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INSTALLATION OF AQUIFER SAMPLING TUBES

**INSTALLATION OF AQUIFER SAMPLING TUBES
ALONG THE 100 AREA AND HANFORD TOWNSITE**

**Presentation to the Natural Resources Trustee Council
August 14, 1997**

*100 AREA GROUNDWATER PROJECT TEAM
ENVIRONMENTAL RESTORATION CONTRACTOR*

RECEIVED
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EDMC

INFORMATION MEETINGS, JULY/AUGUST 1997

0075001

PROJECT BACKGROUND

- **Riverbed Sediment Pore Water Sampling:**
 - 100-H Area (March 1995)**
 - 100-D/DR Area (October 1995)**

- **Aquifer Sampling Tubes at Columbia River Shoreline:**
 - 100-D/DR Area, 14 locations (October 1995)**

- **Riverbed Sediment Permanent Sampling Ports:**
 - 100-K, 100-D/DR, and 100-H Areas (August 1996)**

PURPOSE FOR THE PROJECT

Provide a means of sampling groundwater at locations as close as practical to the Columbia River, so that comprehensive coverage of water quality data along the shoreline can be made available for risk assessments and remediation decisions.

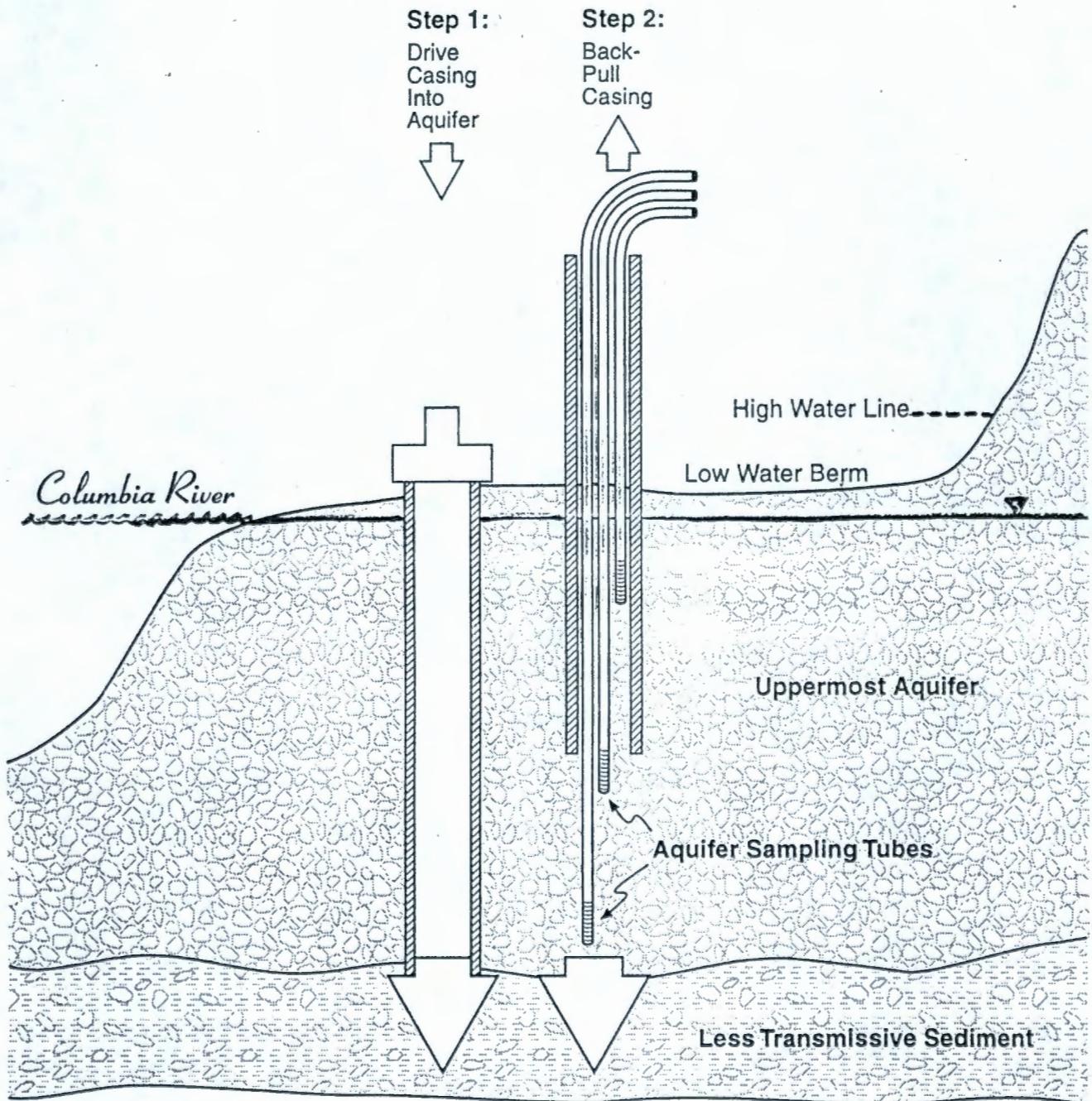
PROJECT OVERVIEW

- Equip 86 locations along the 100 Area and Hanford Townsite shorelines with sampling ports implanted at three different depths
- Obtain field screening results to provide an initial indication of water quality for planning subsequent sampling and analysis schedules

INSTALLATION OF TUBES

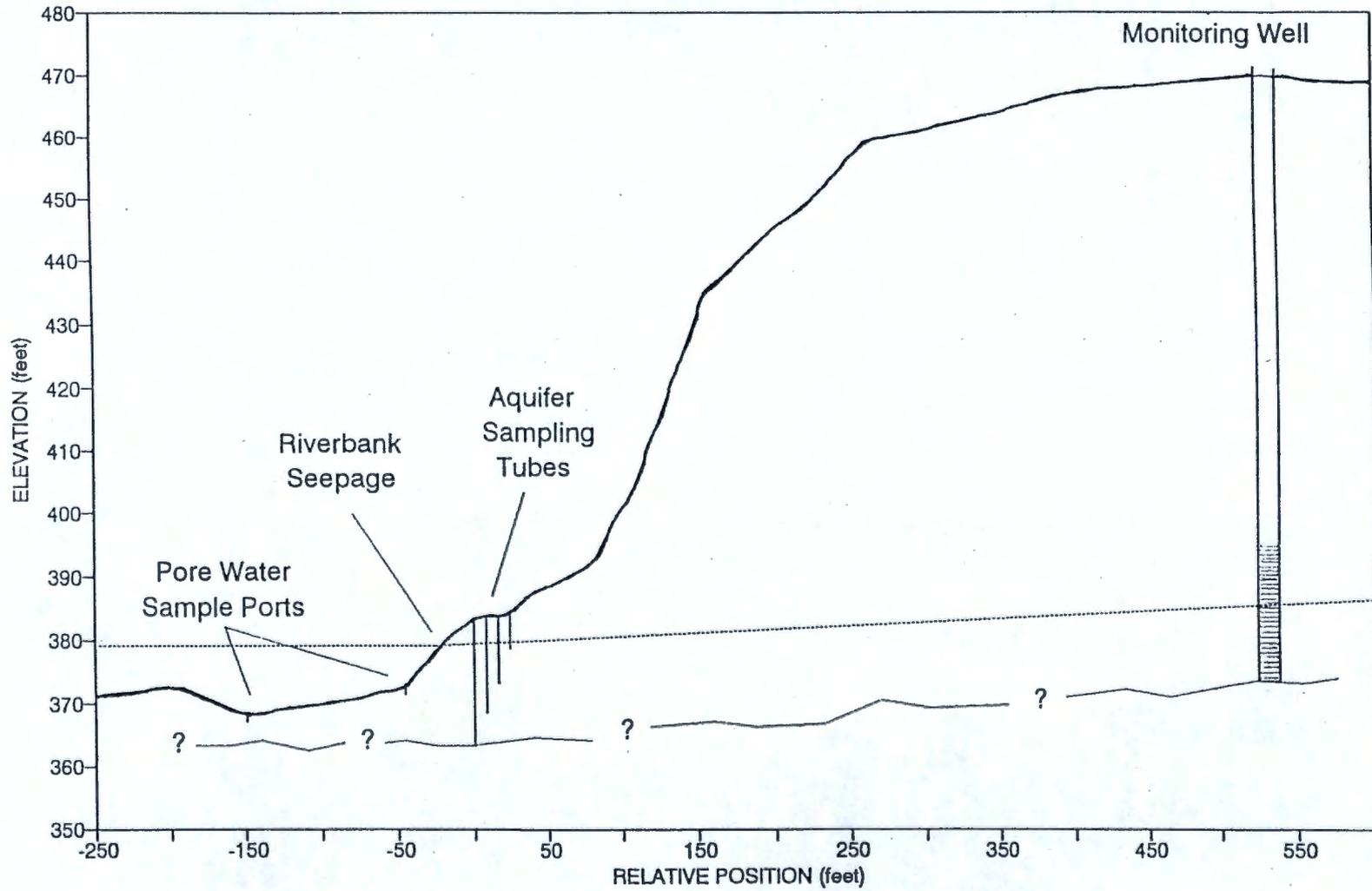
- **GeoProbe truck or hand-carried air hammer to drive casing**
- **Install plastic tubing with screened sample port; withdraw casing**
- **Secure tube at surface for subsequent sampling**
- **Survey locations using global positioning system**

Aquifer Sampling Tubes



- GRAVEL
- Gravelly SILT

SAMPLING LOCATIONS ALONG SHORELINE



SAMPLING DURING INSTALLATION

- To determine how representative samples are of groundwater
- To provide an initial indication of water quality conditions
- Sample adjacent existing tubes, when available

ANALYSIS OF INITIAL WATER SAMPLES

➤ **ERC Mobile Lab:**

**Specific conductance, temperature, and pH
Hexavalent chromium and nitrate analyses**

➤ **Offsite laboratory for gross beta and tritium analyses**

LOCATIONS PLANNING

- Spacing to provide continuous coverage of shoreline
- Increased density of spacing near known contamination plumes
- Field reconnaissance to determine accessibility and constraints

EXAMPLE APPLICATIONS OF DATA FROM TUBES

- Describe the nature, concentration, and extent of contaminants in groundwater near the river where sources are known
- Verify the presumed absence of groundwater contamination at locations along the shoreline
- Describe the variation of contamination with depth in the aquifer at shoreline locations
- Monitor the performance of remedial measures