



Department of Energy

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J.P. Hildebrand *JMRP* *MS 623SS* *Copy for Hildebrand*

'86 JAN 28 P4:17

JAN 6 1986

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Mr. Ken Hall, Chairman
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Mr. Allen V. Pinkham, Chairman
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Gentlemen:

WM Record File <u>1013</u>	WM Project <u>10</u>
	Docket No. <u>DRM ✓</u>
	LPDR <u>✓ (B)</u>
Distribution:	
<u>J. Lincoln</u>	<u>Hildebrand</u>
<u>DRM</u>	<u>CFR</u>
(Return to Wm, 623-SS) <u>See</u>	

MONTHLY TRANSMITTAL OF "SCHEDULE FOR NEAR TERM BWIP SITE CHARACTERIZATION ACTIVITIES"

Enclosed for your use is our monthly update and schedule for Site, Engineered Barriers, and Geomechanics Department activities in this precharacterization phase.

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BS DC) 1710

JAN 6 1986

As committed, we will continue to update this information on a regular basis. Should you have any questions relative to this transmittal, please contact Mr. Max L. Powell of my staff on (509) 376-5267.

Very truly yours,

ORIGINAL SIGNED BY
O. L. OLSON

O. L. Olson, Director
Basalt Waste Isolation Division

BWI:MLP

Enclosure

bcc's for letter, Olson to States/Indian Tribes, "Monthly Transmittal of
Schedule for Near Term BWIP Site Characterization Activities"

bcc, w/encl:

Russell Jim, Yakima Indian Nation
Ronald Halfmoon, Nez Perce Tribe
Peter P. Ramatowski, Umatilla Conf. Tribes
Wyatt Rogers, CERT
Bill Dixon, State of Oregon
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BWI Record Cy
M. L. Powell File

SITE, ENGINEERED BARRIERS, AND GEOMECHANICS DEPARTMENT ACTIVITIES

Activities	Date	Rev.*
<u>Site</u>		
o Drill DC-23GR entry hole	12/09-13/85	12
o Test casing shoe in RRL-2B	Delete	
o Install piezometers in DC-23W	Complete	12
o Groundwater monitoring of boreholes DC-19, DC-20, DC-22, and RRL-14	Daily	
o Monitoring of other boreholes	Weekly	
o Electronmicroprobe analysis of flow top samples	Ongoing	
o X-ray diffraction analysis of flow top samples	Ongoing	
o Modeling gravity, magnetic data	Ongoing	
o Collection of magnetic and gravity data	Ongoing	
o Seismic surveillance and data analysis	Ongoing	
o Lab studies on sorption and chemical dissolution	Daily	
o Drill DC-23W	Complete	
o Collection of paleomagnetic samples	Complete	
o Drill DC-24GR entry hole	12/17-24/85	12
<u>Solution Chemistry Laboratory</u>		
o Develop method for rock analysis using ICP-AES	Complete	
o Upgrade anion analysis on ion chromatography	Complete	
o Develop method for analysis of groundwater tracer using HPLC	Complete	
o Support to Site Department database development	Ongoing	
o Development of methods for analysis using AA	Ongoing	
o Procedure development	Ongoing	
o Analysis of aqueous solution samples from hydrothermal testing and groundwater sampling	Ongoing	
o Field and field analyses of water from local springs, unconfined aquifer and other test horizons	Ongoing	
o Study of kinetic of decomposition of hydrogen peroxide with basalt under various conditions using uv-visible spectrophotometry	Ongoing	
o Develop method for analysis of fixed gases in water samples by gas chromatography	Complete	
o Develop improved methods for chemical speciation measurements of arsenic and selenium for use in analysis of hydrothermal samples	Complete	
o Development and initiation of improved methods of records retention	Ongoing	
o Support groundwater tracer analysis and groundwater sampling during large-scale testing	Begin 02/86	
o Analyses of selenium species in conjunction with selenium solubility studies with non-radioactive hydrothermal testing team	Ongoing	
o Analyses of minerals and clays by ICP-AES	Ongoing	
o Analyses of halides in basalt/methods development	Ongoing	
o Provide analyses of dissolved gases, iron species, and dissolved oxygen on request for Hydrochemistry Group	Ongoing	

Activities	Date	Rev.*
<u>Solution Chemistry Laboratory (Continued)</u>		
o Methods development for measurement of dissolved hydrogen (H ₂) in aqueous samples from autoclaves in the Non-Radioactive Hydrothermal Laboratory	Ongoing	
o Analyze solutions from experiments on sorption phenomena of flow top materials being done at PNL	Ongoing	
<u>Microcharacterization (Solids) Laboratory</u>		
Scanning Transmission Electron Microscope -		
o Analysis of flow-through run products	Ongoing	
o Analysis of Dickson autoclave run products	Ongoing	
o Initiate coring of RRL-17	12/02-31/85	
o Initiate drilling of DC-18	12/11/85-09/30/86	
o Initiate rotary drilling of DC-24	12/09/85-01/10/86	
o Conduct geologic field mapping	01/08-20/86	12
X-Ray Diffractometer -		
o Analysis of McCoy Canyon, Umtanum and high-Mg flow tops	Complete	
o Analysis of flow-through run products	Ongoing	
o Analysis of Dickson autoclave run products	Ongoing	
o Analysis of fault gouge	Complete	
o Analysis of sedimentary interbed minerals	01/86-10/86 (Work	12
	Transferred to PNL)	
o Analysis of corrosion water surface coatings	Ongoing	
Electron Microprobe -		
o Analysis of Rocky Coulee flow tops	Complete	
o Analysis of Dickson Autoclave run products	Ongoing	
o Analysis of oxide minerals in Rocky Coulee/Cohasset flow tops	Complete	
<u>Radioactive Hydrothermal Laboratory</u>		
o Basalt ± bentonite + synthetic groundwater tests in flow-through autoclave	Ongoing	12
o Radionuclide-doped simulated Savannah River Plant Defense glass + basalt and synthetic groundwater	Ongoing	
o Experiments using fully radioactive waste forms in the presence of various waste package components (metal, barriers, and/or basalt)	April 1986	
o Experiments on the behavior of specific radionuclides, introduced individually with groundwater, in the presence of packing material at low temperatures	Ongoing	

<u>Activities</u>	<u>Date</u>	<u>Rev. #</u>
<u>Non-Radioactive Hydrothermal Laboratory</u>		
o Hydrothermal tests on basalt + bentonite + groundwater	Ongoing	
o Long-term hydrothermal tests (1-5 years) on basalt + groundwater	Ongoing	
o Determine the solubility of selenium under hydrothermal conditions simulating the near-field environment	Ongoing	
o Evaluate Redox conditions in a hydrothermal experiment simulating a near-field environment	Ongoing	
o Dehydration experiments	Ongoing	
<u>Waste Package Packing Investigatory Testing</u>		
o Uniaxial compression	50 tests	Complete
o Brazillian tension	50 tests	Complete
o Direct shear	50 tests	Complete
o 4-point flexure	40 tests	Complete
o Density	100 tests	Complete
<u>Concrete Testing Laboratory</u>		
o Near-Surface Testing Facility Remedial Shotcrete	Ongoing	
o Dowell's chemical seal ring tests	Begin 12/85	12
o Fracture alteration testing	Begin 12/85	
<u>Backfill Testing Laboratory</u>		
o Hydraulic conductivity tests (packing and seals)	Ongoing	
o Swelling pressure permeameter and triaxial tests (packing)	Ongoing	12
o Long-term flow through permeameter tests (packing)	Ongoing	
o Swelling pressure permeameter and triaxial tests (seals)	Begin 01/85	
<u>Geomechanics Testing at Near-Surface Test Facility</u>		
o Overcoming developmental testing with CSIRO triaxial cell	01/85-03/85	12
o Development testing of a prototype thermal conductivity probe	Begin 12/85	
o Rock support materials development testing	02/86-02/88	12
<u>Rock Mechanics Laboratory</u>		
o Thermal conductivity/thermal expansion development testing	12/85-02/86	12

*Changes in this schedule from that last issued are indicated by a revision bar and revision number. Items will remain on listing for a two-month period after completion.