

SRC 73B/16 1964  
 DUCK LAKE NO. 1  
 SEI-33-45-2-W3  
 OBSERVATION WELL  
 WELL COMPLETION  
 RECORD

Area 1403

A 4 3/4"  $\phi$  hole was drilled to 38.5' then reamed to 3"  $\phi$ . The casing was then set & the casing and annulus flushed with water. The interval from 38.5 to 44' was drilled with clear water & the screen was landed by the free-fall method, and the packer was swedged.

The alignment test showed that the casing was plumb. The well was developed by jetting, pumping and backwashing.

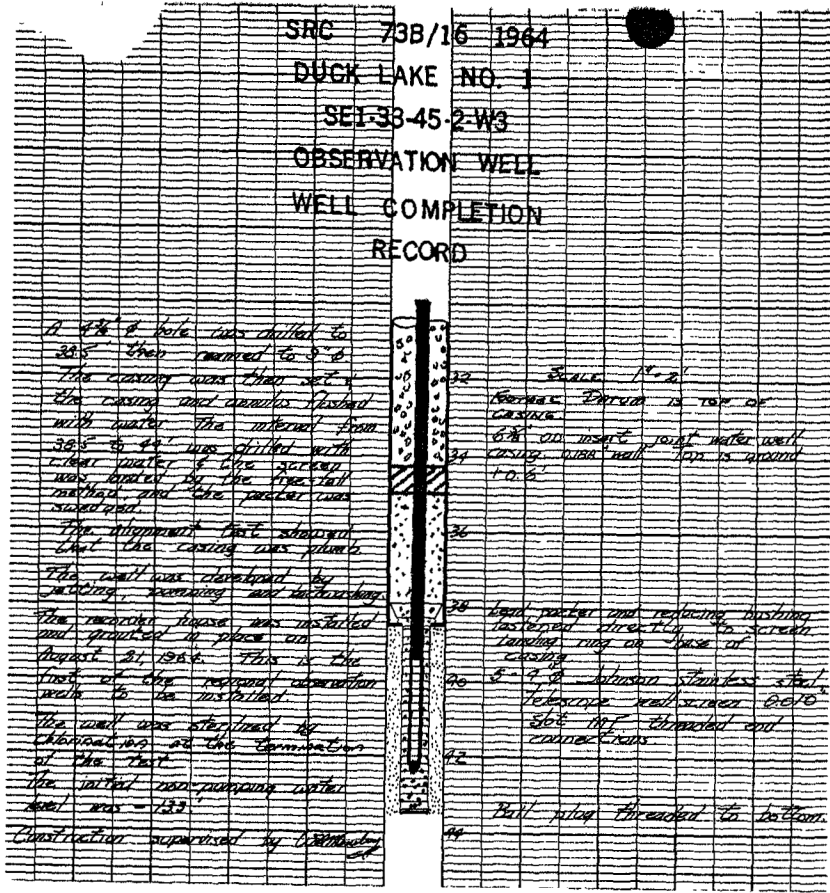
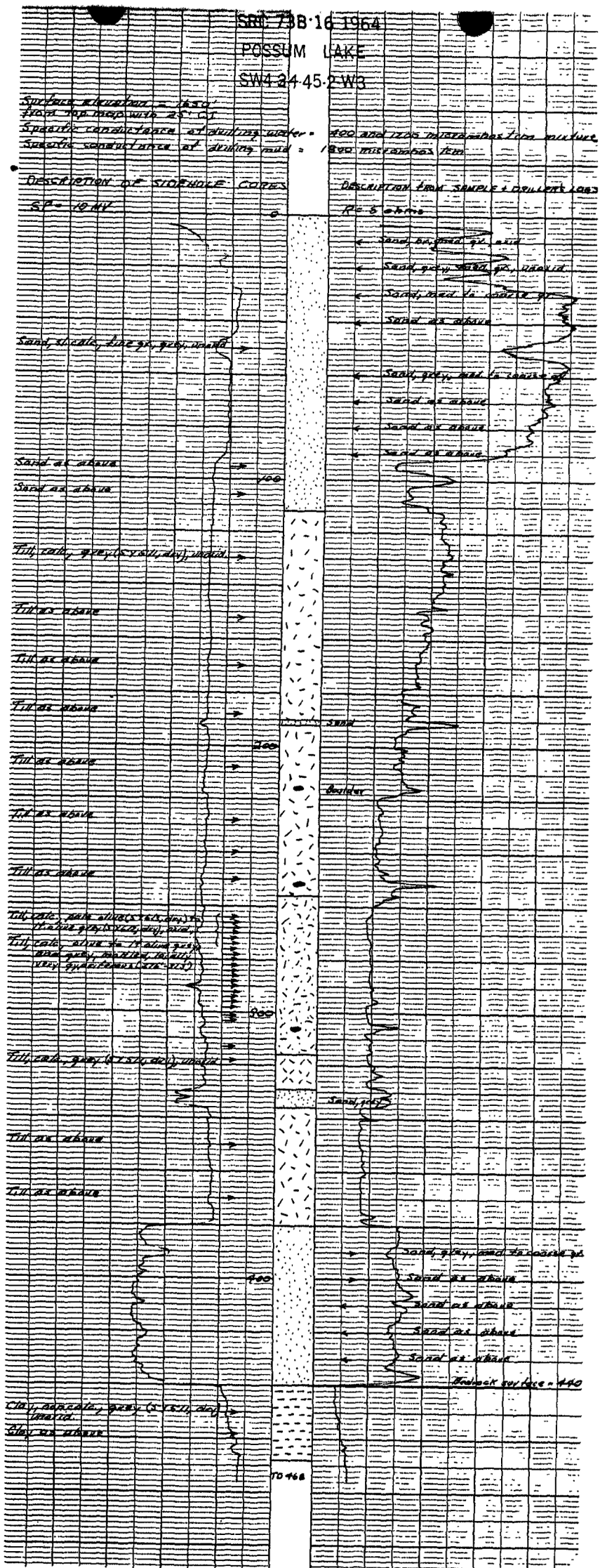
The recorder house was installed and grouted in place on August 21, 1964. This is the first of the regional observation wells to be installed.

The well was sterilized by chlorination at the termination of the test.

The initial non-pumping water level was -133'.

Construction supervised by W. M. M. M.

32 SCALE 1" = 2'  
 FOOTAGE DATUM IS TOP OF CASING.  
 34 6 3/8" OD insert joint water well casing. 0.188" wall top is ground +0.5'  
 36  
 38 Lead packer and reducing bushing fastened directly to screen landing ring on base of casing.  
 40 5-4"  $\phi$  Johnson stainless steel telescope well screen 0.010" slot 100' threaded end connections.  
 42  
 44 Ball plug threaded to bottom.



**DUCK LAKE 1 Retrofit**  
 September 7, 2000  
 Logger wt - 3.789 @ 07:54  
 Casing Talley  
 Well casing type:  
 at bottom 2 inch SCH 80 PVC  
 and 3 inch SCH 80 PVC  
 with ASTM 480 thread and o-ring seal  
 lubricated with liquid teflon at top  
**First casing length**  
 From bottom of sand point to:  
 - bottom screen slots - 0.11 m  
 - top of screen slots - 1.017 m  
 - bottom of bushing - 1.050 m  
 - bottom of 2" casing - 1.058 m  
 - top of 2" casing - 1.934 m  
 - bottom of 3" coupling - 1.942 m  
 - top of 3" coupling - 2.064 m  
 - top of 3" casing - 7.80 m  
**Second length**  
 5.296 m  
 - used both frac sands - 2 bags  
 - top of gravel pac - 10.68  
 - grout line - 9.75 m  
 - top of bentonite pellets - 10.47 m  
 - 2 bags of grout (September 14, 2000)

**September 7, 2000**  
**Grouting**  
 AquaGuard mixed and pumped into annular space until return achieved at surface  
 Supervised by: E.J. Jaworski, M.A. Simpson, D.A. Ziipko  
 Drilling Contractor: Elk Point Drilling  
 Greg Sander, Greg Metruene

**September 21, 2000 - Duck Lake 1 Pumping**  
 - Td TOC inside - 12.995 m  
 - start pumping @ 10:30 with centrifugal pump  
 - 20 #/38 sec @ 10:36  
 - stick 0.15 m  
 - shut pump off @ 12:15  
 wl 3.993  
 -0.150 3" casing stick-up above steel casing  
 wl 3.843 @ 13:43 EJJ