

**MEMORANDUM**

TO A. P. Kohut  
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Water Investigations Branch

FROM W. S. Hodge  
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August 18 1976

SUBJECT A Recording of the China Earthquake through  
water level movement in Observation Wells

OUR FILE 0183613

YOUR FILE.....

Examination of water level hydrographs has shown the recording of the recent China Earthquake through water level movement in at least two observation wells located near Armstrong. This movement has been recorded on hydrographs from water level recorders monitoring these sites. One hydrograph in particular (C42-TH2) recorded not only the initial shockwave but also the aftershock, occurring some 15 hours later. The hydrograph (C42-TH1) has shown water level movement caused from the initial shockwave, however, movement here is not as definite. The recorder clock appears to have stopped immediately after the initial shock wave occurred.

Whether this malfunction is a direct attribute to the earthquake, or not, can only be assumed at this time, but is not considered improbable. The epicenter of this major earthquake is believed to be near Tangshan, 100 miles east of Peking. To appreciate the distance of shockwave travel, the nautical distance between Peking and San Fransisco is 5,130 miles.

Some Facts on the earthquake:

- (1) Initial quake registered 8.2 on the open end Richter
- (2) The aftershock registered 7.5 on the open end Richter
- (3) The initial shockwave was through B.C. on July 27, 1976 @ 1:00 p.m.
- (4) The aftershock was through B.C. on July 28, 1976 @ 4:00 a.m.

Some Facts on the observation wells influenced:

- (1) Both wells influenced are equipped with Stevens Type F english recorders
- (2) Total depth of C42-TH1 is ~~1570'~~ <sup>1872'\*</sup> with a static water level varying between 50 and 52' below ground level  
with 15' steel casing.

*APK 24/8/76.*

*J.C. POWERHILL  
 E. LE BRETON  
 J. PETCIE  
 S.L.C.*

*97 Very interesting*

*W.S.H.*

*Very interesting! \*  
 But fact on temp, 38°C  
 Depth are increased  
 as well as completion details.  
 Corrections made*

- 1570 \*
- (3) Total depth of C42-TH2 is 1892' with a static water level varying between 42-46'
  - (4) Both wells are surficial, cased, and bottomed in bedrock. *Wells also screened*

*W.S. Hodge.*  
W. S. Hodge

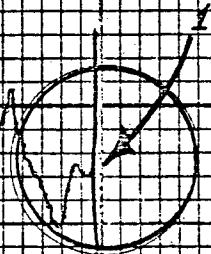
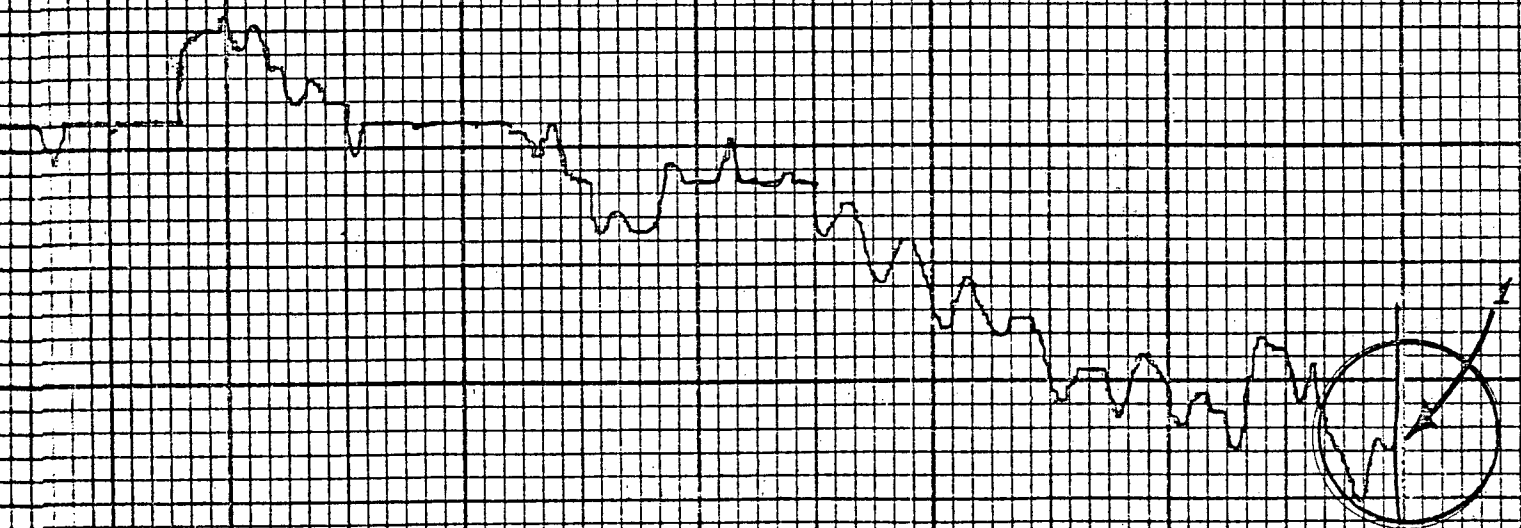
WSH/dmc

C42-TH1

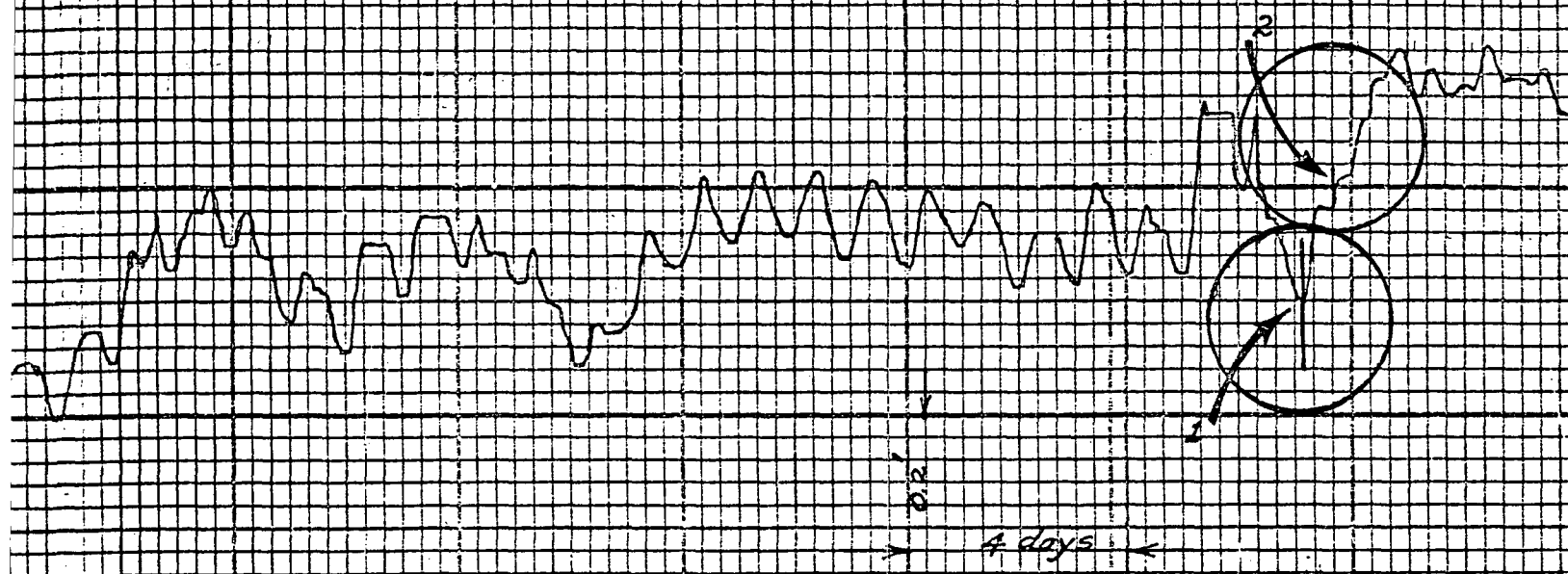
1. Initial Earthquake: July 27, 1976

@ 1:00 PM

\* Recorder clock stopped  
immediately after quake.



↓  
P.D.  
→ 4 days ←



C42-TH2.

- 1 - Initial Earthquake : July 27, 1976  
@ 1<sup>00</sup> PM.
- 2 - Aftershock July 28, 1976  
@ 7<sup>00</sup> AM.