

**ENGINEERING CHANGE NOTICE**

5

Page 1 of 2

1. ECN **657716**

Proj.  
ECN

<b>2. ECN Category (mark one)</b> Supplemental <input type="checkbox"/> Direct Revision <input checked="" type="checkbox"/> Change ECN <input type="checkbox"/> Temporary <input type="checkbox"/> Standby <input type="checkbox"/> Supersedure <input type="checkbox"/> Cancel/Void <input type="checkbox"/>	<b>3. Originator's Name, Organization, MSIN, and Telephone No.</b> M.I. Wood, H8-44, 373-3308	<b>4. USQ Required?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>5. Date</b> 4/10/00
	<b>6. Project Title/No./Work Order No.</b> Vadose Zone Characterization	<b>7. Bldg./Sys./Fac. No.</b> N/A	<b>8. Approval Designator</b> N/A
	<b>9. Document Numbers Changed by this ECN (includes sheet no. and rev.)</b> HNF-5507, Rev. 0	<b>10. Related ECN No(s).</b> N/A	<b>11. Related PO No.</b> N/A
<b>12a. Modification Work</b> <input type="checkbox"/> Yes (fill out Blk. 12b) <input checked="" type="checkbox"/> No (NA Blks. 12b, 12c, 12d)	<b>12b. Work Package No.</b> N/A	<b>12c. Modification Work Completed</b> N/A Design Authority/Cog. Engineer Signature & Date	<b>12d. Restored to Original Condition (Temp. or Standby ECNs only)</b> N/A Design Authority/Cog. Engineer Signature & Date
<b>13a. Description of Change</b> Addition of several figures and revision of selected text to the document (HNF-5507, Rev. 0_).			
<b>13b. Design Baseline Document?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
<b>14a. Justification (mark one)</b> Criteria Change <input type="checkbox"/> Design Improvement <input type="checkbox"/> Environmental <input type="checkbox"/> Facility Deactivation <input type="checkbox"/> As-Found <input checked="" type="checkbox"/> Facilitate Const. <input type="checkbox"/> Const. Error/Omission <input type="checkbox"/> Design Error/Omission <input type="checkbox"/>	<b>14b. Justification Details</b> Provide missing information		
<b>15. Distribution (include name, MSIN, and no. of copies)</b> See attached distribution sheet		<b>RELEASE STAMP</b> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p align="center">APR 24 2000</p> <p>DATE: _____</p> <p>STA: 15</p> <p align="center">HANFORD RELEASE</p> <p align="right">ID: <b>20</b></p> </div>	

# ENGINEERING CHANGE NOTICE

Page 2 of 2

1. ECN (use no. from pg. 1)

657716

**16. Design Verification Required**

- Yes  
 No

**17. Cost Impact**

**ENGINEERING**

- Additional  \$ N/A  
 Savings  \$ \_\_\_\_\_

**CONSTRUCTION**

- Additional  \$ N/A  
 Savings  \$ \_\_\_\_\_

**18. Schedule Impact (days)**

- Improvement  \_\_\_\_\_  
 Delay  0

**19. Change Impact Review:** Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

<p>SDD/DD <input type="checkbox"/></p> <p>Functional Design Criteria <input type="checkbox"/></p> <p>Operating Specification <input type="checkbox"/></p> <p>Criticality Specification <input type="checkbox"/></p> <p>Conceptual Design Report <input type="checkbox"/></p> <p>Equipment Spec. <input type="checkbox"/></p> <p>Const. Spec. <input type="checkbox"/></p> <p>Procurement Spec. <input type="checkbox"/></p> <p>Vendor Information <input type="checkbox"/></p> <p>OM Manual <input type="checkbox"/></p> <p>FSAR/SAR <input type="checkbox"/></p> <p>Safety Equipment List <input type="checkbox"/></p> <p>Radiation Work Permit <input type="checkbox"/></p> <p>Environmental Impact Statement <input type="checkbox"/></p> <p>Environmental Report <input type="checkbox"/></p> <p>Environmental Permit <input type="checkbox"/></p>	<p>Seismic/Stress Analysis <input type="checkbox"/></p> <p>Stress/Design Report <input type="checkbox"/></p> <p>Interface Control Drawing <input type="checkbox"/></p> <p>Calibration Procedure <input type="checkbox"/></p> <p>Installation Procedure <input type="checkbox"/></p> <p>Maintenance Procedure <input type="checkbox"/></p> <p>Engineering Procedure <input type="checkbox"/></p> <p>Operating Instruction <input type="checkbox"/></p> <p>Operating Procedure <input type="checkbox"/></p> <p>Operational Safety Requirement <input type="checkbox"/></p> <p>IEFD Drawing <input type="checkbox"/></p> <p>Cell Arrangement Drawing <input type="checkbox"/></p> <p>Essential Material Specification <input type="checkbox"/></p> <p>Fac. Proc. Samp. Schedule <input type="checkbox"/></p> <p>Inspection Plan <input type="checkbox"/></p> <p>Inventory Adjustment Request <input type="checkbox"/></p>	<p>Tank Calibration Manual <input type="checkbox"/></p> <p>Health Physics Procedure <input type="checkbox"/></p> <p>Spares Multiple Unit Listing <input type="checkbox"/></p> <p>Test Procedures/Specification <input type="checkbox"/></p> <p>Component Index <input type="checkbox"/></p> <p>ASME Coded Item <input type="checkbox"/></p> <p>Human Factor Consideration <input type="checkbox"/></p> <p>Computer Software <input type="checkbox"/></p> <p>Electric Circuit Schedule <input type="checkbox"/></p> <p>ICRS Procedure <input type="checkbox"/></p> <p>Process Control Manual/Plan <input type="checkbox"/></p> <p>Process Flow Chart <input type="checkbox"/></p> <p>Purchase Requisition <input type="checkbox"/></p> <p>Tickler File <input type="checkbox"/></p> <p>_____ <input type="checkbox"/></p> <p>_____ <input type="checkbox"/></p>
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**20. Other Affected Documents:** (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision                      Document Number/Revision                      Document Number/Revision

N/A

**21. Approvals**

Signature    Date    Signature    Date

<p>Design Authority _____</p> <p>Cog. Eng. <u>M.I. Wood</u> <u>M.I. Wood</u> <u>4/24/00</u></p> <p>Cog. Mgr. <u>A.J. Knepp</u> <u>A.J. Knepp</u> <u>4/24/00</u></p> <p>QA _____</p> <p>Safety _____</p> <p>Environ. _____</p> <p>Other _____</p>	<p>Design Agent _____</p> <p>PE _____</p> <p>QA _____</p> <p>Safety _____</p> <p>Design _____</p> <p>Environ. _____</p> <p>Other _____</p>
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**DEPARTMENT OF ENERGY**

Signature or a Control Number that tracks the Approval Signature

**ADDITIONAL**

## DISTRIBUTION SHEET

<b>To</b> Distribution	<b>From</b> RPP Vadose Zone Project	<b>Page</b> 1 of 1
<b>Project Title/Work Order</b> Subsurface Conditions Description of the B-BX-BY Waste Management Area		<b>Date</b> 4-10-00
		<b>EDT No.</b>
		<b>ECN No.</b> 657716

Name	MSIN	Text With All Attach.	Text Only	Attach./Appendix Only	EDT/ECN Only
Central Files	B1-07	x			
RL Reading Room	H2-53	x			
Project Files	H0-22	x			
FJ Anderson	H6-64	x			
TE Jones	H0-22	x			
CC Haase	H6-64	x			
AJ Knepp	H0-22	x			
FM Mann	H0-22	x			
DA Myers	H0-22	x			
PM Rogers	H0-22	x			
HA Sydnor	H0-22	x			
MI Wood (3 copies)	H8-44	x			
R. Khaleel	B4-43	x			
BH Ford	H0-21	x			
CT Kincaid	H0-21	x			
DL Nichols	B2-05	x			
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RG McCain	B1-42	x			
JC Williams	B4-45	x			

# SUBSURFACE CONDITIONS DESCRIPTION OF THE B-BX-BY WASTE MANAGEMENT AREA

M.I. Wood, Fluor Hanford, Inc., for T.E. Jones, CH2MHill Hanford Group  
R. Schalla, B.N. Bjornstad, and S.M. Narbutovskih, PNNL  
Richland, WA 99352  
U.S. Department of Energy Contract DE-AC06-99RL14047

EDT/ECN: 657716 UC: 2010  
Cost Center: 73500 Charge Code: 106497AJ60 HMLMC351  
B&R Code: EW3130010 Total Pages: 248

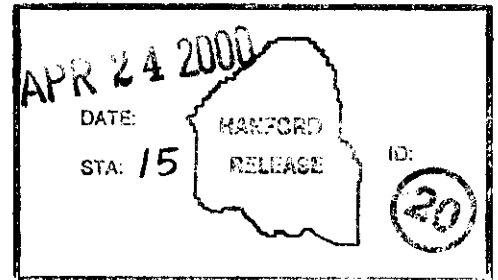
Key Words: Vadose Zone, B-BX-BY WMA, Contamination, RFI-CMS

**Abstract:** This document provides a discussion of the subsurface conditions relevant to the occurrence and migration of contaminants in the vadose zone and groundwater underlying the 241-B, -BX, and -BY tank farms. This document provides a concise summary of existing information in support of characterization planning. This document includes a description of the available environmental contamination data and a limited, qualitative interpretation of these data.

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*Janis Aardal* 4/24/00  
Release Approval Date



Release Stamp

**Approved For Public Release**

# RECORD OF REVISION

(1) Document Number

HNF-5507

Page 1

(2) Title

Subsurface Conditions Description of the B-BX-BY Waste Management Area

## Change Control Record

(3) Revision	(4) Description of Change - Replace, Add, and Delete Pages	Authorized for Release		
		(5) Cog. Engr.	(6) Cog. Mgr.	Date
	(7)			
0A RS	Replace the following pages in Rev. 0 with pages from Rev 0A:	<i>MJ Wood</i>	<i>AGK</i>	4/27/00
	p. iii, Rev. 0 with p. iii, Rev. 0A;	<i>MJ Wood</i>	<i>AGK</i>	4/24/00
	pp. 2-26 through 2-28, Rev. 0, with pp. 2-26 through 2-28, Rev. 0A;	<i>MJ Wood</i>	<i>AGK</i>	4/24/00
	pp. 2-31 through 2-39, Rev. 0 with pp. 2-31 through 2-39, Rev. 0A;	<i>MJ Wood</i>	<i>AGK</i>	4/24/00
	p. 3-17, Rev. 0 with p. 3-17, Rev. 0A;	<i>MJ Wood</i>	<i>AGK</i>	4/24/00
	pp. 6-1 through 6-7, Rev. 0 with pp. 6-1 through 6-7, Rev. 0A;	<i>MJ Wood</i>	<i>AGK</i>	4/24/00
	pp. B-17 through B-20, Rev. 0 with pp. B-17 through B-28, Rev. 0A;	<i>MJ Wood</i>	<i>AGK</i>	4/24/00
**	<del>Insert p. E-3.1, Rev. 0A after p. E-3, Rev. 0;</del> <sup>via</sup> Insert p. E-9, Rev. 0A after p. E-9, Rev. 0; <sup>4/24</sup>	<i>MJ Wood</i>	<i>AGK</i>	4/24/00
	pp. E-65 through E-72, Rev. 0 with pp. E-65 through E-69, Rev. 0A. <sup>via</sup> <i>ECN-657716</i> <sup>4/24</sup>	<i>MJ Wood</i>	<i>AGK</i>	4/24/00
		<i>MI Wood</i>	<i>AG Knepp</i>	
**	Per telecon w/ M. J. Wood, 4/24/00. J. Cardak / Sta. 15			