



**EMCON**

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Intel: Rpt

ORIGINAL

December 20, 1996  
Project 40388-015.037

Mr. Jim Anderson  
Oregon Department of Environmental Quality  
Northwest Region  
Voluntary Cleanup and Site Assessment  
2020 SW Fourth Avenue, Suite 400  
Portland, Oregon 97201-4987

DEPT OF ENVIRONMENTAL QUALITY  
RECEIVED

DEC 31 1996

NORTHWEST REGION

Re: Installation of Replacement Well AW-6R, Intel Facility, 3585 SW 198th Avenue,  
Aloha, Oregon

Dear Jim:

On behalf of Intel Corporation (Intel), EMCON is submitting this report describing the installation of monitoring well AW-6R at the referenced facility. Well AW-6R replaces AW-6, which was decommissioned to accommodate reconstruction of the waste-solvent storage structure. (A report describing the decommissioning of AW-6 was submitted to you on October 16, 1996.) Monitoring well AW-6R was installed approximately 30 feet southeast of the former waste solvent storage-tank vault (see attached figure).

The well was completed in a 30.1-foot-deep borehole, with a sand filter pack extending from a depth of 17.5 to 30.1 feet. This depth range was chosen to monitor heads in the middle, most-transmissive part of the Willamette Silt as they are affected by groundwater pumping by the interim removal action measures hydraulic-containment system.

## FIELD PROCEDURES

EMCON began and completed well installation on November 13, 1996. Well development was completed on November 15. The work was consistent with the following state regulations or guidance:

- "Construction, Maintenance, and Abandonment of Monitoring Wells, Geotechnical Holes, and Other Holes in Oregon." Oregon Administrative Rules, Division 240. Oregon Water Resources Department (WRD). January 1994.
- "Groundwater Monitoring Well Drilling, Construction, and Decommissioning." Oregon Department of Environmental Quality. August 1992.

A start card was filed with the WRD before fieldwork began.

|         |              |            |   |
|---------|--------------|------------|---|
| Date    | 8/13/01      | # of pages | 2 |
| From    | Jim Anderson |            |   |
| Co.     | DFA          |            |   |
| Phone # | 229-6825     |            |   |
| Fax #   | 526-0775     |            |   |

Post-it® Fax Note 7671

To Russ Bunker  
Co./Dept. IT  
Phone #  
Fax #



## **Drilling**

The boring for AW-6R was drilled with a truck-mounted Mobile B-59 drill rig, using 10-inch outside diameter (6.25-inch inside diameter [i.d.]) hollow-stem augers. The rig was operated by GeoTech Explorations, Inc., of Portland, Oregon. To facilitate identification of the target water-bearing zones, soil samples were collected at a minimum of 5-foot centers using a 1.4-inch i.d., 1.5-foot-long split-spoon sampler.

The soil samples were described in the field according to American Society for Testing and Materials designation D 2487-92 by an EMCON geologist. Data on soil type, bedding, soil structure, moisture content, grain size, color, and consistency were recorded in the field. The boring log is in the appendix.

## **Well Installation**

The monitoring well was completed by installing 2-inch-diameter, schedule 40 polyvinyl chloride (PVC) casing in the borehole. A factory-slotted PVC well screen (0.010-inch slot size) was connected to the casing with flush-threaded couplings. The couplings had O-rings. Well materials were installed through the hollow-stem augers. A permanent stainless-steel centralizer attached to the bottom of the screen was used to center the well casing in the borehole. A 10- to 20-grade silica sand filter pack was placed in the annular space around the well screen, from approximately the bottom of the screen section to approximately 3 feet above the screen.

After the filter pack was brought to the desired level, the well was surged for 11 minutes, until the sand did not settle more than 0.1 foot between surgings. During surging, sand was added to maintain the top of the sandpack at 3 feet above the screen. A 3-foot annular seal, consisting of bentonite chips, was then placed on top of the filter pack and hydrated with potable city water. The remaining annulus was then filled with bentonite chips to approximately 1 foot below the ground surface. A heavy-duty flush mount surface cover set in concrete was installed over the top of the PVC well casing (see well completion diagram in the appendix).

Drilling and sampling equipment, including augers, drill rods, and the soil sampler devices, were steam-cleaned before drilling the boring and installing the well. The PVC well casing, screen, and end cap were supplied by the drilling company in sealed plastic wrappers.

## **Development**

After the well had stabilized for two days, it was developed by surging, pumping, and bailing. Field parameters, including specific conductance, pH, temperature, and sediment

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content, were measured periodically during development. The well development field form documenting development is in the appendix.

### Surveying

A registered land surveyor from ZTec Engineers, Inc., of Portland surveyed the location and elevation of AW-6R. The top-of-casing elevation (at an inscribed mark) for the monitoring well was surveyed to an accuracy of 0.01 foot relative to mean sea level. The ground-surface elevation beside the protective well cover was surveyed to an accuracy of 0.1 foot. The horizontal coordinates were surveyed to the existing site coordinates, to an accuracy of 1 foot. The survey report is in the appendix.

Please call if you have any questions.

Sincerely,

EMCON



Russ Bunker, R.G.  
Supervising Project Geologist

Attachments: Limitations  
Figure  
Appendix

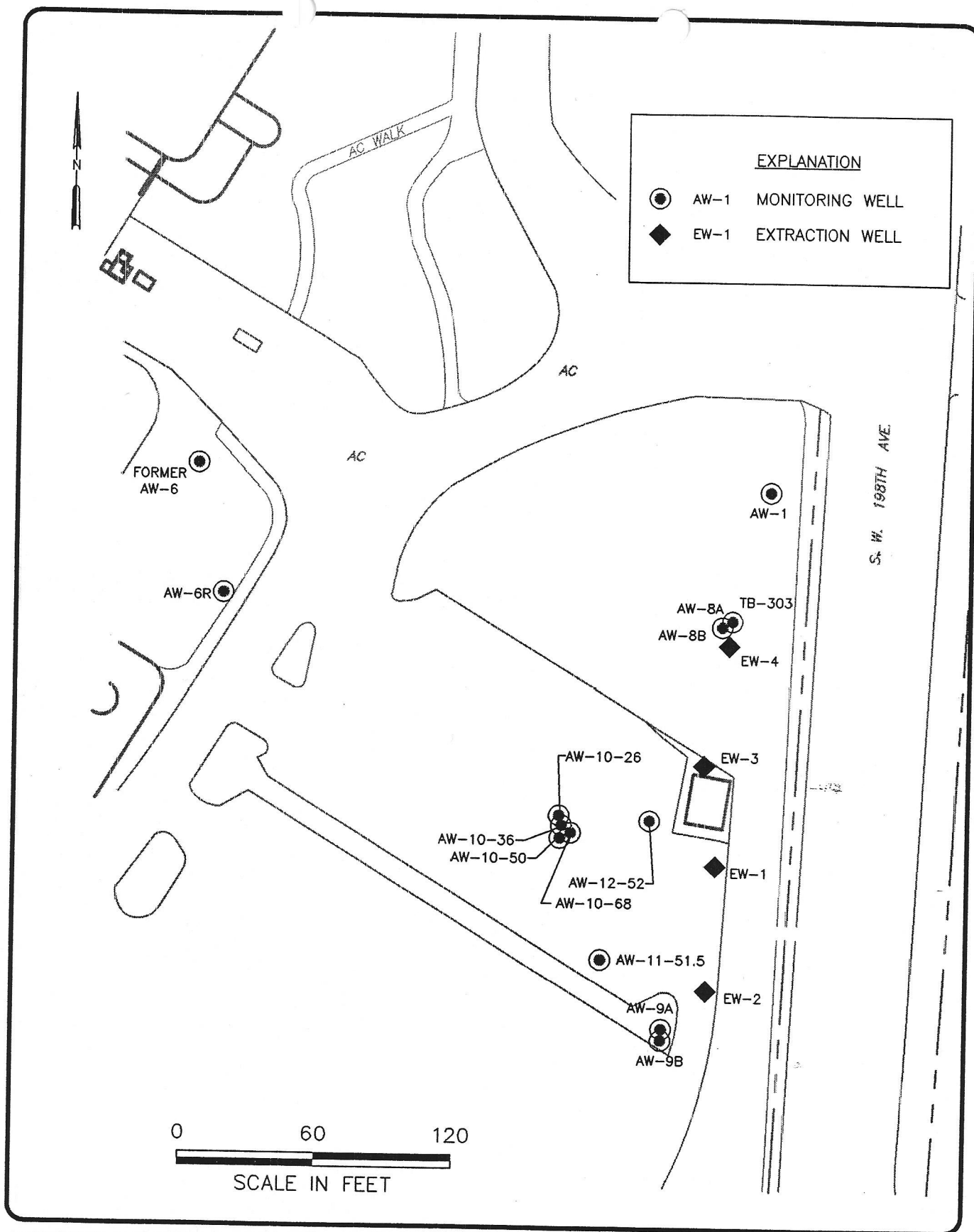
cc/att: John Arand; Intel  
Ralph Moon; HSA Environmental, Inc.  
Steve Harquail; EMCON

## **LIMITATIONS**

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The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, nor the use of segregated portions of this report.



**Emcon**

DATE 12/96  
 DWN. MK  
 APPR. RB  
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 PROJECT NO.  
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INTEL CORPORATION  
 ALOHA, OREGON

**WELL LOCATIONS**