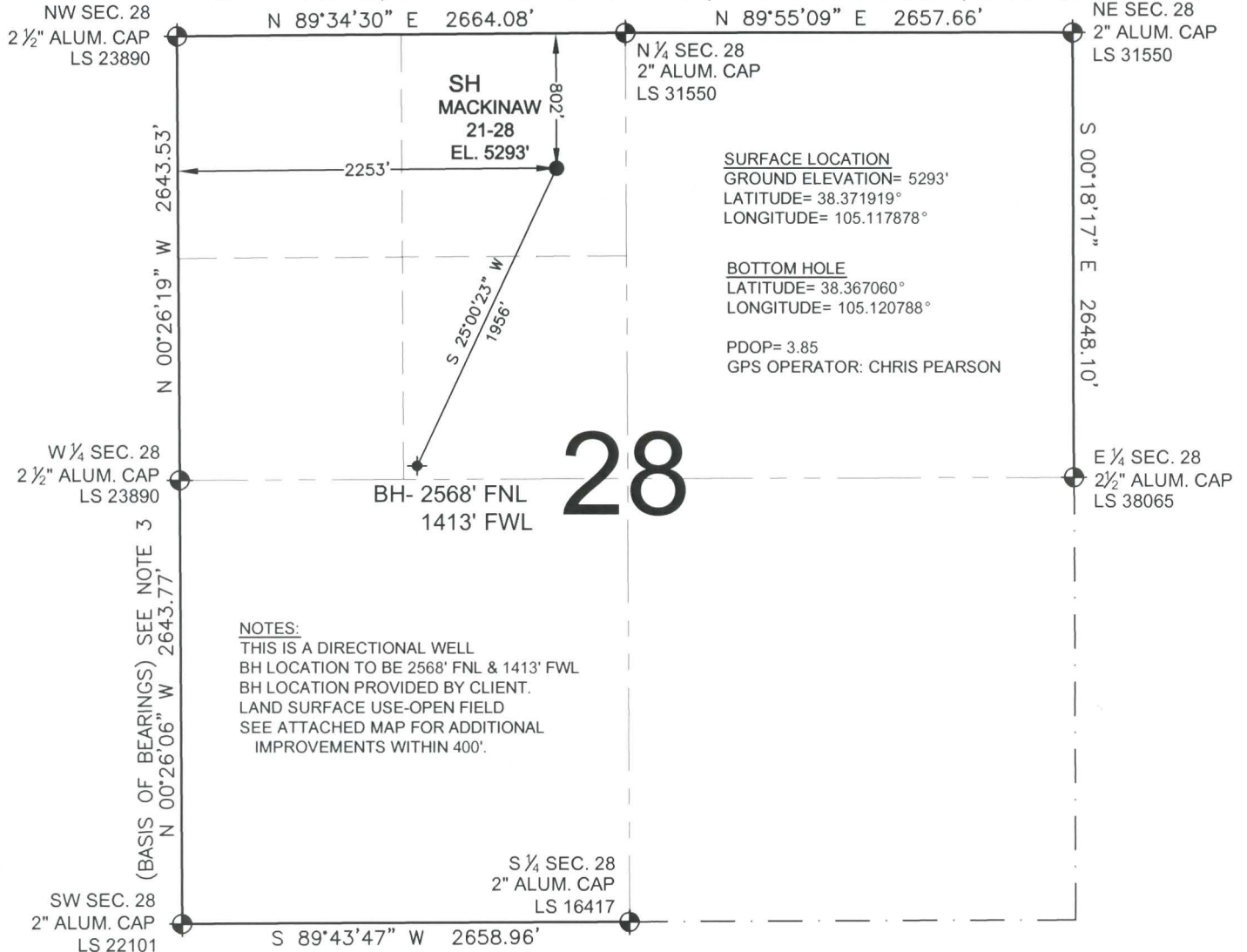


# WELL LOCATION CERTIFICATE: MACKINAW 21-28

SECTION 28, TOWNSHIP 19 SOUTH, RANGE 69 WEST, 6TH P.M.



**NOTES:**  
THIS IS A DIRECTIONAL WELL  
BH LOCATION TO BE 2568' FNL & 1413' FWL  
BH LOCATION PROVIDED BY CLIENT.  
LAND SURFACE USE-OPEN FIELD  
SEE ATTACHED MAP FOR ADDITIONAL  
IMPROVEMENTS WITHIN 400'.

**SURFACE LOCATION**  
GROUND ELEVATION= 5293'  
LATITUDE= 38.371919°  
LONGITUDE= 105.117878°

**BOTTOM HOLE**  
LATITUDE= 38.367060°  
LONGITUDE= 105.120788°

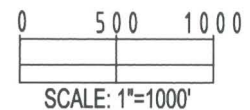
PDOP= 3.85  
GPS OPERATOR: CHRIS PEARSON

28

WELL **MACKINAW 21-28** TO BE LOCATED 802' FNL AND 2253' FWL, SECTION 28, T19S, R69W OF THE 6th P.M.

## LEGEND

- = EXISTING MONUMENT    ♦ = BOTTOM HOLE  
● = PROPOSED WELL       ♦ = EXISTING WELL



## NOTES:

- THIS SURVEY WAS DONE BY GPS METHODS AND CONFORMS TO THE MINIMUM STANDARDS SET BY THE C.O.G.C.C., RULE NO. 215
- ELEVATIONS SHOWN AT THE WELL HEAD, AS WELL AS HORIZONTAL CONTROL, ARE BASED ON GPS-RTK VALUES DERIVED FROM DOING 2-HOUR STATIC GPS SESSIONS AND REDUCTIONS USING O.P.U.S. SOLUTIONS.  
VERTICAL = NAVD88; HORIZONTAL = NAD83/92
- THE BEARINGS SHOWN HEREON ARE BASED ON GPS OBSERVATIONS BETWEEN THE MONUMENTS SHOWN HEREON AS FOUND ON THE FIELD DATE BELOW.
- DISTANCES SHOWN ARE AT GROUND LEVEL, AS MEASURED IN THE FIELD, WITH TIES TO WELLS MEASURED AT A PERPENDICULAR TO SECTION LINES.

I, JERRY F. HARCEK JR., A LICENSED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO DO HEREBY CERTIFY TO **PINE RIDGE OIL & GAS**, THAT THE SURVEY AND WELL LOCATION CERTIFICATE SHOWN HEREON WERE DONE BY ME OR UNDER MY DIRECT SUPERVISION, THAT THE DRAWING SHOWN HEREON ACCURATELY DEPICTS THE PROPOSED LOCATION OF THE WELL **MACKINAW 21-28**. 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.

JERRY F. HARCEK JR., PLS 34997  
COLORADO LICENSED PROFESSIONAL LAND SURVEYOR  
FOR AND ON BEHALF OF P.F.S., LLC



PREPARED BY:	FIELD DATE:	WELL NAME:
PFS Petroleum Field Services, LLC 1801 W. 13th Ave. Denver, CO 80204	08-10-10	MACKINAW 21-28
	DRAWING DATE:	SURFACE LOCATION:
	08-24-10	FREMONT COUNTY, COLORADO
BY:		NE 1/4 NW 1/4, SEC. 28, T19S, R69W
SMF		

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.