

H+GCL  
NASA-WSTP  
P.O. Drawer MM  
Las Cruces, New Mexico 88004  
(505)524-5353

MEMORANDUM

TO: Greg Contaldo  
FROM: Pam Egan  
DATE: May 17, 1993  
RE: BW-4

During the completion of monitoring well BW-4 on 3-10-93, the H+GCL field crew inadvertently installed two pieces of Westbay casing out of sequence from the proposed well design. The events leading up to this incident are as follows:

Prior to the installation of any casing in BW-4, the well inventory was laid out in sequence and QA'd three times by three different people. The sequence at this time was correct. During installation of the casing into the borehole, just before connecting casing piece #5 to the casing string, it was realized that a filter sock was not attached to the measurement port coupling at the top of piece #2. All the casing was then removed from the borehole, the filter sock attached, and the casing re-installed. There were no other such incidences and the remainder of the well completion went well.

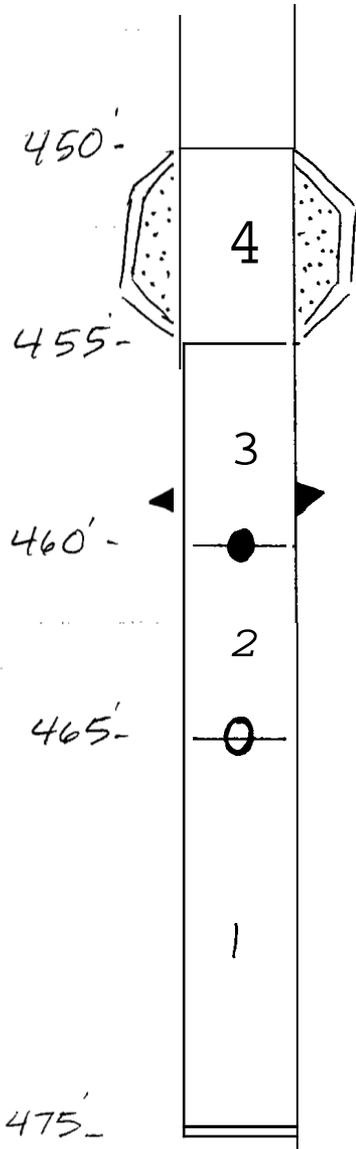
A few weeks(?) later a Lockheed Environmental Group person came to us with questions about a possible installation or completion diagram error because of problems they were having with locating the measurement port and pumping port couplings in the first sampling zone at the bottom of the well. After looking over field notes from the well installation and recalling the error with the filter sock, it was decided there was a good possibility the order of casing pieces #2 and #3 were reversed during re-installation. Casing piece #3 was installed in the #2 position and #2 was installed in the #3 position. A rough sketch was generated of the possible casing sequence in sampling zone #1 with the two pieces of casing reversed. This sequence was later confirmed by Lockheed with the aid of their Mosdax tool.

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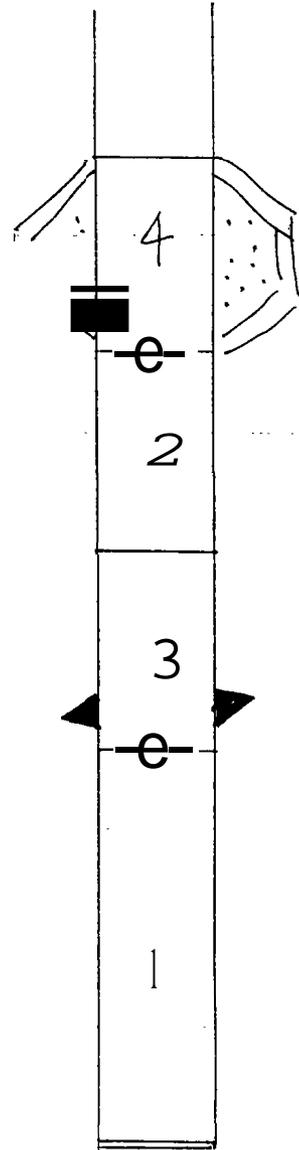
It is our (Dave, Kyle, and myself) opinion that this error in the **casing** sequence does not, in any way, compromise the integrity of well **BW-4**, create any development problems, nor does it effect the quality of groundwater samples extracted from this sampling zone. **An** inquiry made to Dave Mercer of Westbay Instruments, Inc. confirmed that this situation would not create any kind of problem.

Attached are drawings of both the proposed and actual well design of sampling zone #1. A copy of this memo has been placed in the **BW-4** well file folder.

BW-4



Proposed Well Design



Actual Sequence with casing #2 & #3 reversed.