

SWARTZ 1N-12HZ WELL LOCATION CERTIFICATE

S ¼ COR. SEC. 13
2" ALUM. CAP
PLS 25937, 1996

BHL- 421' FSL
707' FEL } SEC. 1

NW COR. SEC. 13
2" ALUM. CAP
PLS 25937, 1996

S89°36'41"E 2594.89'

S89°36'50"E 2594.45'

NE COR. SEC. 13
¾" ALUM. CAP
PLS 23520, 2002

(BASIS OF BEARINGS) SEE NOTE 2

SURFACE LOCATION:
GROUND ELEVATION=4956'
NAD83 STATE PLANE CO N
LATITUDE:40.131977°
LONGITUDE:-104.604795°
LATITUDE=40° 07' 55.117"
LONGITUDE=-104° 36' 17.263"

HEEL LOCATION:
NAD83 STATE PLANE CO N
LATITUDE:40.133173°
LONGITUDE:-104.606384°
LATITUDE=40° 07' 59.423"
LONGITUDE=-104° 36' 22.982"

13

W ¼ COR. SEC. 13
¾" ALUM. CAP
PLS 10855, 1998

BOTTOM HOLE LOCATION:
NAD83 STATE PLANE CO N
LATITUDE:40.161095°
LONGITUDE:-104.605439°
LATITUDE=40° 09' 39.942"
LONGITUDE=-104° 36' 19.580"

C ¼ COR. SEC. 13
¾" ALUM. CAP
PLS 24307, 2006

S89°49'20"E 2602.73'

E ¼ COR. SEC. 13
¾" ALUM. CAP
PLS 27269, 2004

NOTES:
BH AND HEEL LOCATIONS PROVIDED BY CLIENT.
LAND SURFACE USE-RANGELAND
EXISTING WELL SWARTZ 16-13 IS 361' NW
AT 660' FSL & 660' FEL.
SEE ATTACHED MAP FOR ADDITIONAL
IMPROVEMENTS WITHIN 500'

PDOP=1.5
GPS OPERATOR: BEN HARDENBERGH

SW COR. SEC. 13
½" ALUM. CAP
PLS 34980, 2007

S89°57'07"W 2609.78'

S ¼ COR. SEC. 13
2½" ALUM. CAP
PLS 38345, 2013

S89°57'07"W 2609.78'

N46°07'30"W 622.22'
(TRUE N45°32'48"W)

SWARTZ 1N-12HZ

SE COR. SEC. 13
CALC'D FROM W.C. 30' E
¾" ALUM. CAP
PLS 27269, 1998

HEEL- 741' FSL
962' FEL

309'
518'

LEGEND

- ⊙ = EXISTING MONUMENT ✦ = BOTTOM HOLE
- = CALCULATED POSITION ▲ = HEEL
- = PROPOSED WELL BHL = BOTTOM HOLE LOCATION
- ◆ = EXISTING WELL

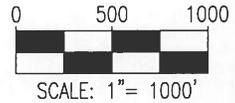
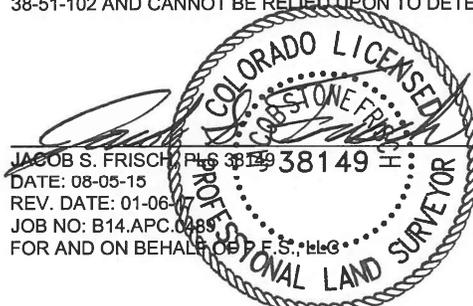
NOTES:

1. THIS FIELD SURVEY CONFORMS TO THE MINIMUM STANDARDS SET BY THE C.O.G.C.C., RULE NO. 215
2. BEARINGS ARE BASED ON THE ASSUMPTION THAT THE NORTH LINE OF THE NORTHEAST QUARTER OF SECTION 13, BEARS S89°36'50"E BETWEEN THE MONUMENTS SHOWN HEREON.
3. GRID DISTANCES ARE SHOWN, AS GPS MEASURED IN THE FIELD, WITH TIES TO WELLS MEASURED PERPENDICULAR TO SECTION LINES. TO GET GROUND DISTANCES MULTIPLY THE SHOWN DISTANCE BY 1.000272228.
4. ELEVATIONS SHOWN ARE NAVD 88, AS DERIVED BY GPS OBSERVATIONS.
5. CERTIFIED AUGUST 5, 2015 FOR WELLS STAKED ON JANUARY 5, 2015. REVISED JANUARY 6, 2017 FOR HEEL AND BHL CHANGES AND ADDITION OF SECTION 1. CORNERS ON EAST LINE OF SECTION 1 ARE CALCULATED DUE TO ROAD CONSTRUCTION AND WILL BE RESET BY THAT SURVEYOR AFTER CONSTRUCTION.

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

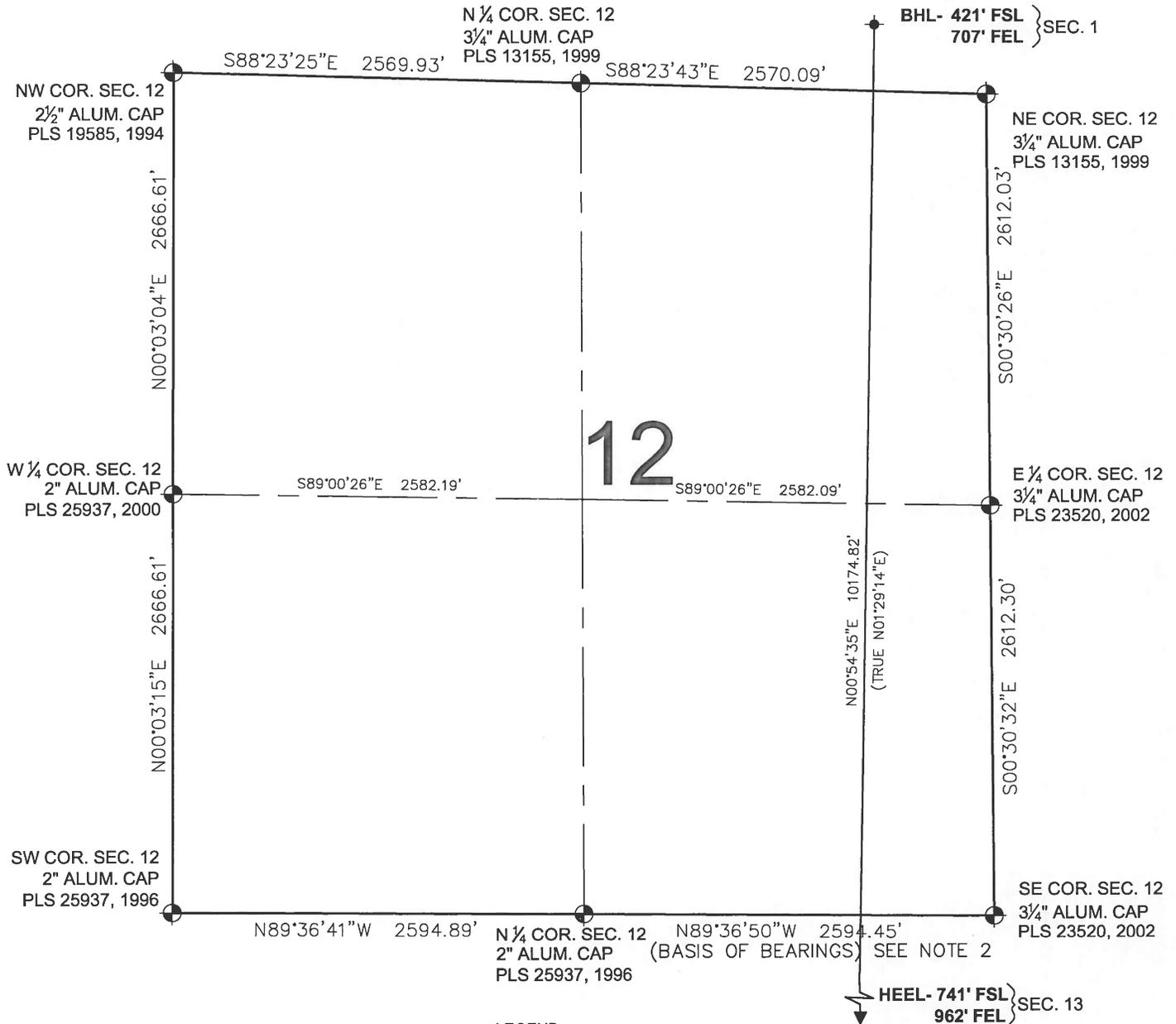
**WELL SWARTZ 1N-12HZ TO BE
LOCATED 309' FSL & 518' FEL**

I, JACOB S. FRISCH, A LICENSED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO DO HEREBY CERTIFY TO **KERR-MCGEE OIL & GAS ONSHORE LP**, THAT THE SURVEY AND WELL LOCATION CERTIFICATE SHOWN HEREON WERE DONE BY ME OR UNDER MY DIRECT SUPERVISION AND THAT THE DRAWING SHOWN HEREON ACCURATELY DEPICTS THE PROPOSED LOCATION OF THE WELL. THIS CERTIFICATE DOES NOT REPRESENT A LAND SURVEY PLAT OR IMPROVEMENT SURVEY PLAT AS DEFINED BY C.R.S. 38-51-102 AND CANNOT BE RELIED UPON TO DETERMINE OWNERSHIP.



PREPARED BY: 	FIELD DATE: 01-05-15	WELL NAME: SWARTZ 1N-12HZ	PREPARED FOR:
	DRAWING DATE: 01-05-17	SURFACE LOCATION: SE 1/4 SE 1/4 SEC. 13 T2N, R65W, 6TH P.M. WELD COUNTY, COLORADO	
BY: MDC	CHECKED BY: MLP		

SWARTZ 1N-12HZ WELL LOCATION CERTIFICATE

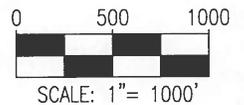
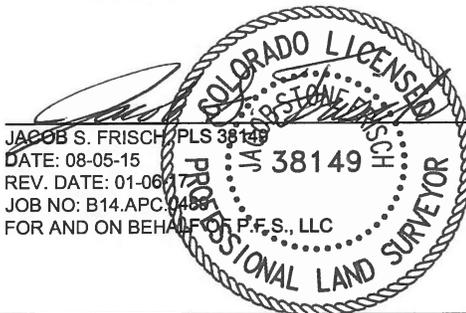


- NOTES:**
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LEGEND

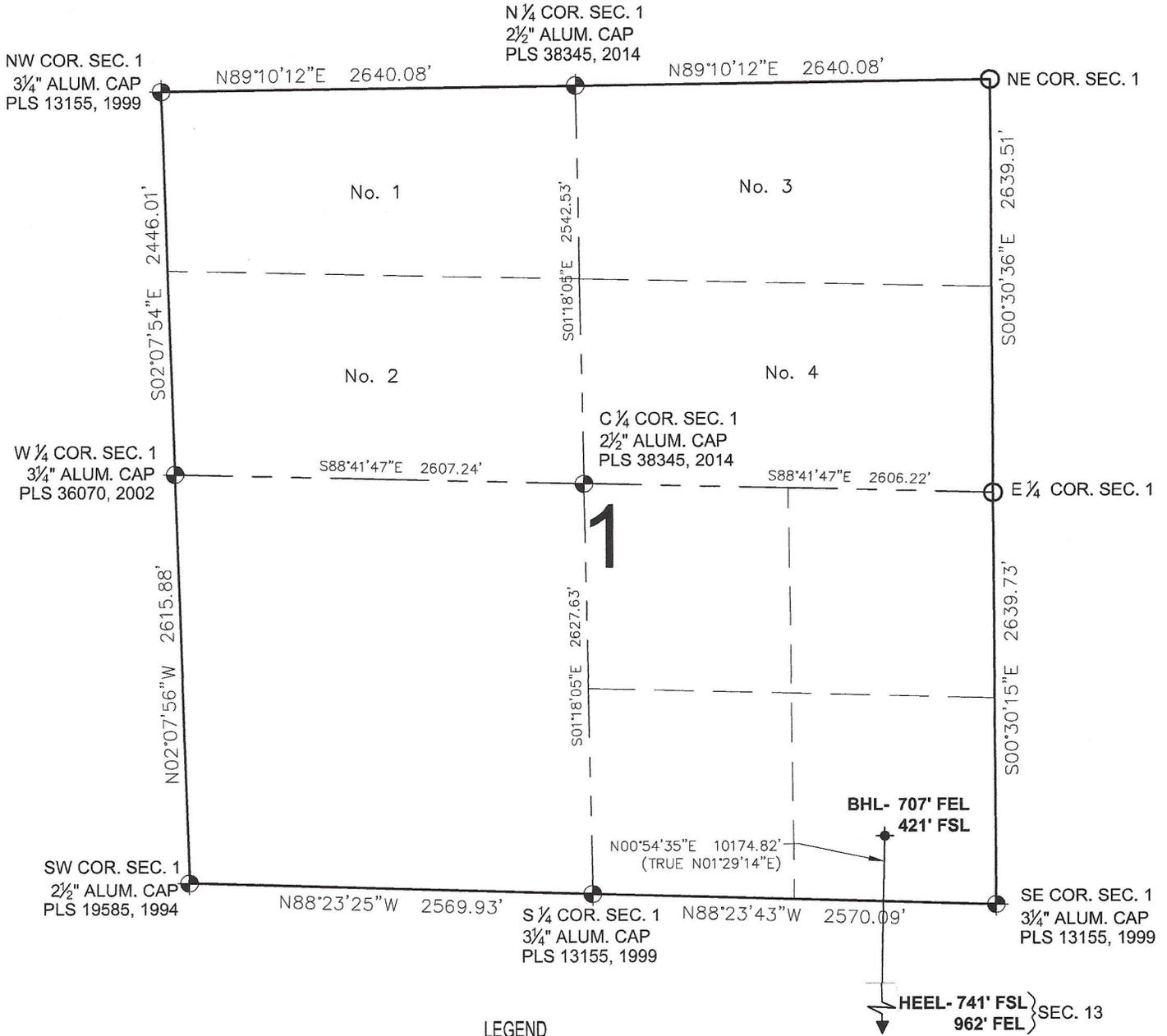
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- ◆ = BOTTOM HOLE
- ▲ = HEEL
- BHL = BOTTOM HOLE LOCATION



SHEET 2 OF 3

PREPARED BY: Petroleum Field Services, LLC 7335 Hilltop Circle Denver, CO 80221	FIELD DATE: 01-05-15	WELL NAME: SWARTZ 1N-12HZ	
	DRAWING DATE: 01-05-17	SURFACE LOCATION: SE 1/4 SE 1/4 SEC. 13 T2N, R65W, 6TH P.M.	
BY: MDC	CHECKED BY: MLP	WELD COUNTY, COLORADO	

SWARTZ 1N-12HZ WELL LOCATION CERTIFICATE



LEGEND

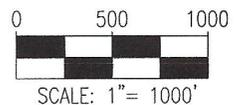
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JACOB S. FRISCH PLS 38149
DATE: 08-05-15
REV. DATE: 01-06-17
JOB NO: B14.APC.0489
FOR AND ON BEHALF OF P.F.S., LLC



SHEET 3 OF 3

PREPARED BY: 	FIELD DATE: 01-05-15 DRAWING DATE: 01-05-17 BY: MDC CHECKED BY: MLP	WELL NAME: SWARTZ 1N-12HZ SURFACE LOCATION: SE 1/4 SE 1/4 SEC. 13 T2N, R65W, 6TH P.M. WELD COUNTY, COLORADO	PREPARED FOR:
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