



To: Dr. J.C. Foweraker, Head
Groundwater Section

Date: October 9, 1987
Our file: 92 B 12 #16

Re: Cobble Hill Improvement District -
Well pumping test assessment

As requested by Mr. T. Pollard of the Community Water Supply Section a review has been completed of the well test data submitted for the above. Comments have been requested on the capacity of the District's well.

The 6 inch diameter well was drilled in 1984 to a depth of 245 feet and completed with 13 feet of stainless steel screen set from 231 to 244 feet below ground in unconsolidated gravel deposits. The well was tested on October 30, 1984 for 375 minutes with the last 325 minutes of the test carried out at a constant rate of 114 USgpm. Drawdown essentially stabilized during the last 175 minutes of the test at 56 feet below the pre-pumping level which was 142 feet below ground. Approximately 63 percent of the available drawdown was utilized at the end of the test indicating a specific capacity of 2.01 USgpm/ft. of drawdown. An observation well located 175 feet away from the production well showed 11 feet of interference near the end of the test. Upon pump shutdown the production well recovered within 30 minutes to within 0.3 feet of the pre-pumping level after 30 minutes.

Based on utilizing 70 percent of the available drawdown, the theoretical long-term capacity of the well would be 125 USgpm. As the specific capacity would likely decrease with an increase in pumping rate above 114 USgpm, the well yield would therefore likely lie between 114 and 125 US gpm assuming interference from neighbouring wells is not a significant factor.

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In summary, the District's well should be capable of meeting a demand of between 114 and 125 USgpm discounting any interference effects from neighbouring wells. An inventory of neighbouring wells including estimates of use would be required to assess what reduction in capacity might be expected during periods of peak demand such as the irrigation season. Practical considerations such as the well diameter and distribution system requirements may limit the size of pump which may be accommodated in the well. If a water quality analysis is not presently available a sample should be obtained for a standard laboratory analysis. The well should also be equipped with a totalizing flow meter to monitor consumption and provision should be made for obtaining monthly water levels in the well. This information will be particularly valuable to the District for assessing future performance with time and need if any for periodic well or pump maintenance.



A. Kohut
Sr. Geological Engineer

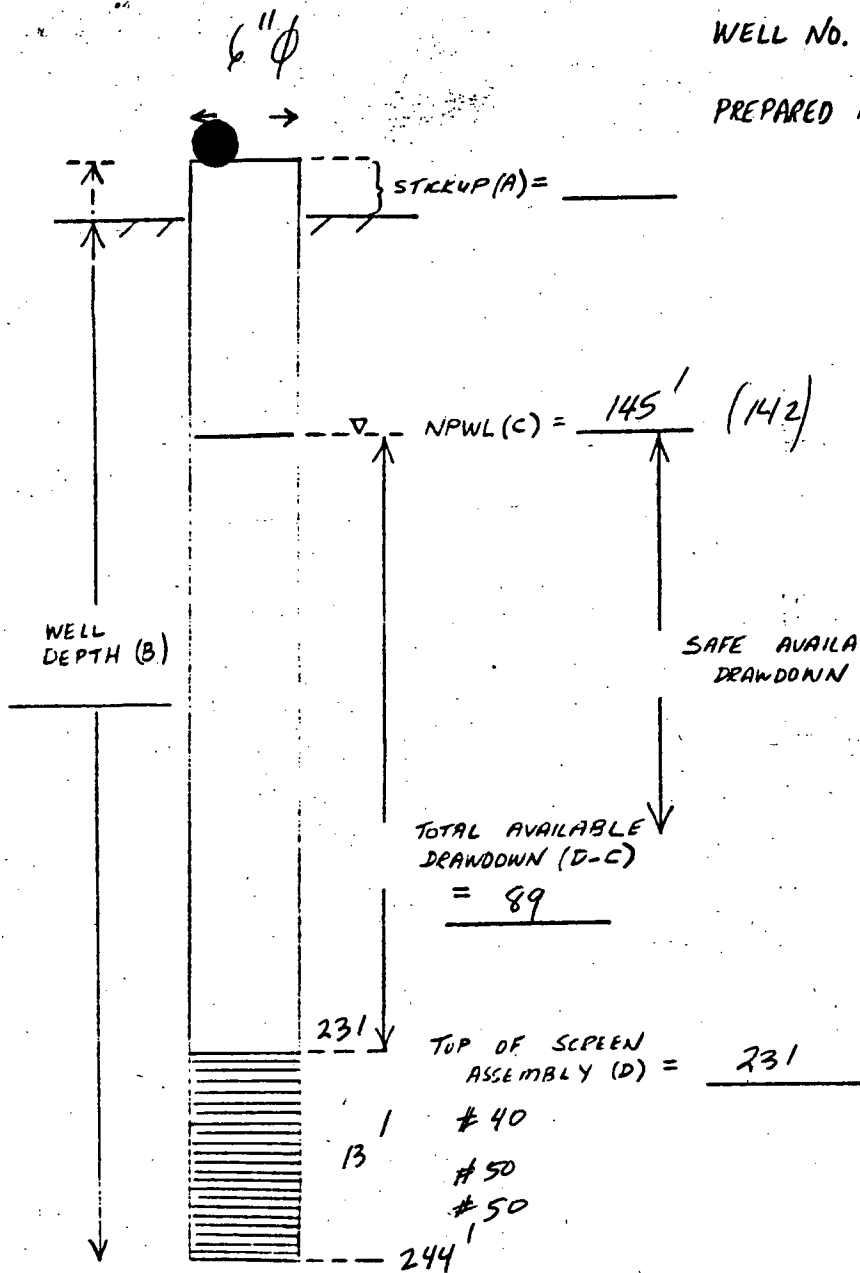
PROJECT: COBBLE HILL I.D.

WELL NO. WELL NO. 1

PREPARED BY: APK DATE: OCT. 8/87

ALL MEASUREMENTS BELOW AS OF:

- TOP OF CASING (BC) UNLESS
- GROUND SURFACE (BG) SPECIFIED
- KNOWN
- ASSUMED



E. PUMPING RATE 27 → 114 USgpm.

F. DURATION OF TEST 375 minutes.

G. WATER LEVEL AT END OF TEST 60.4 m. (198').

H. DRAWDOWN AT END OF TEST (G-C) 56'

I. PERCENTAGE OF AVAILABLE DRAWDOWN UTILIZED
AT END OF TEST $\frac{H}{D-C} = \underline{63\%}$

J. SPECIFIC CAPACITY AT END OF TEST $\frac{E}{H} = \underline{2.04 \text{ USgpm/ft. of dl.}}$

K. EXTRAPOLATED WATER LEVEL AFTER 100 DAYS = _____

L. SPECIFIC CAPACITY AT 100 DAYS $\frac{E}{K-C} = \underline{\hspace{2cm}}$

M. THEORETICAL LONG TERM CAPACITY $(L)(0.7)(D-C) = \underline{127 \text{ USgpm.}}$