

WELLBORE DIAGRAM

St. Croix Operating, Inc.

Armstrong 1

SHL: 600' FSL 2040' FEL Sec. 21-T3S-R51W

Vertical Well

Lat/Long: 39.77310, -103.09279

Washington County, CO

API 05-121-11088

Current as DA

12/09/2019

PAG

NOT TO SCALE

K.B.= 4,675'

G.L.= 4,667'
8'

TOPS (MD)

5 sx Class A cement in rathole

Cut 5' below ground, welded on engraved plate

Cement plug @ Surface-60'

w/15 sx 13.8 ppg Class A Cement (1.42 yield)

Surface casing cement: Surface-516'

300 sx 15.2 ppg (1.24 yield) Class A + adds Cement

Cement Returns: 18 bbl good cement back to surface

8-5/8" 24# J-55 set @ 516' (12-1/4" OH)

Cement plug 1/2-in-1/2-out@ 370'-570' (calc)

50 sx 13.8 ppg (1.42 yield) Class A + adds Cement

OH Cement plug @ 2872'-3040' (calc)

40 sx 13.8 ppg (1.42 yield) Class A + adds Cement

OH Cement plug @ 3808'-4060' (calc)

60 sx 13.8 ppg (1.42 yield) Class A + adds Cement

7-7/8" OH to TD

SLB Triple Combo OH Logs ran to TD

Niobrara 3,091'

Ft Hays 3,548'

D Sand 4,008'

J Sand 4,056'

TD @ 4200' MD