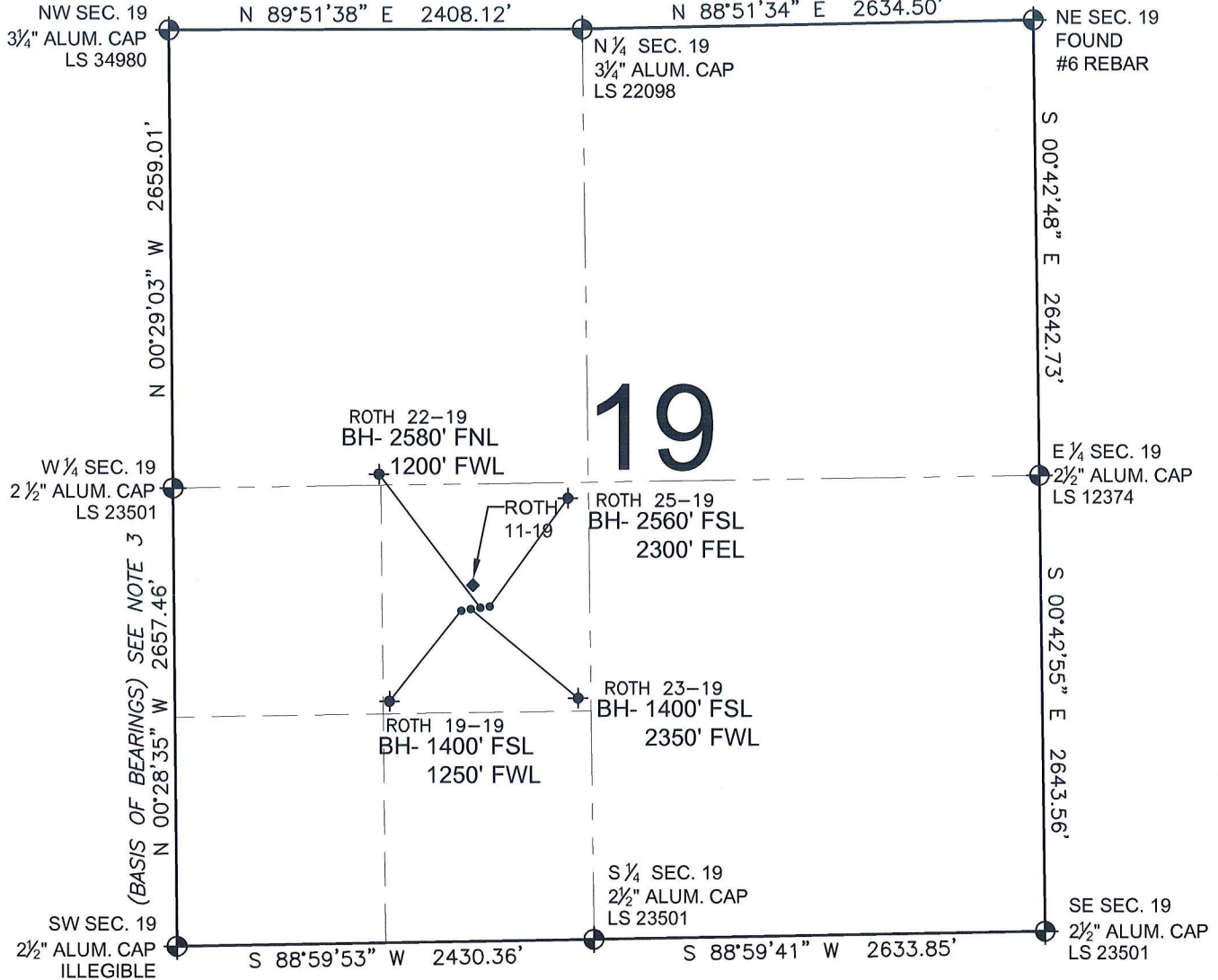


PAD DRAWING - ROTH 4 PAD

SECTION 19, TOWNSHIP 6 NORTH, RANGE 64 WEST, 6TH P.M.



LEGEND

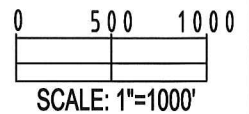
- = EXISTING MONUMENT
 = BOTTOM HOLE
 BH= BOTTOM HOLE
 = PROPOSED WELL
 = EXISTING WELL

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.

NOTES:

- ROTH 19-19 TO BE AT 1930' FSL, 1752' FWL.
 BOTTOM HOLE AT 1400' FSL & 1250' FWL.
 ROTH 23-19 TO BE AT 1932' FSL, 1768' FWL.
 BOTTOM HOLE AT 1400' FSL & 2350' FWL.
 ROTH 22-19 TO BE AT 1934' FSL, 1784' FWL.
 BOTTOM HOLE AT 2580' FNL & 1200' FWL.
 ROTH 25-19 TO BE AT 1936' FSL, 1800' FWL.
 BOTTOM HOLE AT 2560' FSL & 2300' FEL.
 ROTH 11-19 IS 1981' FSL, 1778' FWL.



REVISIONS

INITIAL	DATE
SMF	05-05-10

PREPARED BY:

PFS

Petroleum Field Services, LLC
1801 W. 13th Ave.
Denver, CO 80204



KERR-MCGEE OIL & GAS ONSHORE LP

FIELD DATE:
12-18-09

DRAWING DATE:
12-28-09

BY:
SMF

PAD NAME:
ROTH 4 PAD

SURFACE LOCATION:

WELD COUNTY, COLORADO
NE 1/4 SW 1/4, SEC. 19, T6N, R64W