

Sta # 21
OCT 06 1992

11

ENGINEERING DATA TRANSMITTAL

2. To: (Receiving Organization) Distribution	3. From: (Originating Organization) Environmental Engineering	4. Related EDT No.: NA
5. Proj./Prog./Dept./Div.: Environmental	6. Cog. Engr.: I.D. Jacques	7. Purchase Order No.: NA
8. Originator Remarks: Release to file		9. Equip./Component No.: NA
11. Receiver Remarks:		10. System/Bldg./Facility: NA
		12. Major Asem. Dwg. No.: NA
		13. Permit/Permit Application No.: NA
		14. Required Response Date: 9/21/92



15. DATA TRANSMITTED					(F)	(G)	(H)	(I)
(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	Impact Level	Reason for Transmittal	Originator Disposition	Receiver Disposition
1	WHC-SD-EN-ES-027		0	Evaluation of Potential Field Screening Laboratories	4	1	1	

16. KEY			
Impact Level (F)	Reason for Transmittal (G)		Disposition (H) & (I)
1, 2, 3, or 4 (see MRP 5.43)	1. Approval 2. Release 3. Information	4. Review 5. Post-Review 6. Dist. (Receipt Acknow. Required)	1. Approved 2. Approved w/comment 3. Disapproved w/comment 4. Reviewed no/comment 5. Reviewed w/comment 6. Receipt acknowledged

(G)	(H)	17. SIGNATURE/DISTRIBUTION (See Impact Level for required signatures)								(G)	(H)
Reason	Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(J) Name	(K) Signature	(L) Date	(M) MSIN	Reason	Disp.
4	1	Cog.Eng. I.D. Jacques	<i>I.D. Jacques</i>	9-22-92	H4-55	M.R. Adams			H4-55		
4	1	Cog. Mgr. R.C. Roos	<i>R.C. Roos</i>	9/22/92	H4-55	W.L. Johnson			H4-55		
		QA				R.G. McCain			H4-55		
		Safety				P.D. Mix			L4-92		
		Env.									
		Central Files			L8-04						
		EDMC (2)			H4-22						

18. I.D. Jacques <i>I.D. Jacques</i> Signature of EDT Originator 9-22-92 Date	19. Authorized Representative for Receiving Organization Date	20. R.C. Roos <i>R.C. Roos</i> Cognizant/Project Engineer's Manager 9/22/92 Date	21. DOE APPROVAL (if required) Ltr. No. <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/comments <input type="checkbox"/> Disapproved w/comments
--	--	---	--

SUPPORTING DOCUMENT

1. Total Pages 8

2. Title

Evaluation of Potential Field Screening Laboratories

3. Number

WHC-SD-EN-ES-027

4. Rev No.

0

5. Key Words

alternative laboratory, modular facility, 308 building, trailer

6. Author

Name: I. D. Jacques

Signature

Organization/Charge Code 81225C/PK31A

APPROVED FOR PUBLIC RELEASE

9/24/92 N. Solis

7. Abstract

This report compares and evaluates potential laboratory facilities for use by the Site Remedial Management (SRM) Section of the Environmental Remedial Actions Group. The report lists criteria and laboratory features needed by the SRM Section to support its current field screening activities and projected future work load. The potential laboratories are evaluated against the criteria to determine the alternative that meets current and projected future needs.

~~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 integral work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.~~

~~PATENT STATUS - This document copy, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.~~

DISCLAIMER - This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, expressed or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

10.

RELEASE STAMP

OFFICIAL RELEASE BY WHC (11)
DATE OCT 06 1992
Station # 21

9. Impact Level 4

CONTENTS

1.0 INTRODUCTION 1
2.0 BACKGROUND 1
3.0 LABORATORY REQUIREMENTS 1
4.0 POTENTIAL LABORATORY FACILITIES 2
5.0 EVALUATION OF ALTERNATIVES 5
6.0 CONCLUSIONS 5

FIGURE

1 Layout of the 308 Building, First Floor 4

TABLE

1 Evaluation of Potential Laboratory Facilities and Requirements . . . 6

1.0 INTRODUCTION

This report compares and evaluates potential laboratory facilities for use by the Site Remediation Management (SRM) Section of the Environmental Remedial Actions Group. The report lists criteria and laboratory features that are needed by SRM to support its current field screening activities and projected future work load. Lab space acquired could also be used by other members of the Environmental Remedial Actions Group as well as the Environmental Engineering Function. The report describes options for laboratory space that are potentially available for use by the SRM Section. The laboratories have been evaluated against the criteria to determine the alternative that best meets current and projected future needs.

Based on the results of this study, the alternative that best meets the needs of the SRM Section is a modular laboratory facility. This study recommends leasing or procuring a modular laboratory facility from a reputable vendor and locating it near the existing office facilities in the MO 926 trailer.

2.0 BACKGROUND

Analyzing environmental samples is one of the largest costs incurred when investigating, characterizing, and remediating waste sites. By screening samples in the field and, where possible, conducting analyses in the field, fewer samples will need to be shipped to analytical laboratories. This can greatly reduce the cost of cleanup and remediation projects.

During the last 2 years the Environmental Remedial Actions Group has developed the equipment and ability to perform a variety of field screening and analytical tests to support several Hanford programs. As a result, SRM has accumulated a large amount of sampling and monitoring equipment. In addition, the SRM Section has large equipment including two sample trailers, a soil gas equipment trailer, two Conex boxes, a sample truck, an air compressor, and three (soon to be five) support vehicles.

The SRM Section needs a laboratory facility that can be used to support its rapidly growing field sampling and screening activities. The laboratory will be used to store, service, and maintain the field equipment, calibrate instruments, and perform bench tests. The laboratory would also serve as a base for mobile equipment and support field operations. The laboratory space could be used by other members of the Environmental Remedial Actions Group and possibly others in the Environmental Engineering Function.

3.0 LABORATORY REQUIREMENTS

Specific laboratory requirements are summarized in the following sections.

3.1 LOCATION/SPACE/ACCESS

The laboratory facility needs about 1,000 to 1,500 ft² of total floor space. A desirable location for the laboratory is south of the Wye Barricade so it is near the SRM Section offices in north Richland, Washington. The laboratory should be in a protected area accessible by personnel with a "0" clearance. Also, vehicle access is important to facilitate use of the field equipment.

3.2 UTILITIES

The laboratory needs heating, air conditioning, and electrical utilities to allow year-round use of the facility. In addition, the facility should be well ventilated. Running hot and cold water and rest room facilities are desired. Also, the field support trailers will need an outdoor electrical hookup. This feature could be added after a suitable facility is found.

3.3 STORAGE

The laboratory facility should include areas for storing equipment, supplies, instruments, gas cylinders, and chemical materials. Many of the instruments need a source of electricity to recharge internal batteries. Certain instruments need cylinders of compressed gas. The facility must have room to store these gases near the instruments as well as a nearby area to receive and store the cylinders. Also, the facility must have an area where hazardous materials and other chemical reagents can be stored safely.

3.4 LABORATORY FACILITIES

The laboratory needs to have adequate floor space, bench space, and storage cabinets. At least one exhaust hood is needed. A sink, chemical shower, and eyewash station are required.

3.5 COST/FEASIBILITY

This factor estimates the amount of equipment, remodeling, time, approvals, and other considerations needed to bring the facility to usable condition. Cost estimates were not obtained for each of the options considered. This requirements also considers the feasibility of the alternative.

4.0 POTENTIAL LABORATORY FACILITIES

4.1 MO 926

The MO 926 trailer is about 1,500 ft² and is currently used by the SRM Section for offices and storage. The utilities, location, and access are adequate. The trailer would need extensive remodeling to make it function as

a laboratory. Safety and National Environmental Policy Act (NEPA) documentation may be needed to install an exhaust hood and to store hazardous materials. Because of the remodeling needed and the potential documentation, the cost to upgrade this facility for use as a laboratory is expected to be relatively high.

4.2 308 BUILDING, ROOMS 102 AND 104

Rooms 102 and 104 are located in the center section, first floor of the 308 Building and have a combined total of about 1,000 to 1,200 ft² of space (Figure 3.0). Room 104 is a square room containing laboratory benches along the walls. Room 102 is a larger, rectangular room containing some fixed equipment. This room has two entrances.

These rooms are clean and have not been contaminated with radioactivity. Some modifications and equipment would be needed to turn Room 104 into a laboratory and Room 102 into a storage area. An exhaust hood would need to be installed in Room 104, which would require modifying the building exhaust system. In addition, a chemical shower and eyewash station would need to be installed. These modifications may require Safety and NEPA documentation. These rooms are relatively easy to access from the outside of the building. Currently, there are many different groups vying for use of this facility. Based on the amount of remodeling and equipment needed to furnish these rooms as a laboratory, the cost to upgrade this facility for use is expected to be moderate to high.

4.3 308 BUILDING, ROOMS 170 AND 172

Rooms 170 and 172 are located in the northeast section, first floor of the 308 Building and have a combined total of about 1,000 to 1,200 ft² of space (Figure 3.0). Room 172 is made up of two separate rooms and contains a sink and cabinets. These rooms would be well suited for storage. Room 170 contains laboratory benches, cabinets, a sink, and a lab hood. This room has been used as a laboratory in the past.

These rooms are clean and have not been contaminated with radioactivity. Room 172 is setup as a laboratory and would be an eyewash station and a chemical shower to meet the requirements outlined in this report. The two rooms are relatively easy to access from the outside of the building. However, it may be difficult to move compressed gas cylinders into these rooms. Currently, there are many different groups vying for use of this facility. The cost of furnishing these rooms to meet the requirements of this report is expected to be relatively low.

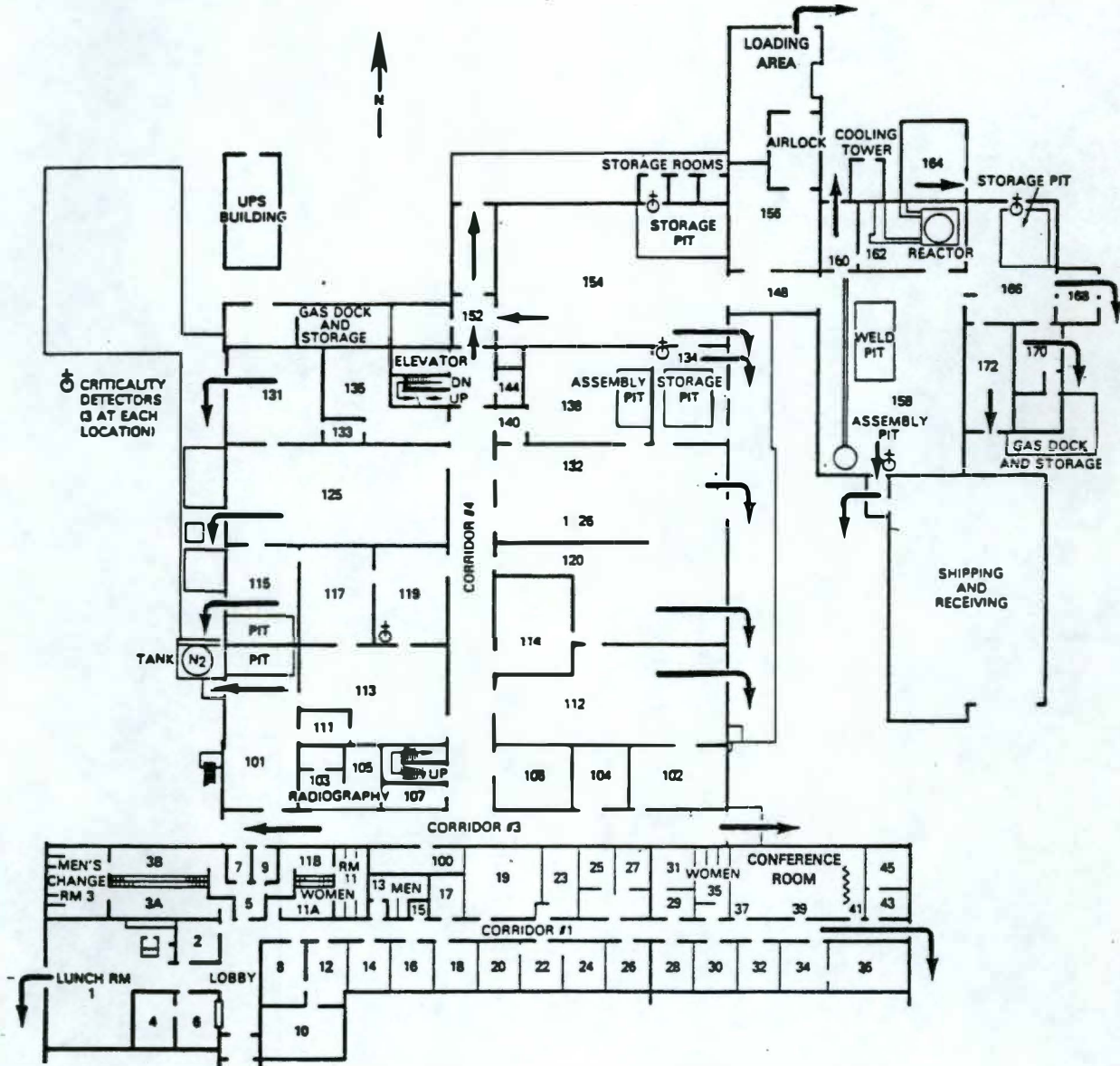


Figure 1. Layout of the 308 Building, First Floor.

4.4 MODULAR FACILITY

This option involves purchasing a modular laboratory facility from a vendor and locating it in the vacant trailer spot adjacent to the MO 926 trailer. The modular facility would have about 500 ft² of laboratory space and would be designed to meet the requirements stated in this report. It would be tied to existing utilities and the MO 926 trailer would be used for storage, turn-around offices, and rest room facilities. The cost to procure and site a modular laboratory facility adjacent to MO 926 is expected to be moderate to high.

4.5 NEW FACILITY

This option involves having a local contractor build and outfit a new facility to meet our requirements under a lease contract. The terms of the lease would probably not exceed current costs for occupancy in the MO 926 trailer. However, this alternative would probably take 1 to 2 yr to complete. Also, this alternative would probably require approval and negotiation by Westinghouse Hanford Company, the U.S. Department of Energy, and possibly the U.S. Environmental Protection Agency, and the State of Washington Department of Ecology. It is not known where a new laboratory facility could be located. This option appears to be the most costly and time consuming alternative.

5.0 EVALUATION OF ALTERNATIVES

Table 5.0 contains an evaluation of each alternative against the requirements listed in Section 3.0. Each specific requirement has been given a weighted value and each alternative given a score based on how it meets each requirement. Total scores are given for each alternative.

6.0 CONCLUSIONS

Two alternatives ranked highest, acquiring Rooms 170 and 172 of the 308 Building and locating a modular laboratory facility next to the MO 926 trailer. Of the two alternatives, procuring a modular laboratory appears to be the most feasible. This alternative would probably be the quickest and easiest way to provide the needed laboratory space. The facility would be designed to meet our specified needs. The MO 926 trailer would be used and maintained for storage and office space.

The initial cost of procuring and locating a modular laboratory may be somewhat higher than some of the other alternatives. However, the long-term maintenance costs would probably be lower because the facility will be owned by the SRM Section. One other advantage of a modular laboratory facility is the ability to be relocated if necessary.

Table 1. Evaluation of Potential Laboratory Facilities and Requirements.

Potential laboratory facilities	Space/access/location Score = 3	Utilities Score = 3	Storage Score = 3	Laboratory facilities Score = 5	Cost/feasibility Score = 3	Total Score = 17
MO 926 Trailer	3 Good access and location	1 Heating, AC, ventilation poor	1 Poor storage for hazardous materials	1 Lacks hood, shower, eyewash, and cabinets	2 Extensive remodeling needed	8
308 Building Rooms 102 and 104	2 Access to lab limited	2 Remote power limited	2 Storage space limited	2 Lacks hood, eyewash, sink, shower, cabinets	2 Moderate remodeling needed	10
308 Building Rooms 170 and 172	2 Access to lab limited	2 Remote power limited	3 Good storage and space	4 Most facilities in place	3 No major changes needed	14
Modular Facility	3 Locate next to MO 926	2 Remote power limited	3 Also use MO 926 trailer	5 Designed to meet needs	2 Higher initial cost	15
New Facility	1 Hard to site new building	3 Designed to meet needs	3 Designed to meet needs	5 Designed to meet needs	1 Extensive time, cost, and approvals	13

The second alternative, laboratory space in the 308 Building, also has merit. Use of either rooms 102/104 or 170/172 would probably be the least costly of all alternatives. However, the future use and landlord of this building is uncertain at this time and it does not appear these issues will be settled quickly. Although desirable, this may not be a reliable alternative for laboratory space.

Based on the results of this study, the SRM Section should procure a modular laboratory facility from a reputable vendor and locate it in the vacant trailer site near the MO 926 trailer.

While taking steps to obtain funding and specify the design of a modular laboratory facility, the SRM Section should continue showing interest in the 308 Building facilities. The ownership issues of this building could be resolved quicker than anticipated and if the desired rooms are available, final procurement of the modular laboratory could be suspended.

Date Received: 9/14/92 <i>MLK</i>	INFORMATION RELEASE REQUEST	Reference: WHC-CM-3-4
--	------------------------------------	--------------------------

Complete for all Types of Release		
<input type="checkbox"/> Speech or Presentation <input type="checkbox"/> Full Paper (Check only one suffix) <input type="checkbox"/> Summary <input type="checkbox"/> Abstract <input type="checkbox"/> Visual Aid <input type="checkbox"/> Speakers Bureau <input type="checkbox"/> Poster Session <input type="checkbox"/> Videotape	<input type="checkbox"/> Reference <input checked="" type="checkbox"/> Technical Report <input type="checkbox"/> Thesis or Dissertation <input type="checkbox"/> Manual <input type="checkbox"/> Brochure/Flier <input type="checkbox"/> Software/Database <input checked="" type="checkbox"/> Controlled Document <input type="checkbox"/> Other	ID Number (include revision, volume, etc.) WHC-SD-EN-ES-027 REV 0 List attachments. None Date Release Required 9-30-92

Title Evaluation of Potential Field Screening Laboratories	Unclassified Category UC- N/A	Impact Level 4
---	---	-----------------------




New or novel (patentable) subject matter? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If "Yes", has disclosure been submitted by WHC or other company? <input type="checkbox"/> No <input type="checkbox"/> Yes (Disclose Note).	Information received from others in confidence, such as proprietary data, trade secrets, and/or inventions? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Identify)
Copyrights? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If "Yes", has written permission been granted? <input type="checkbox"/> No <input type="checkbox"/> Yes (Attach Permission)	Trademarks? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Identify)

Complete for Speech or Presentation		
Title of Conference or Meeting N/A	Group or Society Sponsoring N/A	
Date(s) of Conference or Meeting N/A	City/State N/A	Will proceedings be published? <input type="checkbox"/> Yes <input type="checkbox"/> No Will material be handed out? <input type="checkbox"/> Yes <input type="checkbox"/> 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	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Patent - General Counsel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	} <u>SUBERGIN</u> <i>[Signature]</i> 9/14/92
Legal - General Counsel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Applied Technology/Export Controlled Information or International Program	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
WHC Program/Project	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Communications	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
RL Program/Project	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Publication Services	<input checked="" type="checkbox"/>	<input type="checkbox"/>	} <u>Hayle Lynne Crawford</u> <i>[Signature]</i> 9/24/92
Other Program/Project	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

<table style="width:100%;"> <tr> <td style="width:30%;"></td> <td style="text-align: center; padding: 5px;">Yes</td> <td style="text-align: center; padding: 5px;">No</td> </tr> <tr> <td style="padding: 5px;">References Available to Intended Audience</td> <td style="text-align: center; padding: 5px;"><input type="checkbox"/></td> <td style="text-align: center; padding: 5px;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="padding: 5px;">Transmit to DOE-HQ/Office of Scientific and Technical Information</td> <td style="text-align: center; padding: 5px;"><input type="checkbox"/></td> <td style="text-align: center; padding: 5px;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="padding: 5px;">Author/Requestor (Printed/Signature)</td> <td colspan="2" style="text-align: center; padding: 5px;">Date</td> </tr> <tr> <td style="padding: 5px;">I. D. Jacques <i>[Signature]</i></td> <td colspan="2" style="text-align: center; padding: 5px;">09/10/92</td> </tr> <tr> <td style="padding: 5px;">Intended Audience</td> <td colspan="2" style="padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;"><input checked="" type="checkbox"/> Internal <i>9-21-92</i></td> <td style="padding: 5px;"><input type="checkbox"/> Sponsor</td> <td style="padding: 5px;"><input checked="" type="checkbox"/> External</td> </tr> <tr> <td style="padding: 5px;">Responsible Manager (Printed/Signature)</td> <td colspan="2" style="text-align: center; padding: 5px;">Date</td> </tr> <tr> <td style="padding: 5px;">R. C. Roos <i>[Signature]</i></td> <td colspan="2" style="text-align: center; padding: 5px;">9-10-92</td> </tr> </table>		Yes	No	References Available to Intended Audience	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Transmit to DOE-HQ/Office of Scientific and Technical Information	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Author/Requestor (Printed/Signature)	Date		I. D. Jacques <i>[Signature]</i>	09/10/92		Intended Audience			<input checked="" type="checkbox"/> Internal <i>9-21-92</i>	<input type="checkbox"/> Sponsor	<input checked="" type="checkbox"/> External	Responsible Manager (Printed/Signature)	Date		R. C. Roos <i>[Signature]</i>	9-10-92		<table style="width:100%;"> <tr> <th colspan="2" style="text-align: center; padding: 5px;">INFORMATION RELEASE ADMINISTRATION APPROVAL STAMP</th> </tr> <tr> <td colspan="2" style="padding: 5px;">Stamp is required before release. Release is contingent upon resolution of mandatory comments.</td> </tr> <tr> <td colspan="2" style="text-align: center; padding: 20px;">  </td> </tr> <tr> <td style="width:50%; padding: 5px;">Date Cancelled</td> <td style="width:50%; padding: 5px;">Date Disapproved</td> </tr> </table>	INFORMATION RELEASE ADMINISTRATION APPROVAL STAMP		Stamp is required before release. Release is contingent upon resolution of mandatory comments.				Date Cancelled	Date Disapproved
	Yes	No																																		
References Available to Intended Audience	<input type="checkbox"/>	<input checked="" type="checkbox"/>																																		
Transmit to DOE-HQ/Office of Scientific and Technical Information	<input type="checkbox"/>	<input checked="" type="checkbox"/>																																		
Author/Requestor (Printed/Signature)	Date																																			
I. D. Jacques <i>[Signature]</i>	09/10/92																																			
Intended Audience																																				
<input checked="" type="checkbox"/> Internal <i>9-21-92</i>	<input type="checkbox"/> Sponsor	<input checked="" type="checkbox"/> External																																		
Responsible Manager (Printed/Signature)	Date																																			
R. C. Roos <i>[Signature]</i>	9-10-92																																			
INFORMATION RELEASE ADMINISTRATION APPROVAL STAMP																																				
Stamp is required before release. Release is contingent upon resolution of mandatory comments.																																				
																																				
Date Cancelled	Date Disapproved																																			

