

With $5\frac{1}{2}$ " - 14 & 15.5# J-55 casing on btm. @ 3372' and approx. 1500' of gassy oil in the hole, 50 bbls. of saturated brine was run inside the $5\frac{1}{2}$ " csg. and allowed to equalize. Contractor then pulled:

8-5/8" csg. from 990'
10-3/4" csg. from 550'
13-3/8" csg. from 105' (2 jts. of 13-3/8" stuck
and left in hole from about 20 - 87').

At 2 A.M. August 17, 1957, cementing operations were commenced to cement the $5\frac{1}{2}$ " casing @ 3372' and to circulate cement to the surface. Shortly after circulation was gained at the surface, the oil and gas being displaced headed and sprayed over the rig and cementing equipment and was ignited. Four B J Service trucks, one Rowland Trucking Co. water truck and the cable tool rig were destroyed. Two B J Service men have died.

Fire in the cellar lasted only a few minutes, since oil and gas in the annulus was present in a limited quantity. The $5\frac{1}{2}$ " casing was in tension within a few inches of btm. while cement was being pumped, and during the fire it dropped back to btm. due to the threads of the 10' pup joint in the elevators pulling out of the collar in the cellar. The csg. does not appear to be damaged. (3)

On August 19, 1957, a steel measuring line found cement inside the $5\frac{1}{2}$ " casing @ 235' and stopped outside the $5\frac{1}{2}$ " casing @ 240'. Calculations for the theoretical fill obtained by the cement pumped in are as follows:

Casing volume 255 - 3372' (3117'):

3117' x .1366 C.F./Lineal ft. = 426 C. F. of cmt. inside $5\frac{1}{2}$ "
csg.

(Volume factor adjusted for 10% 15.5# & 90% 14# csg).

Volume of annular space:

$5\frac{1}{2}$ " csg. in 8" hole 990 - 3372' (2382'):

2382' x .1841 C.F./Lineal ft. = 438 C.F.

$5\frac{1}{2}$ " csg. in 10" hole 550-990' (440'):

440' x .3804 C.F./Lineal Ft. = 167 C. F.

$5\frac{1}{2}$ " csg. in 13" hole 105-550' (445'):

445' x .7567 C.F./Lineal ft. = 337 C. F.

Total Volume from top cmt.
inside $5\frac{1}{2}$ " csg. up to 105' on
outside $5\frac{1}{2}$ " csg.

1368 C.F.

Also 3 1/2" - 18' 10" section on bit (3372) and
app. 1,200' of casing off in the hole, to bottom of annulus
before was run inside the 10" csg. and allowed to settle. Con-
struction then build.

8-3/8" csg. from 290'
10-3/4" csg. from 290'
13-3/8" csg. from 105' (2 feet of 13-3/8" struck
and left in hole from about 20 - 37').

At 2 A.M. August 17, 1957, cementing operations were commenced
to cement the 3 1/2" casing @ 3372', and to circulate cement to the
surface. Shortly after circulation was gained at the surface, the
oil and gas being displaced headed and sprayed over the rig and
cementing equipment and was ignited. Four 3 1/2 Service trucks, one
Howland Fracking Co. water truck and the cable tool rig were des-
patched. Two 3 1/2 Service men have it.

Time in the relief lasted only a few minutes, since oil and
gas in the annulus was present in a limited quantity. The 3 1/2"
casing was in tension within a few inches of bit, while cement
was being pumped, and during the time it dropped back to bit, due
to the threads of the 10' pup joint in the elevators pulling out
of the collar in the cellar. The csg. does not appear to be damaged. (2)

On August 19, 1957, a steel measuring line found cement inside
the 3 1/2" casing @ 252', and stopped outside the 3 1/2" casing @ 240'.
Calculations for the theoretical fill obtained by the cement pumped
in are as follows:

Casing volume 252' - 3372' (3117'):

3117' x .1360 C.F./linear ft. = 426 C.F. of cement inside 3 1/2"
csg.

(Volume factor adjusted to 100% 12.5% @ 900 ft. csg.)

Volume of annular space:

3 1/2" csg. in 8" hole 290' - 3372' (2522')

2522' x .1841 C.F./linear ft. = 464 C.F.

3 1/2" csg. in 10" hole 105' - 290' (440')

440' x .2604 C.F./linear ft. = 115 C.F.

3 1/2" csg. in 13" hole 105' - 290' (440')

440' x .3767 C.F./linear ft. = 166 C.F.

Total Volume from top of annulus
inside 3 1/2" csg. to 105' is
outside 3 1/2" csg. 1366 C.F.