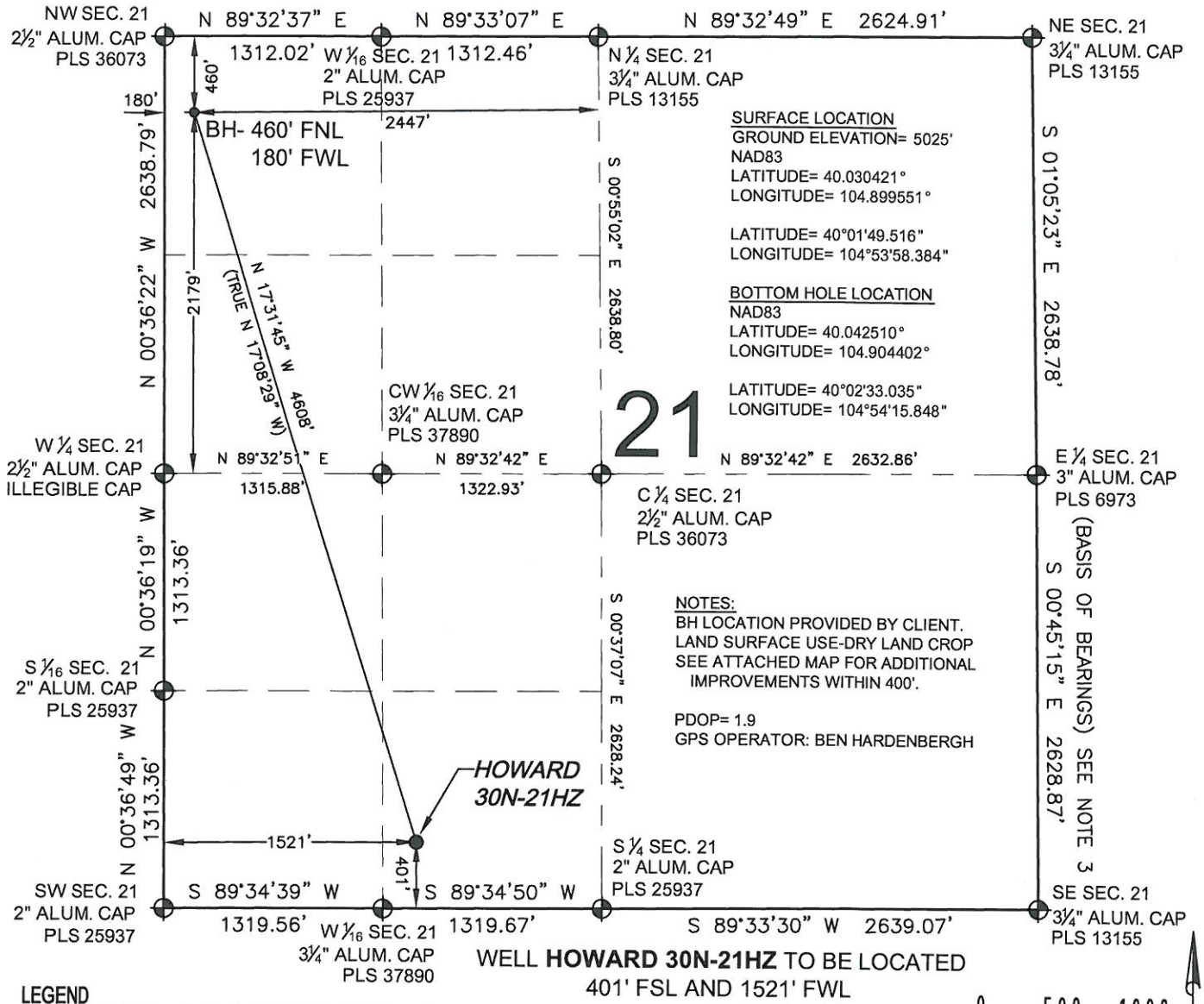
# WELL LOCATION CERTIFICATE: HOWARD 30N-21HZ

SECTION 21, TOWNSHIP 1 NORTH, RANGE 67 WEST, 6TH P.M.




SURFACE LOCATION
GROUND ELEVATION= 5025'
NAD83
LATITUDE= 40.030421°
LONGITUDE= 104.899551°

LATITUDE= 40°01'49.516"
LONGITUDE= 104°53'58.384"

BOTTOM HOLE LOCATION
NAD83
LATITUDE= 40.042510°
LONGITUDE= 104.904402°

LATITUDE= 40°02'33.035"
LONGITUDE= 104°54'15.848"

NOTES:
BH LOCATION PROVIDED BY CLIENT.
LAND SURFACE USE-DRY LAND CROP
SEE ATTACHED MAP FOR ADDITIONAL IMPROVEMENTS WITHIN 400'.

PDOP= 1.9
GPS OPERATOR: BEN HARDENBERGH

WELL **HOWARD 30N-21HZ** TO BE LOCATED
401' FSL AND 1521' FWL

0 500 1000
SCALE: 1"=1000'

N

**LEGEND**

⊕ = EXISTING MONUMENT
● = PROPOSED WELL
✦ = BOTTOM HOLE
BH = BOTTOM HOLE

NOTES:
1. THIS FIELD SURVEY CONFORMS TO THE MINIMUM STANDARDS SET BY THE C.O.G.C.C., RULE NO. 215
2. HORIZONTAL POSITIONS AND ORTHOMETRIC ELEVATIONS SHOWN AT THE WELL HEAD, ARE BASED ON GPS-RTK POSITIONS DERIVED FROM MINIMUM 2-HOUR STATIC OBSERVATIONS CORRECTED BY THE NATIONAL GEODETIC SURVEY ONLINE POSITIONING USER SERVICE, O.P.U.S. DATUM: HORIZONTAL = NAD83/2007, VERTICAL = NAVD88
3. THE BASIS OF BEARINGS ARE STATE PLANE COORDINATE SYSTEM GRID BEARINGS SHOWN HEREON BETWEEN THE DESCRIBED MONUMENTS SHOWN HEREON.
4. GRID DISTANCES ARE SHOWN, AS MEASURED IN THE FIELD, WITH TIES TO WELLS MEASURED PERPENDICULAR TO SECTION LINES.

I, MARK A. HALL, 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.

MARK A. HALL, PLS 36073
COLORADO LICENSED PROFESSIONAL LAND SURVEYOR
FOR AND ON BEHALF OF P.F.S., LLC

COLORADO REGISTERED MARK A. HALL 36073 PROFESSIONAL LAND SURVEYOR
11/14/12

| PREPARED BY: PFS Petroleum Field Services, LLC 1801 W. 13th Ave. Denver, CO 80204 | FIELD DATE: 11-05-12 | SURFACE LOCATION: |
|---|---|---|
| | DRAWING DATE: 11-08-12 | SE 1/4 SW 1/4, |
| | BY: SMF / CHECKED: MCH | SEC. 21, T1N, R67W, 6TH P.M. |
| | | WELD COUNTY, COLORADO |

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.