

K. P. Kauffman Company, Inc.
Front Range #11-17-23
NESW section 17-T4N-R66W
Weld Co., Colorado
Directional plot

Well Plan

| Well Name | Vertical Section Azimuth | Units |
|-----------------------|--------------------------|------------|
| Front Range #11-17-23 | 69.86 | ft,°/100ft |

www.makinhole.com

| MD* | INC* | AZI* | TVD* | N* | E* | DLS* | Vert. Sec.* | Description | Reference Note |
|---------|-------|------|---------|--------|--------|------|-------------|------------------------|----------------|
| 0.00 | 0.00 | 0.0 | 0.00 | 0.00 | 0.00 | | 0.00 | tie point RKB | |
| 100.00 | 0.00 | 0.0 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | vertical | |
| 200.00 | 0.00 | 0.0 | 200.00 | 0.00 | 0.00 | 0.00 | 0.00 | vertical | |
| 300.00 | 0.00 | 0.0 | 300.00 | 0.00 | 0.00 | 0.00 | 0.00 | vertical | |
| 400.00 | 0.00 | 0.0 | 400.00 | 0.00 | 0.00 | 0.00 | 0.00 | vertical | |
| 500.00 | 0.00 | 0.0 | 500.00 | 0.00 | 0.00 | 0.00 | 0.00 | vertical | |
| 600.00 | 0.00 | 0.0 | 600.00 | 0.00 | 0.00 | 0.00 | 0.00 | vertical | |
| 700.00 | 0.00 | 0.0 | 700.00 | 0.00 | 0.00 | 0.00 | 0.00 | vertical | |
| 800.00 | 0.00 | 0.0 | 800.00 | 0.00 | 0.00 | 0.00 | 0.00 | vertical | |
| 900.00 | 0.00 | 0.0 | 900.00 | 0.00 | 0.00 | 0.00 | 0.00 | vertical | |
| 1000.00 | 0.00 | 0.0 | 1000.00 | 0.00 | 0.00 | 0.00 | 0.00 | vertical | |
| 1100.00 | 0.00 | 0.0 | 1100.00 | 0.00 | 0.00 | 0.00 | 0.00 | vertical | |
| 1200.00 | 0.00 | 0.0 | 1200.00 | 0.00 | 0.00 | 0.00 | 0.00 | vertical | |
| 1300.00 | 0.00 | 0.0 | 1300.00 | 0.00 | 0.00 | 0.00 | 0.00 | vertical | |
| 1400.00 | 0.00 | 0.0 | 1400.00 | 0.00 | 0.00 | 0.00 | 0.00 | vertical | |
| 1500.00 | 0.00 | 0.0 | 1500.00 | 0.00 | 0.00 | 0.00 | 0.00 | vertical | |
| 1550.00 | 0.00 | 0.0 | 1550.00 | 0.00 | 0.00 | 0.00 | 0.00 | End vertical KOP | |
| 1600.00 | 2.88 | 69.9 | 1599.98 | 0.43 | 1.18 | 5.75 | 1.25 | build | |
| 1700.00 | 8.63 | 69.9 | 1699.43 | 3.88 | 10.58 | 5.75 | 11.27 | build | |
| 1800.00 | 14.38 | 69.9 | 1797.39 | 10.74 | 29.29 | 5.75 | 31.20 | build | |
| 1900.00 | 20.13 | 69.9 | 1892.85 | 20.94 | 57.12 | 5.75 | 60.84 | build | |
| 1963.04 | 23.75 | 69.9 | 1951.32 | 29.05 | 79.23 | 5.75 | 84.39 | End build TOP OF BUILD | |
| 2000.00 | 23.30 | 69.9 | 1985.20 | 34.13 | 93.08 | 1.23 | 99.14 | drop | |
| 2100.00 | 22.07 | 69.9 | 2077.46 | 47.40 | 129.29 | 1.23 | 137.70 | drop | |
| 2200.00 | 20.85 | 69.9 | 2170.53 | 60.00 | 163.63 | 1.23 | 174.28 | drop | |
| 2300.00 | 19.62 | 69.9 | 2264.36 | 71.90 | 196.10 | 1.23 | 208.87 | drop | |
| 2400.00 | 18.39 | 69.9 | 2358.91 | 83.11 | 226.68 | 1.23 | 241.43 | drop | |
| 2500.00 | 17.17 | 69.9 | 2454.13 | 93.63 | 255.35 | 1.23 | 271.97 | drop | |
| 2600.00 | 15.94 | 69.9 | 2549.98 | 103.44 | 282.10 | 1.23 | 300.46 | drop | |

| MD* | INC* | AZI* | TVD* | N* | E* | DLS* | Vert. Sec.* | Description | Reference Note |
|---------|-------|-------|---------|--------|--------|------|-------------|-----------------|----------------|
| 2700.00 | 14.72 | 69.9 | 2646.42 | 112.54 | 306.92 | 1.23 | 326.90 | drop | |
| 2800.00 | 13.49 | 69.9 | 2743.40 | 120.93 | 329.80 | 1.23 | 351.27 | drop | |
| 2900.00 | 12.26 | 69.9 | 2840.89 | 128.60 | 350.72 | 1.23 | 373.55 | drop | |
| 3000.00 | 11.04 | 69.9 | 2938.82 | 135.55 | 369.68 | 1.23 | 393.75 | drop | |
| 3100.00 | 9.81 | 69.9 | 3037.17 | 141.78 | 386.67 | 1.23 | 411.85 | drop | |
| 3200.00 | 8.59 | 69.9 | 3135.88 | 147.28 | 401.68 | 1.23 | 427.84 | drop | |
| 3300.00 | 7.36 | 69.9 | 3234.91 | 152.06 | 414.71 | 1.23 | 441.71 | drop | |
| 3400.00 | 6.14 | 69.9 | 3334.22 | 156.11 | 425.74 | 1.23 | 453.46 | drop | |
| 3500.00 | 4.91 | 69.9 | 3433.75 | 159.42 | 434.78 | 1.23 | 463.08 | drop | |
| 3600.00 | 3.68 | 69.9 | 3533.47 | 162.00 | 441.81 | 1.23 | 470.58 | drop | |
| 3700.00 | 2.46 | 69.9 | 3633.32 | 163.84 | 446.84 | 1.23 | 475.94 | drop | |
| 3800.00 | 1.23 | 69.9 | 3733.27 | 164.95 | 449.87 | 1.23 | 479.16 | drop | |
| 3806.73 | 1.15 | 69.9 | 3740.00 | 165.00 | 450.00 | 1.23 | 479.30 | End drop | TOP OF DROP |
| 3900.00 | 0.76 | 69.9 | 3833.26 | 165.54 | 451.46 | 0.41 | 480.85 | drop/invert | |
| 4000.00 | 0.35 | 69.9 | 3933.25 | 165.87 | 452.37 | 0.41 | 481.83 | drop/invert | |
| 4100.00 | 0.07 | 249.9 | 4033.25 | 165.96 | 452.61 | 0.41 | 482.07 | drop/invert | |
| 4200.00 | 0.48 | 249.9 | 4133.25 | 165.79 | 452.16 | 0.41 | 481.60 | drop/invert | |
| 4300.00 | 0.89 | 249.9 | 4233.24 | 165.38 | 451.03 | 0.41 | 480.40 | drop/invert | |
| 4361.77 | 1.15 | 249.9 | 4295.00 | 165.00 | 450.00 | 0.41 | 479.30 | End drop/invert | TOP OF SUSSEX |
| 4400.00 | 0.92 | 249.9 | 4333.22 | 164.76 | 449.35 | 0.59 | 478.60 | drop/invert | |
| 4500.00 | 0.33 | 249.9 | 4433.22 | 164.38 | 448.32 | 0.59 | 477.50 | drop/invert | |
| 4600.00 | 0.25 | 69.9 | 4533.22 | 164.36 | 448.25 | 0.59 | 477.44 | drop/invert | |
| 4700.00 | 0.84 | 69.9 | 4633.21 | 164.69 | 449.15 | 0.59 | 478.39 | drop/invert | |
| 4751.80 | 1.15 | 69.9 | 4685.00 | 165.00 | 450.00 | 0.59 | 479.30 | End drop/invert | TOP OF SHANNON |
| 4800.00 | 1.10 | 69.9 | 4733.20 | 165.33 | 450.89 | 0.11 | 480.24 | drop/invert | |
| 4900.00 | 0.99 | 69.9 | 4833.18 | 165.95 | 452.60 | 0.11 | 482.07 | drop/invert | |
| 5000.00 | 0.89 | 69.9 | 4933.17 | 166.52 | 454.14 | 0.11 | 483.71 | drop/invert | |
| 5100.00 | 0.78 | 69.9 | 5033.15 | 167.02 | 455.51 | 0.11 | 485.17 | drop/invert | |
| 5200.00 | 0.68 | 69.9 | 5133.15 | 167.46 | 456.71 | 0.11 | 486.44 | drop/invert | |
| 5300.00 | 0.57 | 69.9 | 5233.14 | 167.83 | 457.73 | 0.11 | 487.53 | drop/invert | |
| 5400.00 | 0.46 | 69.9 | 5333.14 | 168.14 | 458.58 | 0.11 | 488.43 | drop/invert | |

| MD* | INC* | AZI* | TVD* | N* | E* | DLS* | Vert. Sec.* | Description | Reference Note |
|---------|------|-------|---------|--------|--------|------|-------------|------------------|-----------------|
| 5500.00 | 0.36 | 69.9 | 5433.13 | 168.39 | 459.25 | 0.11 | 489.15 | drop/invert | |
| 5600.00 | 0.25 | 69.9 | 5533.13 | 168.58 | 459.75 | 0.11 | 489.68 | drop/invert | |
| 5700.00 | 0.15 | 69.9 | 5633.13 | 168.70 | 460.08 | 0.11 | 490.03 | drop/invert | |
| 5800.00 | 0.04 | 69.9 | 5733.13 | 168.75 | 460.24 | 0.11 | 490.20 | drop/invert | |
| 5900.00 | 0.06 | 249.9 | 5833.13 | 168.75 | 460.22 | 0.11 | 490.18 | drop/invert | |
| 6000.00 | 0.17 | 249.9 | 5933.13 | 168.68 | 460.03 | 0.11 | 489.97 | drop/invert | |
| 6100.00 | 0.28 | 249.9 | 6033.13 | 168.54 | 459.66 | 0.11 | 489.59 | drop/invert | |
| 6200.00 | 0.38 | 249.9 | 6133.13 | 168.34 | 459.12 | 0.11 | 489.01 | drop/invert | |
| 6300.00 | 0.49 | 249.9 | 6233.13 | 168.08 | 458.41 | 0.11 | 488.25 | drop/invert | |
| 6400.00 | 0.59 | 249.9 | 6333.12 | 167.76 | 457.53 | 0.11 | 487.31 | drop/invert | |
| 6500.00 | 0.70 | 249.9 | 6433.12 | 167.37 | 456.47 | 0.11 | 486.18 | drop/invert | |
| 6600.00 | 0.80 | 249.9 | 6533.11 | 166.92 | 455.24 | 0.11 | 484.87 | drop/invert | |
| 6700.00 | 0.91 | 249.9 | 6633.10 | 166.40 | 453.83 | 0.11 | 483.38 | drop/invert | |
| 6800.00 | 1.02 | 249.9 | 6733.08 | 165.83 | 452.25 | 0.11 | 481.70 | drop/invert | |
| 6900.00 | 1.12 | 249.9 | 6833.06 | 165.18 | 450.50 | 0.11 | 479.83 | drop/invert | |
| 6926.94 | 1.15 | 249.9 | 6860.00 | 165.00 | 450.00 | 0.11 | 479.30 | End drop/invert | TOP OF NIOBRARA |
| 7000.00 | 0.65 | 249.9 | 6933.05 | 164.61 | 448.92 | 0.69 | 478.15 | build/invert | |
| 7100.00 | 0.04 | 69.9 | 7033.05 | 164.42 | 448.42 | 0.69 | 477.62 | build/invert | |
| 7200.00 | 0.72 | 69.9 | 7133.04 | 164.65 | 449.05 | 0.69 | 478.28 | build/invert | |
| 7261.96 | 1.15 | 69.9 | 7195.00 | 165.00 | 450.00 | 0.69 | 479.30 | End build/invert | TOP OF CODELL |
| 7300.00 | 0.98 | 69.9 | 7233.03 | 165.24 | 450.66 | 0.46 | 480.00 | build/invert | |
| 7400.00 | 0.52 | 69.9 | 7333.02 | 165.69 | 451.89 | 0.46 | 481.31 | build/invert | |
| 7500.00 | 0.07 | 69.9 | 7433.02 | 165.87 | 452.37 | 0.46 | 481.82 | build/invert | TD |

DIRECTIONAL PLAN

WELL LOCATION CERTIFICATE

THIS MAP IS A GIS EXHIBIT AND DOES NOT REPRESENT A BOUNDARY SURVEY.

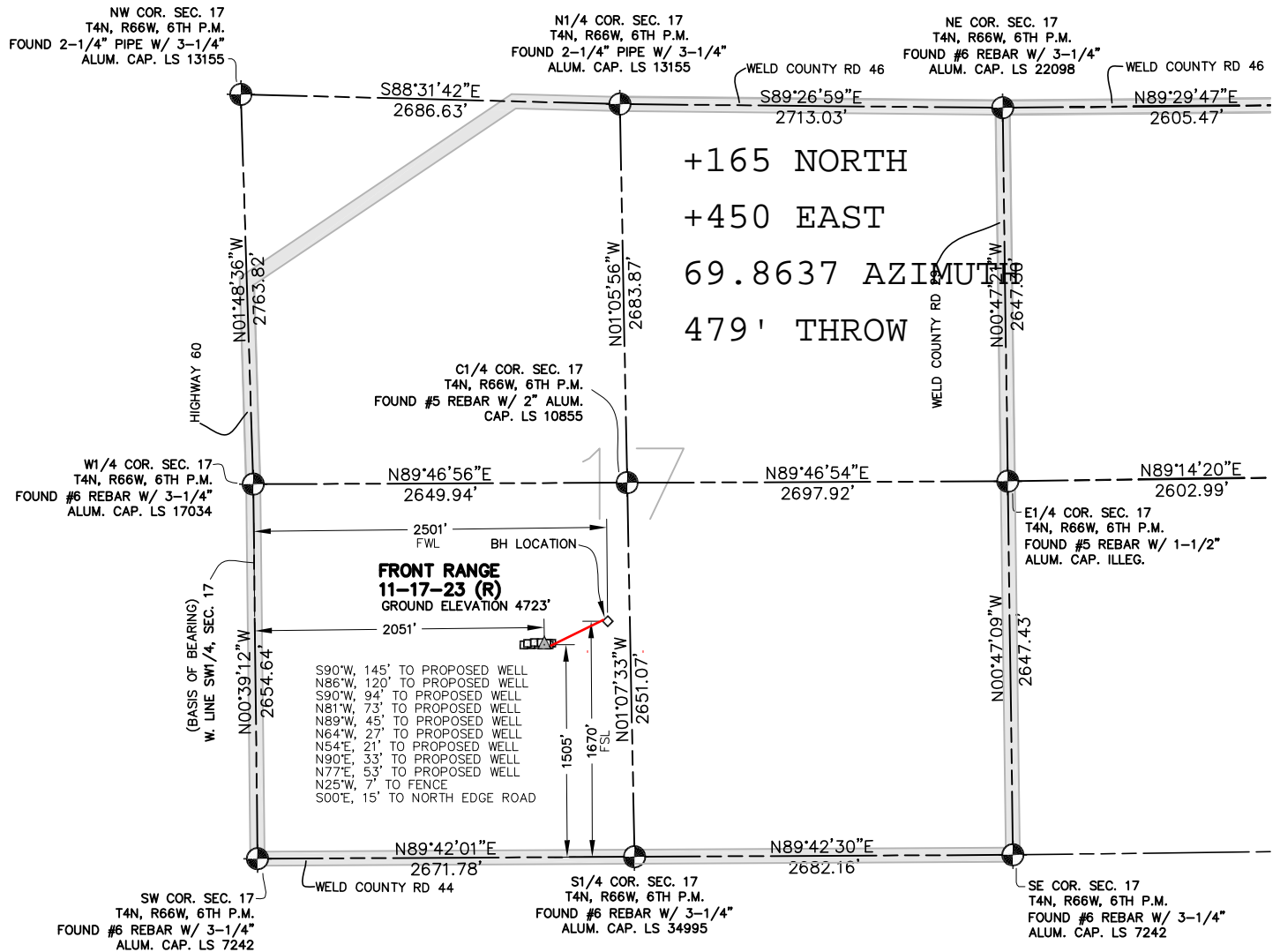


EXHIBIT MAP



WELL LOCATION CERTIFICATE

IN ACCORDANCE WITH A REQUEST FROM SHERRY GLASS OF KP KAUFFMAN INC., CIVIL ARTS-DREXEL GROUP, INC. HAS DETERMINED THE LOCATION OF FRONT RANGE 11-17-23 WELL SITE TO BE 2051' FWL AND 1505' FSL AS MEASURED AT NINETY (90) DEGREES FROM THE SECTION LINES OF SECTION 17, T4N, R66W, OF THE 6TH P.M., WELD COUNTY, CO.

LEGEND

- = FOUND SURVEY MONUMENT
- = ROAD
- (C) = CALCULATED DIMENSION
- ▲ = PROPOSED WELL LOCATION
- ◇ = BOTTOM OF HOLE LOCATION
- = OTHER PROPOSED WELL LOCATION
- = EXISTING WELL LOCATION

NOTES

1. BEARINGS SHOWN ON THIS MAP ARE BASED UPON GPS OBSERVATIONS MADE ON 03/01/2010 BY KIPPER GOLDSBERRY BETWEEN THE SOUTHWEST CORNER AND THE W1/4 CORNER OF SECTION 17, T4N, R66W, OF THE 6TH P.M., HAVING A BEARING OF N00°39'12"W, AS MONUMENTED AND SHOWN HEREON.
2. ELEVATIONS ARE BASED UPON NAVD 88 DATUM.
3. THE LOCATION FALLS IN AN AGRICULTURAL FIELD.

PROPOSED SURFACE HOLE DATA

(NAD 83)
 LATITUDE: 40.30854 N
 LONGITUDE: 104.80372 W
 PDOP: <6

NOTICE

ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVERED SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

I HEREBY CERTIFY THAT THIS WELL LOCATION CERTIFICATE WAS PREPARED UNDER MY RESPONSIBLE CHARGE ON 05/12/2010 FOR AND ON BEHALF OF KP KAUFFMAN, INC. THAT IT IS NOT A LAND SURVEY PLAT OR AN IMPROVEMENT SURVEY PLAT, AND THAT IT IS NOT TO BE RELIED UPON FOR ESTABLISHMENT OF FENCE BUILDING OR OTHER FUTURE IMPROVEMENT LINES.

PETER D. STEGER
 COLORADO REGISTERED PROFESSIONAL
 LAND SURVEYOR NO. 25379

DATE: MAY 12, 2010



ENGINEERING
 PLANNING
 SURVEYING
 1860 Lefthand Circle, Suite A
 Longmont, CO 80501
 P 303.682.1131
 F 303.682.1149