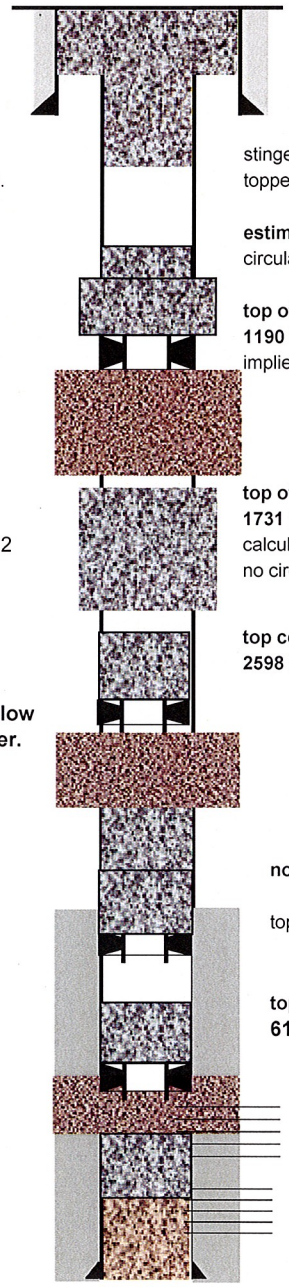
# Federal 11-90-7

GL



wellhead removed -marker plate -welded on 10 3/4

10 3/4 surface pipe

160 feet

**Plug #9**
40 sx inside the 4 1/2 casing
50 sxs inside 10 3/4 by 4 1/2 annnulus.

stinger at 180 ft. cement topped out on 4 1/2 casing ( est 500 ft plug)
topped off annulus with 50 sxs ( est 114 ft plug )

**Plug #8**
10 sxs 16 ppg (2 bbls ) balanced plug

**estimated top of cement was 1030 ft.**
circulation throughout the job.

**Plug #7**
**Set cmt retainer #4 at 1300 ft**
mixed and pumped 80 sxs 15.8 ppg
squeezed 40 sxs below retainer
dumped 40 sxs on top

**top of cement plug #7 by tag at**
**1190 ft**
implied 29% in casing 70 percent in formation and annulus

**plug #6**
balanced plug
81 sxs 15.8 ppg cmt with 2% CaCl2
from 2570 ft , 16.8 bbls total

**top of cement plug #6 by tag at**
**1731 ft**
calculated 3 bbls lost to formation or annulus.
no circulation when plug set no squeeze attempted.

**Plug 5:**
**Set Cement retainer #3 at 2798 ft**
**squeezed 30 sxs 15,8 ppg cmt below**
**dumped 10 sxs (130 ft) on retainer.**

**top cement plug #5 by tag:**
**2598 ft.**

**plug #4 2960-3460 ft**
55 sxs 15.8 ppg slurry
**plug #3 3690-3960 ft**
**tagged at 3690 ft**

**no returns while setting the plug.**

**CIBP #2 at 3960ft**
**pressure test 500 psi OK**

top cement @ 3852 ft

**top cement by tag:**
**6125 feet**

pressure tested 3497-6380
1500 psi 12/2014

**Set Cement retainer at 6296 ft**
Squeezed 35 sxs 15.8 ppg cement
dumped 10 sxs

6437-6530

**PLUG 1: 15 sks 6525 to 6698 ft**
**tagged**
tagged fill 6698 ft

6647-7085

4 1/2, 11.6 ppf casing set at 7150 ft.