

# WELL LOCATION CERTIFICATE: HOWARD 29N-21HZ

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

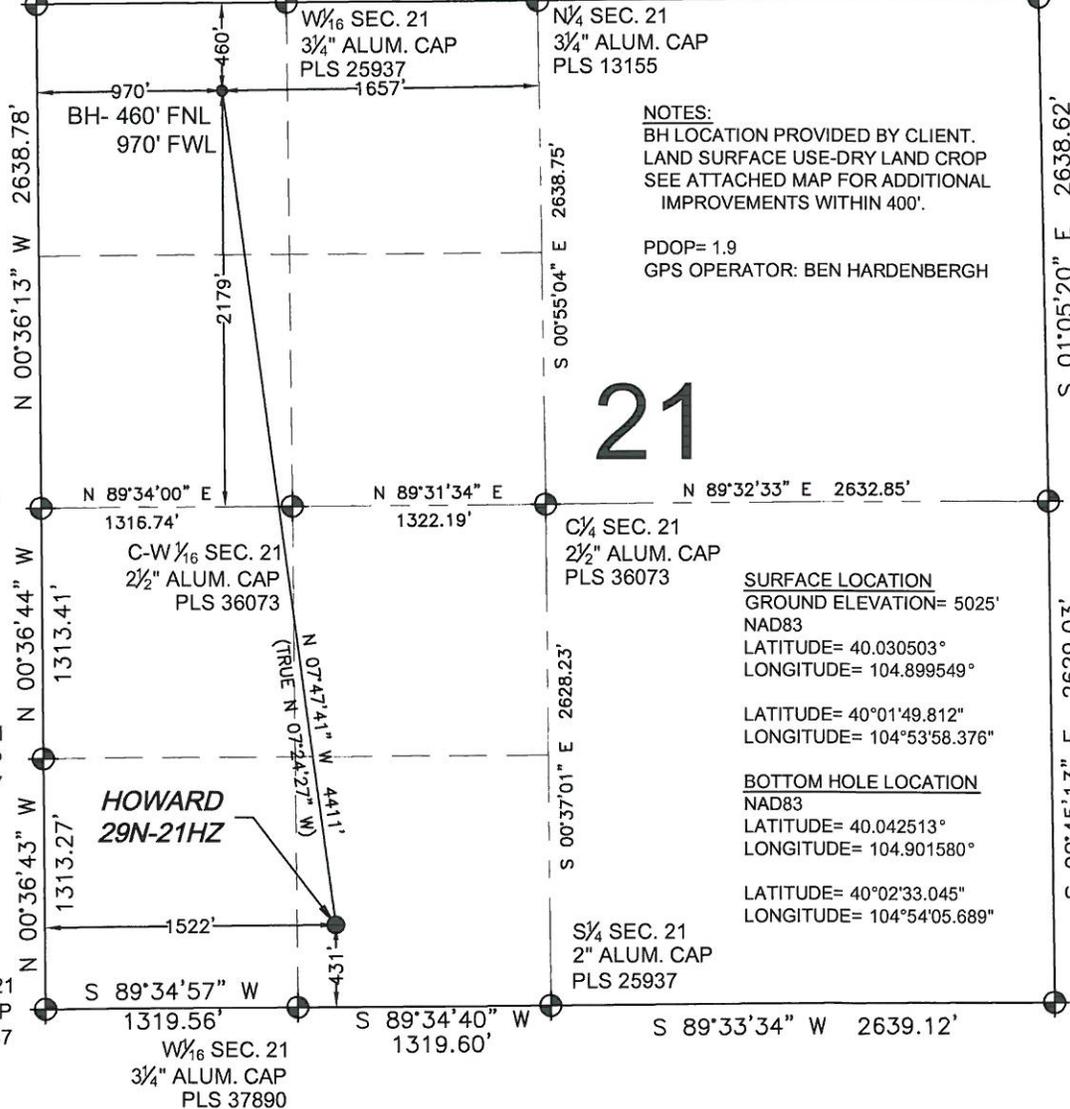
NW SEC. 21  
2½" ALUM. CAP  
PLS 36073

N 89°32'35" E  
1312.03'

N 89°33'15" E  
1312.43'

N 89°32'49" E 2624.97'

NE SEC. 21  
¾" ALUM. CAP  
PLS 13155



**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

## 21

W¼ SEC. 21  
2½" ALUM. CAP  
PLS 23501

N 89°34'00" E  
1316.74'

N 89°31'34" E  
1322.19'

N 89°32'33" E 2632.85'

E¼ SEC. 21  
¾" ALUM. CAP  
PLS 6973

S¼ SEC. 21  
2½" ALUM. CAP  
PLS 25937

C-W ¼ SEC. 21  
2½" ALUM. CAP  
PLS 36073

(TRUE N 07°47'41" W)  
(TRUE N 07°44'27" W)

C¼ SEC. 21  
2½" ALUM. CAP  
PLS 36073

SURFACE LOCATION  
GROUND ELEVATION= 5025'  
NAD83  
LATITUDE= 40.030503°  
LONGITUDE= 104.899549°

LATITUDE= 40°01'49.812"  
LONGITUDE= 104°53'58.376"

BOTTOM HOLE LOCATION  
NAD83  
LATITUDE= 40.042513°  
LONGITUDE= 104.901580°

LATITUDE= 40°02'33.045"  
LONGITUDE= 104°54'05.689"

SW SEC. 21  
2" ALUM. CAP  
PLS 25937

S 89°34'57" W  
1319.56'

S 89°34'40" W  
1319.60'

S 89°33'34" W 2639.12'

SE SEC. 21  
¾" ALUM. CAP  
PLS 13155

WELL HOWARD 29N-21HZ TO BE LOCATED 431' FSL AND 1522' FWL

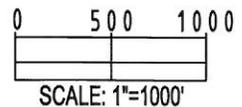
### LEGEND

- ⊙ = EXISTING MONUMENT
- ⊕ = PROPOSED WELL
- ⬤ = BOTTOM HOLE
- ◆ = EXISTING WELL
- BH = BOTTOM HOLE

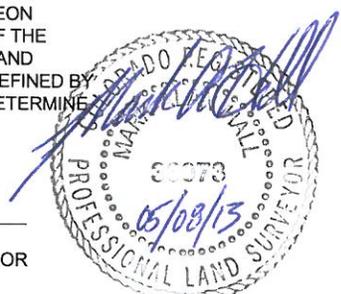
### NOTES:

- THIS FIELD SURVEY CONFORMS TO THE MINIMUM STANDARDS SET BY THE C.O.G.C.C., RULE NO. 215
- 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
- THE BASIS OF BEARINGS ARE STATE PLANE COORDINATE SYSTEM GRID BEARINGS SHOWN HEREON BETWEEN THE DESCRIBED MONUMENTS SHOWN HEREON.
- 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



PREPARED BY:  Petroleum Field Services, LLC 1801 W. 13th Ave. Denver, CO 80204	FIELD DATE: 11-05-12	SURFACE LOCATION: SE 1/4 SW 1/4, SEC. 21, T1N, R67W, 6TH P.M. WELD COUNTY, COLORADO
	DRAWING DATE: 05-06-13	CHECKED: TJN

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.