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COUNTY

## Drilled Sidewall Core Analysis Report

**Company:** Edge Petroleum Operating Company, Inc.  
**File No.:** 05369  
**Well :** Red Lake 28 "N" State No. 2  
**Location:** 950' FSL & 1695' FWL, Sec 28, T17S, R28E

**Field:** Red Lake  
**Formation:**  
**County:** Eddy County, New Mexico

| Sample | Depth | Air          | Klinkenberg  | Porosity | Grain   | Sw | So | Gas   | Fluorescence | Sample Description |  |
|--------|-------|--------------|--------------|----------|---------|----|----|-------|--------------|--------------------|--|
| Number |       | Permeability | Permeability |          | Density |    |    | Units |              |                    |  |
|        | ft    | mD           | mD           | %        | g/cc    | %  | %  |       | %            | Description        |  |

### Confining Pressure 500psi

|    |         |        |        |       |      |      |      |      |     |                |
|----|---------|--------|--------|-------|------|------|------|------|-----|----------------|
| 1  | 2,143.0 | 0.3020 | 0.2337 | 10.32 | 2.80 | 20.8 | 19.2 | 500+ | 100 | Br t yl        |
| 2  | 2,422.0 | 0.1720 | 0.1274 | 4.50  | 2.73 | 38.9 | 11.0 | 470  | 40  | Yl-dl yl       |
| 3  | 2,494.0 | 0.0568 | 0.0358 | 4.20  | 2.78 | 67.7 | 7.2  | 259  | 20  | Yl-dl yl sp    |
| 4  | 2,555.0 | 0.9177 | 0.7806 | 9.60  | 2.78 | 24.2 | 20.4 | 500+ | 100 | DI-v dl yl     |
| 5  | 2,586.0 | 6.76   | 6.18   | 9.61  | 2.82 | 29.9 | 21.7 | 500+ | 100 | DI-v dl yl     |
| 6  | 2,611.0 | 1.97   | 1.71   | 12.68 | 2.82 | 85.7 | 0.0  | 10   | 0   | V dl gld mf    |
| 7  | 2,700.0 | 9.52   | 8.82   | 14.71 | 2.82 | 69.3 | tr   | 68   | 5   | DI yl lam      |
| 8  | 2,721.0 | 0.9471 | 0.7966 | 11.15 | 2.79 | 39.7 | 13.6 | 186  | 60  | Yl-dl yl sp    |
| 9  | 2,823.0 | 0.0622 | 0.0401 | 6.17  | 2.80 | 62.5 | 0.0  | 384  | tr  | DI yl sp       |
| 10 | 2,912.0 | 0.0907 | 0.0665 | 4.72  | 2.76 | 55.0 | tr   | 500+ | 5   | Yl sp          |
| 11 | 2,967.0 | 0.0804 | 0.0542 | 3.96  | 2.85 | 70.4 | 0.0  | 21   | 0   |                |
| 12 | 3,123.0 | 5.61   | 5.09   | 10.15 | 2.84 | 86.6 | 0.0  | 12   | tr  | V dl yl-grn sp |
| 13 | 3,154.0 | 0.9125 | 0.7483 | 11.52 | 2.77 | 83.8 | 0.0  | 11   | 0   |                |
| 14 | 3,190.0 | 25.4   | 24.1   | 11.90 | 2.83 | 53.4 | 4.0  | 240  | 10  | Yl sp          |
| 15 | 3,217.0 | 0.2337 | 0.179  | 7.88  | 2.83 | 84.0 | 0.0  | 20   | 0   | V dl gld mf    |
| 16 | 3,257.0 | 0.0334 | 0.0198 | 2.72  | 2.82 | 70.6 | 0.0  | 36   | tr  | Yl             |
| 17 | 3,309.0 | 0.2328 | 0.1774 | 8.83  | 2.83 | 74.9 | 0.0  | 13   | 0   |                |
| 18 | 3,388.0 | 0.1092 | 0.0764 | 8.36  | 2.71 | 67.8 | tr   | 170  | 5   | Yl lam         |
| 19 | 3,434.0 | 0.1977 | 0.1456 | 11.93 | 2.78 | 54.2 | 0.0  | 500+ | tr  | Yl-grn         |
| 20 | 3,453.0 | 0.0261 | 0.0142 | 9.13  | 2.81 | 38.9 | 18.5 | 500+ | 95  | Yl-grn         |

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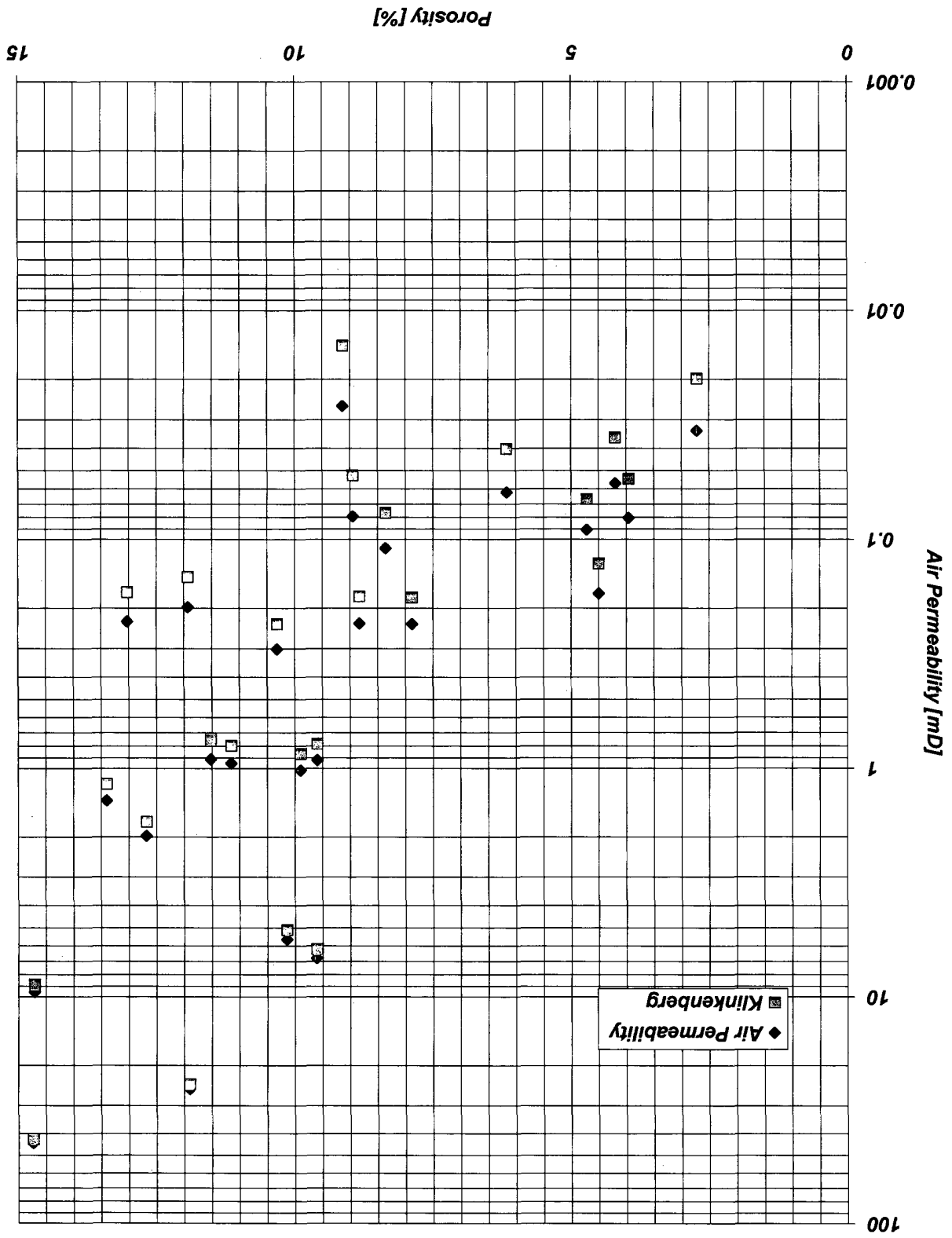
**Field:** Red Lake  
**Formation:**  
**County:** Eddy County, New Mexico

| Sample | Depth   | Air          | Klinkenberg  | Porosity | Grain   | Sw   | So   | Gas   | Fluorescence | Sample Description |  |
|--------|---------|--------------|--------------|----------|---------|------|------|-------|--------------|--------------------|--|
| Number |         | Permeability | Permeability |          | Density |      |      | Units |              |                    |  |
|        | ft      | mD           | mD           | %        | g/cc    | %    | %    |       | %            | Description        |  |
| 21     | 3,483.0 | 1.38         | 1.17         | 13.40    | 2.85    | 44.9 | 11.6 | 500+  | 35           | Yl-v dl yl sp      |  |
| 22     | 3,557.0 | 0.2283       | 0.1701       | 13.03    | 2.68    | 37.1 | 18.3 | 500+  | 100          | Yl-dl yl           |  |
| 23     | 3,589.0 | 0.0792       | 0.0524       | 8.95     | 2.80    | 39.5 | 17.8 | 500+  | 100          | DI yl              |  |
| 24     | 3,623.5 | 1.02         | 0.8630       | 9.90     | 2.84    | 41.7 | 18.7 | 333   | 100          | DI-v dl yl         |  |
| 25     | 3,653.0 | 44.1         | 42.4         | 14.74    | 2.84    | 48.3 | 17.5 | 500+  | 100          | DI yl              |  |

Note: 500+ gas reading represents a saturated detector filament

1% CH<sub>4</sub> in air = 100 gas units

Note: TBFA indicates samples that are too broken for analysis



Permeability versus Porosity @ 500psi Confining Pressure

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**Well :** Red Lake 28 "N" State No. 2  
**Location :** 950' FSL & 1695' FWL, Sec 28, T17S, R28E

**Field:** Red Lake  
**Formation:**  
**County :** Eddy County, New Mexico

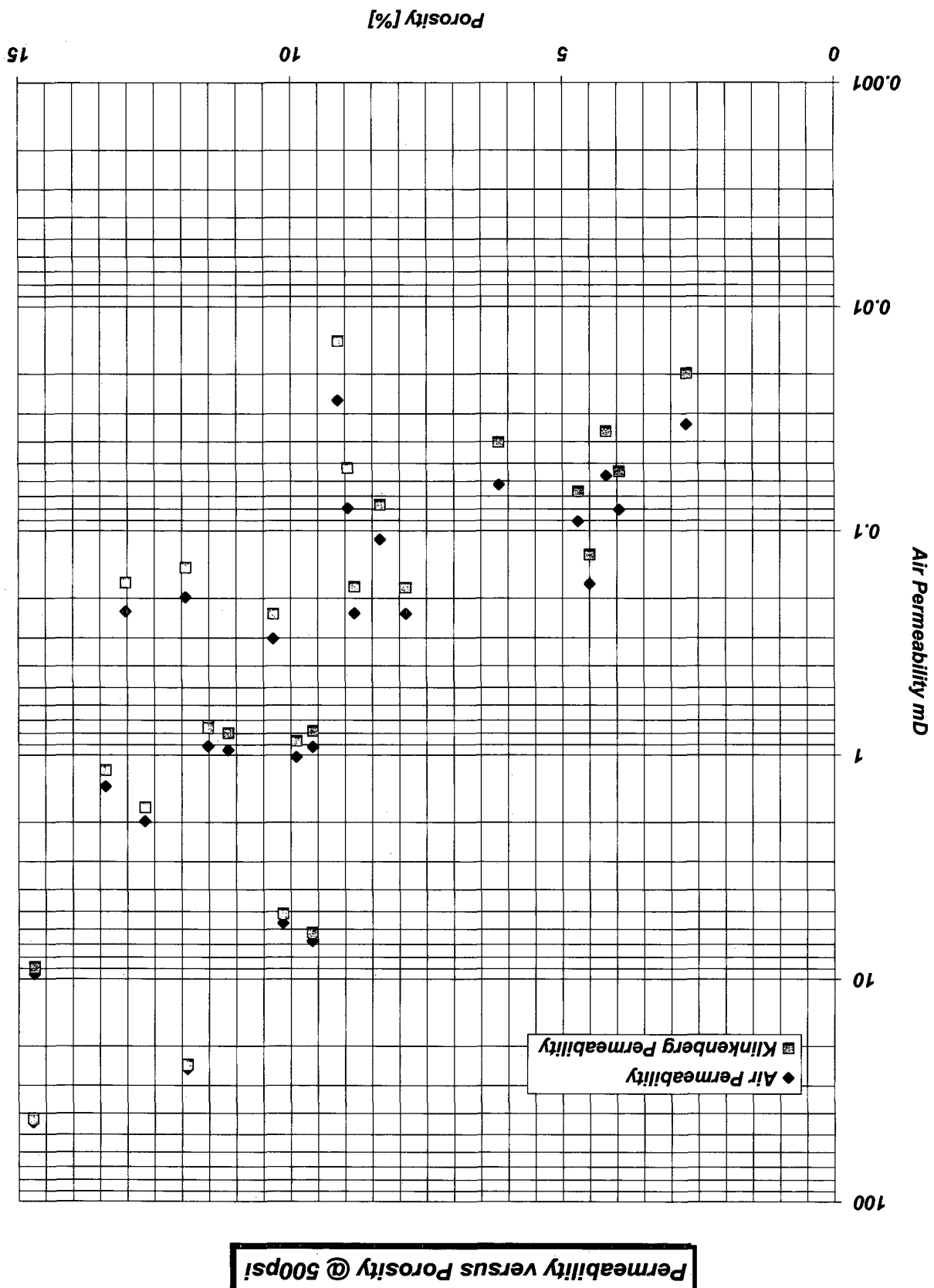
| Sample Number | Depth   | Grain Density | Porosity                         | Air Perm | Kk Perm | Porosity                         | Air Perm | Kk Perm | Porosity                           | Air Perm | Kk Perm |
|---------------|---------|---------------|----------------------------------|----------|---------|----------------------------------|----------|---------|------------------------------------|----------|---------|
|               | ft      | g/cc          | %                                | mD       | mD      | %                                | mD       | mD      | %                                  | mD       | mD      |
|               |         |               | <b>Confining Pressure 500psi</b> |          |         | <b>Confining Pressure 850psi</b> |          |         | <b>Confining Pressure 1,100psi</b> |          |         |
| 1             | 2,143.0 | 2.80          | 10.32                            | 0.3020   | 0.2337  | 9.21                             | 0.2019   | 0.1495  |                                    |          |         |
| 2             | 2,422.0 | 2.73          | 4.50                             | 0.1720   | 0.1274  | 4.10                             | 0.1333   | 0.0958  |                                    |          |         |
| 3             | 2,494.0 | 2.78          | 4.20                             | 0.0568   | 0.0358  | 3.73                             | 0.0292   | 0.0165  |                                    |          |         |
| 4             | 2,555.0 | 2.78          | 9.60                             | 0.9177   | 0.7806  | 9.21                             | 0.835    | 0.7076  |                                    |          |         |
| 5             | 2,586.0 | 2.82          | 9.61                             | 6.76     | 6.18    | 9.10                             | 6.52     | 5.95    |                                    |          |         |
| 6             | 2,611.0 | 2.82          | 12.68                            | 1.97     | 1.71    | 12.25                            | 1.83     | 1.59    |                                    |          |         |
| 7             | 2,700.0 | 2.82          | 14.71                            | 9.52     | 8.82    | 12.50                            | 9.14     | 8.46    |                                    |          |         |
| 8             | 2,721.0 | 2.79          | 11.15                            | 0.9471   | 0.7966  | 10.72                            | 0.9043   | 0.7597  |                                    |          |         |
| 9             | 2,823.0 | 2.80          | 6.17                             | 0.0622   | 0.0401  | 5.70                             | 0.0361   | 0.0209  |                                    |          |         |
| 10            | 2,912.0 | 2.76          | 4.72                             | 0.0907   | 0.0665  | 4.19                             | 0.0702   | 0.0458  |                                    |          |         |
| 11            | 2,967.0 | 2.85          | 3.96                             | 0.0804   | 0.0542  | 3.42                             | 0.0536   | 0.0337  |                                    |          |         |
| 12            | 3,123.0 | 2.84          | 10.15                            | 5.61     | 5.09    | 9.76                             | 5.49     | 4.98    |                                    |          |         |
| 13            | 3,154.0 | 2.77          | 11.52                            | 0.9125   | 0.7483  |                                  |          |         | 10.68                              | 0.7383   | 0.6012  |
| 14            | 3,190.0 | 2.83          | 11.90                            | 25.4     | 24.1    |                                  |          |         | 10.89                              | 30.4     | 29.0    |
| 15            | 3,217.0 | 2.83          | 7.88                             | 0.2337   | 0.1790  |                                  |          |         | 7.51                               | 0.1722   | 0.1273  |
| 16            | 3,257.0 | 2.82          | 2.72                             | 0.0334   | 0.0198  |                                  |          |         | 1.60                               | 0.0094   | 0.0043  |
| 17            | 3,309.0 | 2.83          | 8.83                             | 0.2328   | 0.1774  |                                  |          |         | 8.33                               | 0.1715   | 0.1256  |
| 18            | 3,388.0 | 2.71          | 8.36                             | 0.1092   | 0.0764  |                                  |          |         | 8.01                               | 0.0340   | 0.0195  |
| 19            | 3,434.0 | 2.78          | 11.93                            | 0.1977   | 0.1456  |                                  |          |         | 11.44                              | 0.1605   | 0.1164  |
| 20            | 3,453.0 | 2.81          | 9.13                             | 0.0261   | 0.0142  |                                  |          |         | 8.73                               | 0.0163   | 0.0078  |

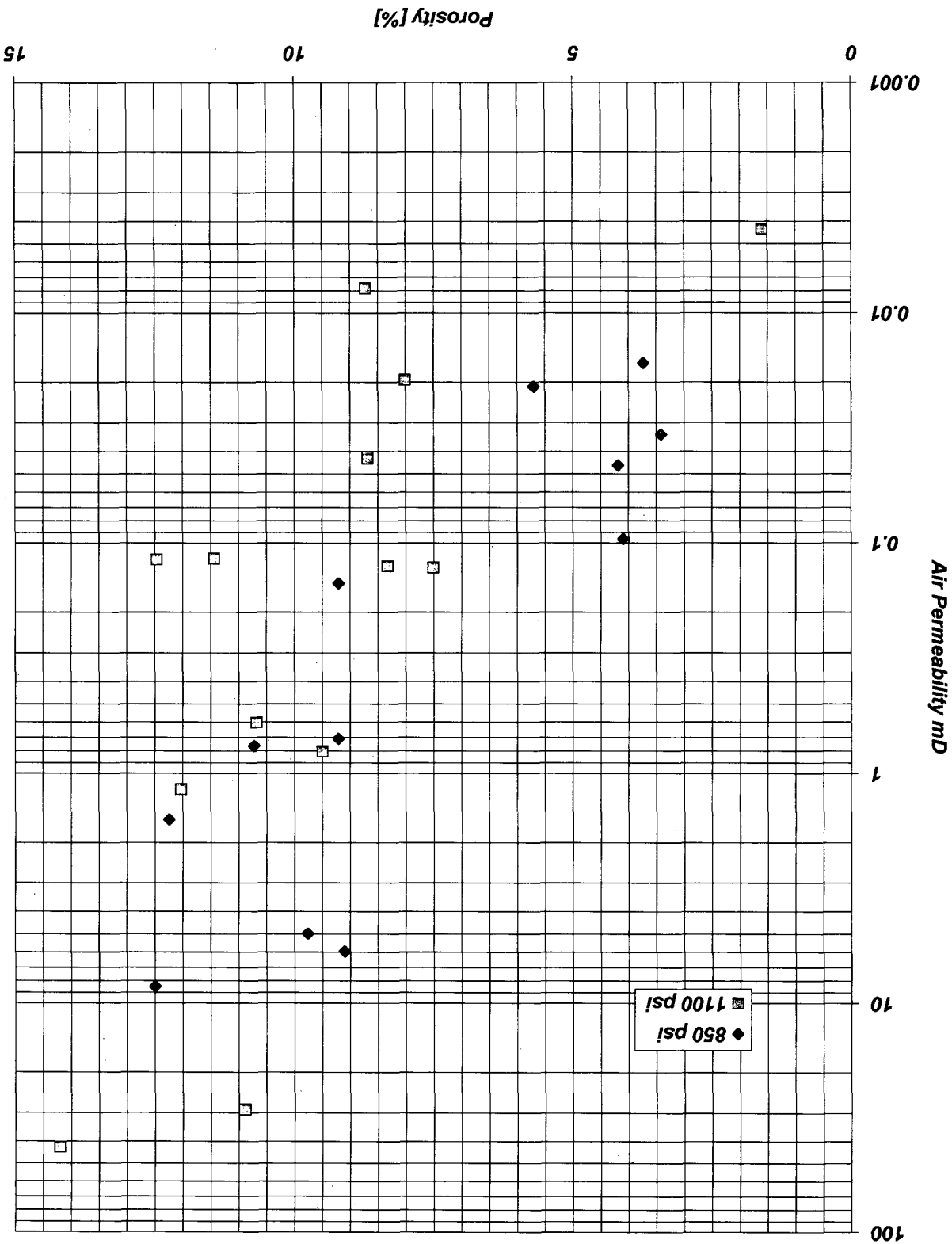
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**Field:** Red Lake  
**Formation:**  
**County :** Eddy County, New Mexico

| Sample | Depth   | Grain   | Porosity                         | Air    | Kk     | Porosity                         | Air  | Kk   | Porosity                           | Air    | Kk     |
|--------|---------|---------|----------------------------------|--------|--------|----------------------------------|------|------|------------------------------------|--------|--------|
| Number |         | Density |                                  | Perm   | Perm   |                                  | Perm | Perm |                                    | Perm   | Perm   |
|        | ft      | g/cc    | %                                | mD     | mD     | %                                | mD   | mD   | %                                  | mD     | mD     |
|        |         |         | <b>Confining Pressure 500psi</b> |        |        | <b>Confining Pressure 850psi</b> |      |      | <b>Confining Pressure 1,100psi</b> |        |        |
| 21     | 3,483.0 | 2.85    | 13.40                            | 1.38   | 1.17   |                                  |      |      | 12.03                              | 1.39   | 1.17   |
| 22     | 3,557.0 | 2.68    | 13.03                            | 0.2283 | 0.1701 |                                  |      |      | 12.47                              | 0.1646 | 0.1176 |
| 23     | 3,589.0 | 2.80    | 8.95                             | 0.0792 | 0.0524 |                                  |      |      | 8.69                               | 0.0664 | 0.0427 |
| 24     | 3,623.5 | 2.84    | 9.90                             | 1.02   | 0.8630 |                                  |      |      | 9.50                               | 0.9478 | 0.8016 |
| 25     | 3,653.0 | 2.84    | 14.74                            | 44.1   | 42.4   |                                  |      |      | 14.21                              | 43.8   | 42.2   |





Permeability versus Porosity @ Confining Pressure