



Department of Energy

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JAN 28 1986 '86 JAN 34 11:31
Feb. 3

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Mr. Melvin R. Sampson, Chairman
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P. O. Box 151
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Mr. Ken Hall, Chairman
Board of Trustees
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P. O. Box 638
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Mr. J. Herman Rueben, Chairman
Nez Perce Tribal Executive Committee
Box 305
Lapwai, ID 83540

Gentlemen:

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.

WM Record File 101.2 WM Project 10
Docket No. _____
PDR
LPDR (B)

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PDR WASTE PDR
WM-10

Distribution:
Linehan
DRM CFR
(Return to WM, 623-SS)

State and Indian Tribes

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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

for *B. J. Nicolle*
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
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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 Drilling and testing of DC-18	01/20/86-11/86	
o Drill DC-23GR entry hole	Complete	
o Drill DC-23GR	01/20/86-03/86	13
o Drill DC-24GR entry hole	Complete	
o Initiate rotary drilling of DC-24	Complete	
o Install piezometers in DC-23W	Complete	
o Drill DC-24W entry hole	01/08-14/86	
o Drill DH-32 and DH-33 entry holes	Complete	13
o Drill DH-31 and DH-34 entry holes	01/09-30/86	
o Test casing shoe in RRL-2B	Delete	
o Initiate coring of RRL-17	12/16/85-03/86	13
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 Conduct geologic field mapping	01/08-20/86	
<u>Solution and Solids Characterization Group</u>		13
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 laboratory analyses of water from local springs, unconfined aquifer, and other test horizons	Ongoing	13
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 hydraulic stress (LHS) testing	Delay Until Start of LHS Testing	13
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	

Activities	Date	Rev.*
<u>Solution and Solids Characterization Group (Continued)</u>		13
<ul style="list-style-type: none"> o Analyses of halides in basalt/methods development o Provide analyses of dissolved gases, iron species, and dissolved oxygen on request for Hydrochemistry Group o Methods development for measurement of dissolved hydrogen (H₂) in aqueous samples from autoclaves in the Non-Radioactive Hydrothermal Laboratory o Analyze solutions from experiments on sorption phenomena of flow top materials being done at PNL 	<ul style="list-style-type: none"> Ongoing Ongoing Ongoing Ongoing 	
Scanning Transmission Electron Microscope -		
<ul style="list-style-type: none"> o Analysis of flow-through run products o Analysis of Dickson autoclave run products 	<ul style="list-style-type: none"> Ongoing Ongoing 	
X-Ray Diffractometer -		
<ul style="list-style-type: none"> o Analysis of flow-through run products o Analysis of Dickson autoclave run products o Analysis of sedimentary interbed minerals o Analysis of corrosion water surface coatings 	<ul style="list-style-type: none"> Ongoing Ongoing 02/86-10/86 (Transferred-PNL) Ongoing 	13
Electron Microprobe -		
<ul style="list-style-type: none"> o Analysis of Dickson Autoclave run products 	Ongoing	
<u>Geochemical Testing Group</u>		13
Radioactive -		
<ul style="list-style-type: none"> o Basalt + bentonite + synthetic groundwater tests in flow-through autoclave o Radionuclide-doped simulated Savannah River Plant Defense glass + basalt and synthetic groundwater o Experiments using fully radioactive waste forms in the presence of various waste package components (metal, barriers, and/or basalt) o Experiments on the behavior of specific radionuclides, introduced individually with groundwater, in the presence of packing material at low temperatures 	<ul style="list-style-type: none"> Ongoing Ongoing April 1986 Ongoing 	
Non-Radioactive -		
<ul style="list-style-type: none"> o Hydrothermal tests on basalt + bentonite + groundwater o Long-term hydrothermal tests (1-5 years) on basalt + groundwater o Determine the solubility of selenium under hydrothermal conditions simulating the near-field environment o Evaluate Redox conditions in a hydrothermal experiment simulating a near-field environment o Dehydration experiments 	<ul style="list-style-type: none"> Ongoing Ongoing Ongoing Ongoing Ongoing 	

<u>Activities</u>	<u>Date</u>	<u>Rev.*</u>
<u>Packing Material and Repository Seals Testing Group</u>		
o Fracture alteration testing	12/85-09/86	13
o Hydraulic conductivity tests (packing and seals)	Ongoing	
o Swelling pressure permeameter and triaxial tests (packing)	Ongoing	13
o Long-term flow through permeameter tests (packing)	Ongoing	
o Swelling pressure permeameter and triaxial tests (seals)	Begin 01/86	
o Start shrinkage limit tests on 6 candidate backfill (basalt/bentonite) mixes	12/85-09/86	
o Start moisture-density testing on 6 candidate backfill (basalt/bentonite) mixes	12/85-09/86	
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<u>Exploratory Shaft and Geomechanics Testing Group</u>		
o Near-Surface Testing Facility Remedial Shotcrete Perform tests on shotcrete specimens	Complete 02/86-09/86	13
o Dowell's chemical seal ring tests	Ongoing	
o Thermal conductivity/thermal expansion development testing	12/85-02/86	13
o Acquire calorimeter for heat capacity measurements and begin developmental testing	02/86-07/86	
<u>Geomechanics Testing at Near-Surface Test Facility</u>		
o Overcoring developmental testing with CSIRO triaxial cell	01/86-03/86	13
o Development testing of a prototype thermal conductivity probe	Begin 01/86	
o Rock support materials development testing	02/86-02/88	
<u>Rock Mechanics Laboratory</u>		
o Thermal conductivity/thermal expansion development testing	12/85-02/86	13
o Thermal property tests on RRL core	03/86	
o Size-effect strength testing of Cohasset core	02/86-04/86	
o High temperature and pressure triaxial development testing	03/86	

*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.