

A B y r o d a t a D i r e c t i o n a l S u r v e y

ARTES PETROLEUM

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WELL: #1, 4 1 1/2 INCH DRILLPIPE

Location: NORTON RIG #16, EDDY COUNTY NEW MEXICO, CONCHO ACT

Job Number: M0699GMW795

| MEASURED DEPTH feet | I N C L deg. | AZIMUTH deg. | VERTICAL DEPTH feet | H O R I Z O N T A L C O O R D I N A T E S feet | | DOGLEG SEVERITY deg. / 100 ft. |
|---------------------------|-----------------|-----------------|---------------------------|--|---------|---|
| 3800.0 | 1.18 | 193.41 | 3799.4 | 42.02 S | 20.69 W | 1.99 |
| 3900.0 | 1.28 | 307.29 | 3899.4 | 42.35 S | 21.82 W | 2.06 |
| 4000.0 | 1.09 | 282.74 | 3999.4 | 41.47 S | 23.63 W | .53 |
| 4100.0 | 1.06 | 206.43 | 4099.4 | 42.09 S | 24.97 W | 1.33 |
| 4200.0 | 1.08 | 188.46 | 4199.4 | 43.86 S | 25.52 W | .34 |
| 4300.0 | 1.08 | 302.13 | 4299.4 | 44.29 S | 26.46 W | 1.81 |
| 4400.0 | 1.01 | 234.32 | 4399.3 | 44.30 S | 27.98 W | 1.17 |
| 4500.0 | .98 | 220.01 | 4499.3 | 45.47 S | 29.24 W | .25 |
| 4600.0 | .93 | 296.92 | 4599.3 | 45.76 S | 30.51 W | 1.19 |
| 4700.0 | .85 | 205.34 | 4699.3 | 46.06 S | 31.55 W | 1.27 |
| 4800.0 | .88 | 176.16 | 4799.3 | 47.50 S | 31.82 W | .44 |
| 4900.0 | .87 | 227.80 | 4899.3 | 48.78 S | 32.33 W | .76 |
| 5000.0 | .87 | 171.15 | 4999.3 | 50.04 S | 32.77 W | .83 |
| 5100.0 | .82 | 236.30 | 5099.3 | 51.19 S | 33.25 W | .91 |
| 5200.0 | .68 | 268.46 | 5199.3 | 51.61 S | 34.44 W | .44 |
| 5300.0 | .64 | 175.24 | 5299.3 | 52.18 S | 34.99 W | .96 |
| 5400.0 | .65 | 259.84 | 5399.3 | 52.83 S | 35.51 W | .87 |
| 5500.0 | .64 | 139.23 | 5499.2 | 53.35 S | 35.70 W | 1.12 |
| 5600.0 | .60 | 158.40 | 5599.2 | 54.26 S | 35.15 W | .21 |
| 5700.0 | .54 | 170.85 | 5699.2 | 55.21 S | 34.88 W | .14 |
| 5800.0 | .46 | 196.85 | 5799.2 | 56.06 S | 34.92 W | .24 |
| 5900.0 | .51 | 206.00 | 5899.2 | 56.84 S | 35.23 W | .09 |
| 6000.0 | .50 | 135.09 | 5999.2 | 57.55 S | 35.12 W | .58 |
| 6100.0 | .45 | 165.93 | 6099.2 | 58.23 S | 34.72 W | .26 |
| 6200.0 | .35 | 172.04 | 6199.2 | 58.91 S | 34.58 W | .11 |
| 6300.0 | .34 | 203.18 | 6299.2 | 59.49 S | 34.65 W | .19 |
| 6400.0 | .53 | 240.71 | 6399.2 | 59.99 S | 35.18 W | .33 |
| 6500.0 | .57 | 304.68 | 6499.2 | 59.93 S | 35.99 W | .59 |
| 6600.0 | .71 | 248.86 | 6599.2 | 59.87 S | 36.98 W | .61 |
| 6700.0 | .65 | 219.00 | 6699.2 | 60.53 S | 37.91 W | .35 |
| 6800.0 | .61 | 247.43 | 6799.2 | 61.18 S | 38.75 W | .31 |
| 6900.0 | .71 | 212.58 | 6899.2 | 61.90 S | 39.58 W | .41 |
| 7000.0 | .76 | 220.12 | 6999.2 | 62.93 S | 40.34 W | .11 |
| 7100.0 | .72 | 194.52 | 7099.2 | 64.05 S | 40.93 W | .33 |
| 7200.0 | .82 | 208.51 | 7199.2 | 65.29 S | 41.43 W | .21 |
| 7300.0 | .98 | 226.15 | 7299.2 | 66.51 S | 42.39 W | .32 |
| 7400.0 | 1.15 | 339.64 | 7399.1 | 66.17 S | 43.35 W | 1.78 |
| 7500.0 | .68 | 301.66 | 7499.1 | 64.91 S | 44.21 W | .74 |
| 7600.0 | .28 | 36.69 | 7599.1 | 64.41 S | 44.57 W | .76 |
| 7700.0 | .37 | 70.08 | 7699.1 | 64.10 S | 44.13 W | .21 |
| 7800.0 | .41 | 17.36 | 7799.1 | 63.66 S | 43.72 W | .35 |
| 7900.0 | .31 | 75.23 | 7899.1 | 63.25 S | 43.35 W | .36 |