

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

Well Plan

Well Name	Vertical Section Azimuth	Units
FRONT RANGE #11-17-11R	5.65	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	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	3.75	5.7	1599.96	1.63	0.16	7.50	1.64	build	
1700.00	11.25	5.7	1699.04	14.61	1.45	7.50	14.68	build	
1800.00	18.75	5.7	1795.56	40.35	3.99	7.50	40.54	build	
1880.47	24.79	5.7	1870.26	70.03	6.93	7.50	70.37	End build BUILD	
1900.00	24.53	5.7	1888.01	78.14	7.73	1.30	78.52	drop	
2000.00	23.23	5.7	1979.44	118.43	11.72	1.30	119.01	drop	
2100.00	21.94	5.7	2071.77	156.65	15.50	1.30	157.41	drop	
2200.00	20.64	5.7	2164.95	192.78	19.07	1.30	193.72	drop	
2300.00	19.34	5.7	2258.92	226.80	22.44	1.30	227.91	drop	
2400.00	18.05	5.7	2353.64	258.70	25.60	1.30	259.96	drop	
2500.00	16.75	5.7	2449.06	288.46	28.54	1.30	289.87	drop	
2600.00	15.45	5.7	2545.13	316.06	31.27	1.30	317.60	drop	

MD*	INC*	AZI*	TVD*	N*	E*	DLS*	Vert. Sec.*	Description	Reference Note
2700.00	14.16	5.7	2641.81	341.49	33.79	1.30	343.16	drop	
2800.00	12.86	5.7	2739.04	364.73	36.09	1.30	366.52	drop	
2900.00	11.56	5.7	2836.78	385.78	38.17	1.30	387.67	drop	
3000.00	10.27	5.7	2934.97	404.63	40.04	1.30	406.60	drop	
3100.00	8.97	5.7	3033.56	421.26	41.68	1.30	423.31	drop	
3200.00	7.67	5.7	3132.50	435.66	43.11	1.30	437.79	drop	
3300.00	6.38	5.7	3231.75	447.83	44.31	1.30	450.02	drop	
3400.00	5.08	5.7	3331.25	457.76	45.29	1.30	460.00	drop	
3500.00	3.78	5.7	3430.95	465.45	46.06	1.30	467.73	drop	
3600.00	2.49	5.7	3530.80	470.89	46.59	1.30	473.19	drop	
3700.00	1.19	5.7	3630.74	474.09	46.91	1.30	476.40	drop	
3800.00	0.11	185.7	3730.74	475.03	47.00	1.30	477.35	drop	
3809.26	0.00	0.0	3740.00	475.00	47.00	1.30	477.32	End drop	TOP OF DROP
3900.00	0.00	0.0	3830.74	475.00	47.00	0.00	477.32	vertical	
4000.00	0.00	0.0	3930.74	475.00	47.00	0.00	477.32	vertical	
4100.00	0.00	0.0	4030.74	475.00	47.00	0.00	477.32	vertical	
4200.00	0.00	0.0	4130.74	475.00	47.00	0.00	477.32	vertical	
4300.00	0.00	0.0	4230.74	475.00	47.00	0.00	477.32	vertical	
4364.26	0.00	0.0	4295.00	475.00	47.00	0.00	477.32	End vertical	SUSSEX
4400.00	0.00	0.0	4330.74	475.00	47.00	0.00	477.32	vertical	
4500.00	0.00	0.0	4430.74	475.00	47.00	0.00	477.32	vertical	
4600.00	0.00	0.0	4530.74	475.00	47.00	0.00	477.32	vertical	
4700.00	0.00	0.0	4630.74	475.00	47.00	0.00	477.32	vertical	
4754.26	0.00	0.0	4685.00	475.00	47.00	0.00	477.32	End vertical	SHANNON
4800.00	0.00	0.0	4730.74	475.00	47.00	0.00	477.32	vertical	
4900.00	0.00	0.0	4830.74	475.00	47.00	0.00	477.32	vertical	
5000.00	0.00	0.0	4930.74	475.00	47.00	0.00	477.32	vertical	
5100.00	0.00	0.0	5030.74	475.00	47.00	0.00	477.32	vertical	
5200.00	0.00	0.0	5130.74	475.00	47.00	0.00	477.32	vertical	
5300.00	0.00	0.0	5230.74	475.00	47.00	0.00	477.32	vertical	
5400.00	0.00	0.0	5330.74	475.00	47.00	0.00	477.32	vertical	

MD*	INC*	AZI*	TVD*	N*	E*	DLS*	Vert. Sec.*	Description	Reference Note
5500.00	0.00	0.0	5430.74	475.00	47.00	0.00	477.32	vertical	
5600.00	0.00	0.0	5530.74	475.00	47.00	0.00	477.32	vertical	
5700.00	0.00	0.0	5630.74	475.00	47.00	0.00	477.32	vertical	
5800.00	0.00	0.0	5730.74	475.00	47.00	0.00	477.32	vertical	
5900.00	0.00	0.0	5830.74	475.00	47.00	0.00	477.32	vertical	
6000.00	0.00	0.0	5930.74	475.00	47.00	0.00	477.32	vertical	
6100.00	0.00	0.0	6030.74	475.00	47.00	0.00	477.32	vertical	
6200.00	0.00	0.0	6130.74	475.00	47.00	0.00	477.32	vertical	
6300.00	0.00	0.0	6230.74	475.00	47.00	0.00	477.32	vertical	
6400.00	0.00	0.0	6330.74	475.00	47.00	0.00	477.32	vertical	
6500.00	0.00	0.0	6430.74	475.00	47.00	0.00	477.32	vertical	
6600.00	0.00	0.0	6530.74	475.00	47.00	0.00	477.32	vertical	
6700.00	0.00	0.0	6630.74	475.00	47.00	0.00	477.32	vertical	
6800.00	0.00	0.0	6730.74	475.00	47.00	0.00	477.32	vertical	
6900.00	0.00	0.0	6830.74	475.00	47.00	0.00	477.32	vertical	
6929.26	0.00	0.0	6860.00	475.00	47.00	0.00	477.32	End vertical	NIOBRARA
7000.00	0.00	0.0	6930.74	475.00	47.00	0.00	477.32	vertical	
7100.00	0.00	0.0	7030.74	475.00	47.00	0.00	477.32	vertical	
7200.00	0.00	0.0	7130.74	475.00	47.00	0.00	477.32	vertical	
7244.26	0.00	0.0	7175.00	475.00	47.00	0.00	477.32	End vertical	FT HAYS
7264.26	0.00	0.0	7195.00	475.00	47.00	0.00	477.32	End vertical	CODELL
7300.00	0.00	0.0	7230.74	475.00	47.00	0.00	477.32	vertical	
7400.00	0.00	0.0	7330.74	475.00	47.00	0.00	477.32	vertical	
7500.00	0.00	0.0	7430.74	475.00	47.00	0.00	477.32	vertical	TD

WELL LOCATION CERTIFICATE

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

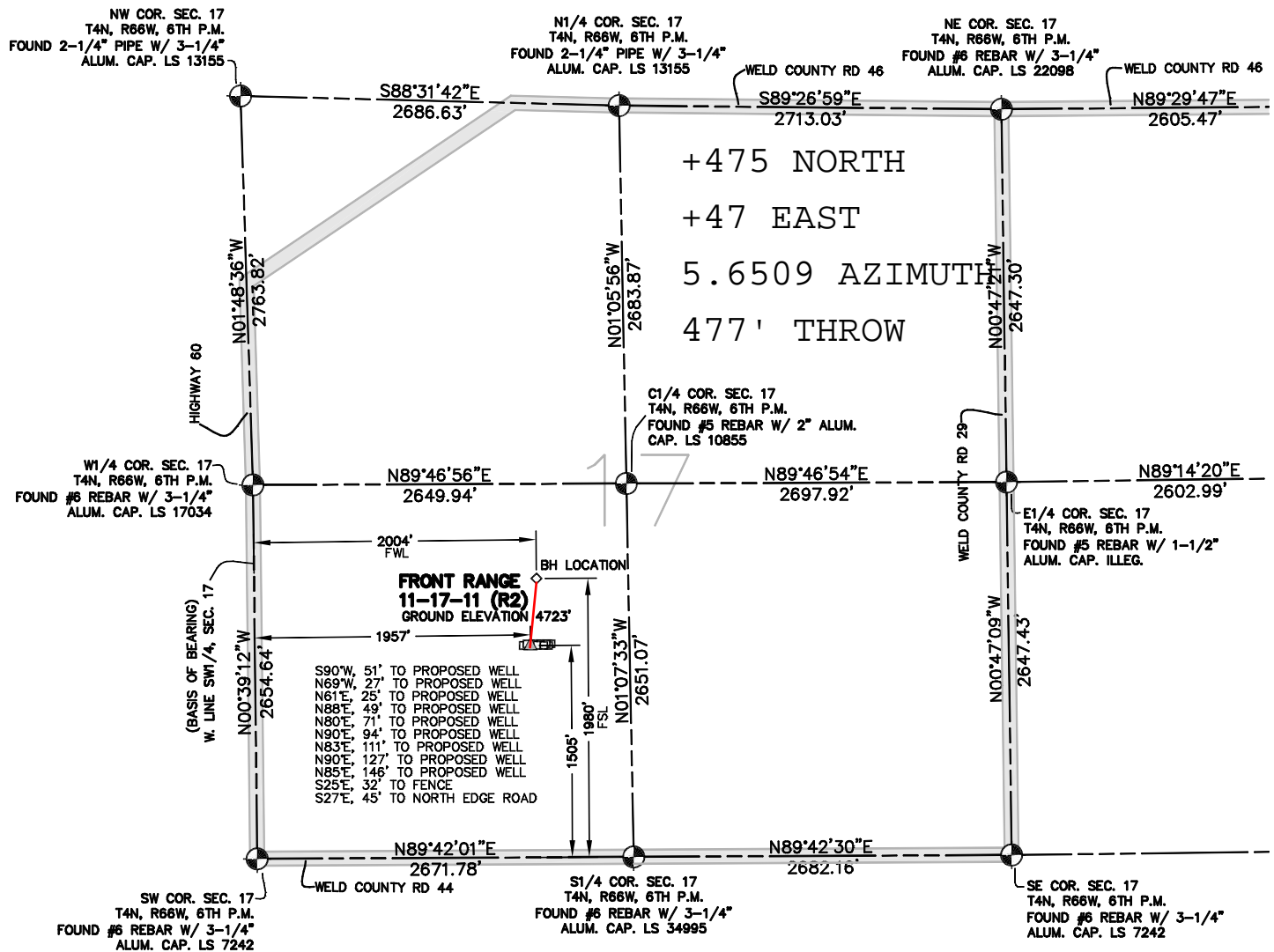


EXHIBIT MAP



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 11-17-11R2 WELL SITE TO BE 1957' 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: 104.80405 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 04/12/2010 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: APRIL 12, 2010



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