START

0024286

MEETING MINUTES

Subject: Expedited Response Action Weekly Interface

TO: Distribution BUILDING: 450 Hills

FROM: W. L. Johnson WLJ 10/28/92 CHAIRMAN: G. C. Henckel

Dept-Operation-Component	Area	Shift	Meeting Dates	Number Attending
Environmental Engineering	3000	Day	October 26, 1992	15

M. R. Adams	H4-55	EPA	B5-01
M. V. Berriochoa	B3-30	P. Beaver*	
H. D. Downey*	L4-92	P. T. Day	
J. K. Erickson	A5-19	D. R. Einan	
E. D. Goller*	A5-19	D. A. Faulk*	
W. F. Heine	B2-35	L. Gadbois*	
G. C. Henckel	H4-55	P. S. Innis*	
A. D. Krug*	H4-55	D. R. Sherwood	
R. E. Lerch	B2-35		
R. G. McLeod	A5-19	Ecology	fax
P. M. Pak*	A5-19	J. Donnelly*	
J. K. Patterson	L4-92	L. Goldstein	
D. L. Sickle*	L4-92	D. Goswami	
J. T Stewart	A5-20	R. L. Hibbard	
R. K. Stewart*	A5-19	J. Phillips*	
P. J. Valcich*	H4-55	D. D. Teel*	
T. M. Wintczak	L4-92		
R. D. Wojtasek	L4-92		
EDMC	H4-22		
Field File Custodian	H4-55		
ERAG Route			
WLJ File/LB			

*Attendees

The weekly interface meetings on the expedited response actions (ERAs) was held to status the ERAs for the U.S. Department of Energy, Richland Field Office and the regulators. The meeting was conducted in accordance with the attached agenda. Actions were formally reviewed and the attached action item list was updated. Weekly reports are also attached.

All eight ERAs were discussed and their status summarized. Darci Teel (Ecology) submitted a request from the Oregon Hanford Waste Board to add the groundwater plumes near the Uranium Oxide Facility in the 200 West Area to the candidate list for ERAs (see attached).

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A decision was made to have the appropriate regulatory agency forward letters describing regulator field sampling activities, to the administrative record for the Riverland and Wahluke Slope ERAs. This approach will be used for any sampling activities conducted by the regulators. The resulting data from the sampling is to be concluded in the letters.

Attachments:
1. Agenda
2. Action Item List
3. Decisions, Agreements & Commitments
4. Expedited Response Action Weekly Report, 10/23/93
5. Oregon Hanford Waste Board Letter
6. White Bluffs Pickling Acid Crib Expedited Response Action SAP

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WEEKLY ERA INTERFACE AGENDA

SUBJECT: STATUS OF THE EXPEDITED RESPONSE ACTIONS

DATE: October 26, 1992

- GENERAL ISSUES
  - ERA Interface Action Item review

- INDIVIDUAL PROJECT STATUS
  - ✓ 618-9 Burial Ground
    - o Completion report?
  - ✓ 200-W Carbon Tetrachloride
    - o Site characterization status (report provided to EPA)
    - o Operations status (briefing scheduled for 11/9/92)
  - ✓ Sodium Dichromate
    - o EE/CA review cycle, ready November 1, 1992
    - o EE/CA briefing
  - ✓ Riverland
    - o Project plan (SAP) comments - EPA's comments have been included
    - o Sampling tentatively scheduled for October 28, 1992
    - o Reach agreement on SAP (sign decision sheet)
  - ✓ Pickling Acid Crib
    - o SAP drafted
    - o Sampling planned for November 16, 1992
    - o Provide draft SAP to regulators
  - ✓ 618-11 Burial Ground
    - o Historical research continues
  - ✓ N-Spring
    - o Project plan submitted
    - o Provide plan to regulators
  - ✓ Wahluke Slope
    - o Sampling status

- OTHER ISSUE
  - D Pond
    - o Will not be pursued as an ERA

- SUMMARY OF ACTION ITEMS

- SIGN-OFF ON ANY DECISIONS, AGREEMENTS, OR COMMITMENTS

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EXPEDITED RESPONSE ACTION INTERFACE MEETING

-ACTION ITEMS-
October 26, 1992

ORGANIZATION	ACTION ITEM
WHC	WHC will provide RL, EPA, and Ecology copies of the GPR reports for Riverland, Sodium Dichromate, and Pickling Acid ERA sites when they become available. (open) North Slope report was provided on 10/5/92.
WHC	Provide description of the best method to incorporate 618-10 into 618-11 ERA. (open)
EPA/Ecology/RL	Assess the feasibility of a complete parallel review for the Sodium Dichromate EE/CA and provide a decision by 10/19/92.
WHC	Nuclear Safety briefing on the approach to be used for 618-11 ERA when determined. (open)
RL	On November 9, 1992, RL will provide an N-Springs discussion. (open)

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EXPEDITED RESPONSE ACTION INTERFACE MEETING

-DECISIONS, AGREEMENTS, & COMMITMENTS-
October 26, 1992

DECISIONS:

AGREEMENTS: (1) Field sampling at the Riverland Railroad ERA site ~~can~~ may be initiated on 10/28/~~29~~ 92.
(2) The regulatory agency conducting split sampling will send a letter describing their field activities to the AR for the Riverland and Wahluke Slope ERAs. Copies of letter will be sent to DOE/Bob Stewart & WHC/George Henckel.

COMMITMENTS:

Robert K. Stewart 10/26/92
DOE Representative

[signature] 10-26-92
EPA Representative

Darci [signature] 10/26/92
ECOLOGY Representative

[signature] 10/26/92
WHC Representative

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Weekly Report, Week Ending October 23, 1992
EXPEDITED RESPONSE ACTIONS
Technical and Management Contact - Wayne L. Johnson, 376-1721
Environmental Division

Issues - Total activity results from the 222-S lab indicate that eight samples from the Waluke Slope ERA characterization sampling contain elevated levels of radioactivity (100 to 3500 pCi/g). The area has been released from radiological controls and the above results were not expected. The lab has been directed to confirm the original results and to perform a gamma energy analysis to identify isotopes. Health Physics will perform additional analysis of material from the sample location. Additionally, health physics technicians have surveyed the sample location and did not find levels of radioactivity in excess of background.

North Slope Expedited Response Action - Twenty shallow characterization holes have been completed at military landfills located at positions H-83-L and PSN-04. Characterization activities were initiated at position H-06-L.

Pickling Acid Crib Expedited Response Action - Work continues on schedule to complete the project and sampling plans.

Riverland Railroad Site Expedited Response Action - Sampling has been rescheduled to begin on Wednesday, October 28, 1992. The Riverland ERA Project Plan is being revised to incorporate regulator comments. A machine gun belt (blank ammunition) was found at the Riverland site and was given to Patrol for handling.

Sodium Dichromate Expedited Response Action - The Sodium Dichromate ERA Proposal is ready for parallel review between RL, EPA, Ecology, and the Public if RL will concur. Parallel review will enable field work to be completed prior to the curlew nesting season.

N-Springs Expedited Response Action - WHC provided the N-Springs ERA project plan to DOE for transmittal to EPA and Ecology.

A meeting was held with the RL to determine the appropriate approach to fulfilling the NEPA requirements.

618-11 Burial Ground Expedited Response Action - Completed review of known aerial photographic proofs on file at 300 Area Photography. Discovered four additional photos of the burial ground. The oldest was a 1974 photo. Inquired at the WPPSS library about documents they may have related to the interests of this project. Obtained the name and number of a person who is believed to have aerial data/photos, but the individual is on vacation until November. Interviewed an individual who had been identified as a potential source of historic photos. A meeting did not yield any new photographs. However, the interviewee did recall a Battelle document likely written in the late 1970s that reported field characterization studies at 618-11.

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ERA WEEKLY REPORT CONTINUED

Carbon Tetrachloride Expedited Response Action - A meeting was held regarding the regulatory aspects of conducting the in situ heating demonstration at the 300 Area Fire Station. An initial analysis of regulatory issues was provided.

A draft matrix for tracking the status of ID and ERA regulatory activities is being developed.

Site Characterization (ERA and Arid ID) - Well 299-W15-6 was logged using the gross gamma logging tool.

Well Field Design - The workplan for FY 93 well field design is scheduled for completion on November 15, 1992. The current proposal is to install eight new extraction wells this year; two of these are the crib wells which will be deepened as part of the ID/ERA site characterization; and one is the slant well to be installed at 216-Z-9.

The proposed location of the first new vapor extraction well was staked on October 16, 1992. The well is located approximately 100 feet north of the 216-Z-9 Trench.

A summary of the report, *Analysis of Carbon Tetrachloride Evaporative Losses and Residual Inventory Beneath 200 West Area at the Hanford Site* prepared by Ebasco, was presented to RL and the regulators at the October 19, 1992 Interface meeting.

The portable meteorological stations have been set up adjacent to the passive wells with operating anemometers (299-W18-6; 299-W15-9). Meteorological data is recorded every 15 minutes.

The Geophysical Field Operations Plan prepared by Coleman Energy & Environmental Systems - Blackhawk Geosciences Division has been distributed for review. This plan will become the test plan for this work. Coleman is planning to collect geophysical data in the 200 West Area to supplement the drilling and chemical sampling data in order to demonstrate their data fusion technology.

Baseline Monitoring - On October 15, 1992, high pressure (29.5 in Hg) yielded interesting results. Normally high pressures yield few (if any) readings at any stations. No wellheads had detectible volatile organics. However, many soil gas probes did have recordable volatiles (up to 2.9 ppm). Many of these probes rarely have volatiles present. The deep cone penetrometer points had volatile organics measurable up to 585 ppm. The increased readings in soil gas probes on some high pressure days needs to be studied.

On October 19, 1992, moderate pressure (29.1 in Hg) yielded moderate detections of volatile organics from some wellheads and soil gas probes. The highest wellhead reading was 34 ppm from well 299-W15-9.

Completion of the report detailing FY 92 baseline monitoring will be delayed. Currently the report completion date is set at November 13, 1992.

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Vapor Extraction System (VES) Operations

- The specification for acquisition of the 500 cfm lease vapor extraction unit is routing for approval.

- VES operations continue on a 12 hour schedule. The new well, W18-168, is a fairly tight well and is exhibiting a lower concentration than the other three and is causing the blower motor to labor at higher vacuums (>80 inches of water). Therefore, it was shut off and extraction from the three "rich" wells (>900 ppm) continue at 90 - 100 inches of water vacuum and approximately 140 cfm.

- The overall project schedule is routing for comments.

- The process control system will be on site October 27, 1992, and the cabinets will be put together and other prepatory work started on October 26, 1992. The 20 HP blower motors are in and will be installed during this down time.

- The P&IDs have been received from Barneby & Sutcliffe and are currently being reviewed. A trip is planned to Ohio the week of October 26, 1992, to discuss comments and finalize the drawings.

- An electrical equipment list for procuring equipment for the new lease VES will be complete by October 23, 1992.

- WHC Design Services at "T" Plant will be used to provide drawings for fabrication and assembly of the HEPA trailer, electrical power distribution system and other components to go with the leased vapor extraction portion that comprises the new VES unit.

- A Letter of Instruction has been drafted to Kaiser Fabrication Services for construction of the HEPA and process control trailer that will support the new leased unit.

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Operational Date	Disposal Facility	Amount of CCl_4 Removed (lb)	Average CCl_4 Conc. (ppm)	Total Operational Time (hr)	Average Flowrate (scfm)
8/13 - 8/19	216-Z-1A	65	420	42	160
8/19 - 8/25	216-Z-1A	125	583	47	190
8/26 - 9/3	216-Z-1A	79.34	459	32	210
9/3 - 9/9	216-Z-1A	21.3	580	9	175
9/10 - 9/16	216-Z-1A	73.82	560	36.5	175
9/17 - 9/23	216-Z-1A	66	500	36.3	150
9/24 - 9/30	216-Z-1A	77.3	661	30	158
10/1 - 10/7	"	132.9	858	38.3	166
10/7-10/13	"	138.63	1019	44.75	136
10/15-10/21	"	140.7	924	45.5	138
Totals		1581.03*	626	361.35	152

*** Includes carbon tetrachloride extracted prior to 8/13**

OUTREACH - The abstract Field Measurements of Natural Soil-Gas Venting Cycles in Boreholes at the Hanford Site, Washington was accepted for a poster session at the Fall Meeting of the American Geophysical Union, December 7-11, 1992.

An abstract Field Observations of Variability of Soil Gas Measurements has been accepted for presentation at the EPA symposium *Measuring and Interpreting VOCs in Soils* to be held in January at Las Vegas. The presentation will be in the poster session format.

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Oregon Hanford Waste Board

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Martha Pagel, Director, OR Water Resources Dept

October 19, 1992

Darci Teel,CERCLA Unit Supervisor
c/o Washington Department of Ecology
7601 W. Clearwater
Suite 102
Kennewick, Washington 99336

9212701 41

Dear Ms. Teel:

The Oregon Hanford Waste Board requests that the Washington Department of Ecology nominate the ground water plumes near the Uranium Oxide Facility of the 200 West Area as an Expedited Response Action (ERA). An ERA, also known as an interim response action, is a provision in the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). An ERA allows for expedited response at waste sites to decrease potential threats. An ERA can also prevent significant increased degradation if action were delayed until the completion of remediation investigations.

The Board asks you propose our request to the Expedited Response Action committee of the Tri-Party Agreement for inclusion in the 1994 budget.

Oregon is concerned that planned crib discharges from cleanup operations will drive 200 West Area ground water plumes toward the Columbia River. We believe that delays will allow the plumes to disperse and will make treatment more difficult and expensive. The plumes contain uranium, iodine-129, technetium-99 and other chemicals (attachment).

Oregon Department of Energy staff reported to the Board that the U-1 and U-2 cribs received 4,000 kg of uranium in liquid effluent disposal in the 1950s. In January 1985, uranium concentrations in the groundwater near these cribs reached 80,000 pCi/L. In 1986, Battelle modeling calculations showed uranium could reach the Columbia River after 192 years. Levels of uranium would be about 600 pCi/L*. This is 20 times the proposed federal guidelines for uranium.

625 Marion Street, N.E., Salem, OR 97310-0830
Telephone (503) 378-4040 Toll free 1-800-221-8035 Fax (503) 373-7806

Staff also informed us that in 1985, a USDOE pump and treat remediation campaign reduced the uranium concentration from 80,000 pCi/L to 20,000 pCi/L. Battelle's 1990 Ground Water Surveillance report suggests that uranium concentrations "appear to have stabilized." Monitoring wells show as much as 41,000 pCi/L of technetium-99. That is 45 times State and Federal standards.

The Board's concern is that significant parts of the plume are no longer in the area being monitored. Also, contaminants may have moved down in the aquifer, out of reach of existing monitoring wells.

The Oregon Hanford Waste Board believes this is an important candidate for the ERA program. The Board meets next on November 9 in The Dalles. I hope early resolution of this issue is possible. I plan to discuss the status of our request at the meeting.

The Board appreciates your early attention to this important matter. Washington has been very responsive to Oregon's concerns in the past for which we are most appreciative. This is a clear message that we have a strong and effective Hanford cleanup partnership with Washington. We look forward to continuing that partnership.

Sincerely,

Keith Burns, Chair
Hanford Waste Board

cc: Hanford Waste Board

* (Anion Exchange Removal and Recovery of Uranium From Hanford Ground Water, 1986; Delegard et al) October 19, 1992

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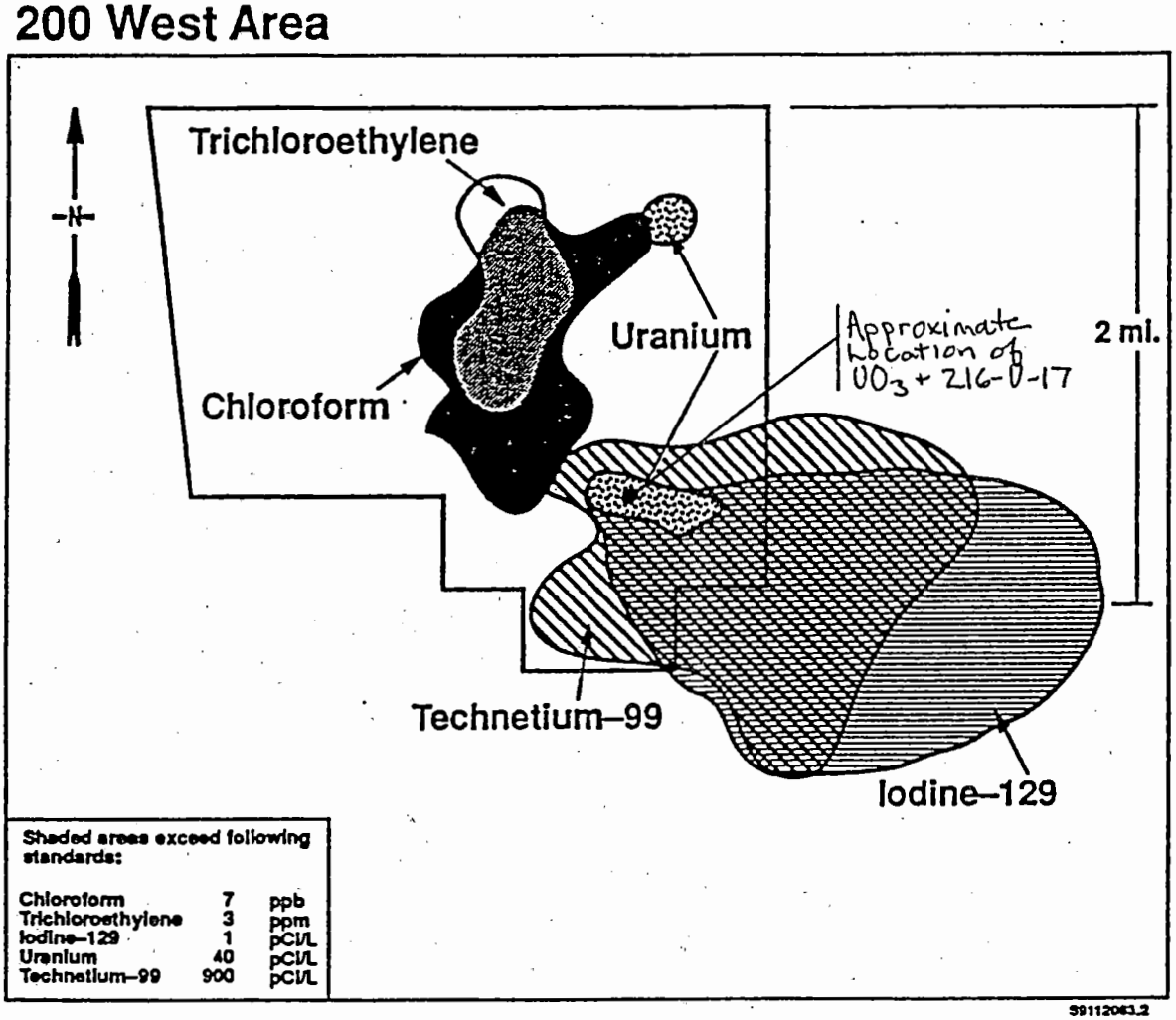
Figure B-5. Areal extent of contaminant concentrations exceeding groundwater protection standards in the 200 West Area (based on average data over period from 1988 to present; see Figure B-3 for carbon tetrachloride distribution).



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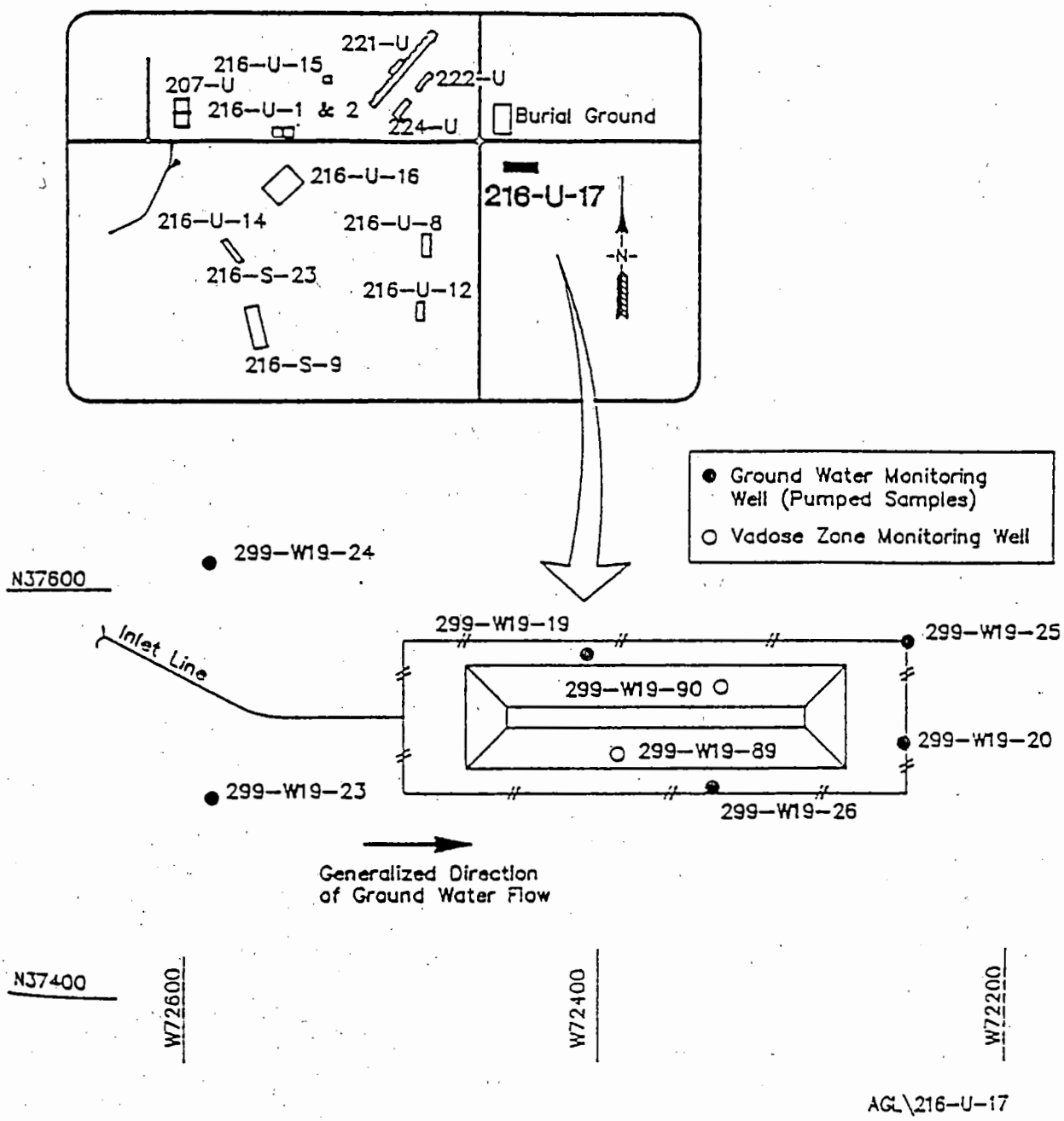

Well Location and Site Map for 216-U-17 Crib

WHITE BLUFFS PICKLING ACID CRIB EXPEDITED RESPONSE ACTION

PROJECT PLAN

REGULATORY REVIEW DRAFT
October 26, 1992

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SUPPORTING DOCUMENT

1. Total Pages 35

2. Title	3. Number	4. Rev No.
White Bluffs Pickling Acid Crib Expedited Response Action Project Plan	WHC-SD-EN-AP-113	0

5. Key Words

Tri-Party Agreement,
CERCLA cleanup
100-IU-5 Operable Unit

APPROVED FOR PUBLIC RELEASE
10/22/92 N. Dolis

6. Author

Name: J. M. Frain and R. M. Mitchell

Signature 10/22/92

Organization/Charge Code 81351/PE62A

7. Abstract

Frain, J. M., and R. M. Mitchell, 1992, *White Bluffs Pickling Acid Crib Expedited Response Action Project Plan*, WHC-SD-EN-AP-113, Rev. 0, Westinghouse Hanford Company, Richland, Washington.

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9. Impact Level 3Q

10. RELEASE STAMP

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ATTACHMENTS:

1 SAMPLING AND ANALYSIS PLAN A1-1
2 QUALITY ASSURANCE PROJECT PLAN A2-1
3 HEALTH AND SAFETY PLAN A3-1
4 PROJECT MANAGEMENT PLAN A4-1
5 DATA MANAGEMENT PLAN A5-1
6 COMMUNITY RELATIONS PLAN A6-1

1.0 INTRODUCTION

1.1 PURPOSE

The following text describes the plan for conducting the White Bluffs Pickling Acid Crib Expedited Response Action (ERA). The U.S. Environmental Protection Agency (EPA) and Washington Department of Ecology (Ecology) requested this ERA in their April 30, 1992, letter to the U.S. Department of Energy (DOE), Richland Field Office (RL), Hanford Project Manager (Ecology 1992).

1.2 BACKGROUND

The White Bluffs Pickling Acid Crib is the only waste site identified in the 100-IU-5 Operable Unit (Figure 1). It is located south of the White Bluffs Town Site, in the 600 Area of the Hanford Site. The White Bluffs Area was the location of construction activities during the early days at Hanford. After construction, most of the facilities at the White Bluffs site were torn down. Other than the historical information obtained in the Waste Information Data System (WIDS), little is known about activities conducted at the site in its early years. It is believed that the cribs were fed from waste streams (primarily acid etch solutions) from a pipe fabrication facility operating sometime between 1943 and 1959.

1.3 ORGANIZATION

This plan is based on the historical site data obtained from reference files (WIDS 1991) and initial non-intrusive site characterization results. This plan provides details on the site's physical and environmental characteristics, a preliminary remedial action evaluation, describes the site evaluation goals and tasks which will support the ERA proposal, and presents a brief discussion of the future ERA activities. Attachments to the plan include support plans necessary to manage, conduct, and control the project.

- Attachment 1: Sampling and Analysis Plan
- Attachment 2: Quality Assurance Project Plan
- Attachment 3: Health and Safety Plan
- Attachment 4: Project Management Plan
- Attachment 5: Data Management Plan
- Attachment 6: Community Relations Plan.

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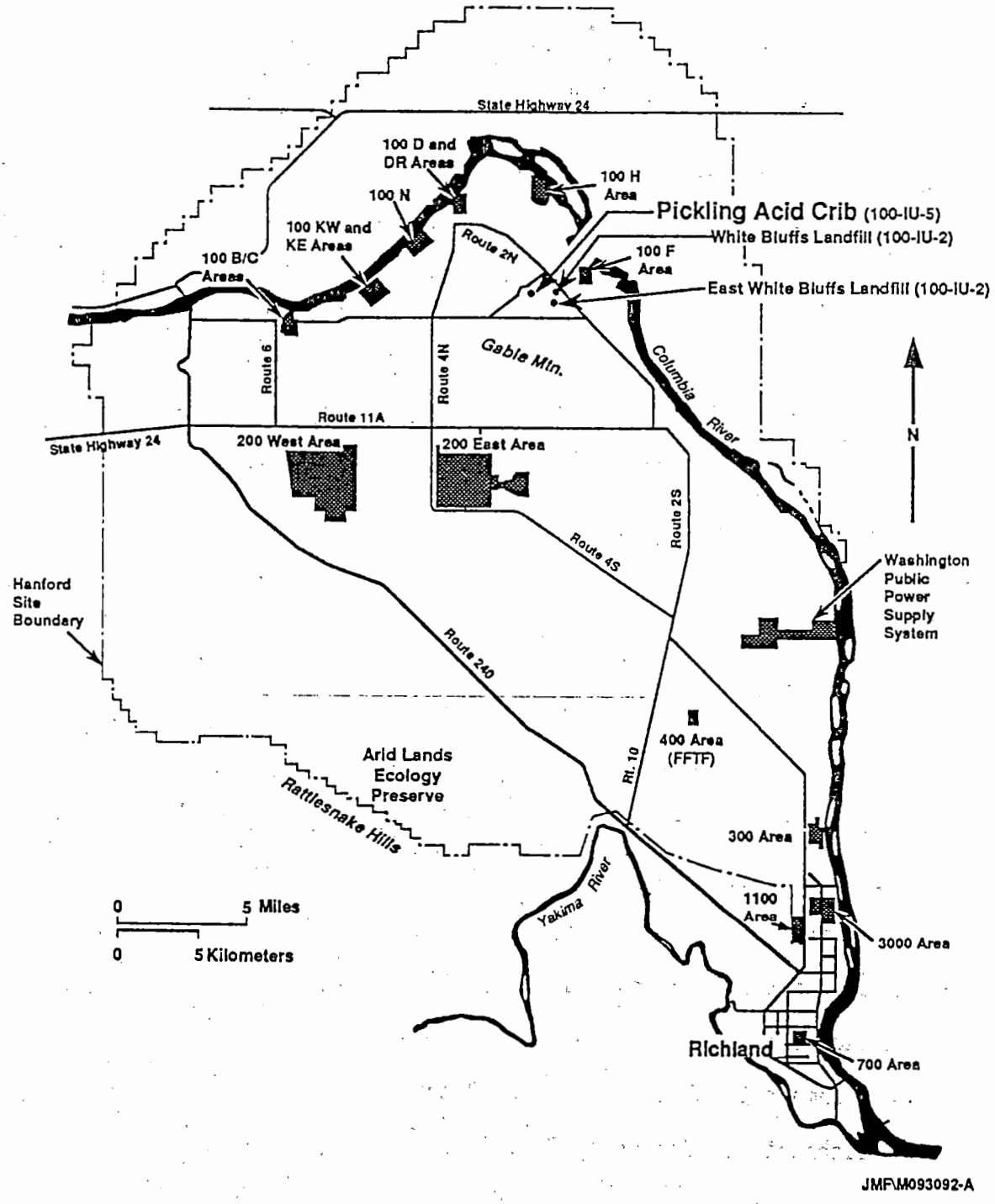

Figure 1. Location of the White Bluffs Pickling Acid Cribs

2.0 SITE DESCRIPTION

The WIDS and other supporting documentation indicate the presence of one crib, 50 by 30 by 10 ft. However, a visual inspection of the site indicates the presence of two cribs located side by side, each approximately 200 by 50 ft. Each crib contains three evenly spaced rows of vent pipes, spaced 7 to 9 ft apart, which protrude from the surface of and run the length of each crib. A riser pipe, approximately 36-in. diameter, protrudes from the northern end of the west crib. A pipe, 3- to 6-in. diameter, runs into this culvert from the north, and may have been the source of influent to the crib. Geophysical investigation techniques have indicated pipes leading north from both cribs. The ERA investigation will include the pipes as a source to the facility. A depression on the south eastern corner of the eastern crib may have been an overflow, and will also be investigated.

Surrounding the cribs to the north and east are areas that have previously been disturbed. There is quite a bit of debris, indicating the possible presence of a landfill, and also building demolition areas. These areas are included in and will be investigated further as part of the 100-IU-2 Operable Unit.

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3.0 SITE CHARACTERIZATION

The ERA characterization objective is to determine the nature and extent of any environmental hazards at the site in question. Site characterization activities will consist of radiological surveys, nonintrusive ground-penetrating radar (GPR) and electromagnetic induction (EMI) surveys, historical research, visual site surveys, and soil sampling. Some of these activities have been conducted to assist in the preparation of this project plan, and the results are provided below. Groundwater data for the area is not available.

3.1 RADIOLOGICAL SURVEYS

Site radiological surveys have not detected any levels of surface radioactivity above background levels. It is known that the area was "restricted" from receiving radioactive materials during operations, and is not suspected to contain sub-surface radioactive contamination. Field instruments will be used to confirm the absence of contamination during subsurface sampling activities.

3.2 GEOPHYSICAL SURVEYS

The GPR and EMI surveys that were conducted at the site in September 1992 provided an initial look at the boundaries of the cribs, subsurface piping layout and the feeder pipes. This preliminary information has been used in the preparation of the sampling plan to identify potential sampling locations. A diagram showing some of the structures identified in the preliminary investigation is provided in Figure 2. Since this information is preliminary it is not accurate enough to conduct field work, but will provide tentative sample locations which will be verified for site-specific sampling.

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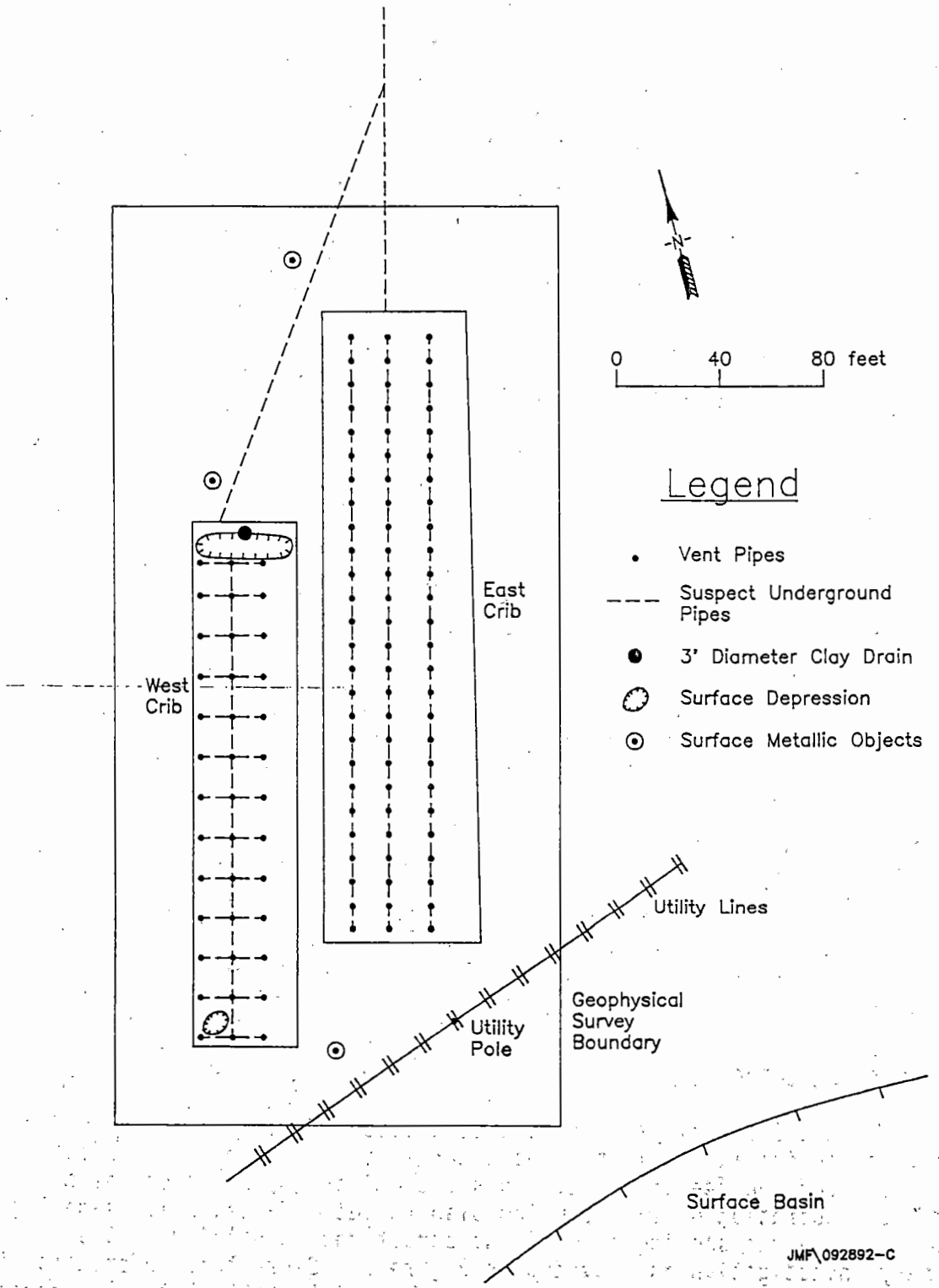

Figure 2. Preliminary Geophysical Data

3.3 HISTORICAL RESEARCH

As stated previously, very little data exists regarding the use of the White Bluffs Pickling Acid Cribs. No documentation has been found to indicate which facility released material to the cribs. WIDS provided information about the acid disposal at the cribs; however, this information is suspect since the facility description was inaccurate. Since it is known that the White Bluffs area was used as a receiving area for construction activities, it is also possible that oils and solvents may have been used during routine maintenance activities and sent through the drain to the cribs.

3.4 SAMPLING

Samples of the soil beneath and in the vicinity of the cribs will be both field screened and analyzed at a qualified analytical laboratory. A detailed sampling and analysis plan is provided as Attachment 1. Briefly, nonintrusive sampling and at-depth soil samples will be taken to determine the nature and extent of any potential soil contamination. Nonintrusive sampling shall consist of collecting soil samples to a depth of 1 ft or less. Deep soil samples will be taken using a backhoe. The backhoe will also be used to dig into the cribs to verify the configuration of the piping system and to provide a visual inspection of the crib construction. The field team leader shall direct the pit/trench construction and sampling activities. Each subsurface location will start as a pit and may expand to a trench, depending on initial sampling results and field observations. The excavated material will be returned to the trenches it was taken from. The crib material will be remediated, if necessary, following completion of the engineering evaluation/cost analysis (EE/CA) which is contained within the ERA proposal. All activities will be recorded in the field logbook.

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4.0 PRELIMINARY SCREENING OF ALTERNATIVES

This section describes the preliminary identification and screening of remedial action alternatives based on existing data. The preliminary screening does not replace the formal ERA proposal EE/CA screening process. Alternatives not retained here may be reevaluated in the comprehensive EE/CA screening.

4.1 PRELIMINARY ASSUMPTION

The historical records indicate that the site has received acid used to etch piping. Thus, the potential for the soil to be contaminated with metals exists. It may also have an elevated pH; however, it is suspected that the acid would have been neutralized prior to disposal, or that the soil has buffered the waste acid. Since no inventories of waste disposal in the cribs is available, it will also be necessary to examine the potential for contamination from solvents and oils (substances which are associated with the pipe fabrication process).

4.2 SCREENING EVALUATION

Characterization activities will provide the database used to evaluate the initial response action alternatives and to generate additional feasible alternatives.

The initial response action alternatives are:

- No action
- Cover site with clean fill
- Remove pipes to Central Landfill and cover the site with fill material
- Excavate and treat/dispose of any contaminated soil and piping, backfill with clean soil.

Screening uses timeliness, feasibility, environmental protection, and cost as selection criteria. Alternatives that pass the screening will be further evaluated in the EE\CA.

5.0 SITE EVALUATION TASKS

Site evaluation tasks will collect data for one or more of the following purposes:

- Identify health and safety concerns
- Verify and refine the preliminary assumptions
- Support EE/CA alternative development and evaluation.

Results will be reported in the ERA proposal.

5.1 DATA OBJECTIVES

A quality assurance project plan in included in this plan as Attachment 2.

5.2 FIELD INVESTIGATION TASKS

Geophysical and radiation surveys have been conducted at the site. If it is determined that more information is needed in these areas, additional surveys will be conducted. The major remaining task is soil sampling to determine the nature and extent of potential contamination. Since the exact field conditions (contamination levels and types) are unknown, evaluation task changes may occur during the investigation. Task changes will be documented.

To ensure efficient and timely completion of tasks, minor field changes can be made by the person in charge of the particular activity in the field. Minor field changes are those that have no adverse effects on the technical adequacy of the job or the work schedule. Such changes will be documented in the daily log books that are maintained in the field. If it is anticipated that a field change will affect the agreed to work schedule or requires the approval of the lead regulatory agency, the applicable DOE unit manager will then be notified (Ecology, 1991).

5.3 DATA EVALUATION

The site evaluation results will be used to define the extent of efforts necessary to remediate the site. The effort may support a "no further action" alternative and a subsequent "record of decision" for the 100-IU-5 Operable Unit.

6.0 ERA PROPOSAL AND ACTION MEMORANDUM

The ERA proposal provides the EPA, Ecology, and the public with information that (1) defines the origin, nature, and extent of site contamination; (2) evaluates viable remedial technologies; and (3) recommends a preferred remedial action.

The ERA requires an evaluation of remedial technologies through preparation of an EE/CA. A non-time critical ERA requires the EE/CA to use specific screening factors and selection criteria to assess the feasibility, appropriateness, and costs to reduce and/or eliminate the environmental hazards present. The proposal will undergo an in-house Westinghouse Hanford Company review before a concurrent 30-day DOE, EPA, Ecology, and Public review and comment period. Reviewer comments will be dispositioned and the revised proposal will be issued. The EPA and Ecology will be requested to approve the document after disposition of the comments and to issue an action memorandum initiating the removal action.

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7.0 ERA IMPLEMENTATION

Following the action memorandum, the preferred alternative can be implemented. The necessary permits, equipment, and other resources will be obtained and scheduled as necessary to support the ERA.

8.0 PROJECT SCHEDULE

The White Bluffs Pickling Acid Crib project schedule is shown in Figure 3.

The implementation schedule for the remedial action may be altered, depending on the results of the EE/CA.

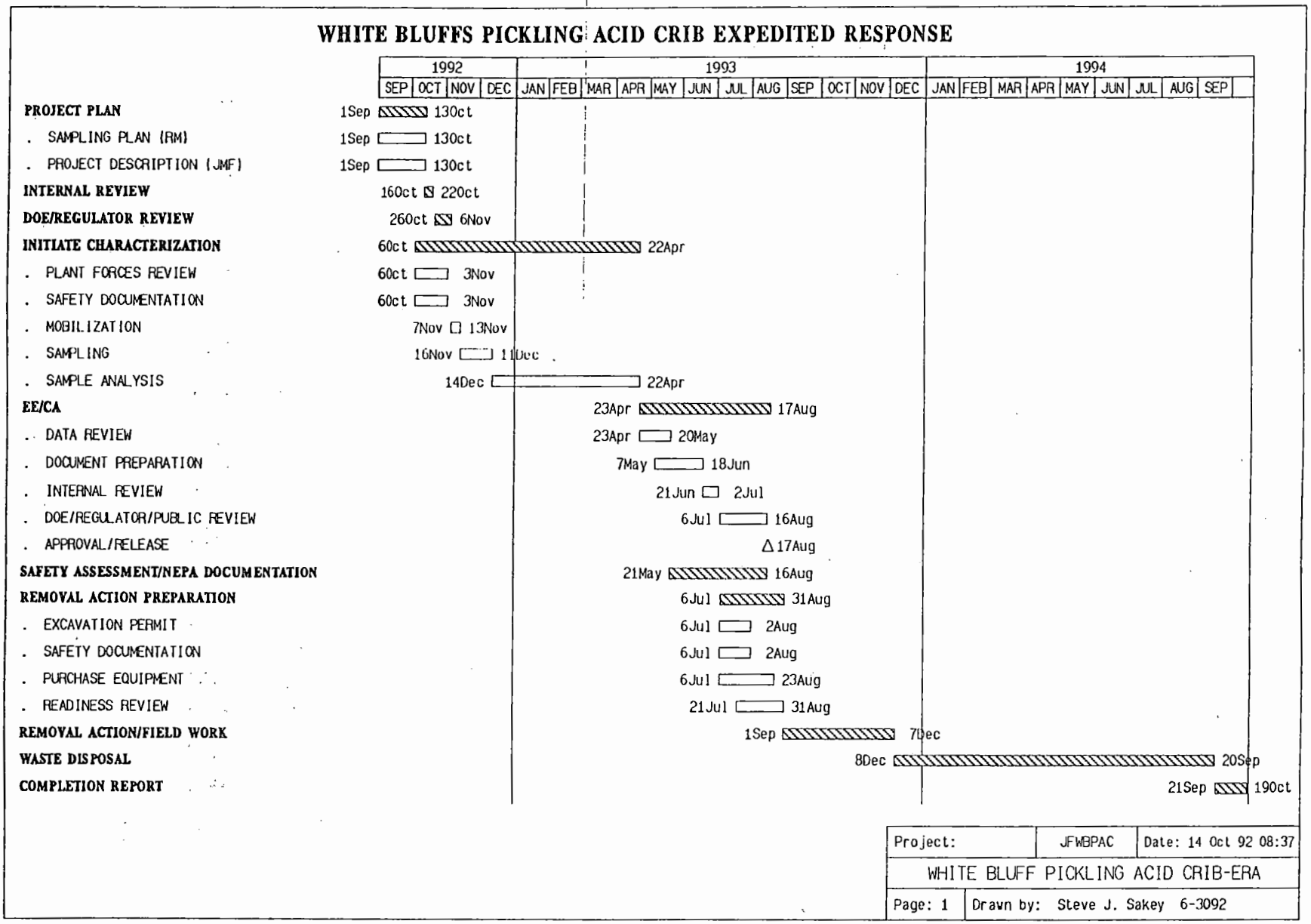

Figure 3. White Bluffs Picling Acid Crib ERA Schedule

9.0 REFERENCES

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ATTACHMENT 1

SAMPLING AND ANALYSIS PLAN

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1.0 SCOPE OF WORK

The sampling and analysis plan provides a description of work to support site characterization of the White Bluffs Pickling Acid Cribs Expedited Response Action Proposal. This plan provides guidance for the execution of field duties for project personnel. The sampling plan scope includes the sampling design and collection of representative soil samples to ascertain the types and determine the extent of any residual contamination.

2.0 HEALTH AND SAFETY

The guidance for ensuring worker health and safety will be provided in a Hazardous Waste Operations Plan (HWOP) as described in Environmental Investigation Instruction (EII) 2.1, Preparation of Hazardous Waste Operations Permits (WHC 1988b). Aspects of daily operations and site-specific activities will be provided in a Job Safety Analysis and will provide guidance for appropriate personnel protection equipment (PPE), chemical/radiological hazards, site monitoring, and any potential hazards associated with the field/site environment.

As the primary means of protecting the health and safety of field personnel, all individuals who enter the controlled zone will have received the appropriate training to be qualified as a Hazardous Waste Worker as outlined in EII 1.1, Hazardous Waste Site Entry Requirements (WHC 1988b).

Safety-related documents and this sampling and analysis plan will be reviewed by field personnel prior to commencement of work. A pre-job safety meeting and regular field-safety "tailgate" meetings will be held to review all safety considerations and identify any potential hazards not previously noted.

3.0 SAMPLING AND FIELD ACTIVITIES

Characterization of the White Bluffs Pickling Acid Cribs and their immediate environs will be based primarily on the physical observation of the cribs conducted to date. Preliminary information obtained from geophysical surveys has also been utilized to guide sampling activities. Finally, historical information that has been verified through a combination of the observations of existing site conditions, personnel interviews, and photographs, has also been taken into account.

3.1 SITE LOCATION

Sampling activities will be conducted within an area comprising the existing cribs and including a 50-ft buffer zone on the east, south, and west sides. The north boundary will be extended approximately 150 yd to encompass

the effluent pipelines which preliminary geophysical surveys identified (Figure 1-1). The entire area identified for investigation is approximately 60 by 215 yd.

3.2 SUSPECTED CONTAMINANTS

According to historical records, the contaminants that were reported as being disposed to the crib comprised nitric and hydrofluoric acid. Other contaminants which could potentially be byproducts of the "pickling" process and/or the crib leaching process are chromium and lead. Routine maintenance activities may also have resulted in the release of small quantities of organic constituents. Radioactive contaminants were not involved in the process and a field survey of the site proved negative.

3.3 FIELD SCREENING

Field screening will be utilized to assist in the selection of samples to be submitted for laboratory analyses. Soils from potential sampling locations will be observed for discoloration, excessive moisture or other anomalies. Any soils demonstrating these characteristics will be screened utilizing an organic vapor monitor (OVM). Soils exhibiting positive readings for organic constituents will be submitted for analyses. Collected samples will also be screened for radioactivity utilizing a Geiger-Muller (GM) counter and alpha detector. Any sample recording levels of 100 counts per minute above background will be submitted for gamma spectraphotometry.

Due to the large quantities of acids released to the site, pH tests using litmus paper and/or colormetric methods will also be utilized for sample screening.

3.4 EQUIPMENT AND SUPPLIES

The following materials and equipment may be required to perform the outlined tasks:

- tractor, backhoe
- barricades
- low-level waste (LLW) drums and associated packaging
- plastic sampling jars
- glass sampling jars
- sample jar labels
- protection gloves
- ice chest with wet or "blue" ice
- absorbent (vermiculite) for shipping
- permanent marking pens
- safety glasses
- sampling devices (trowels, spoons, augers, shovels)
- plastic sealer bags
- evidence tape
- measuring tape
- other items as needed.

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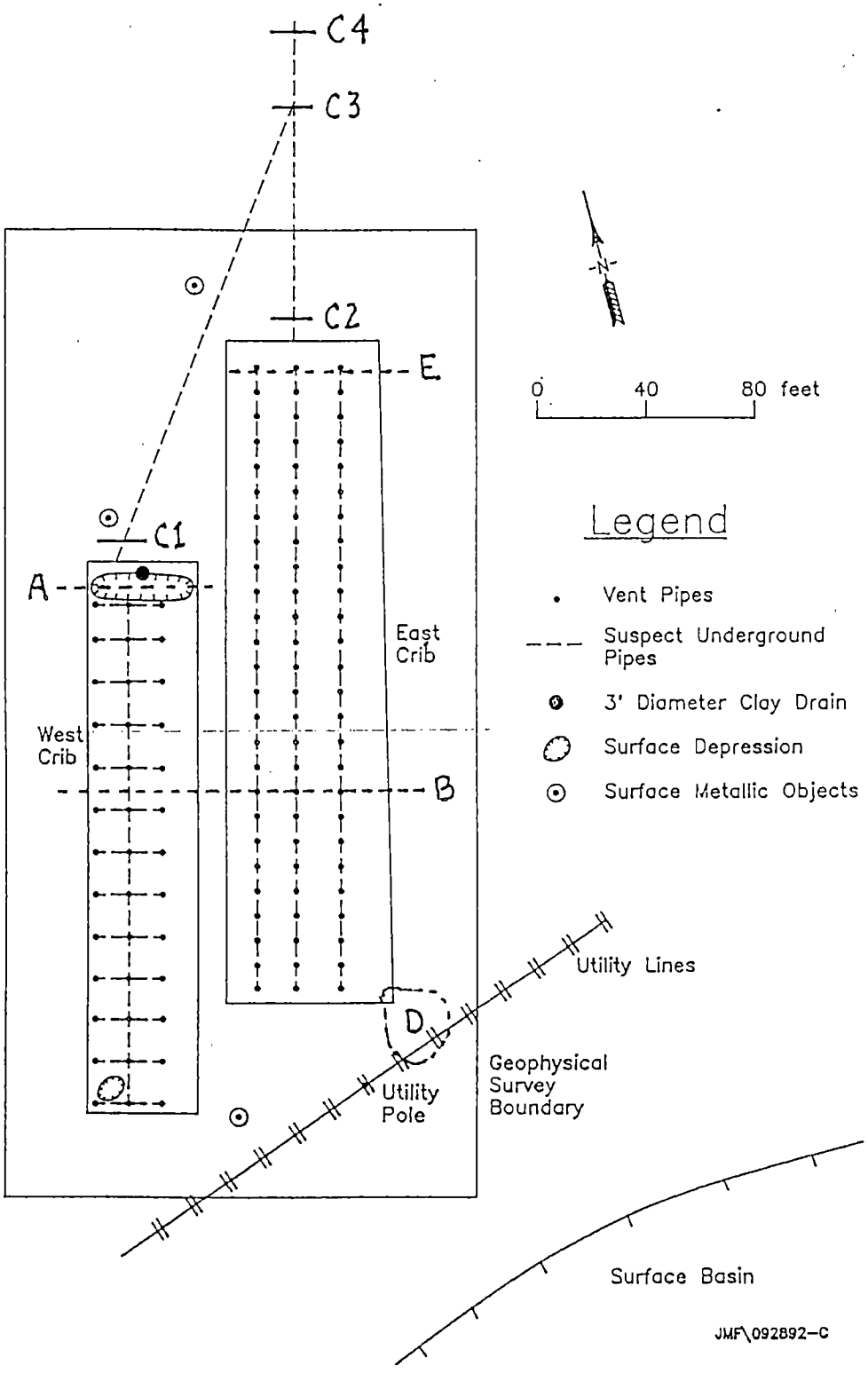

Figure 1-1. Map Showing Location of the Sampling Sites

3.5 SAMPLE SITE SELECTION

Location of the sampling sites has been based on a number of site field investigations. During these visits, observations were made of surface indications of areas of concern, such as crib construction, discolored cobble or soil, stressed vegetation, runoff areas, surface debris, etc. Additionally, the geophysical surveys conducted to date have provided preliminary subsurface information on crib piping structures and the effluent pipelines running to the cribs.

Based on the information detailed above, four primary locations for sampling trenches have been selected, along with one contingency site. The general location of these sampling locations is provided in Figure 1-1. The sites are identified as follows:

A. Located along the head end of the west crib. This site will provide information on the underground crib piping structures and allow for sampling in the area of potentially greatest contamination.

B. Located near the midline of both cribs. This excavation will confirm crib structure for the west crib and provide a detailed look at the east crib construction. Additionally, the location down gradient in the crib will allow comparisons of potential levels of contamination in the soils compared with Site A.

C. This site is represented by multiple excavations along the influent pipelines to the two cribs. The proposed locations C1 through C4 were selected to confirm the existence of the pipelines, determine size, depth, extent, and whether they connect at C3 or run parallel to their end at C4.

D. This site is being sampled due to physical evidence of a potential overflow of the east crib at the southeast corner into a natural depression.

E. (Contingency Location) - If sample point B does not confirm the expected piping design indicated by the geophysical surveys, or other anomalies are apparent, this site will provide details on crib construction. It will also provide a gradient comparison of potential contamination with Site B.

Based on the discovery of unsuspected underground piping or other anomalies not identified to date, the field team leader may choose to expand the number of sampling sites described herein. The location and extent of any additional sample sites will be noted in the field logbook.

3.6 SAMPLE COLLECTION

Sample collection will be accomplished utilizing nonintrusive methods (depth <1 ft) at Site D and with test pits/trenches at Sites A, B, C, and E, if necessary. The test pits will allow for collection of samples from soil which is in direct contact with crib piping structures or in the primary percolation areas at the crib bottom.

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A backhoe will be utilized to excavate the test pits for sampling access in accordance with the guidance provided in Appendix I of EII 5.2, Soil and Sediment Sampling (WHC 1988b). Field surveys using an OVM will monitor for volatile organic compounds. Indications of positive readings above background levels will indicate the need for sample collection.

At sample sites A and B the trench will be excavated across the entire extent of the crib. At the point the piping structures are excavated, samples from soils beneath these pipes will be collected from three locations corresponding to the approximate locations of the three sets of risers observed at each crib. An additional three samples will be collected at a depth of 5 ft below the piping or crib bottom, whichever is greater. This methodology will also apply to Site E, if it is deemed necessary to adequately characterize the cribs.

Sampling efforts at sites C1 through C4 will consist of an excavation to the existing pipeline depth and a single sample collected from each location. If the pipelines run parallel at points C3 and C4, a sample from each pipeline will be collected. Site D will consist of three surface samples collected from points selected based on an authoritative sampling method.

Actual sample collection will be conducted utilizing separately decontaminated hand tools such as spoons, trowels, shovels, etc., following the guidance provided in EII 5.2. If it becomes necessary, due to a safety requirement or other unsafe condition, that sampling cannot be accomplished by entry into the test pit, then sampling can proceed by collection of a sample from the center of the backhoe bucket. However, care should be taken to ensure that the soils collected are representative of the designated location stated above.

Excavated material will be returned to each excavation following the completion of sampling activities. Any highly contaminated soil will be returned to the excavation and covered with additional clean fill as directed by the field team leader, site safety officer, and/or health physics technician.

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3.6.1 Sample Handling

Following collection, samples will be controlled in accordance with the requirements outlined in EII 5.2, Soil and Sediment Sampling (WHC 1988b). All samples will be labeled, sealed, and placed in a container for preservation on ice or other appropriate cooling medium.

3.6.2 Sample Labels

The Hanford Environmental Information System (HEIS) is used to track the sample and laboratory data obtained during environmental investigations conducted under this description of work. Each sample will be identified and labeled with a unique HEIS sample number. HEIS numbers will be assigned in the field per the *Hanford Environmental Information System (HEIS) Operator's Manual* (WHC 1991). The sample location and corresponding HEIS numbers will be documented in the field logbook.

3.6.3 Field Logbooks

Field activities will be recorded in a field logbook according to the protocols outlined in EII 1.5, Field Logbooks. Entries will be made in ink, signed, and dated. Photographs should be taken of each sampling location and at any unusual circumstances encountered during the investigation.

3.6.4 Chain-of-Custody

Chain-of-custody records will be maintained in accordance with the requirements of EII 5.1, Chain-of-Custody. The chain-of-custody form will establish the documentation necessary to ensure the traceability of the sample from time of collection until disposal.

3.6.5 Sample Analysis Request

An approved laboratory selected by the Office of Sample Management will be used to conduct laboratory analyses (EII 1.11). The request for appropriate analyses will be included on the WHC sample analysis request form as provided in EII 5.2, Soil and Sediment Sampling. Laboratory specific forms may be utilized in lieu of the WHC form and will be made available by the Office of Sample Management (OSM).

3.6.6 Decontamination

Hand-held equipment used for the direct collection of samples will have been previously cleaned in accordance with EII 5.5, Decontamination of Equipment for RCRA/CERCLA Sampling. A situation requiring cleaning the backhoe equipment in the field will follow the requirements outlined in EII 5.4, Field Decontamination of Drilling, Well Equipment, and Sampling Equipment, are met; all associated activities will be recorded in the field logbook.

3.7 SHIPPING

Shipping requirements will conform with EII 5.11, Sampling Packaging and Shipping (WHC 1988b).

4.0 SAMPLE ANALYSES

EII 5.2 provides general guidance for containers and preservation requirements. The contractor laboratory may request modifications to these recommendations as long as the quality of the data is not compromised. Sample containers are purchased precleaned from a supplier providing certification of internal laboratory procedures.

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Samples collected for analyses will be analyzed using the current Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Contract Laboratory Program (CLP) methods for organic compounds and inorganic analytes. Additionally, contract-approved methods will be used for selected radiological analyses (Level V). Analytes requested comprise the following:

Table 1-1. Laboratory Sample and Analysis.

Parameters of Interest	Analytical Method (TMA/Weston)	Target Detection Limit	Precision (soil)	Accuracy (soil)
ALL SAMPLES				
ICP Metals	Contract Laboratory Procedure (CLP)	$CRDL_a$	±35%	75-125
Lead	CLP	$CRDL_a$	±35%	75-125
pH	SW-846 9040	NA	NA	NA
Nitrite/Nitrate	EPA 353.2	1.25 mg/kg	±35%	75-125
Anions: ammonia fluoride sulfate chloride phosphate	EPA 300	NA 2.5 mg/kg 1.25 mg/kg 1.25 mg/kg 1.25 mg/kg	±35%	75-125
Total Activity	LA-548-111 LA-508-121	50 pCi/g		
SELECTED SAMPLES				
Volatile Organics	CLP	$CRDL_a$	b	b
Semi-volatile Organics	CLP	$CRDL_a$	b	b
Total Petroleum Hydrocarbons (Diesel Range)	SW-846 8015, Modified	10 mg/kg	±35%	75-125
Total Petroleum Hydrocarbons (Other Range)	SW-846 8015, Modified	10 mg/kg	±35%	75-125
Gamma spec	RC-30/Pro-042-5	0.5 pCi	±35%	65-135

a For all CLP analytical categories, CRDL refers to the Contract Required Detection Limit specified in the CLP Statements of Work (EPA 1990a,b).
b Precision and accuracy as defined in the CLP Statement of Work (EPA 1990a,b)

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5.0 QUALITY ASSURANCE/QUALITY CONTROL

Quality assurance (QA) and quality control (QC) of sample analysis and results will be ensured by concomitant field and laboratory procedures. Procurement of laboratory services will be the responsibility of the Office of Sample Management (OSM) which will ensure through the requirements outlined in EII 1.11, Technical Data Management, that contractor laboratories will meet minimum QA/QC requirements. OSM is also responsible for the review of all laboratory QA/QC programs and records and providing "validated" data to the project engineer (WHC 1988b, EII 1.11).

5.1 FIELD QUALITY ASSURANCE/QUALITY CONTROL

To ensure QA/QC measuring which provide consistent guidance in field work, a set of procedures designated as EII have been developed by WHC (1988b). The EIIs that may be utilized, but not limited to, in this effort follows:

Task	EII
Sampling Procedures	5.2
Sample Handling	5.2, 5.11
Field Documentation	1.5, 5.1, 5.10
Equipment Decontamination	5.4, 5.5
Field Screening	3.4
Site Entry Requirements	1.1
Deviation from Procedures (EII)	1.4
Personnel Requirements	1.1, 1.7
Health and Safety Requirements	1.1, 1.7, 3.2

5.2 SAMPLE QUALITY ASSURANCE/QUALITY CONTROL

Internal QA/QC samples will be collected as specified in the Quality Assurance Project Plan.

Documentation will be provided by entries into the field logbook as per EII 1.5. The number of QA samples will conform to one equipment blank, one duplicate, and one split per every 20 soil samples at a minimum. Additionally, three background samples will be collected from a location located upwind from the cribs in an area that provides physical evidence of being relatively undisturbed. These samples will allow comparisons with crib sample values and an ancillary evaluation of laboratory quality. Additional QA samples may be acquired at the discretion of the field team leader. The medium utilized for the equipment blank will be silica sand. The trip blank and field blank have been deleted in accordance with OSWER Directive 9355.0-7B, Appendix C, Section C.6 (p. 13).

6.0 SCHEDULE

A tentative schedule has been prepared and is presented in Figure 3. Activities to initiate characterization of the site have already commenced. Field sampling is currently planned for the period from November 16, 1992, to December 11, 1992. This schedule is subject to change and is dependent on regulator approval. An Agreement Activity Notification form or acceptable alternative notification will be issued at least 10 days prior to the tentative start of sampling activities.

7.0 SAMPLING PLAN MODIFICATIONS

Under field conditions, the optimal aspects of preliminary sample design often are not achievable. Factors influencing these efforts can be equipment malfunction or breakdown, weather conditions, improper equipment, soil conditions, physical barriers to sampling equipment, and overly optimistic evaluation of capabilities. This is particularly true for this project since sampling is scheduled for the late November early December time frame. Because of unforeseen field conditions, modifications to the planned activity may be necessary as decided by the field team leader.

To ensure efficient and timely completion of tasks, minor field changes can be made by the person in charge of the particular activity in the field. Minor field changes are those that have no adverse effects on the technical adequacy of the job or the work schedule. Such changes will be documented in the daily log books that are maintained in the field. If it is anticipated that a field change will affect the agreed to work schedule or requires the approval of the lead regulatory agency, the applicable DOE unit manager will then be notified (Ecolgy, 1991).

ATTACHMENT 2

QUALITY ASSURANCE PROJECT PLAN

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1.0 INTRODUCTION

The Quality Assurance Project Plan (QAPP) describes the quality assurance requirements that support the White Bluffs Pickling Acid Crib Expedited Response Action (ERA) characterization activities. This QAPP presents the objectives, organizations, functional activities, procedures, specific quality assurance (QA), and quality control (QC) protocols associated with these activities.

2.0 PROJECT DESCRIPTION

The ERA characterization objective is to determine if any environmental hazards exist, their nature, and extent. Representative and specific locations will be investigated at the site.

Project plan Section 1.2 contains the site's description.

See project plan Chapter 3 (Preliminary Identification and Screening of Alternatives) and Chapter 4 (Site Evaluation Tasks) for project objectives.

3.0 PROJECT ORGANIZATION AND RESPONSIBILITIES

The project plan's Attachment 4 describes the overall management plan. QAPP responsibilities of key personnel and organizations are:

- **Field Team Leader (Environmental Restoration Engineering).** Responsible for onsite direction of the sampling team in compliance with the requirements of this QAPP, the sampling plan, and all implementing Environmental Investigation Instructions (EII).

- **Cognizant Quality Assurance Engineer (Environmental Quality Assurance).** The QA person is responsible for performing formal audits/surveillances to ensure compliance with QAPP requirements (WHC 1990).

- **Office of Sample Management (OSM).** OSM is responsible for coordinating qualified and approved laboratory support for all project analyses concerns, assisting in sample shipment tracking, resolving chain-of-custody issues, and when requested validating all related data.

- **Qualified Analytical Laboratories.** Soil samples shall be sent to a Westinghouse Hanford approved contractor, participant subcontractor, or subcontractor laboratory. They shall be responsible for performing the analyses identified in this plan in compliance with work order, contractual requirements, and Westinghouse Hanford approved procedures (see Section 5.0). Each laboratory shall have and comply with a written approved laboratory QA plan. All

analytical laboratory work shall be subject to the surveillance controls invoked by QI 7.3, Source Surveillance and Inspection. This plan will meet the appropriate requirements of the *Hanford Federal Facility Agreement and Consent Order* (Ecology et al. 1991). OSM will retain prime responsibility for ensuring acceptability of offsite laboratory activities.

- **Other Support Contractors.** The project engineer may assign project responsibilities to other support contractors project responsibilities. Such services shall be in compliance with standard Westinghouse Hanford procurement procedures as discussed in Section 5.0. All work shall comply with Westinghouse Hanford approved QA plans and/or procedures.

4.0 QUALITY ASSURANCE OBJECTIVES FOR MEASUREMENT

The QAPP's principal objective is to maintain the quality of field activities, sample handling, laboratory analysis, and to document each processing level.

The EPA devised an analytical level classification system (WHC 1987) which provides increased data quality as the scale increases. Level I consists of field screening methods. Level II entails more advanced onsite analytical techniques. Level III concerns standard laboratory program procedures. Level IV consists of EPA contract laboratory program procedures. Level V addresses specially developed procedures where standard methods are not available or requires a high degree of analytical sensitivity.

A Westinghouse Hanford Company (WHC) developed site-specific analytical classification that fulfills the EPA data quality goals. It consists of two data quality levels: field or laboratory screening and validated laboratory analyses (McCain and Johnson 1990). Field or laboratory screening is equal to EPA Levels I, II, and III. Validated laboratory analyses are equal to EPA Levels IV and V.

The sampling plan list analytes of interest along with precision and accuracy requirements.

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5.0 SAMPLING PROCEDURES

Sampling activities shall be consistent with the current applicable WHC (1988b) procedures and the White Bluffs Pickling Acid Crib ERA Sampling Plan. These procedures are identified in the project field sampling plan. They include:

- EII 1.4, Instruction Change Authorizations
- EII 1.5, Field Logbooks
- EII 1.6, QA Records Processing
- EII 1.7, Indoctrination, Training, and Qualification
- EII 3.4, Field Screening
- EII 5.1, Chain of Custody
- EII 5.2, Soil and Sediment Sampling
- EII 5.5, 1706 KE Laboratory Decontamination of RCRA/CERCLA Sampling Equipment
- EII 5.11, Sample Packaging and Shipping.

As noted in Chapter 3, procured participant contractor and/or subcontractor services shall be subject to the following (WHC 1989):

- QI 4.0, Procurement Document Control
- QI 4.1, Procurement Document Control
- QI 4.2, External Services Control
- QI 7.0, Control of Purchased Items and Services
- QI 7.1, Procurement Planning and Control
- QI 7.2, Supplier Evaluation
- QI 7.3, Source Surveillance and Inspection
- QI 17.0, Quality Assurance Records
- QI 17.1, Quality Assurance Records Control
- EII 1.6, QA Records Processing (WHC 1988b).

The procurement document shall specify that the contractor submit for Westinghouse Hanford review and approval prior to use all analytical procedures and their QA/QC program. Participant contractor or subcontractor procedures, plans, and/or manuals shall be retained as project quality records.

6.0 SAMPLE CUSTODY

Project samples shall be controlled per EII 5.1, Chain of Custody from the point of origin to the analytical laboratory. Laboratory chain of custody procedures shall be reviewed and approved as required by WHC procurement control procedures as noted in Chapter 5. The contractor shall ensure the maintenance of sample integrity and identification throughout the analytical process. Offsite sample tracking will be performed by OSM procedure, Sample Tracking.

Results of analyses shall be traceable to original samples through a unique code or identifier. Westinghouse Hanford will assign the samples Hanford Environmental Information System (HEIS) sample numbers. All results of analyses shall be controlled as permanent project quality records.

7.0 CALIBRATION PROCEDURES

Calibration of critical WHC measuring and test equipment, whether in existing inventory or newly purchased, shall be controlled as required by:

- QR 12.0, Control of Measuring and Test Equipment
- QI 12.1, Acquisition and Calibration of Portable Measuring and Test Equipment
- QI 12.2, Measuring and Test Equipment Calibration by User
- EII 3.1, User Calibration of Health and Safety Measuring and Test Equipment.

Routine field equipment operational checks shall be per applicable EII or procedures. Similar information shall be provided in WHC-approved participant contractor or subcontractor procedures.

Participant contractor, or subcontractor laboratory analytical equipment calibrations shall be per applicable standard analytical methods. These shall be subject to WHC review and approval.

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8.0 ANALYTICAL PROCEDURES

Procedures based on the referenced methods shall be selected or developed, and approved before use in compliance with appropriate WHC procedure and/or procurement control requirements as noted in Chapter 5.

9.0 DATA REDUCTION, VALIDATION, AND REPORTING

9.1 DATA REDUCTION AND DATA PACKAGE PREPARATION

All analytical laboratories shall be responsible for preparing a report summarizing the analysis results and a detailed data package. This includes all information necessary to perform data validation to the extent indicated by the minimum requirements of Section 9.2. Data shall be reported on a dry-weight basis. The data summary report format and data package content shall be defined in procurement documentation subject to Westinghouse Hanford review and approval as noted in Chapter 5. As a minimum, laboratory data packages shall include the following:

- Sample receipt and tracking documentation, including identification of the organization and individuals performing the analysis,

the names and signatures of the responsible analysts, sample holding time requirements, references to applicable chain of custody procedures, and the dates of sample receipt, extraction, and analysis

- Instrument calibration documentation, including equipment type, model, initial and continuing calibration data, method of detection limits, and calibration procedure used
- Additional quality control data, as appropriate for the methods used including matrix spikes, duplicates, recovery percentages, precision data, laboratory blank data, and identification of any nonconformance that may have affected the laboratory's measurement system during the analysis time period
- The analytical results or data deliverables, including reduce data, reduction formulas or algorithms, unique laboratory identifiers, and description of deficiencies
- Other supporting information, such as reconstructed ion chromatographs, spectrograms, traffic reports, and raw data.

Sample data shall be retained by the analytical laboratory and made available for systems or program audit purposes upon request by WHC, RL, or regulatory agency representatives. Such data shall be retained by the analytical laboratory through the duration of their contractual statement of work, at which point, it shall be turned over to WHC for archiving.

9.2 VALIDATION

The completed data package shall be reviewed and approved by the analytical laboratory's QA Manager before submittal to WHC for validation. Validation of the completed data package shall be performed by qualified OSM or other contract personnel. Validation requirements will be defined within the approved procurement document or OSM data validation procedures (WHC 1992b).

For analyses performed by qualified laboratories, validation reports shall be prepared. The results of these analyses will be substantiated with checks as applicable per the analytical procedure.

9.3 FINAL REVIEW AND RECORDS MANAGEMENT CONSIDERATIONS

All validation reports and supporting analytical data packages shall be subjected to a final technical review by qualified reviewers at the direction of the WHC project engineer. This will be done before data submittal to regulatory agencies or inclusion in reports or technical memoranda. All validation reports, data packages, and review comments shall be retained as permanent project quality records in compliance with EII 1.6, Records Management (WHC 1988b), and QA 17.0, Quality Assurance Records (WHC 1989). The project engineer will have the primary responsibility for dispositioning project related records and data.

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10.0 INTERNAL QUALITY CONTROL

Sampling plan activities may be evaluated as part of the project's QC effort. All analytical samples shall be subject to in-process QC measures from the field to the laboratory and during laboratory processing. Laboratory analyses performance audits are implemented through the use of QA/QC samples sent to multiple laboratories. The data quality generated in this project will be operationally defined by the following internal QC sampling.

- Split samples shall be collected and submitted to separate laboratories for a measurement precision assessment
- Duplicate samples shall be collected and submitted to measure intralab precision
- Equipment blanks (matrix-silica sand) shall be prepared and submitted to assess sampling equipment cleanliness
- Laboratory internal quality control checks performed per applicable protocol for the analysis. For chemical analysis, this must include data demonstrating achieved accuracy, precision, system calibration, and performance. Reportables will include:
  - Preparation and calibration blanks
  - Calibration verification standards
  - Matrix spikes
  - Duplicates
  - Control samples
  - Other supporting documentation.

The minimum requirements of this section shall be invoked in procurement documents or work orders, compliant with standard WHC procedures as noted in Chapter 5.

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11.0 PERFORMANCE AND SYSTEMS AUDITS

Program activities are subject to oversight by WHC QA personnel. Audits may address quality-affecting activities that include, but are not limited to, measurement system accuracy, intramural and extramural analytical laboratory services, field activities, and data collection, processing, validation, reporting, and management. WHC QA audits will be performed under the standard operating procedure requirements of WHC (1989).

System audit requirements are implemented in accordance with QI 10.4, Surveillance. All quality-affecting activities are subject to surveillance. The project engineer will interface with both the Environmental Field Services quality coordinator and the QA officer. The QA officer is responsible for providing independent formal audits/surveillances to ensure compliance with planned activities, and identify conditions adverse to or enhancing overall performance quality.

12.0 PREVENTATIVE MAINTENANCE

All measurement and testing equipment used in the field and laboratory that directly affect analytical data quality shall be subject to preventive maintenance measures that ensure minimization of measurement system downtime. Field equipment maintenance instructions shall be as defined by the approved procedures governing their use. Laboratories shall be responsible for performing or managing the maintenance of their analytical equipment; maintenance requirements, spare parts lists, and instructions shall be included in individual methods or in laboratory QA plans, subject to WHC review and approval. When samples are analyzed using EPA reference methods, the preventive maintenance requirements for laboratory analytical equipment are as defined in the procured laboratory's QA plan(s).

13.0 DATA QUALITY INDICATORS

13.1 DATA ASSESSMENTS BY ANALYTICAL FACILITY

Adherence to approved procedures will be sufficient for the majority of data reports. To the extent possible, performance-based standards will be the preferred method of assessment for precision and accuracy measurements. A familiar example is the use of control charts. Values exceeding a 3-sigma limit on well-established and appropriate control chart should be flagged when reported. Samples in the analytical batch should be rerun if possible, and those results also reported.

When appropriate performance-based standards are not available and referenced procedures do not specify, the following two rules may be used.

- Precision--The difference between laboratory duplicates will be subject to a control limit of 150% of the requested limit whenever both sample values exceed the estimated method detection limit (MDL). If the estimated MDL exceeds the requested limit, the higher value may be used to calculate the control limit. When either or both duplicates are below the estimated method detection limit, laboratory precision may be assessed by comparing identically spiked samples. Samples exceeding five times the control limit can be subject to a 20% relative percent difference limit, where:

$$\text{Relative Percent Difference} = \frac{(S - D) \times 100}{((S+D)/2)}$$

S = Sample concentration
D = Duplicate sample concentration.

Failure to meet a precision limit will require evaluation and corrective action as appropriate.

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- Accuracy will be defined by percent recovery data where

$$\% \text{ Recovery} = \frac{(\text{Spiked Sample Result} - \text{Sample Result})}{\text{Spike Added}} \times 100$$

When the sample result (SR) is less than the MDL, use SR=0 for the purpose of calculating the percent recovery. Spiked samples having concentrations two to five times greater of the requested detection limit or MDL will have recovery control limits of 50% to 150%. Spiked samples exceeding five times the estimated MDL will have recovery control limits of 75% to 125%. Failure to meet the control limit will require evaluation and corrective action as appropriate. Applicable samples not meeting the limit should be rerun using a postdigestion spike if possible. Postdigestion spikes should be made at two times the indigenous level or lower reporting limit, whichever is greater.

13.2 PROJECT LEVEL ASSESSMENTS

All data requested through OSM will be subject to validation procedures as previously described (Section 9.2). Completeness of requested analyses will be assessed and reported to the Project Engineer by Westinghouse Hanford OSM or subcontractor. The EPA guidance suggests 80% to 85% is a reasonable expectation (EPA 1987).

Summary statistics for measurement precision and accuracy shall be prepared in conjunction with the data analysis.

Precision evaluation at the project level will address interlaboratory precision. Precision of environmental measurement systems is often a function of concentration. This relationship should be considered before selecting the most appropriate form of summary statistic. Simplistically, this relationship can usually be classified as falling into one of the following three categories.

- Standard deviation (or range) is constant
- Coefficient of variation (or relative range) is constant
- Standard deviation (or range) and coefficient of variation (or relative range) vary with concentration.

The pooled standard deviation or pooled coefficient of variation can be used to summarize data in bullets 1 and 2, respectively. Bullet 3 will require either graphical summary of the data or specialized regression techniques.

Data quality assessments are generally made at concentrations typical of the observed range in routine analyses. In some situations, the typical value measurement will be below an estimated practical method, or instrument detection limit (i.e., an engineering zero). If a standard exists (or is to be set) at some positive finite value, quality assessment summaries may be desired at that level rather than the most representative concentration.

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14.0 CORRECTIVE ACTIONS

Corrective action requests required as a result of surveillance reports, nonconformance reports, or audit activity shall be documented and dispositioned as required by QR 16.0, Corrective Action: QI 16.1, Trending/ Trend Analysis; and QI 16.2, Corrective Action Reporting (WHC 1989). Primary responsibilities for corrective action resolution are assigned to the project engineer and the QA officer. Other measurement systems, procedures, or plan corrections that may be required as a result of routine review processes shall be resolved as required by governing procedures or shall be referred to the project engineer for resolution. Copies of all surveillance, nonconformance, audit, and corrective action documentation shall be routed to the project QA records upon completion or closure.

15.0 QUALITY ASSURANCE PROJECT REPORTS

Special QA reports are not planned for this project. Project records will be maintained in conformance with standard operating procedure requirements of WHC (1988d). Project records will be maintained according to EII 1.6, QA Records Processing, and technical data will be dispositioned according to EII 1.11, Technical Data Management. Surveillance, nonconformance, audit, and corrective action documentation shall be routed to the project QA on completion or closure of the activity. The final report shall include an assessment of the overall adequacy of the total measurement system with regard to the data quality objectives of the investigation.

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ATTACHMENT 3

HEALTH AND SAFETY PLAN

The White Bluffs Pickling Acid Crib ERA Project will use "Site Specific Safety Documents" required by the *Environmental Investigations and Site Characterization Manual* (WHC 1988b). This will ensure all project activities are done safely. Environmental Field Services generates these required documents for the different project activities.

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ATTACHMENT 4

PROJECT MANAGEMENT PLAN

Overall project organization is the responsibility of Westinghouse Hanford Company's (WHC) Environmental Division, Environmental Remedial Action Group, 100/300 Remediation Section. WHC management has assigned the project engineer and field team leader.

The field team leader will interface with Environmental Field Services, OSM, Traffic and Shipping, Operations Support Services, and other WHC organizations as necessary to perform field activities as directed by the project engineer.

OSM shall be responsible for arranging laboratory support. All field activities are to be consistent with this project plan and applicable sections of WHC (1988a) and WHC (1988b).

Project team members shall include the project engineer, field team leader, sample and analytical personnel, operational support services personnel, health and safety officer, and QA personnel. All field personnel shall be familiar with the site-specific safety documents before starting field activities. The field team leader will be responsible to have a copy the site-specific safety documents and applicable procedures available for field reference.

ATTACHMENT 5

DATA MANAGEMENT PLAN

The Data Management Plan will follow the Analytical Laboratory Data Management Section (EII 14.1, Rev. 0) of the Westinghouse Hanford's *Environmental Investigations and Site Characterization Manual* (WHC 1988b).

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ATTACHMENT 6

COMMUNITY RELATIONS PLAN

A community relations plan (CRP) exists for the Hanford Site Environmental Restoration Program Activities (Ecology 1990). It applies to the White Bluffs Pickling Acid Crib Site Expedited Response Action (ERA). The CRP provides continuity and general coordination of all the Environmental Restoration Program activities concerning community involvement. The program wide CRP discusses Hanford Site background information, and community involvement and concerns. The CRP was prepared and implemented by the U.S. Department of Energy, Richland Field Office, the U.S. Environmental Protection Agency, and the Washington Department of Ecology.

The public will have a 30-day period to review and comment on the formal White Bluffs Pickling Acid Crib ERA proposal. In addition, the public will be informed on ERA progress through quarterly public meetings, project fact sheets, and official ERA project administrative record file accessibility.

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Date Received: 10/16/92 DS

INFORMATION RELEASE REQUEST

Reference: WHC-CM-3-4

Complete for all Types of Release

Purpose

- [ ] Speech or Presentation (Check only one suffix)
  - [ ] Full Paper
  - [ ] Summary
  - [ ] Abstract
  - [ ] Visual Aid
- [ ] Speakers Bureau
- [ ] Poster Session
- [ ] Videotape
- [ ] Reference
- [X] Technical Report
- [ ] Thesis or Dissertation
- [ ] Manual
- [ ] Brochure/Flier
- [ ] Software/Database
- [ ] Controlled Document
- [ ] Other

ID Number (include revision, volume, etc.): WHC-SD-EN-AP-113, Rev. 0

List attachments.

Date Release Required: October 20, 1992

Title: White Bluffs Acid Crib Expedited Response Action Project Plan

Unclassified Category: UC- N/A

Impact Level: 3Q

New or novel (patentable) subject matter? [X] No [ ] Yes
If "Yes", has disclosure been submitted by WHC or other company?
[ ] No [ ] Yes Disclosure No(s).

Information received from others in confidence, such as proprietary data, trade secrets, and/or inventions?
[X] No [ ] Yes (Identify)

Copyrights? [X] No [ ] Yes
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Trademarks?
[X] No [ ] Yes (Identify)

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Title of Conference or Meeting: N/A

Group or Society Sponsoring:

Date(s) of Conference or Meeting: N/A

City/State: N/A

Will proceedings be published? [ ] Yes [ ] No
Will material be handed out? [ ] Yes [ ] No

Title of Journal: N/A

CHECKLIST FOR SIGNATORIES

Review Required per WHC-CM-3-4	Yes	No	Reviewer - Signature Indicates Approval: Name (printed)	Signature	Date
Classification/Unclassified Controlled Nuclear Information	[ ]	[X]			
Patent - General Counsel	[X]	[ ]	S W BERGIN	S W Bergin	10/19/92
Legal - General Counsel	[X]	[ ]			
Applied Technology/Export Controlled Information or International Program	[ ]	[X]			
WHC Program/Project	[ ]	[X]			
Communications	[ ]	[X]			
RL Program/Project	[ ]	[X]			
Publication Services	[X]	[ ]	L. Heermann	L. Heermann	10/22/92
Other Program/Project	[ ]	[X]			

Information conforms to all applicable requirements. The above information is certified to be correct.

	Yes	No
References Available to Intended Audience	[X]	[ ]
Transmit to DOE-HQ/Office of Scientific and Technical Information	[ ]	[X]

Author/Requestor (Printed/Signature) Date
G. Stone for
J. M. Frain 10/16/92

Intended Audience
[ ] Internal [ ] Sponsor [X] External

Responsible Manager (Printed/Signature) Date
G. Stone for
G. C. Henckel 10/16/92

INFORMATION RELEASE ADMINISTRATION APPROVAL STAMP

Stamp is required before release. Release is contingent upon resolution of mandatory comments.

Date Cancelled | Date Disapproved

BD-7600-062 (08/91) WEF074

Part 1