

**MFRAC-II****A THREE-DIMENSIONAL HYDRAULIC FRACTURING SIMULATOR**

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2858 Old Freeport Rd., Natrona Heights, PA. (U.S.A.) 15065

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COMPANY : LDNGC  
 WELL: HAPPY VALLEY 29-44  
 LOCATION: SEC 29-22S-26E  
 DATE: 5/28/96

Fracture Geometry

Three-Dimensional

**PAY ZONE DATA**

| Zone<br>(-)       | Depth From<br>(ft) | Depth To<br>(ft) | Perm.<br>(md) |
|-------------------|--------------------|------------------|---------------|
| CHERRY CANYON IDE | 2490               | 2535             | 0.293         |

**PERFORATION DATA**

| Zone<br>(-)       | Depth From<br>(ft) | Depth to<br>(ft) | No. of Perfs<br>(-) | Perf Diameter<br>(in) |
|-------------------|--------------------|------------------|---------------------|-----------------------|
| CHERRY CANYON IDE | 2500               | 2520             | 41                  | 0.38                  |

**ROCK PROPERTIES**

| Zone<br>(-) | Depth<br>(ft) | Stress<br>(psi) | Young's<br>Modulus<br>(psi) | Poisson's<br>Ratio<br>(-) | Fracture<br>Toughness<br>(psi-in <sup>1/2</sup> ) | Stress<br>Gradient<br>(-) |
|-------------|---------------|-----------------|-----------------------------|---------------------------|---------------------------------------------------|---------------------------|
| BOUNDRY     | 2384          | 2937            | 3.24e+06                    | 0.406                     | 1000                                              | ON                        |
| BOUNDRY     | 2406          | 2921            | 3.23e+06                    | 0.401                     | 1000                                              | ON                        |
| BOUNDRY     | 2442          | 3045            | 3e+06                       | 0.411                     | 1000                                              | ON                        |
| BOUNDRY     | 2464          | 3013            | 3.39e+06                    | 0.403                     | 1000                                              | ON                        |
| BOUNDRY     | 2480          | 2564            | 1.8e+06                     | 0.352                     | 1000                                              | ON                        |
| IDE         | 2490          | 2447            | 2.09e+06                    | 0.33                      | 750                                               | ON                        |