

**ENVIRONMENTAL  
RESTORATION  
PROJECT**

Los Alamos National Laboratory/University of California  
Environmental Science and Waste Technology (E)  
Environmental Restoration (ER) Project, MS M992  
Los Alamos, New Mexico 87545  
(505) 667-0808/FAX (505) 665-4747



U.S. Department of Energy  
Los Alamos Area Office, MS A316  
Environmental Restoration Program  
Los Alamos, New Mexico 87544  
(505) 667-7203/FAX (505) 665-4504

Date: December 11, 2001  
Refer to: ER2001-1022

Mr. John Young, Corrective Action Project Leader  
Permits Management Program  
NMED – Hazardous Waste Bureau  
2905 Rodeo Park Drive East  
Building 1  
Santa Fe, NM 87505-6303



**SUBJECT: WELL COMPLETION FACT SHEETS FOR R-7**

Dear Mr. Young:

Enclosed are two copies of well completion fact sheets for Hydrogeologic  
Workplan characterization well R-7, located in the TA-53, Los Alamos Canyon.

If you have any questions, please call Dave McInroy at (505) 667-0819 or  
Bob Enz at (505) 667-5793.

Sincerely,

Julie A. Canepa, Program Manager  
Los Alamos National Laboratory  
Environmental Restoration

Sincerely,

Mat Johansen, Project Manager  
Department of Energy  
Los Alamos Area Office

JC/MJ/th/eim

Enclosure: Well R-7 Fact Sheet (ER2001-0847)



Cy (w/enc.):

D. Broxton, E/ER, MS M992  
A. Dorries, E/ER, MS M992  
E. Keating, EES-6, MS T001  
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C. Nylander, ESH-18, MS K497  
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D. Rogers, ESH-18, MS K497  
B. Stone, EES-6, MS T001  
D. Vaniman, EES-6, MS D462  
B. Enz, LAAO, MS A316  
M. Johansen, LAAO, MS A316  
G. Turner, LAAO, MS A316  
D. Neleigh, US EPA (2 copies)  
T. Trujillo, DOE-AL, MS A906  
J. Davis, NMED-SWQB  
M. Leavitt, NMED-GWQB  
S. Yanicak, NMED-DOE OB, MS J993  
J. Young, NMED-HWB (1 extra copy of Attachment)  
IM-5, MS A150  
E/ER File, MS M992  
RPF, MS M707

Cy (w/o enc.):

M. Baker, E/ER, MS J591  
J. Bearzi, NMED-HWB  
J. Canepa, E/ER, MS M992  
W. Neff, E/ET, MS M992  
T. Longo, DOE-HQ, EM 453  
R. Dinwiddie, NMED-HWB  
J. Parker, NMED-DOE OB

### Characterization Well R-7:

Location: TA-53, Los Alamos Canyon, east of Omega West reactor facility.

Survey coordinates (brass marker in NW corner of cement pad):  
 x: 1631666 E y: 1773653 N (NAD 83)  
 z: 6779.2 ft asi (NGVD 29)

Drilling: hollow stem auger and fluid-assist air rotary reverse circulation with casing advance  
 Phase 1 Start date: 02/22/00  
 Phase 1 End date: 02/25/00  
 Phase 2 Start date: 12/11/00  
 Phase 2 End date: 01/16/01

Borehole drilled to 1097 ft bgs (T.D.)

#### Data collection:

Hydrologic properties:  
 Field Hydraulic Testing: No tests were conducted.

Cores/cuttings submitted for geochemical and contaminant characterization: (0)

Groundwater samples submitted for geochem and contaminant characterization: (2)

Geologic properties:  
 Mineralogy, petrography, and chemistry (27)

#### Borehole logs:

Lithologic (0-1097 ft)  
 Video (LANL tool) 0-849 ft and 0-977 ft.  
 Natural gamma (LANL tool): 0-972 ft, and 0-977 ft. bgs.  
 Schlumberger Logs (0-290 ft cased, 290-1064 ft open hole): Litho density, Gamma Ray, Caliper, Combinable Magnetic Resonance, Formation Micro Imager, Spectral Gamma, Thermal/Epithermal Neutron, Array Induction, Natural Gamma.

Contaminants Detected in Borehole Samples:  
 Borehole screening data indicate no contaminants detected above background.

#### Well construction:

Drilling Completed: 01/16/01  
 Contract Geophysics: 01/12/01 through 01/13/01, and 01/14/01  
 Well Constructed: 01/20/01 through 01/31/01  
 Well Developed: 02/01/01 through 02/08/01  
 Westbay Installed: 02/21/01 through 02/26/01

Casing: 4.5-in I.D. stainless steel with external couplings

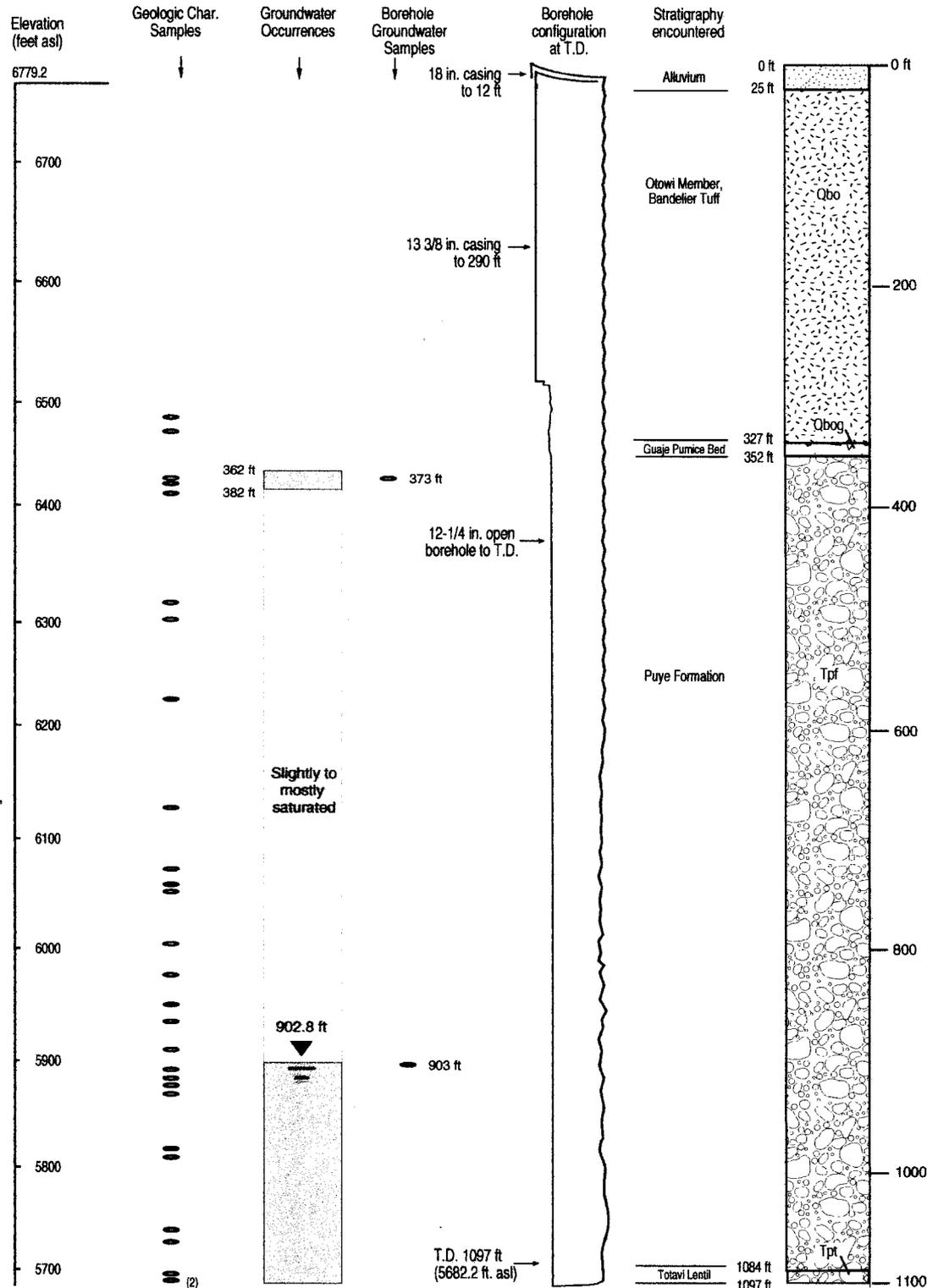
#### Number of Screens: 3

4.5-in I.D. pipe based, s.s. wire-wrapped; 0.010-in slotted.

#### Screen (perforated pipe interval):

Screen #1 - 363.2-379.2 ft bgs  
 Screen #2 - 730.4-746.4 ft bgs  
 Screen #3 - 895.5-937.4 ft bgs

Well development consisted of wire brushing, bailing, and pumping from Screen #3 and sump. Attempts to pump and bail water from Screens #1 and #2 were unsuccessful because of insufficient water from these zones.

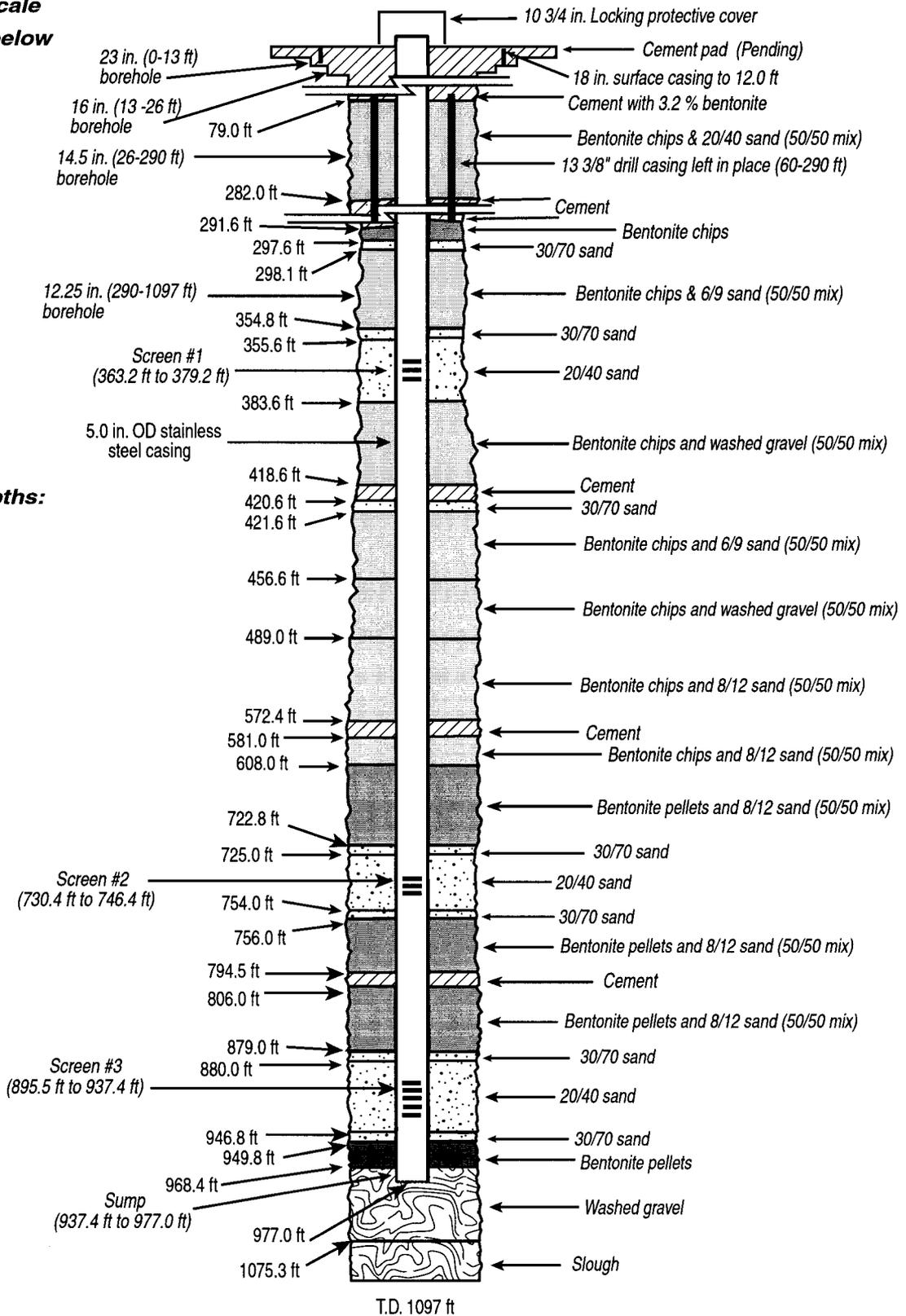


Groundwater occurrence was determined by recognition of first water produced while drilling, by borehole geophysics, and by borehole video. The rocks above the regional water table appeared to be partly to mostly saturated. Screens 1 & 2 were sited to sample the potential saturation above the regional water table. Static water levels were determined after the borehole was rested.

Geologic contacts determined by examination of cuttings and interpretation of natural gamma logs. Contacts may be refined by analysis of geologic samples by petrography and rock chemistry.

**Drawing Not to Scale**

**All depths feet below ground surface**



Note: The screen intervals list the footages of the pipe perforations, not the tops and bottoms of screen joints.

**As-built well completion diagram of Well R-7 Final rev.1.**

### Characterization Well R-7:

Location: TA-53, Los Alamos Canyon, east of Omega West reactor facility.

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Well Constructed: 01/20/01 through 01/31/01

Well Developed: 02/01/01 through 02/08/01

Westbay Installed: 02/21/01 through 02/26/01

Casing: 4.5-in I.D. stainless steel with external couplings

##### Number of Screens: 3

4.5-in I.D. pipe based, s.s. wire-wrapped; 0.010-in slotted.

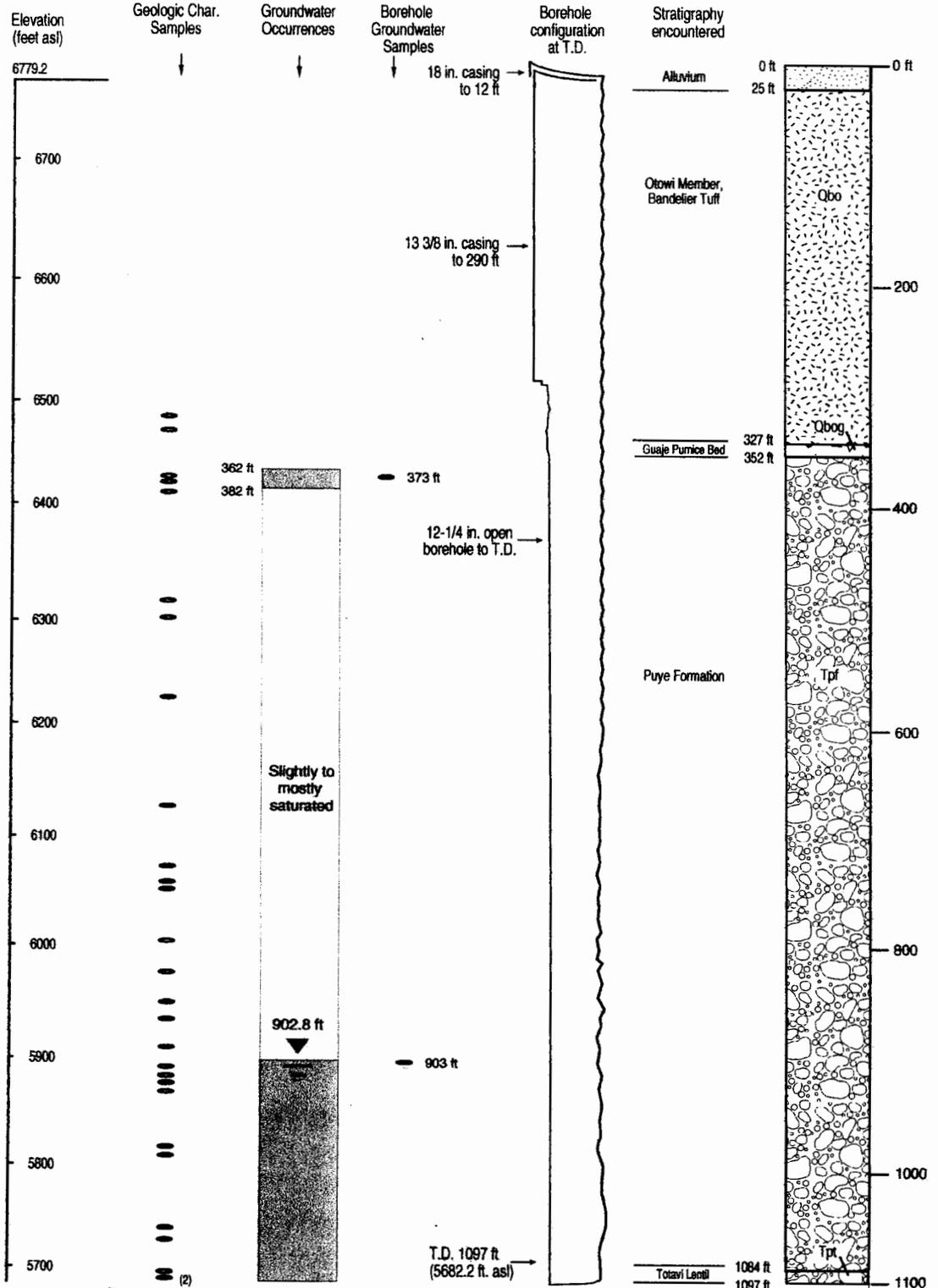
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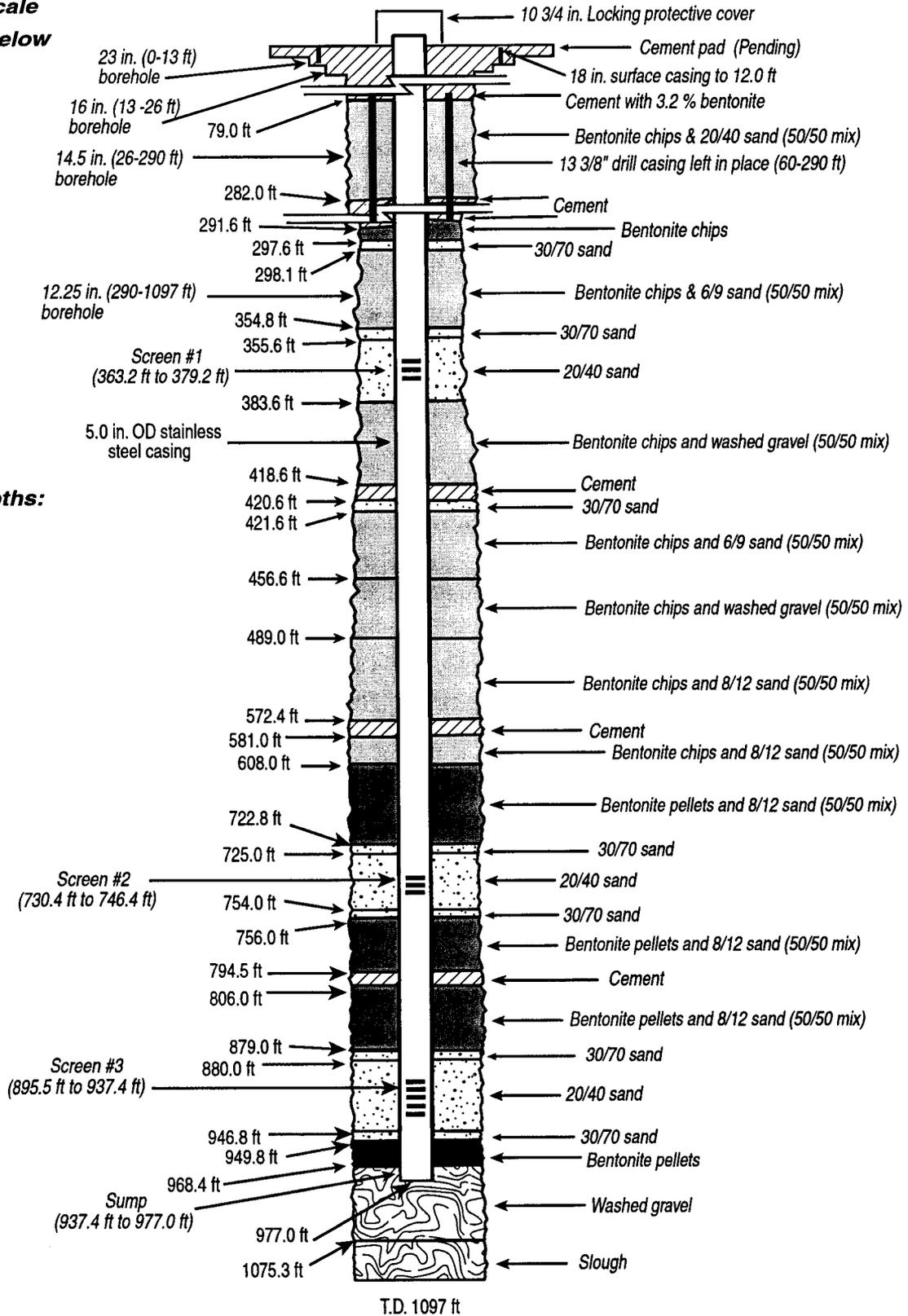


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**Drawing Not to Scale**

**All depths feet below ground surface**



**Centralizer Depths:**

- 72.7 ft to 74.3 ft
- 261.8 ft to 263.4 ft
- 360.0 ft to 361.6 ft
- 382.2 ft to 383.8 ft
- 575.0 ft to 576.6 ft
- 727.2 ft to 728.8 ft
- 754.9 ft to 756.5 ft
- 890.6 ft to 892.2 ft
- 940.6 ft to 942.2 ft

Note: The screen intervals list the footages of the pipe perforations, not the tops and bottoms of screen joints.

**As-built well completion diagram of Well R-7 Final rev.1.**