

JUN 02 1993



ENGINEERING DATA TRANSMITTAL

1. EDT 140964

*Station # 10*

2. To: (Receiving Organization) <b>Distribution</b>	3. From: (Originating Organization) <b>Environmental Field Services</b>	4. Related EDT No.:
5. Proj./Prog./Dept./Div.: <b>81710</b>	6. Cog. Engr.: <b>J.D. Fancher</b>	7. Purchase Order No.:
8. Originator Remarks:  <b>Supporting Document approved and released.</b>		9. Equip./Component No.:
11. Receiver Remarks:		10. System/Bldg./Facility:
		12. Major Assm. Dwg. No.:
		13. Permit/Permit Application No.:
		14. Required Response Date:



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-TP-027		0	HEPA Vacuum Vapor Extraction Characterization Unit Test Specification	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.		
1		Cog. Eng. J.D. Fancher	<i>J.D. Fancher</i>	5/27/93	N3-05	ERC		H6-07		3			
4, 1		Cog. Mgr. W.S. Thompson	<i>W.S. Thompson</i>	6-1-93	N3-05								
3		V.J. Rohay			H6-06								
3		R.J. Schmitt			N3-05								
3		Central Files (2)			L8-04								
3		EDMC (2)			H6-08								

18. Signature of EDT Originator <i>J.D. Fancher</i> Date: <i>5/27/93</i>	19. Authorized Representative for Receiving Organization Date: _____	20. Cognizant/Project Engineer's Manager <i>W.S. Thompson</i> Date: <i>6-1-93</i>	21. DOE APPROVAL (if required) Ltr. No. <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/comments <input type="checkbox"/> Disapproved w/comments
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Date Received: <i>6-2-93</i>	<b>INFORMATION RELEASE REQUEST</b>	Reference: WHC-CM-3-4
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Complete for all Types of Release		
<b>Purpose</b> <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 type="checkbox"/> Controlled Document <input type="checkbox"/> Other	ID Number (include revision, volume, etc.) <b>WHC-SD-EN-TP-027, Rev. 0</b>  List attachments.  Date Release Required <p style="text-align: center;"><b>05/30/93</b></p>

Title <b>HEPA Vacuum Vapor Extraction Characterization Unit Test Specification</b>	Unclassified Category <b>UC-</b>	Impact Level <b>4</b>
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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 Disclosure No(s).	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)

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Date(s) of Conference or Meeting	City/State	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			

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"/>	_____
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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:50%;">References Available to Intended Audience</td> <td style="width:10%; text-align: center;"><input checked="" type="checkbox"/></td> <td style="width:10%; text-align: center;"><input type="checkbox"/></td> <td style="width:30%;"></td> </tr> <tr> <td>Transmit to DOE-HQ/Office of Scientific and Technical Information</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td></td> </tr> <tr> <td>Author/Requestor (Printed/Signature)</td> <td colspan="3" style="text-align: center;">Date</td> </tr> <tr> <td><i>J.D. Fancher</i></td> <td colspan="3" style="text-align: center;"><i>5/27/93</i></td> </tr> </table>	References Available to Intended Audience	<input checked="" type="checkbox"/>	<input 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>J.D. Fancher</i>	<i>5/27/93</i>			<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: center;">INFORMATION RELEASE ADMINISTRATION APPROVAL STAMP</th> </tr> <tr> <td colspan="2" style="text-align: center;">Stamp is required before release. Release is contingent upon resolution of mandatory comments.</td> </tr> <tr> <td style="width:50%; height: 100px;"> </td> <td style="width:50%;"> </td> </tr> <tr> <td>Date Cancelled</td> <td>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
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<b>SUPPORTING DOCUMENT</b>		1. Total Pages <b>4</b>
2. Title <b>HEPA Vacuum Vapor Extraction Characterization Unit Test Specification</b>	3. Number <b>MHC-SD-EN-TP-027</b>	4. Rev No. <b>0</b>
5. Key Words <b>HEPA Vacuum, Vapor Extraction</b>	6. Author Name: <b>J.D. Fancher</b> <i>J.D. Fancher</i> <u>5/27/93</u> Signature Organization/Charge Code <b>81710/P121N</b>	

7. Abstract <b>Test specifications and operating procedures are presented for operating a HEPA vacuum cleaner modified for wellhead vapor extraction. This work is performed in support of the Hanford 200 West Carbon Tetrachloride Expedited Response Action.</b>	10. RELEASE STAMP
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 integrate 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, express 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.	<div style="border: 1px solid black; padding: 10px; width: fit-content; margin: auto;"> <p style="text-align: center;">OFFICIAL RELEASE </p> <p style="text-align: center;">BY WHC</p> <p style="text-align: center;">DATE <b>JUN 02 1993</b></p> <p style="text-align: center;"><i>Station #12</i></p> </div>
9. Impact Level <b>4</b>	

HEPA Vacuum Vapor Extraction  
Characterization Unit Test Specification

1.0 PURPOSE

A high-efficiency particulate air (HEPA) vacuum cleaner has been modified to perform pilot tests on selected wells at the 200 West Area Carbon Tetrachloride Expedited Response Action. The tests are being performed to collect information on flows, vacuums, and Volatile Organic Compound (VOC) concentrations from the selected wells. The test data will be used to select optimum locations for the placement of full-size extraction units for soil remediation.

2.0 REQUIREMENTS

A vacuum must be applied to the selected wellheads to create a flow through the well to the instruments, which record flow rates, vacuum, and VOC concentrations. The tests will utilize a modified Euroclean UZ 948<sup>1</sup> HEPA vacuum cleaner operated by qualified personnel under the direction of the Field Team Leader.

Due to the unique nature of this activity Section 9.1 of WHC-CM-7-8 does not apply to these tests. However, at the discretion of the FTL, 9.0 and 10.0 of Section 9.1 may be followed should pre-filter clean out and/or HEPA filter replacement be required.

3.0 DESCRIPTION OF TEST

3.1 SITE SETUP

A restricted access area surrounding the HEPA vacuum unit and granular activated carbon (GAC) canisters will be established before operations begin and maintained until operations end.

3.2 EQUIPMENT INSPECTION

Before each day's operations begin, the following will be inspected: hoses, fittings, connections on the HEPA vacuum unit, the wellhead connection, and connections to and from the GAC canisters. Inspection will be documented in a controlled logbook in accordance with WHC-CM-7-7 E[I] 1.5.

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<sup>1</sup>Euroclean, Itasca, Illinois

### 3.3 OPERATION

To start the HEPA vacuum system, open the inlet ball valve. Start the sampler pump and switch on the vacuum motor (switch for motors 1 and 2). Monitor the pressurized portion of the system with a photoionization detector equipped with an 11.8-eV lamp, looking for volatile leaks. Monitor the nonpressurized portion of the system (look and listen for vacuum leaks).

### 3.4 DATA

Data will be recorded as directed in Section 7.0.

### 3.5 CRITERIA

Equipment must be functioning properly before testing commences. Testing must be performed in accordance with the Hazardous Waste Operations Permit, the Safety Assessment Document, and the Radiation Work Permit (where applicable).

At no time shall the flow in the system immediately in front of the GACs exceed 250 cfm. Use the recirculation valve to adjust the flow rate.

### 3.6 SHUTDOWN

At the end of a testing event, perform the following: turn off vacuum motor and sampling pump, close inlet ball valve, remove connection (if required), secure well, cap any hoses connected to GAC canisters, and cap any open GAC canister connections. Secure the site before final exit.

### 4.0 SAFETY

Monitoring for VOCs in the breathing zone shall be performed as required in the site specific safety plan.

Fuel storage (other than that contained in the generator fuel tank) shall be at least 50 feet from GACs. Generators shall be at least 25 feet from GACs.

Do not operate the HEPA vacuum unit during wet weather unless weather protection is provided for the electrical components.

### 5.0 SPECIAL EQUIPMENT

A photoionization detector equipped with an 11.8-eV lamp calibrated in accordance with WHC-CM-7-7 EII 3.2 is required during all wellhead testing.

### 6.0 ACCEPTANCE CRITERIA

Performance will be considered satisfactory if flows can be drawn from wells and through the instruments.



## 7.0 DATA REQUIRED

Data will be recorded in a controlled logbook in accordance with WHC-CM-7-7 EII 1.5. Data required include flow rate, vacuum, and VOC concentrations. Temperature and humidity of the flow will be recorded if instrumentation is available. Data shall be recorded (at a minimum) at startup, hourly, and immediately before shutdown. Monitoring of the point of discharge (sample port downstream of the final GAC) is required at least once a day.

## 8.0 EXPECTED RESULTS

Results are expected to be below 270 cfm (flow), below 63 inches water column (vacuum), and below 3,000 ppmv (VOC).

## 9.0 EMERGENCY RESPONSE

Follow the VOC-Arid ID HWOP. Secure the area if possible. Contact expedited response action vapor extraction personnel for assistance in notifications, spill response, and other necessary response.

## 10.0 REFERENCES

WHC-CM-7-7, Environmental Investigations and Site Characterization Manual.

WHC-CM-7-8, Environmental Engineering and Geotechnology Function Procedures. Section 9.1, "Radiological Vacuum Cleaner Usage."

WHC-SD-EN-AP-114, FY 93 Wellfield Enhancement Workplan for the Carbon Tetrachloride ERA.

WHC-SD-EN-SAD-004, Rev. 1-A, Safety Assessment for the 200 West Area Expedited Response Action for remediation of Carbon Tetrachloride.

VOC-Arid ID HWOP dated 3/10/93.