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(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN
1	1	WHC Disposal Engineering	<i>[Signature]</i>	8/24/96		1	1	TWRS Disposal Programs	<i>[Signature]</i>	8/24/96	
1	1	WHC Construction Projects - P. Felder	<i>[Signature]</i>	8/27/96		1	1	KA Gasper	<i>[Signature]</i>	8/26/96	
1	1	Cog.Eng. S.P. Reidel	<i>[Signature]</i>	8/22/96							
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1	1	WHC Disposal Engineering	<i>[Signature]</i>								
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18. S.P. Reidel Signature of EDT Originator 8/24/96 Date	19. P. Felder Authorized Representative 8/27/96 Date for Receiving Organization	20. D.G. Horton Design Authority/ Cognizant Manager 8/23/96 Date	21. DOE APPROVAL (if required) Ctrl. No. ☐ Approved ☐ Approved w/comments ☐ Disapproved w/comments
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TWRS Privatization Phase I - Site Characterization and Environmental Baseline Work Plan

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WHC, Richland, WA 99352
U.S. Department of Energy Contract DE-AC06-87RL10930

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Abstract: This work plan defines the steps necessary to develop a Site Characterization Plan and Environmental Baseline for the TWRS Privatization Phase I area. The Data Quality Objectives Process will be the primary tool used to develop these plans.

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Janis Bishop 8-27-96
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Approved for Public Release

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TWRS PRIVITIZATION PHASE I - SITE CHARACTERIZATION AND ENVIRONMENTAL BASELINE WORK PLAN

1.0 INTRODUCTION

This work plan summarizes the tasks necessary to adequately characterize and establish an environmental baseline for the selected location of the Tank Waste Remediation System (TWRS) Privatization Phase I demonstration site (Shord 1996). This establishment of baseline site and environmental conditions, required by the *TWRS Privatization Request for Proposal* (DOE 1996), is necessary before releasing the site to private contractors who will design, construct, and operate Phase I ("proof of concept") tank waste disposal demonstration facilities.

2.0 DESCRIPTION

The Site Characterization and Environmental Baseline Plan is an assessment and determination of the Phase I site and environmental data needs using the Data Quality Objectives (DQO) approach (EPA 1993). The DQO process, mandated by the U.S. Department of Energy, Headquarters (DOE-HQ) for all environmental data collection activities, will ensure that only necessary and relevant data are acquired. This plan also will determine what data are required for preoperational monitoring to establish an environmental baseline before operation begins. The Site Characterization and Environmental Baseline Plan will be completed in two stages: Site Characterization and Environmental Baseline DQO Task, and Preparation of Site Characterization and Environmental Baseline Plan.

2.1 SITE CHARACTERIZATION AND ENVIRONMENTAL BASELINE DQO TASK

This task includes an assessment and determination of the Phase I data needs using the DQO process. The DQO approach will be applied to define data needs and associated field work plans. The DQO process is a systematic, cost-effective approach to ensure that the type, quantity, and quality of environmental data used in decision making are appropriate for the intended use. This process involves the following general steps:

1. State the problem
2. Identify the decision to be made
3. Identify the inputs to the decision
4. Define the study boundaries
5. Develop a decision rule
6. Specify limits on decision errors, if applicable
7. Optimize design for data acquisition.

Key elements of the DQO process as it will be applied for this characterization will be developed.

The DQO process will be used to determine the data necessary to adequately characterize the site for its intended use and establish an

environmental baseline using preoperational monitoring. The types of data that will be inputs to the decision include, but are not limited to, the following:

- Site Survey
- Soil sampling for chemicals and radionuclides of surface and vadose zone
- Surface radiological survey
- Review of existing information from the Grout Project
- Ground penetrating radar survey (near-surface [10 m] features)
- Groundwater information.
- Shallow (<10 m) borings.

The output of the DQO process will be a Sampling and Analysis Plan for site characterization and preoperational monitoring.

If deemed necessary, the scope of this DQO process can be expanded to include any enlargements to the Phase I area and easements for utilities or other services.

2.2 PREPARATION OF SITE CHARACTERIZATION AND ENVIRONMENTAL BASELINE PLAN

Once the DQO process is complete, the Site Characterization and Environmental Baseline Plan will be written. The plan will describe the types of data that exist and the data needed. The additional data required will be described, along with the quantity and quality of the required data and a Sampling and Analysis Plan for collecting the data. The Sampling and Analysis Plan will describe the methods and sampling design.

3.0 ORGANIZATION

Cognizant Organization: Westinghouse Hanford Company (WHC) Geosciences
D. G. (Duane) Horton, Manager/S. P. Reidel, Senior-Principal Scientist

Support Organization: WHC Near-Field Monitoring
J. J. Dorian, Technical Lead/ A. R. Johnson, Principal Scientist

The success of the DQO process depends on using experts from the cognizant and support organizations who are familiar with the Hanford Site and the data that has been collected there. A panel of experts with diverse backgrounds in site characterization will be assembled to evaluate the data needs and the ability of the available data to meet those needs, and determine what additional data is required to meet the DQOs. The scientists needed for this study, at a minimum, will include a geologist, a hydrologist, a geochemist, a biologist, and a statistician.

4.0 DOCUMENTATION, CONTROL, AND VERIFICATION

The Site Characterization and Environmental Baseline Plan will be prepared and issued as a Project Hanford Management Contract (PHMC) publicly released supporting document.

Status review meetings will be held biweekly and minutes issued to involved personnel by WHC Geosciences.

In addition to the internal reviews/approvals by the cognizant and support organizations, the personnel listed in Table 1 shall conduct a review on the final draft of the Site Characterization and Environmental Baseline Plan.

Table 1. Internal Reviewers of Site Characterization and Environmental Baseline Plan.

Organization	Individual
WHC Construction Projects	P. Felise (A)
WHC TWRS Process Design	J. S. Garfield (A) A. L. Shord
WHC TWRS Disposal Programs	K. A. Gasper (A)
WHC TWRS Environmental Compliance/Support Services	D. Alison (A) P. C. Miller
WHC TWRS East Tank Farms Quality Support	M. N. Islam (A) J. A. Upshaw
WHC TWRS East Tank Farms Safety	M. N. Islam (A) L. E. Thomas
RL Environmental Assurance, Permits, and Policy Division, NRP Team	J. B. Hall (A) D. C. Ward
RL TWRS Waste Disposal	T. R. Hoertkorn (A)
RL Site Infrastructure Division	M. J. Elsen W. A. Rutherford (A)
PNNL Contractor Support Team/Integrated Support Team	B. A. Reynolds
ICF KH Infrastructure/Land Use Planning	E. T. Trost E. F. Yancey (A)

(A) indicates required approval of the plan.

ICF KH	ICF Kaiser Hanford Company
NRP	National Research Program
PNNL	Pacific Northwest National Laboratory
TWRS	Tank Waste Remediation System
RL	U.S. Department of Energy, Richland Operations Office

5.0 SCHEDULE

Based on the existing TWRS Privatization infrastructure support schedule, applicable dates are as follows:

- Start Site Characterization and Environmental Baseline Plan - August 19, 1996
- Complete Site Characterization and Environmental Baseline Plan - February 27, 1997.

6.0 COST

Total costs are estimated at \$100K for the Site Characterization and Environmental Baseline Plan. This includes six person months to perform the DQO process and prepare the plan. Approximately one month of technical editing support is also required.

7.0 QUALITY ASSURANCE

The Quality Assurance plan applicable to WHC environmental activities is described in WHC-CM-7-7 and WHC-CM-7-8. Deliverables will be reviewed and approved by Quality Assurance in accordance with accepted WHC QA practices. The Site Characterization and Environmental Baseline Plan will have a Quality Assurance Project Plan (QAPP) for the Sampling and Analysis Plan.

8.0 REFERENCES

- DOE, 1996, *TWRS Privatization Request for Proposal*, Sol. No. DE-RP06-96RL13308, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- EPA, 1993, *Data Quality Objectives Process for Superfund, Interim Final Guidance*, EPA540-R-93-071, U.S. Environmental Protection Agency, Washington, D.C.
- Shord, A. L., 1996, *Tank Waste Remediation System Privatization Phase I Site Evaluation Report*, WHC-SD- WM-SE-023, Rev.0-A, Westinghouse Hanford Company, Richland, Washington.
- WHC-CM-7-7, *Environmental Investigations and Site Characterization Manual*, Vol 1, Westinghouse Hanford Company, Richland, Washington.
- WHC-CM-7-8, *Environmental Activities*, Level II, Westinghouse Hanford Company, Richland, Washington.

DISTRIBUTION SHEET

To	From	Page 1 of 1
Distribution	S.P. Reidel F.N. Hodges	Date August 22, 1996
Project Title/Work Order		EDT No. 610763
TWRS Privatization Phase I - Site Characterization and Environmental Baseline Work Plan		ECN No. N/A

Name	MSIN	Text With All Attach.	Text Only	Attach./ Appendix Only	EDT/ECN Only
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U. S. Department of Energy
Richland Operations Office

T. R. Hoertkorn	B4-55	x
N. R. Brown	K6-51	x
M. J. Elsen	A2-45	x
W. A. Rutherford	A2-45	x
R. B. Simmons-Green	S7-53	x

ICF Kaiser Hanford Company

D. L. Ford	G3-12	x
J. T. Koberg	G3-12	x
M. D. Rickenbach	G3-12	x
E. T. Trost	G3-10	x
E. F. Yancey	G3-10	x

Pacific Northwest National Laboratory

B. A. Reynolds	P7-19	x
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Westinghouse Hanford Company

D. Alison	R1-51	x
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J. J. Dorian	H6-30	x
P. Felise	B4-55	x
J. S. Garfield	H5-49	x
F. N. Hodges (3)	H6-06	x
D. G. Horton	H6-06	x
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V. G. Johnson	H6-06	x
P. C. Miller	R1-51	x
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