

# START

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## ENGINEERING CHANGE NOTICE

Page 1 of <sup>was</sup> 2

1. ECN 164703

Proj.  
ECN

2. ECH Category (mark one)		Supplemental <input type="checkbox"/>	Change ECH <input type="checkbox"/>	Supersedure <input type="checkbox"/>
Cancel/Void <input type="checkbox"/>	Direct Revision <input checked="" type="checkbox"/>	Temporary <input type="checkbox"/>	Discovery <input type="checkbox"/>	
3. Originator's Name, Organization, MSIN, and Telephone No. James W. Roberts, RR/ENV/Env. Eng., H4-55, 376-5164			4. Date February 13, 1992	
5. Project Title/No./Work Order No. DESCRIPTION OF WORK FOR THE 100-BC-5 GROUNDWATER OPERABLE UNIT PH1AA		6. Bldg./Sys./Fac. No. 100-BC		7. Impact Level 3
8. Document Number Affected (include rev. and sheet no.) WHC-SD-EN-AP-070, REV. 1		9. Related ECN No(s). NA		10. Related PO No. NA
11a. Modification Work <input type="checkbox"/> Yes (fill out Blk. 11b) <input checked="" type="checkbox"/> No (NA Blks. 11b, 11c, 11d)	11b. Work Package Doc. No. NA	11c. Complete Installation Work NA _____ Cog. Engineer Signature & Date		11d. Complete Restoration (Temp. ECN only) NA _____ Cog. Engineer Signature & Date
12. Description of Change Updating the description of work to include regulator comments.				

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13a. Justification (mark one)		Criteria Change <input type="checkbox"/>	Environmental <input checked="" type="checkbox"/>	Facilitate Const. <input type="checkbox"/>
Design Error/Omission <input type="checkbox"/>	Design Improvement <input type="checkbox"/>	As-Found <input type="checkbox"/>	Const. Error/Omission <input type="checkbox"/>	
13b. Justification Details Activity required by the Tri-Party Agreement.				
14. Distribution (include name, MSIN, and no. of copies) See attached distribution list.			RELEASE STAMP	
			OFFICIAL RELEASE BY WHC (20) DATE FEB 27 1992 <i>Eta. 21</i>	

# ENGINEERING CHANGE NOTICE

Page 2 of 2

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

164703

<b>15. Design Verification Required</b> <input type="checkbox"/> Yes  <input checked="" type="checkbox"/> No	<b>16. Cost Impact</b> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; text-align: center;">ENGINEERING</td> <td style="width: 50%; text-align: center;">CONSTRUCTION</td> </tr> <tr> <td>Additional <input type="checkbox"/> \$ NA</td> <td>Additional <input type="checkbox"/> \$ NA</td> </tr> <tr> <td>Savings <input type="checkbox"/> \$</td> <td>Savings <input type="checkbox"/> \$</td> </tr> </table>	ENGINEERING	CONSTRUCTION	Additional <input type="checkbox"/> \$ NA	Additional <input type="checkbox"/> \$ NA	Savings <input type="checkbox"/> \$	Savings <input type="checkbox"/> \$	<b>17. Schedule Impact (days)</b> Improvement <input type="checkbox"/> Delay <input type="checkbox"/>
ENGINEERING	CONSTRUCTION							
Additional <input type="checkbox"/> \$ NA	Additional <input type="checkbox"/> \$ NA							
Savings <input type="checkbox"/> \$	Savings <input type="checkbox"/> \$							

**18. 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 12. Enter the affected document number in Block 19.

SDD/DD <input type="checkbox"/>	Seismic/Stress Analysis <input type="checkbox"/>	Tank Calibration Manual <input type="checkbox"/>
Functional Design Criteria <input type="checkbox"/>	Stress/Design Report <input type="checkbox"/>	Health Physics Procedure <input type="checkbox"/>
Operating Specification <input type="checkbox"/>	Interface Control Drawing <input type="checkbox"/>	Spares Multiple Unit Listing <input type="checkbox"/>
Criticality Specification <input type="checkbox"/>	Calibration Procedure <input type="checkbox"/>	Test Procedures/Specification <input type="checkbox"/>
Conceptual Design Report <input type="checkbox"/>	Installation Procedure <input type="checkbox"/>	Component Index <input type="checkbox"/>
Equipment Spec. <input type="checkbox"/>	Maintenance Procedure <input type="checkbox"/>	ASME Coded Item <input type="checkbox"/>
Const. Spec. <input type="checkbox"/>	Engineering Procedure <input type="checkbox"/>	Human Factor Consideration <input type="checkbox"/>
Procurement Spec. <input type="checkbox"/>	Operating Instruction <input type="checkbox"/>	Computer Software <input type="checkbox"/>
Vendor Information <input type="checkbox"/>	Operating Procedure <input type="checkbox"/>	Electric Circuit Schedule <input type="checkbox"/>
OM Manual <input type="checkbox"/>	Operational Safety Requirement <input type="checkbox"/>	ICRS Procedure <input type="checkbox"/>
FSAR/SAR <input type="checkbox"/>	IEFD Drawing <input type="checkbox"/>	Process Control Manual/Plan <input type="checkbox"/>
Safety Equipment List <input type="checkbox"/>	Cell Arrangement Drawing <input type="checkbox"/>	Process Flow Chart <input type="checkbox"/>
Radiation Work Permit <input type="checkbox"/>	Essential Material Specification <input type="checkbox"/>	Purchase Requisition <input type="checkbox"/>
Environmental Impact Statement <input type="checkbox"/>	Fac. Proc. Samp. Schedule <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Environmental Report <input type="checkbox"/>	Inspection Plan <input type="checkbox"/>	<input type="checkbox"/>
Environmental Permit <input type="checkbox"/>	Inventory Adjustment Request <input type="checkbox"/>	<input type="checkbox"/>

**19. 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

WHC-SD-EN-AP-070, Rev. 1 ~~NAR~~

**20. Approvals**

Signature	Date	Signature	Date
<b>OPERATIONS AND ENGINEERING</b>		<b>ARCHITECT-ENGINEER</b>	
Cog./Project Engineer <i>W. Roberts</i>	<u>2/13/92</u>	PE	_____
Cog./Project Engr. Mgr. <i>RE Day for MJL</i>	<u>2/13/92</u>	QA	_____
QA <i>Sary Carigan</i>	<u>2-13-92</u>	Safety	_____
Safety	_____	Design	_____
Security	_____	Other	_____
Proj. Prog./Dept. Mgr.	_____		_____
Def. React. Div.	_____		_____
Chem. Proc. Div.	_____		_____
Def. Wst. Mgmt. Div.	_____	<b>DEPARTMENT OF ENERGY</b>	_____
Adv. React. Dev. Div.	_____		_____
Proj. Dept.	_____		_____
Environ. Div.	_____	<b>ADDITIONAL</b>	_____
IRM Dept.	_____		_____
Facility Rep. (Ops.)	_____		_____
Other	_____		_____

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**SUPPORTING DOCUMENT**

1. Total Pages 11

2. Title

DESCRIPTION OF WORK FOR THE 100-BC-5 GROUNDWATER OPERABLE UNIT

3. Number

WHC-SD-EN-AP-070

4. Rev No.

2

5. Key Words

100-BC-5  
DESCRIPTION OF WORK

**APPROVED FOR  
PUBLIC RELEASE**

*2/25/92 N. Soler*

6. Author

Name: J. W. ROBERTS

*J. W. Roberts*  
Signature

Organization/Charge Code 81221  
PH1AA

7. Abstract

This description of work details the field activities to be conducted for the 100-BC-5 Operable Unit and will serve as a field guide for those performing the work.

8. PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform direct, or integrated work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.

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10. RELEASE STAMP

OFFICIAL RELEASE  
BY WHC  
DATE FEB 27 1992  
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9. Impact Level 3

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**RECORD OF REVISION**

(1) Document Number  
WHC-SD-EN-AP-070, REV. 2

Page 1

(2) Title

DESCRIPTION OF WORK FOR THE 100-BC-5 GROUNDWATER OPERABLE UNIT

**CHANGE CONTROL RECORD**

(3) Revision	(4) Description of Change - Replace, Add, and Delete Pages	Authorized for Release		
		(5) Cog./Proj. Engr.	(6) Cog./Proj. Mgr.	Date
0	(7) EDT OF ORIGINAL RELEASE:			
1 RS	UPDATING DESCRIPTION OF WORK TO MEET NEW REQUIREMENTS	JW Roberts (See below.)	MJ Lauterbach (See below.)	2/4/92
2 RS	UPDATING DESCRIPTION OF WORK TO INCORPORATE REGULATOR COMMENTS	<i>J.W. Roberts</i>	<i>RE Day</i>	<i>MSL 2/13/92</i>

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## 1.0 SCOPE OF WORK

This description of work details the field activities associated with cable-tool drilling of groundwater wells in the 100-BC-5 Operable Unit (Task 6) and will serve as a field guide for those performing the work. It should be used in conjunction with the *Remedial Investigation/Feasibility Study Work Plan for the 100-BC-5 Operable Unit, Hanford Site, Richland, Washington* (DOE/RL 1991) for general investigation strategy and with *Environmental Investigations and Site Characterization Manual* (WHC 1988c) for specific procedures. Well locations are shown on Figure 1.

The coordinates used on Figure 1 are from Lambert (1983). All wells on the map are prefixed with a "199", but the prefix has been dropped for clarity.

## 2.0 GENERAL REQUIREMENTS








### 2.1 HEALTH AND SAFETY

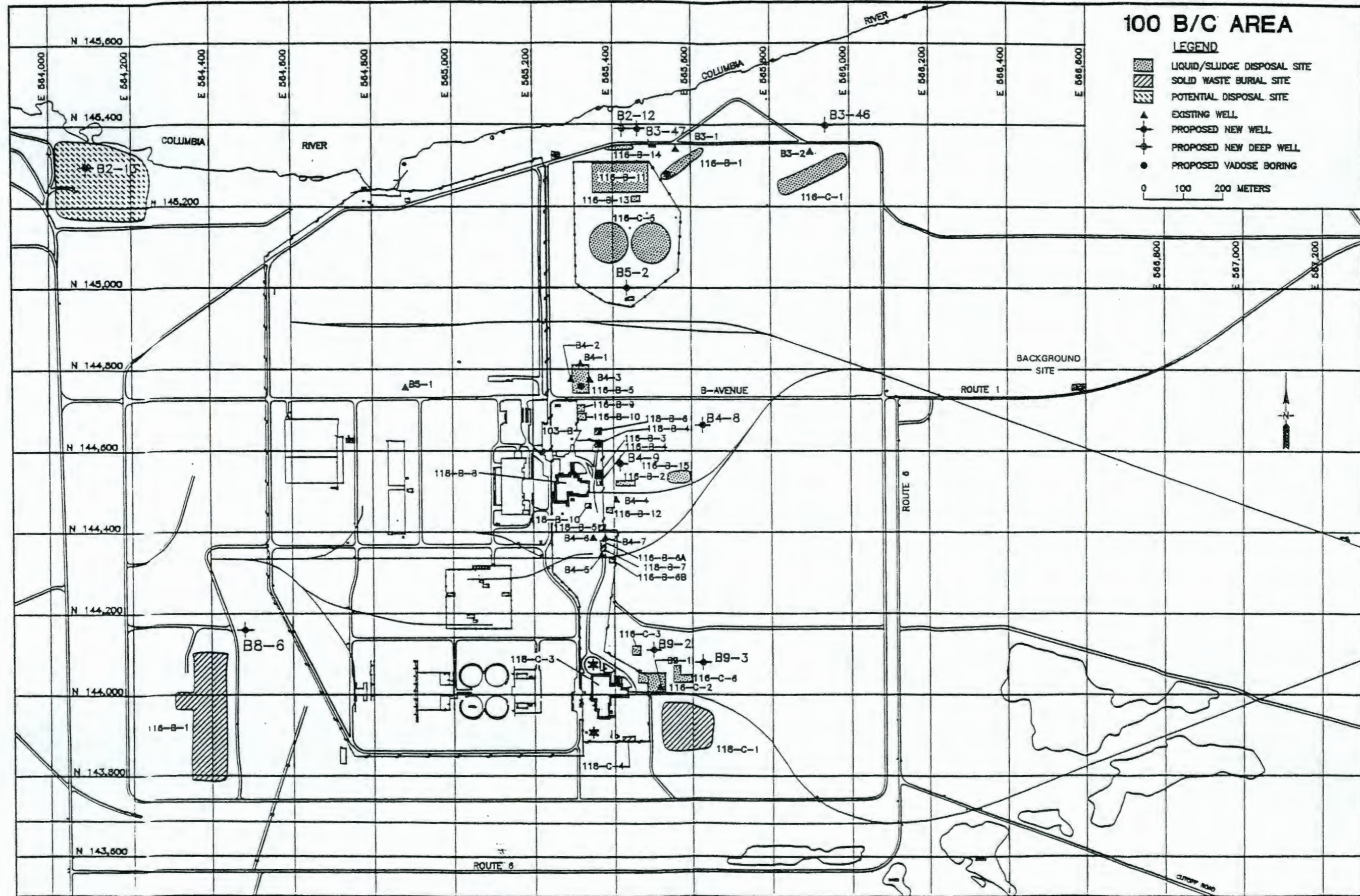
All personnel working to this description of work will have completed the 40-h Hazardous Waste Site Worker training program and will perform all work in accordance with the following:

- WHC-EP-0383, *Environmental Engineering, Technology, and Permitting Function Quality Assurance Program Plan* (WHC 1990)
- WHC-CM-4-10, *Radiation Protection* (WHC 1988d)
- WHC-IP-0692, *Health Physics Procedures Manual* (WHC 1991b)
- WHC-CM-4-11, *ALARA Program* (WHC 1988a)
- WHC-CM-4-3, *Industrial Safety Manual*, Vol. 1 through 3 (WHC 1987)
- WHC-CM-7-5, *Environmental Compliance Manual* (WHC 1988b)
- WHC-CM-7-7, *Environmental Investigations and Site Characterization Manual* (WHC 1988c)
- WHC-SD-EN-SAD-002, Rev 0, *100 Area Low Hazard Characterization Activities Safety Assessment* (Taylor 1991)
- Site-specific health and safety plan/job safety analysis.

# 100 B/C AREA

## LEGEND

-  LIQUID/SLUDGE DISPOSAL SITE
  -  SOLID WASTE BURIAL SITE
  -  POTENTIAL DISPOSAL SITE
  -  EXISTING WELL
  -  PROPOSED NEW WELL
  -  PROPOSED NEW DEEP WELL
  -  PROPOSED VADOSE BORING
- 0 100 200 METERS



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**2.2 PREREQUISITES**

Each item on the Drilling Planning Form (EII 6.7, "Resource Protection Well and Test Borehole Drilling") will be signed and dated by the cognizant engineer or field team leader prior to the start of work. In addition, all field work will be conducted in accordance with WHC-S-014, *Generic Well Specification* (WHC 1991a).

**3.0 SAMPLING AND FIELD ACTIVITIES**

**3.1 SOIL SCREENING**

All samples and cuttings will be field screened for evidence of volatile organics and radionuclides (Section 5.1.6.2.3 of the 100-BC-5 work plan) (DOE/RL 1991). Volatiles will be screened by the field geologist using an organic vapor monitor that will be used, maintained, and calibrated consistent with EII 3.2, Health and Safety Monitoring Instruments (WHC 1988c) and EII 3.4, Field Screening (WHC 1988c). Radionuclides will be screened per EII 3.4, Field Screening (1988c). The field geologist will record screening results in the borehole log (EII 9.1, Geologic Logging) (WHC 1988c).

The action level for radionuclide screening is twice background. The action level for volatile organic screening is 5 ppm above background. Prior to initiating drilling, determine a one-time instrument background reading using the above instruments at the background site located on Figure 1. Instrument background will be measured on freshly disturbed surface soil, holding the instruments less than 1 in. from the soil. The field geologist will record the background levels in the borehole log per EII 9.1, Geologic Logging (WHC 1988c) prior to the start of drilling.

**3.2 GEOLOGIC SAMPLING**

Geologic samples will be taken at 5-ft intervals for each hole and at major stratigraphic changes for the preparation of borehole logs, per Section 5.1.6.2.3 of the 100-BC-5 work plan (DOE/RL 1991) and EII 9.1, Geologic Logging (WHC 1988c). The field geologist shall archive the nonradioactive geologic samples per EII 5.7A, Hanford Geotechnical Sample Library Control (WHC 1988c).

At the completion of each groundwater well two composite samples will be collected (from unsaturated sediments): one from archive samples in the top half of the well and one from archive samples in the bottom half. An equal volume will be taken from each archive sample, composited in a stainless steel bowl, and placed in a 500 ml glass bottle. Each composite sample will be analyzed for Gamma Spec only, as a check on the radiation detection instrument. Results will be recorded in the borehole log.

All waste generated during drilling activities will be handled according to EII 4.2, "Interim Control of Unknown, Suspected Hazardous and Mixed Waste".

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### 3.3 SOIL SAMPLING (PHYSICAL PROPERTY)

Collect four samples for physical property analysis per Section 5.1.5.3 of DOE/RL 1991 and EII 5.2, Appendix B, Soil and Sediment Sampling (WHC 1988c) from each of the following wells: 199-B2-12, 199-B4-9, and 199-B9-2. Samples that do not meet the physical properties testing laboratory radiological acceptance criteria (anything > 25 mrem) will not be collected for physical property testing. Alternate wells will be 199-B3-47, 199-B4-8, and 199-B9-3.

The goal for selecting physical property samples is to collect two samples between the ground surface and the capillary fringe (one near the surface and one between the surface and capillary fringe), one at the capillary fringe, and one within the saturated zone. The field geologist must use professional judgement to select samples that are representative of the principle soil types that can be sampled with the split-spoon sampler. Two 6-in. sleeves will provide adequate sample volume. The field geologist will record the selected samples in the borehole log per EII 9.1, Geologic Logging (WHC 1988c).

These samples will be analyzed for the following parameters using American Society for Testing and Materials (ASTM) methods. Bulk density and  $K_{\text{unsat}}$  will be calculated.

- Bulk density
- Particle Size Distribution (ASTM D422-63)
- Moisture Content (ASTM D2216)
- Moisture Retention (ASTM D2325-68, D3152-72)
- Saturated Hydraulic Conductivity ( $K_{\text{sat}}$ ) (ASTM D2434-68)
- Unsaturated Hydraulic Conductivity ( $K_{\text{unsat}}$ ) at 10% moisture content after full saturation.

Data collected from these analyses will be stored in the 100-BC-5 project files.

### 3.4 ANALYTICAL SAMPLING

#### 3.4.1 Soil

Collect analytical soil samples in all wells except those listed below per Section 5.1.6.2.3 of the 100-BC-5 work plan (DOE/RL 1991) and EII 5.2, Appendix B, Soil and Sediment Sampling (WHC 1988c). Collect these at 10 ft above the expected groundwater, one 5 ft above and one 5 ft below the groundwater. In addition, if screening values (including borehole cuttings and geologic samples) exceed screening action levels, collect analytical samples with a split-spoon sampler at 5-ft intervals until either: (1) two consecutive screening values fall below the screening action limits outlined above or (2) until 5 ft below groundwater.

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Analytical soil samples will not be taken in wells 199-B2-13 and 199-B8-6 unless screening action levels are exceeded. One analytical soil sample will be taken at the bottom of the unconfined aquifer in well 199-B2-12. If additional samples are required, they will be collected by the screening criteria described previously and recorded in the borehole log (EII 9.1, Geologic Logging) (WHC 1988c).

### 3.4.2 Groundwater

Groundwater samples will be collected from each well per EII 5.8 Groundwater Sampling (WHC 1988c) within 1 month of developing the well and analyzed for the full suite of parameters listed below for the first two rounds of sampling (Section 5.1.6.3 of the 100-BC-5 work plan) (DOE/RL 1991).

### 3.4.3 Analyses

Samples collected for chemical analysis will be analyzed for the full suite of CERCLA Contract Laboratory Program (CLP) Target Compound List and Target Analyte List constituents, specific anions that may be present, and for radionuclides. Estimated quantity of material needed for analyses are shown in Tables 1 and 2. The laboratory will use existing Level IV CLP methods and methods approved under their contract for radiological analyses (Level V). Sample custody will follow procedures as outlined in EII 5.1, "Chain of Custody" (WHC 1988c).

Table 1. Contaminants of Concern (Soil).

Analyte	Method	Holding time	Container/volume (ml)
ICP/AA metals Mercury	CLP	6 months	G 250
Cyanide	CLP	14 days	G 125
VOA	CLP	14 days	G 125
Semi-VOA PCB's/Pesticides	CLP	7 days <sup>1</sup>	aG 250
Gross alpha Gross beta Gamma spec. Strontium-90 Carbon-14 Uranium-235, 238 Plutonium-238, 239 Americium-241	lab SOP	6 months	G 1,000
Anions Fluoride Nitrate Sulfate	CLP	48 hours	G 250
Total Activity (222-S Lab)	N/A	6 months	G or P small vial (at least 1 gram)

<sup>1</sup> 7 days for extraction, 40 days after analysis for extraction.

AA = atomic absorber  
 CLP = Contract Laboratory Program  
 ICP = inductively coupled plasma  
 PCB = polychlorinated biphenyl  
 N/A = not applicable

SOP = standard operating procedures  
 VOA = volatile organic analyses  
 G = glass  
 aG = amber glass  
 P = Plastic

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Table 2. Contaminants of Concern (Groundwater).

Analyte	Method	Holding Time	Container/volume
ICP/AA metals Mercury	CLP	6 months	P 3 X 1,000 ml <sup>2</sup>
Cyanide	CLP	14 days	P 3 X 1,000 ml <sup>2</sup>
VOA	CLP	14 days	Gs 3 X 40 ml
Semi-VOA PCB's/Pesticides	CLP	7 days <sup>1</sup>	aG 3 X 2,000 ml <sup>2</sup>
Anions	EPA 300.0	48 hours	G 500 ml
Conductivity	9050	28 days	G 500 ml
Gross alpha Gross beta Gamma spec. Strontium-90 Technetium-99 Uranium-235, 238 Plutonium-239, 240 Americium-241	lab SOP	6 months	P 6,000 ml
Carbon-14	lab SOP	6 months	P 500 ml
Tritium	lab SOP	6 months	Gs 250 ml
Total Activity	N/A	6 months	G or P small vial (at least 1 ml)

<sup>1</sup> 7 days for extraction, 40 days after analysis for extraction.

<sup>2</sup> 3X is required for QA/QC in the CLP protocol.

AA = atomic absorber

CLP = Contract Laboratory Program

ICP = inductively coupled plasma

PCB = polychlorinated biphenyl

N/A = not applicable

SOP = standard operating procedures

VOA = volatile organic analyses

G = glass

aG = amber glass

P = plastic

If full sample volume requirements cannot be met, the sampling scientist will record the volume obtained in the sampling scientists logbook per EII 1.5, Field Logbooks (WHC 1988c) and analyze in the following order:

1. Volatiles/Semi-volatiles
2. Target Analyte List
3. PCB's/Pesticides
4. Gamma spec
5. Alpha spec
6. Strontium-90
7. Technetium-99
8. Carbon-14
9. Gross alpha
10. Gross beta

### 3.5 GEOPHYSICAL LOGGING

Gross-gamma log all groundwater wells, performing the work in two stages: Stage 1 after completing the first 20 ft of drilling before reducing to a smaller casing. If the gross-gamma tool is not available within 4 h of when needed, skip logging the first 20 ft. Stage 2 after reaching total depth

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and before completing the well (EII 11.1, Geophysical Logging) (WHC 1988c). Spectral-gamma log groundwater wells only if contamination is indicated by the gross-gamma log (survey exceeds 100 cps for any depth interval) or by field screening.

### 3.6 AQUIFER TESTING

Perform a slug test on each well per Section 5.1.6.2.5 of the 100-BC-5 work plan (DOE/RL 1991) and EII 10.1, Aquifer Testing (WHC 1988c).

## 4.0 QA/QC REQUIREMENTS

Internal quality control samples shall be collected by the sampling scientist as stated below, per Appendix A, Quality Assurance Project Plan (DOE/RL 1991) and documented in the sampling logbook per EII 1.5, Field Logbooks (WHC 1988c).

### Groundwater:

1. Collect 1 duplicate for every 10 groundwater samples or a minimum of 1 per reactor area.
2. Collect 1 split sample per reactor area.
3. Collect field blanks at the same frequency as duplicates.
4. Collect 1 (VOA) trip blank per cooler that contains samples that will be analyzed for volatiles. Only analyze for volatiles.
5. Collect equipment blanks at the same frequency as duplicates.

### Soil:

1. Collect 1 duplicate for every 20 soil samples.
2. Collect 1 split sample per reactor area.
3. Collect field blanks at the same frequency as duplicates.
4. Collect 1 sample each month from any source of water introduced into the hole during drilling. Only 1 sample is required for both groundwater and vadose borings. Analyze for the full suite of water parameters.
5. Collect 1 (VOA) trip blank for each batch of containers shipped to the sampling (site) facility.
6. Collect equipment blanks at the same frequency as duplicates.

## 5.0 SCHEDULE

The following schedule is for drilling in the 100-BC-5 Operable Unit for 1992. This schedule is subject to change and the operable unit coordinator should be contacted for current status. An Agreement Activity Notification form will be issued at least 5 days prior to start of field work.

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Well number	Drilling dates
199-B3-46	End of February - Early March
199-B3-47	End of February - Early March
199-B2-12	End of February - Mid March
199-B2-13	End of February - Early March
199-B4-8	Early March - Mid March
199-B4-9	Early March - Mid March
199-B9-2	Mid March - Early May
199-B9-3	Early March - Mid March
199-B8-6	Mid March - Early May
199-B5-2	Mid March - End of March

### 6.0 CHANGES TO THE DESCRIPTION OF WORK

Major changes to this description of work, such as analyzing different parameters, using different analytical methods, or changing the sampling interval will be submitted on the attached form (Attachment 1) and kept on file with the operable unit coordinator. Copies will be submitted to the lead regulatory agency and appropriate field personnel.

### 7.0 REFERENCES

- DOE/RL 1991, *Remedial Investigation/Feasibility Study Work Plan for the 100-BC-5 Operable Unit, Hanford Site, Richland, Washington*, DOE/RL-90-08, U.S. Department of Energy, Richland Field Office, Richland, Washington.
- Taylor, 1991, *100 Area Low Hazard Characterization Activities Safety Assessment*, WHC-SD-EN-SAD-002, Rev. 0, Westinghouse Hanford Company, Richland, Washington.
- WHC, 1988a, *ALARA Program*, WHC-CM-4-11, Westinghouse Hanford Company, Richland, Washington.
- WHC, 1988b, *Environmental Compliance Manual*, WHC-CM-7-5, Westinghouse Hanford Company, Richland, Washington.
- WHC, 1988c, *Environmental Investigations and Site Characterization Manual*, WHC-CM-7-7, Westinghouse Hanford Company, Richland, Washington.
- WHC, 1988d, *Radiation Protection*, WHC-CM-4-10, Westinghouse Hanford Company, Richland, Washington.

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- WHC, 1990, *Environmental Engineering, Technology, and Permitting Function Quality Assurance Program Plan*, WHC-EP-0383, Westinghouse Hanford Company, Richland, Washington.
- WHC, 1991a, *Generic Well Specification*, WHC-S-014, Westinghouse Hanford Company, Richland, Washington.
- WHC, 1991b, *Health Physics Procedures Manual*, WHC-IP-0692, Westinghouse Hanford Company, Richland, Washington.

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ATTACHMENT 1

**100-BC-5 DESCRIPTION OF WORK  
PROJECT CHANGE FORM**

Date: \_\_\_\_\_

Person Initiating Change: \_\_\_\_\_

Change: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
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Reason for Change: \_\_\_\_\_

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**APPROVAL:**

Field Team Leader: \_\_\_\_\_

Operable Unit Coordinator: \_\_\_\_\_

Quality Assurance: \_\_\_\_\_

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ECN 164703

INFORMATION RELEASE REQUEST

References: WHC-CM-3-4

COMPLETE FOR ALL TYPES OF RELEASE

Purpose		New ID Number	
<input type="checkbox"/> Speech or Presentation	<input type="checkbox"/> Reference	WHC-SD-EN-AP-070, REV. 2	
<input type="checkbox"/> Full Paper (Check only one suffix)	<input type="checkbox"/> Technical Report	Existing ID Number (include revision, volume, etc.)	
<input type="checkbox"/> Summary	<input type="checkbox"/> Thesis or Dissertation	WHC-SD-EN-AP-070, REV. 1	
<input type="checkbox"/> Abstract	<input type="checkbox"/> Manual	If previously cleared, list ID number	
<input type="checkbox"/> Visual Aid	<input type="checkbox"/> Brochure/Flier	WHC-SD-EN-AP-070, REV. 1	
<input type="checkbox"/> Speakers Bureau	<input type="checkbox"/> Software/Database	Date Release Required	
<input type="checkbox"/> Poster Session	<input type="checkbox"/> Controlled Database	FEBRUARY 18, 1992	
<input type="checkbox"/> Videotape	<input type="checkbox"/> Other		

Title DESCRIPTION OF WORK FOR THE 100-BC-5 GROUNDWATER OPERABLE UNIT	Unclassified Category UC- NA	Impact Level 3
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Title of Journal NA	Group or Society Sponsoring NA		
Date(s) of Conference or Meeting NA	City/State NA	Will proceedings be published? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will material be handed out? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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WHC Program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	R.D. Wojtaszek T.M. Wintzick J.M. Wintzick	<i>[Signature]</i>	2/21/92
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References Available to Intended Audience	<input checked="" type="checkbox"/>	<input type="checkbox"/>	C.J. Lynch	<i>[Signature]</i>	2/13/92
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Information conforms to all applicable requirements. The above information is certified to be correct.

Author/Requestor (Printed/Signature) J. W. Roberts <i>[Signature]</i>	Date February 13, 1992
Responsible Manager (Printed/Signature) RE Day for MSL M. J. Lauterbach	Date 2/13/92 February 13, 1992

INFORMATION RELEASE ADMINISTRATION APPROVAL STAMP	
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To: M. J. Lauterbach From: J. W. Roberts Date: February 13, 1992

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