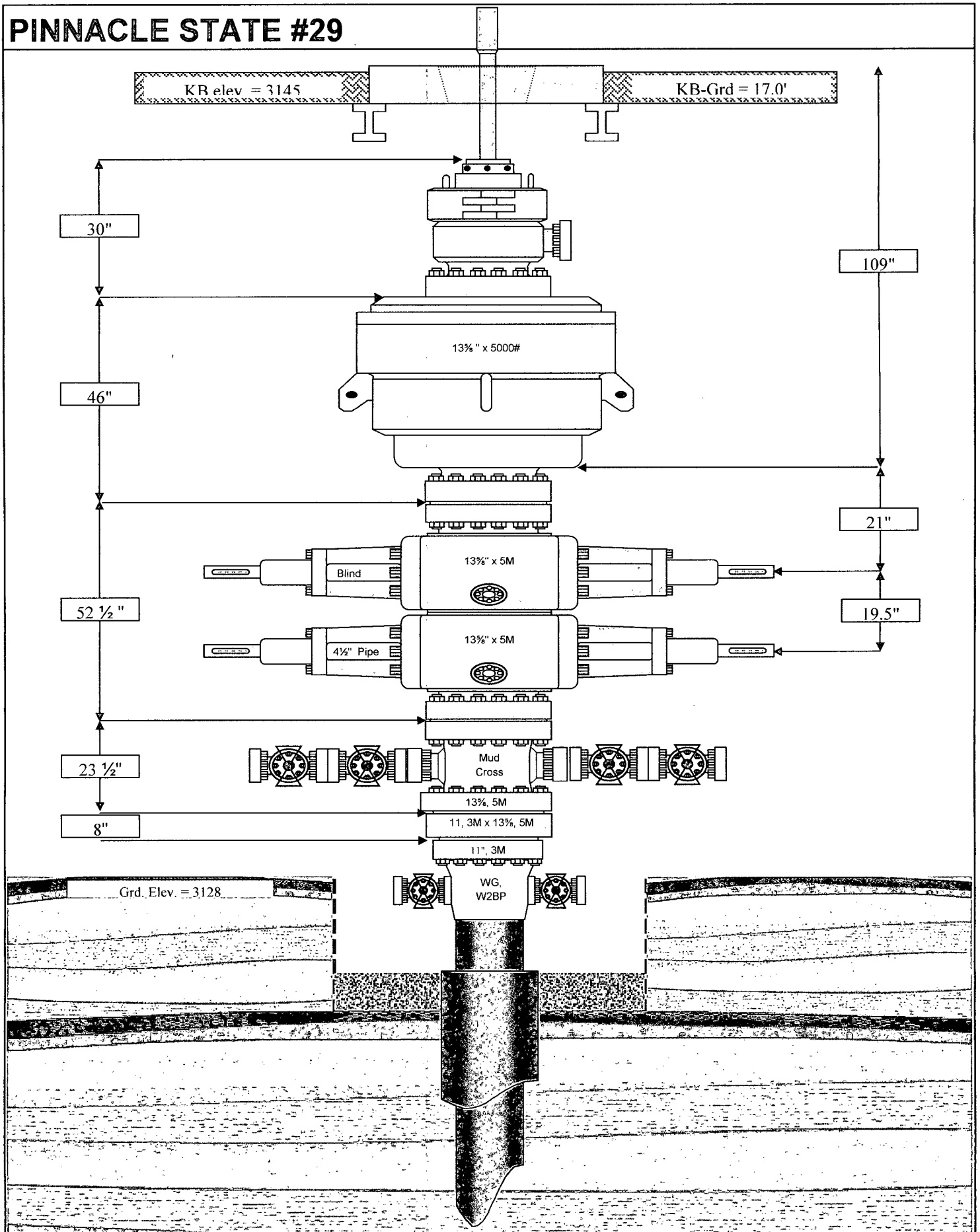
11. Testing, Logging and Coring Program:

Testing program: No drillstem tests are anticipated.  
Electric logging program: CNL/CAL/GR, DLL/CAL/GR.  
Coring program: None.

12. Potential Hazards:

No abnormal conditions or hazards are expected. There is no known presence of H2S in this area. If H2S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well.

# PINNACLE STATE #29



## Choke Manifold

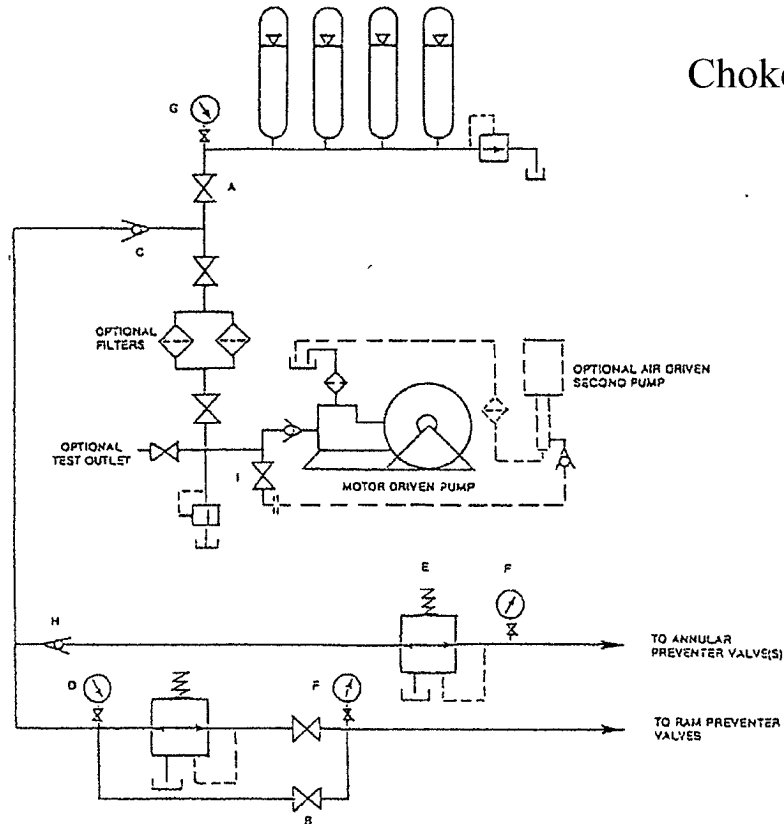


FIGURE K6-1. The schematic sketch of an accumulator system shows required and optional components.

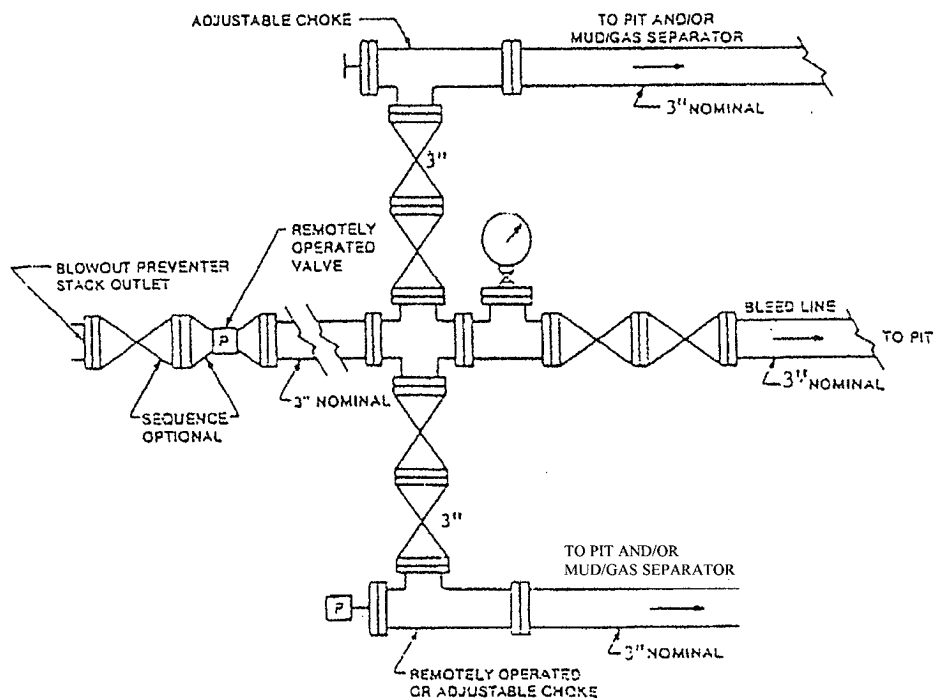
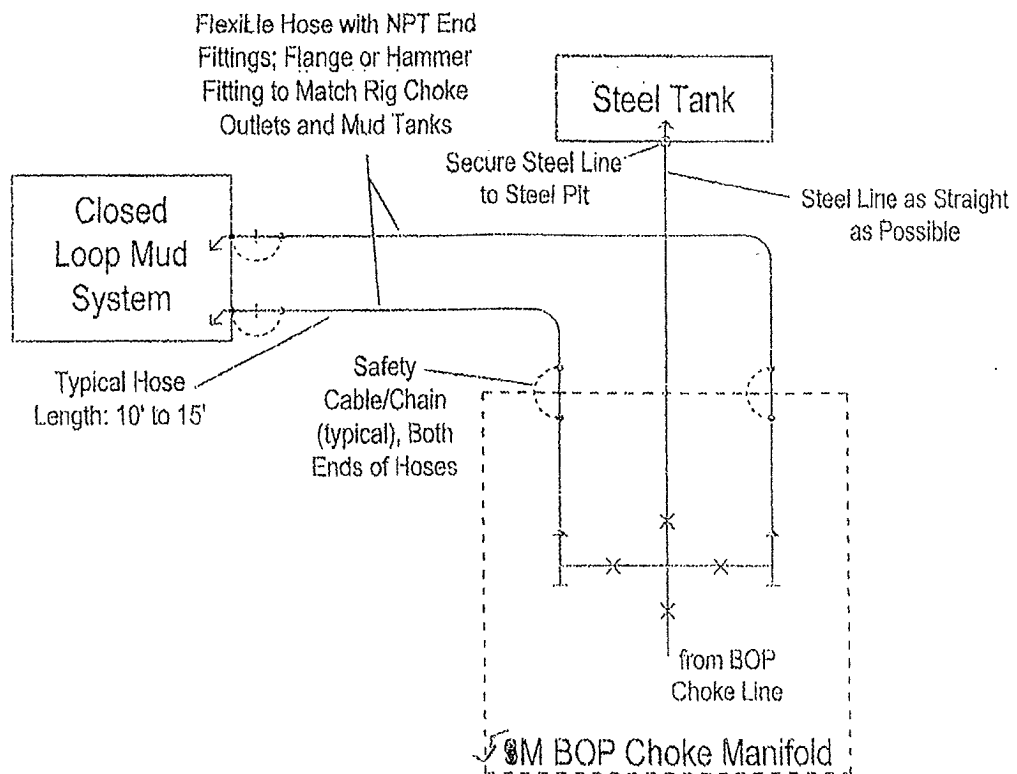


FIGURE K4-2. Typical choke manifold assembly for 5M rated working pressure service - surface installation.



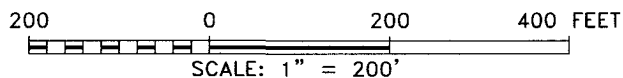
SECTION 36, TOWNSHIP 22 SOUTH, RANGE 28 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.

150' NORTH  
OFF SET  
3126.3'  
□

**RKI EXPLORATION & PRODUCTION LLC**  
**PINNACLE STATE #29**  
ELEV. - 3128'  
150' WEST OFF SET □ 3124.4'      150' EAST OFF SET □ 3129.3'  
Lat - N 32°20'36.93"  
Long - W 104°02'01.55"  
NMSPCE- N 488859.7  
E 633852.4  
(NAD-83)  
□

150' SOUTH  
OFF SET  
3130.3'

PROPOSED LEASE ROAD 838.3'



Directions to Location:

FROM THE JUNCTION OF HWY 31 AND US REFINERY ROAD, GO NORTHWEST 1.6 MILES TO LEASE ROAD, ON LEASE ROAD GO NORTHEAST 0.2 MILES THENCE SOUTHEAST 0.5 MILES TO WELL PAD AND PROPOSED LEASE ROAD.

**BASIN SURVEYS** P.O. BOX 1786 -HOBBS, NEW MEXICO

W.O. Number: 23225 Drawn By: J. SMALL

Date: 09-13-2010 Disk: JMS 23225

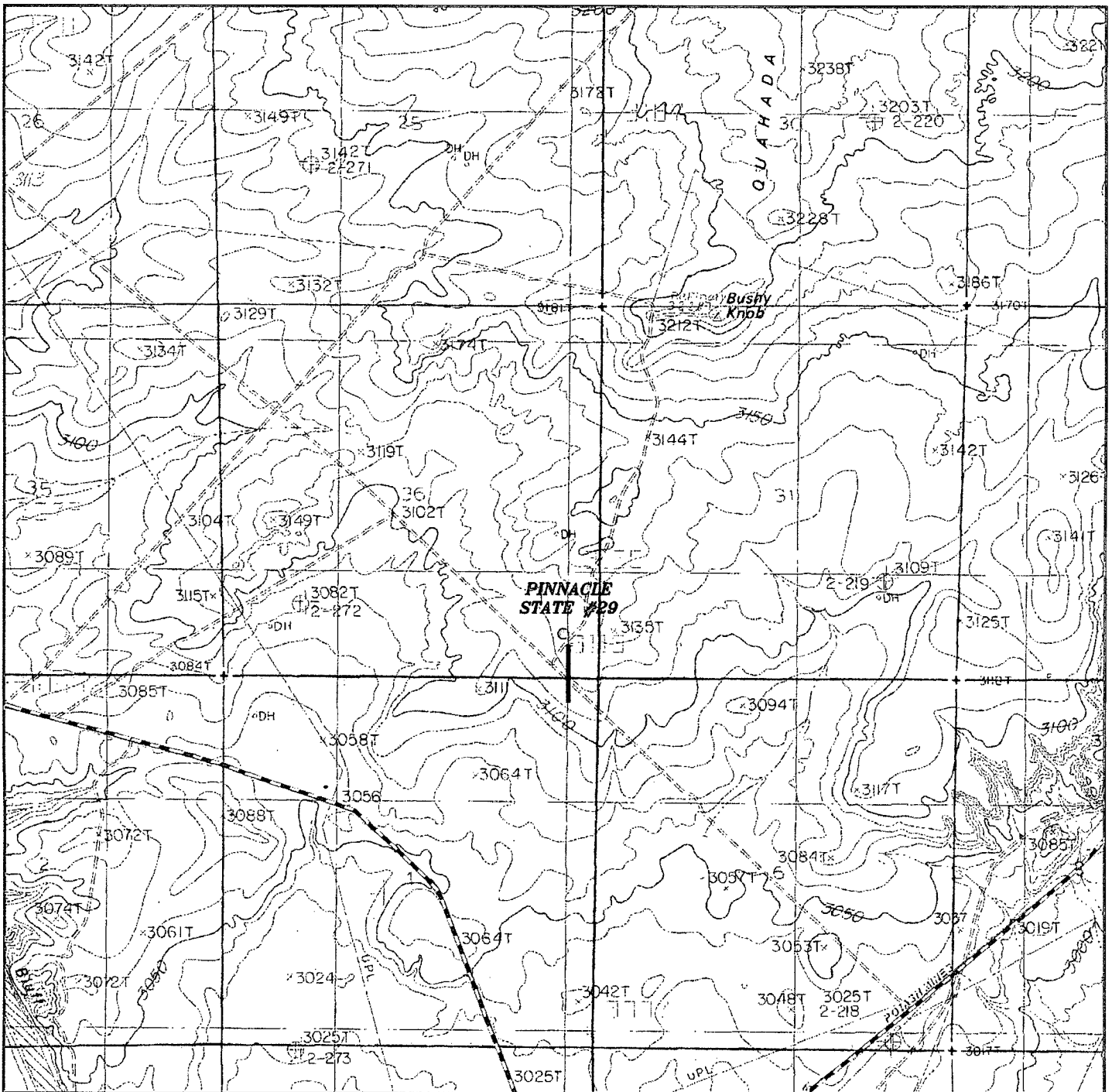
**RKI EXPLORATION & PRODUCTION LLC**

REF: PINNACLE STATE #29 / WELL PAD TOPO

THE PINNACLE STATE #29 LOCATED 560'  
FROM THE NORTH LINE AND 560' FROM THE EAST LINE OF  
SECTION 36, TOWNSHIP 22 SOUTH, RANGE 28 EAST,  
N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 08-28-2010 Sheet 1 of 1 Sheets

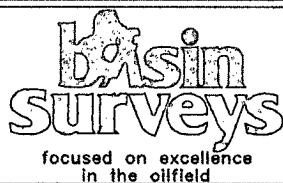




# **PINNACLE STATE #29**

Located 560' FSL and 560' FEL

Section 36, Township 22 South, Range 28 East,  
N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786  
1120 N. West County Rd.  
Hobbs, New Mexico 88241  
(575) 393-7316 - Office  
(575) 392-2206 - Fax  
basinsurveys.com

W.O. Number: JMS 23225

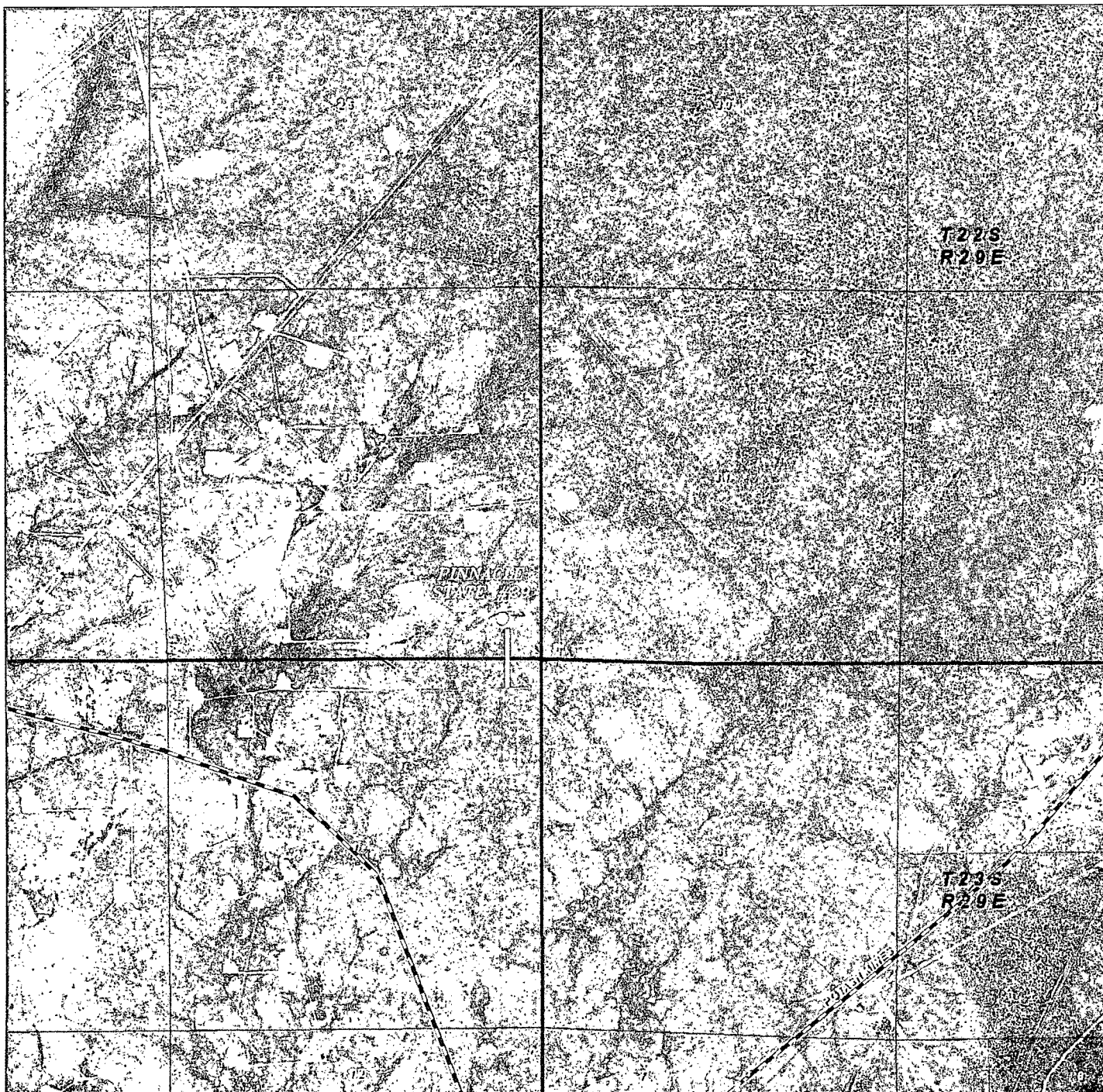
Survey Date: 08-28-2010

Scale: 1" = 2000'

Date: 09-13-2010

**RKI EXPLORATION  
& PRODUCTION  
LLC**

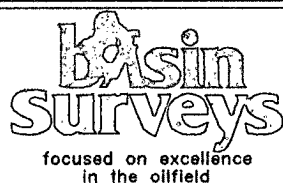




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Scale: 1" = 2000'

YELLOW TINT - USA LAND  
BLUE TINT - STATE LAND  
NATURAL COLOR - FEE LAND

**RKI EXPLORATION  
& PRODUCTION  
LLC**