

Soil and Water Remediation, Groundwater/Vadose Zone (RL-0030)

R. T. Wilde, Vice President of Solid and Waste
Water Remediation/Groundwater Vadose Zone
and Waste Sampling and Characterization
Facility/(509) 372-8123



Completed Final Section of Potable Waterline Relining between S-Plant & T-Plant

Overview

This section addresses work in Project Baseline Summary RL-0030, *Soil and Waste Remediation Groundwater/Vadose Zone*.

NOTE: Unless otherwise noted, all information contained herein is as of the end of August 2005.

Notable Accomplishments

Well Drilling: As of the end of August, all fifteen of the TPA-required wells for CY 2005 were completed. Four CY 2006 TPA wells have been constructed and are in final completion before they are accepted.

Well Decommissioning: There has been continued progress on the work to decommission wells that pose a high risk to provide a pathway for contamination to move directly to the groundwater. All seventy multiple-casing high-risk wells have been completed. These wells require the use of shaped explosive charges (called jet-shotting) to perforate the multiple casings and create holes that penetrate into the soil around the wells. Grout is then pumped into the wells and squeezed out into the soil to create a continuous seal inside and outside the wells. In addition, forty-four single-casing wells are being decommissioned using mechanical perforating tools that cut through the casing wall. Thirty-eight of these wells have been worked on, and thirty-five are completely decommissioned.

Aging Waterline Refurbishment: Cleanout of leaking 12" and 20" water supply lines and the 12" raw water line west of U-Plant in the 200 West Area using specially designed "pigs" commenced the week of July 25, 2005, and completed on August 11, 2005. By the end of the month, all of the 12" raw water line and approximately half the length of the 12" potable water line was mortar lined. Completion of mortar lining of that line is planned for early September. Mortar lining of the 20" line will be completed in September.

Testing a New Chromium Cleanup Technology: Operation of a treatability test system in the 100-K Reactor Area for remediating chromium groundwater contamination was completed in mid-August based on meeting the requirements of the treatability test plan. The injection and extraction wells will be monitored for several months for chromium levels and other key parameters. This technology adds calcium polysulfide to groundwater that is pumped to the surface and it changes the valence state of chromium from the mobile, toxic +6 state to the immobile, nontoxic +3 state. It not only removes chromium at the surface but then the treated stream can be reinjected into the aquifer to treat groundwater in place. Very little, if any rebound of chromium, has been observed since the cessation of operations of the system. In order to sample the injection wells and perform slug testing, congealed vegetable oil floating on the water surface will be removed. Emulsified vegetable oil was added during the treatability test to promote the growth of sulfate reducing bacteria in the reduction of hexavalent chromium in the groundwater. A treatability test report is in the planning stages, and is due in March 2006.

FY 2005 Funds vs. Spend Forecast (\$M)

	Projected FY 2005 Funding	FY 2005 Fiscal Year Spend Forecast	Variance
Soil & Water Remediation, Groundwater/Vadose Zone	\$ 55.4	\$ 51.7	\$ 3.8

FY 2005 Schedule/Cost Performance (\$M)

	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance \$	Schedule Variance %	Cost Variance \$	Cost Variance %	Budget At Completion
Soil & Water Remediation, Groundwater/ Vadose Zone	\$43.8	\$43.5	\$44.7	-\$0.3	-0.7%	-\$1.1	-2.6%	\$49.0

Numbers are rounded to the nearest \$0.1M and include the Closure Services allocation.

Schedule Performance (-\$0.3M/-0.7%). The unfavorable schedule variance is due to:

- Delayed award of the jet-shot and mechanical perforation decommissioning contracts.
- Technical issues in In-situ redox manipulation (ISRM) barrier drilling and delays in ISRM barrier maintenance.

The schedule associated with well decommissioning is being recovered; field work started in mid-January 2005.

Cost Performance (-\$1.1M/-2.6%). The unfavorable cost variance is due to:

- Under-estimated impact of growth within the Project (labor, training, occupancy, vehicles, etc.) .

Performance Analysis FYTD and Monthly (\$M)

