

Koester #3-33-29  
NENW Sec 33-T4N-R67W  
Weld Co., Colorado  
Directional plot

# Well Plan

| Well Name        | Vertical Section Azimuth | Units      |
|------------------|--------------------------|------------|
| Koester #3-33-29 | 269.64                   | ft,°/100ft |

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| 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        | End vertical KOP |                |
| 1300.00 | 5.85  | 269.6 | 1299.83 | -0.03 | -5.10   | 5.85 | 5.10        | build            |                |
| 1400.00 | 11.70 | 269.6 | 1398.61 | -0.13 | -20.35  | 5.85 | 20.35       | build            |                |
| 1500.00 | 17.55 | 269.6 | 1495.33 | -0.29 | -45.59  | 5.85 | 45.59       | build            |                |
| 1600.00 | 23.40 | 269.6 | 1588.97 | -0.50 | -80.55  | 5.85 | 80.55       | build            |                |
| 1700.00 | 29.25 | 269.6 | 1678.56 | -0.78 | -124.88 | 5.85 | 124.88      | build            |                |
| 1800.00 | 35.10 | 269.6 | 1763.17 | -1.12 | -178.10 | 5.85 | 178.11      | build            |                |
| 1900.00 | 40.95 | 269.6 | 1841.91 | -1.50 | -239.68 | 5.85 | 239.68      | build            |                |
| 1932.48 | 42.85 | 269.6 | 1866.08 | -1.64 | -261.36 | 5.85 | 261.37      | End build BUILD  |                |
| 2000.00 | 41.65 | 269.6 | 1916.06 | -1.92 | -306.76 | 1.78 | 306.77      | drop             |                |
| 2100.00 | 39.87 | 269.6 | 1991.80 | -2.33 | -372.05 | 1.78 | 372.05      | drop             |                |
| 2200.00 | 38.09 | 269.6 | 2069.54 | -2.73 | -434.95 | 1.78 | 434.96      | drop             |                |
| 2300.00 | 36.31 | 269.6 | 2149.19 | -3.10 | -495.41 | 1.78 | 495.41      | drop             |                |
| 2400.00 | 34.53 | 269.6 | 2230.67 | -3.47 | -553.36 | 1.78 | 553.37      | drop             |                |
| 2500.00 | 32.75 | 269.6 | 2313.92 | -3.82 | -608.76 | 1.78 | 608.77      | drop             |                |
| 2600.00 | 30.97 | 269.6 | 2398.85 | -4.15 | -661.55 | 1.78 | 661.56      | drop             |                |
| 2700.00 | 29.20 | 269.6 | 2485.37 | -4.46 | -711.67 | 1.78 | 711.69      | drop             |                |

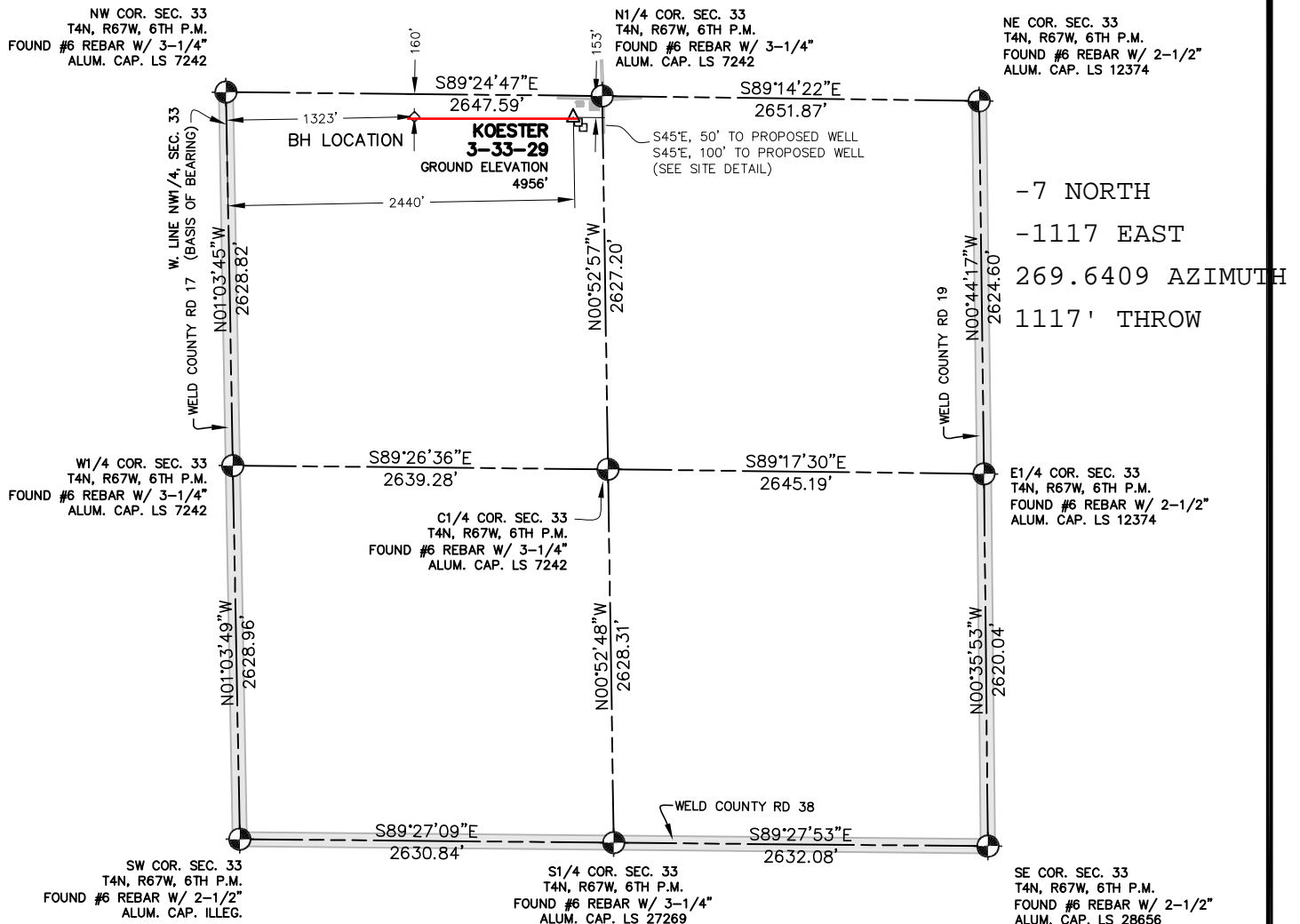
| MD*     | INC*  | AZI*  | TVD*    | N*    | E*       | DLS* | Vert. Sec.* | Description     | Reference Note |
|---------|-------|-------|---------|-------|----------|------|-------------|-----------------|----------------|
| 2800.00 | 27.42 | 269.6 | 2573.41 | -4.76 | -759.09  | 1.78 | 759.10      | drop            |                |
| 2900.00 | 25.64 | 269.6 | 2662.88 | -5.04 | -803.75  | 1.78 | 803.76      | drop            |                |
| 3000.00 | 23.86 | 269.6 | 2753.69 | -5.30 | -845.61  | 1.78 | 845.62      | drop            |                |
| 3100.00 | 22.08 | 269.6 | 2845.76 | -5.54 | -884.63  | 1.78 | 884.64      | drop            |                |
| 3200.00 | 20.30 | 269.6 | 2939.00 | -5.77 | -920.77  | 1.78 | 920.79      | drop            |                |
| 3300.00 | 18.52 | 269.6 | 3033.31 | -5.98 | -954.00  | 1.78 | 954.02      | drop            |                |
| 3400.00 | 16.74 | 269.6 | 3128.61 | -6.17 | -984.29  | 1.78 | 984.31      | drop            |                |
| 3500.00 | 14.96 | 269.6 | 3224.80 | -6.34 | -1011.60 | 1.78 | 1011.62     | drop            |                |
| 3600.00 | 13.18 | 269.6 | 3321.80 | -6.49 | -1035.92 | 1.78 | 1035.94     | drop            |                |
| 3700.00 | 11.40 | 269.6 | 3419.50 | -6.63 | -1057.21 | 1.78 | 1057.23     | drop            |                |
| 3800.00 | 9.63  | 269.6 | 3517.82 | -6.74 | -1075.46 | 1.78 | 1075.48     | drop            |                |
| 3900.00 | 7.85  | 269.6 | 3616.65 | -6.84 | -1090.64 | 1.78 | 1090.67     | drop            |                |
| 4000.00 | 6.07  | 269.6 | 3715.91 | -6.91 | -1102.76 | 1.78 | 1102.78     | drop            |                |
| 4100.00 | 4.29  | 269.6 | 3815.50 | -6.97 | -1111.78 | 1.78 | 1111.80     | drop            |                |
| 4184.66 | 2.78  | 269.6 | 3900.00 | -7.00 | -1117.00 | 1.78 | 1117.02     | End drop        | TOP OF DROP    |
| 4200.00 | 2.45  | 269.6 | 3915.32 | -7.00 | -1117.70 | 2.14 | 1117.72     | drop/invert     |                |
| 4300.00 | 0.31  | 269.6 | 4015.29 | -7.02 | -1120.12 | 2.14 | 1120.14     | drop/invert     |                |
| 4400.00 | 1.82  | 89.6  | 4115.27 | -7.01 | -1118.80 | 2.14 | 1118.82     | drop/invert     |                |
| 4444.77 | 2.78  | 89.6  | 4160.00 | -7.00 | -1117.00 | 2.14 | 1117.02     | End drop/invert | TOP OF SUSSEX  |
| 4500.00 | 2.20  | 89.6  | 4215.18 | -6.98 | -1114.60 | 1.06 | 1114.62     | drop/invert     |                |
| 4600.00 | 1.14  | 89.6  | 4315.14 | -6.97 | -1111.69 | 1.06 | 1111.71     | drop/invert     |                |
| 4700.00 | 0.08  | 89.6  | 4415.13 | -6.96 | -1110.63 | 1.06 | 1110.65     | drop/invert     |                |
| 4800.00 | 0.98  | 269.6 | 4515.13 | -6.97 | -1111.42 | 1.06 | 1111.44     | drop/invert     |                |
| 4900.00 | 2.04  | 269.6 | 4615.09 | -6.98 | -1114.06 | 1.06 | 1114.08     | drop/invert     |                |
| 4969.97 | 2.78  | 269.6 | 4685.00 | -7.00 | -1117.00 | 1.06 | 1117.02     | End drop/invert | TOP OF SHANNON |
| 5000.00 | 2.71  | 269.6 | 4714.99 | -7.01 | -1118.44 | 0.24 | 1118.46     | drop/invert     |                |
| 5100.00 | 2.47  | 269.6 | 4814.89 | -7.04 | -1122.95 | 0.24 | 1122.97     | drop/invert     |                |
| 5200.00 | 2.22  | 269.6 | 4914.81 | -7.06 | -1127.04 | 0.24 | 1127.06     | drop/invert     |                |
| 5300.00 | 1.98  | 269.6 | 5014.74 | -7.09 | -1130.71 | 0.24 | 1130.73     | drop/invert     |                |
| 5400.00 | 1.74  | 269.6 | 5114.69 | -7.11 | -1133.95 | 0.24 | 1133.97     | drop/invert     |                |
| 5500.00 | 1.49  | 269.6 | 5214.65 | -7.12 | -1136.76 | 0.24 | 1136.79     | drop/invert     |                |

| MD*     | INC* | AZI*  | TVD*    | N*    | E*       | DLS*  | Vert. Sec.* | Description                     | Reference Note |
|---------|------|-------|---------|-------|----------|-------|-------------|---------------------------------|----------------|
| 5600.00 | 1.25 | 269.6 | 5314.62 | -7.14 | -1139.16 | 0.24  | 1139.18     | drop/invert                     |                |
| 5700.00 | 1.01 | 269.6 | 5414.60 | -7.15 | -1141.12 | 0.24  | 1141.14     | drop/invert                     |                |
| 5800.00 | 0.76 | 269.6 | 5514.59 | -7.16 | -1142.66 | 0.24  | 1142.69     | drop/invert                     |                |
| 5900.00 | 0.52 | 269.6 | 5614.58 | -7.17 | -1143.78 | 0.24  | 1143.80     | drop/invert                     |                |
| 6000.00 | 0.27 | 269.6 | 5714.58 | -7.17 | -1144.47 | 0.24  | 1144.50     | drop/invert                     |                |
| 6100.00 | 0.03 | 269.6 | 5814.58 | -7.17 | -1144.74 | 0.24  | 1144.76     | drop/invert                     |                |
| 6200.00 | 0.21 | 89.6  | 5914.58 | -7.17 | -1144.58 | 0.24  | 1144.60     | drop/invert                     |                |
| 6300.00 | 0.46 | 89.6  | 6014.58 | -7.17 | -1144.00 | 0.24  | 1144.02     | drop/invert                     |                |
| 6400.00 | 0.70 | 89.6  | 6114.57 | -7.16 | -1142.99 | 0.24  | 1143.02     | drop/invert                     |                |
| 6500.00 | 0.94 | 89.6  | 6214.56 | -7.15 | -1141.56 | 0.24  | 1141.58     | drop/invert                     |                |
| 6600.00 | 1.19 | 89.6  | 6314.54 | -7.14 | -1139.70 | 0.24  | 1139.73     | drop/invert                     |                |
| 6700.00 | 1.43 | 89.6  | 6414.52 | -7.13 | -1137.42 | 0.24  | 1137.44     | drop/invert                     |                |
| 6800.00 | 1.67 | 89.6  | 6514.48 | -7.11 | -1134.72 | 0.24  | 1134.74     | drop/invert                     |                |
| 6900.00 | 1.92 | 89.6  | 6614.43 | -7.09 | -1131.59 | 0.24  | 1131.61     | drop/invert                     |                |
| 7000.00 | 2.16 | 89.6  | 6714.37 | -7.07 | -1128.03 | 0.24  | 1128.05     | drop/invert                     |                |
| 7100.00 | 2.40 | 89.6  | 6814.29 | -7.04 | -1124.05 | 0.24  | 1124.07     | drop/invert                     |                |
| 7200.00 | 2.65 | 89.6  | 6914.19 | -7.02 | -1119.65 | 0.24  | 1119.67     | drop/invert                     |                |
| 7255.87 | 2.78 | 89.6  | 6970.00 | -7.00 | -1117.00 | 0.24  | 1117.02     | End drop/invert TOP OF NIOBRARA |                |
| 7300.00 | 2.03 | 89.6  | 7014.09 | -6.99 | -1115.15 | 1.71  | 1115.17     | build/invert                    |                |
| 7400.00 | 0.32 | 89.6  | 7114.07 | -6.98 | -1113.10 | 1.71  | 1113.13     | build/invert                    |                |
| 7500.00 | 1.40 | 269.6 | 7214.06 | -6.98 | -1114.05 | 1.71  | 1114.07     | build/invert                    |                |
| 7581.00 | 2.78 | 269.6 | 7295.00 | -7.00 | -1117.00 | 1.71  | 1117.02     | End build/invert TOP OF FT HAYS |                |
| 7600.00 | 1.45 | 89.6  | 7314.00 | -7.00 | -1117.22 | 22.25 | 1117.24     | build/invert                    |                |
| 7606.01 | 2.78 | 89.6  | 7320.00 | -7.00 | -1117.00 | 22.25 | 1117.02     | End build/invert TOP OF CODELL  |                |
| 7700.00 | 1.59 | 89.6  | 7413.92 | -6.98 | -1113.41 | 1.26  | 1113.43     | drop/invert                     |                |
| 7800.00 | 0.33 | 89.6  | 7513.91 | -6.97 | -1111.73 | 1.26  | 1111.75     | drop/invert                     |                |
| 7900.00 | 0.93 | 269.6 | 7613.90 | -6.97 | -1112.26 | 1.26  | 1112.28     | drop/invert                     |                |
| 8000.00 | 2.20 | 269.6 | 7713.86 | -6.99 | -1114.99 | 1.26  | 1115.02     | drop/invert                     |                |
| 8046.18 | 2.78 | 269.6 | 7760.00 | -7.00 | -1117.00 | 1.26  | 1117.02     | End drop/invert TOP OF J SILT   |                |
| 8061.19 | 2.78 | 89.6  | 7775.00 | -7.00 | -1117.00 | 37.08 | 1117.02     | End drop/invert TOP OF J SAND   |                |
| 8221.25 | 2.78 | 269.6 | 7935.00 | -7.00 | -1117.00 | 3.48  | 1117.02     | End drop/invert TD              |                |

# DIRECTIONAL PLAN

## WELL LOCATION CERTIFICATE

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

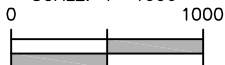


-7 NORTH  
-1117 EAST  
269.6409 AZIMUTH  
1117' THROW



### EXHIBIT MAP

SCALE: 1"=1000'



## 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 KOESTER 3-33-29 WELL SITE TO BE 2440' FWL AND 153' FNL AS MEASURED AT NINETY (90) DEGREES FROM THE SECTION LINES OF SECTION 33, T4N, R67W, 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 01/25/2007 BY KIPPER GOLDSBERRY BETWEEN THE WEST 1/4 CORNER AND THE NORTHWEST CORNER OF SECTION 33, T4N, R67W, OF THE 6TH P.M., HAVING A BEARING OF N01°03'45"W, AS MONUMENTED AND SHOWN HEREON.
2. ELEVATIONS ARE BASED UPON NAVD 88 DATUM.
3. THIS LOCATION FALLS OUTSIDE OF THE DRILLING WINDOW FOR THIS AREA.
4. SEE SITE DETAIL FOR SITE IMPROVEMENTS.

## PROPOSED SURFACE HOLE DATA

(NAD 83)  
LATITUDE: 40.27620 N  
LONGITUDE: 104.89634 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 09/05/2008 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.

ORIGINAL SIGNED 09/05/08

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

DATE: \_\_\_\_\_



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

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