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Bechtel Hanford, Inc.		TRANSMITTAL FOR CONTROLLED PROCEDURES	
BHI PROJ FILE** 019 H6-08	Transmittal No.	Date	
	TR-OP-69	03-21-95	
		Document No./Title of Manual	
		BHI-OP-00003	

The procedure(s) listed below are being issued by BHI Procedures Coordination as new or revised procedures.

PROCEDURE NO.	REV. NO.	TITLE
Revision Order D to BHI-OP-00003	2	200-BP-5 Unit # 1 Pilot Scale Groundwater Treatment System Operating Procedures
		NOTE: This revision revises Rev. 2 of this procedure.
		It should be added to your controlled copy of BHI-OP-00003, Rev. 2,
		along with REVISION ORDERS A, B, and C.

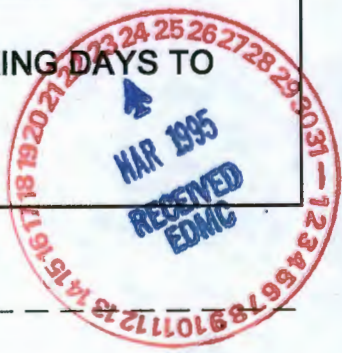
Receipt Acknowledgment

I acknowledge receipt of the procedure(s) listed above. These procedures have been appropriately inserted and the superseded material removed and disposed of.

Signature: *Jo Ann Riley* Date: 3-23-95

New address if different than listed above _____

PLEASE RETURN THIS SIGNED TRANSMITTAL WITHIN TEN WORKING DAYS TO
 BHI Procedures Coordination/Kathy Carter
 372-9555
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BHI-DC-001 (8/94)

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REVISION ORDER

DOCUMENT TO BE CHANGED:	<u>BHI-OP-00003</u>	<u>02</u>	<u>10/24/94</u>	<u>D</u>
	Document Type/No.	Rev. No.	Date	Rev. Order ID (Assigned by DCC)

Change Type: General Site Spec., Site No. Exception Revision

Approval of this revision shall alter the document identified above for:

Sites the project as detailed below in Section 2.

Initiated by: J. W. Green [Signature] 3/15/95 Revision Required by: 3/20/95

Name Date Date

Reason for change: Add Section 8.2⁴, Adsorbent Changeout Procedure

DESCRIPTION OF CHANGE:

Section	Description
<u>8.2⁴ RBS. 3/21/95</u>	<u>DB-E 3/21/95</u> Add new section, 8.2 ⁴ , Adsorbent Changeout Procedure per attached.

REVIEWED: [Signature] 3/21/95

Project Quality Assurance Date

CONCUR: [Signature] 3/21/95

Functional/Area/Project Manager Date

D.B.E. 3/21/95

8.2.4 ADSORBENT CHANGEOUT PROCEDURE

Adsorbent changeouts will occur as scheduled by the test engineer. Changeouts typically occur when the adsorbent has been loaded with contaminants either to saturation, or to some predetermined breakthrough capacity. The changeouts will be performed in accordance with the RWP prepared for this purpose, and the site safety plan and/or any specific safety permits deemed necessary by the site safety officer or health physics technician (RCT). An RCT will be in attendance during this procedure to control safe operation of the operation.

4 D.B.E. 3/24/95
8.2.1 Current Permits and Plans Required (Latest Rev., Not expired):

1. RWP for Adsorbent Change
2. Site Specific Health and Safety Plan
3. Waste Control Plan

4 D.B.E. 3/24/95
8.2.2 Tools and Supplies:

1. Glovebag/box that fits top of column.
2. Scaffolding with ladders to hold workers and Glove bag/box.
3. Universal Separator (modified drum lid).
4. Two inch diameter PVC tubing 6 ft in length and large funnel or similar device to load adsorbent back into column(s).
5. Fittings necessary to attach vacuum hose to both Vacuum and Separator.
6. Two rolls of Duct tape
7. Minimum of eight each, 10 mil reinforced polyethylene drum liners for 55 gallon drums, and eight each 90 mil drum liners.
8. Minimum of eight 55 gallon galvanized steel drums
9. Minimum of 100 Ft² of reinforced yellow polyethylene tarps for secondary containment around 55 gal drums, plus one 20 Ft² tarp for placing parts.
10. Radiological posting and rope - four SCA signs, four RBA signs, 100 feet of yellow and magenta rope and one step off pad.
11. Laundry Bags for used anti-Cs.
12. Contaminated Euro Clean Vacuum Cleaner with vacuum hose (2 @ 15 ft).
13. Extension cords to power vacuum.
14. Vacuum nozzle tubing.
15. Minimum of two boxes of Absorbent wipes.
16. Minimum of six yellow polyethylene bags for waste generated during wipe down of Glovebag.
17. Minimum of ten stay ties, at least 12 inches long.
18. Tools for cutting plastic and stay ties.
19. Sample bottles as per SAF.
20. A minimum of four stantions for setting up rad areas

4 A.B.E. 3/2/95
8.2.3 Spent adsorbent removal process

1. Dewater the adsorbent column(s) to be changed out by blowing down with air. This is accomplished by attaching the air compressor hose to the air fitting located near the top of the column to be dewatered. (Note: Verify that valves located upstream and downstream of this fitting are closed). Both TNK-4 (clino) and TNK-5 (50-50 clino & bonechar) will be dewatered to change adsorbent in both columns.

- Close the inlet and outlet valves on the GAC column (TNK-11). Blowdown the short hose between Filters F-5A and F-5B and the GAC column inlet, backwards into TNK-5 (use air fitting on GAC and BV-64H). NOTE: Set air compressor at 25 psi maximum. After blowdown, close the outlet valve from Filters F-5A and F-5B and close the inlet valve to TNK-11 (GAC). Disconnect this hose at the inlet to TNK-11 (at BV-64H) and connect the it to the portable rotameter inlet. Note: this bypasses the GAC column (TNK-11) because do not want to dewater the GAC column.
 - Verify outlet valve from TNK-11 is closed, then blowdown the hose from TNK-11 towards the Effluent Storage Tank. Secure valving and disconnect hose from TNK-11 outlet and connect to outlet of portable rotameter. (Using the portable rotameter will allow watching for air bubbles during blowdown).
 - Connect air hose to inlet of TNK-4 as discussed above. Start compressor and pressurize to 30-40 psi. Verify that the 2" inlet ball valve to the top of TNK-4 is closed and open the valves downstream of the column to direct flow into the effluent storage tank. This configuration will allow the water in the column to be forced downstream through the next column, and into the effluent tank.
 - Open the ball valve downstream of the air fitting, to begin the dewatering process. Continue to provide air at approximately 40 psi for 10 min, or until no water is seen in the rotameter.
2. Secure valves and bleed any residual pressure from the column(s) into a purge water bucket (Check pressure using one of the gauges on the column). Let the column sit overnight. Verify that the column has been adequately dewatered by opening the sample port located at the bottom of each column (Place a container under sample port). If a significant volume of water remains, blow system down again and check for residual water.
3. Set up equipment (Euro Clean Vacuum Cleaner and hoses, drums, plastic secondary containment areas, and other support equipment), RCA(s), RBA, step off pad(s) and posting per the RWP. Refer to Figure 8-1.
4. With an RCT present, remove hose and disconnect piping from flange at top of column. Bag or tape the ends of the removed piping. Place plastic bag over flange remaining on the vessel and secure until plastic

glovebox is mounted onto column. Place piping that was removed on reinforced yellow polyethylene tarp that has been set up.

Note: Contaminated water has moved through these pipes. Ensure no water is present, and avoid touching the insides of the pipe.

5. Install glove box/bag and tape to top of column forming a seal between the bag and the top of the column.

6. Stock the glove box/bag with all necessary equipment to perform adsorbent removal (eg. wrenches, sleeved vacuum hose, wipes, etc.), and if necessary the funnel to add adsorbent.

7. Remove the remaining piping from the top of the tank, exposing contaminated adsorbent.

Note: It will not be necessary to replace piping overnight if work extends to the next day because the glove box/bag provides full containment while the column is open, and the tent will shield the column from inclement weather.

8. The spent adsorbent will be drawn into 90 mil liners placed inside galvanized steel drums. In addition, 10 mil reinforced polyethylene liners will be placed in the galvanized drums before inserting the 90 mil liners to allow sealing over the top of the 90 mil liners prior to installing galvanized drum lids. A secondary containment area shall be set up under the galvanized collection drums that will contain any spilled adsorbent. The containment should be made of nylon reinforced yellow polyethylene sheeting. The containment should allow a minimum of 4 square feet per drum. The sides of the sheeting should be folded up to form a small barrier on all sides to contain spilled adsorbent.

9. The Euro Clean Vacuum Cleaner will be used to draw a vacuum on the drums to be filled with spent adsorbent. A vacuum hose will come from the vacuum cleaner (which is fitted with a HEPA Filter) to one of the drums fitted with a special/modified drum lid. The special lid has a second inlet/outlet for a vacuum hose that leads to the wand that will be placed into the tank to remove the adsorbent. The vacuum wand and hose will be sleeved through the glove box/bag discussed in step #5 above to provide containment and movement of the wand. Remove as much of the spent adsorbent as practicable.

NOTE: Operation of the HEPA vacuum including changing the disposal bag on the bottom will be in accordance with WHC-CM-7-8 Section 9.1, Rev.0, and per the Euroclean operating instructions.

10. Collect samples periodically as vacuuming proceeds. Collect approximately ten samples of the adsorbent coming from the contaminated upper region of the column, as detected by HPT surveys. Random sampling will provide the best data. Samples should be mixed and composited, and a final sample should be taken, as per the SAF.

11. The modified drum lid will be transferred from drum to drum when one is filled. Containment must be provided for the special drum lid when

transferring to a empty/new drum. The 10 mil liner for the new empty drum could be used to sleeve the special lid.

12. Install the 90 mil liner lid on the filled drum, horse-tail (if required) the 10 mil liner to provide containment for the 90 mil liner, then install permanent lid on galvanized drum.

13. On completion of the work, or as necessary for proper operation of the vacuum cleaner, remove the Euroclean disposal bag(s), per the vacuum operating procedure as noted after #9 above. Transfer the disposal bags to one of the waste collection drums.

Note: A drum dolly will used for moving the full drums. The drums will be stored in an RMA until dispositioned.

14. Materials within the glovebag will be decontaminated or packaged prior to removal from the glove bag.

Caution: Levels for removable contamination must be below RWP limits prior to opening the glove box\bag.

4 D.B.E. 3/24/95

8.2.4 New Adsorbent Installation process

Depending on the levels of contamination and cleanliness after performing the removal procedure above, two alternate procedures may be utilized to load new adsorbent. One procedure involves removal of the glovebox/bag prior to loading new adsorbent, the other utilizes the glovebox/bag to provide containment during loading. The decision for which procedure to be used is based on an assessment by the RCT. In either case, the RCT will verify the cleanliness and levels of contamination prior to removing the glovebox/bag.

4 D.B.E. 3/21/95

8.2.4.1 Addition Without Glovebox/bag

1. Remove the govebox. Locate funnel in vessel opening and place a bag around the exterior of the funnel, taping to vessel and to the funnel. Insert the vacuum hose in this bag and tape. This will provide for control of air being displaced when adding adsorbent. Start the Euroclean vacuum cleaner. (Note: There must be a gap between the funnel and the hole in the vessel).

2. Add adsorbent via the funnel to a depth specified by the Test Engineer. If any apparatus used to handle the new adsorbent comes in contact with the inside of the column or opening, the RCT will need to survey such items, as necessary.

3. Utilize the HEPA vacuum to remove any adsorbent that may have spilled regardless of origin (clean or spent) and dispose of them in the waste drums. Verify that the vessel surface and surrounding area is clean.

4. Replace piping to top of column.

5. Complete tightening piping to top of column. Verify no parts are

missing.

+ S.B.S. 3/24/25

8.2.4.2 Addition With Glovebox/bag

1. Open one of the sleeves in the top of the glove box/bag and if the funnel was not preinstalled, put the funnel into the glovebox/bag. Insert funnel in the vessel. Place the vacuum hose nozzle inside the glove box/bag. This will create air flow into the opening of the glove box/bag. Start the Euroclean vacuum cleaner.
2. Add adsorbent using the opening in the top of the glove box/bag discussed in step 1. If any apparatus used to handle the new adsorbent comes in contact with the inside of the column or opening, the RCT will need to survey such items out, as necessary.
3. Replace piping to top of column.
4. Utilize the Euroclean vacuum cleaner to remove any adsorbent that remains in the glove box/bag regardless of their origin (clean or spent) and dispose of them in the waste drums.
5. Remove the material (sleeves, hoses, etc.) from the glovebox/bag ports, remove glove box/bag and seal for storage or collapse and dispose of as waste.
6. Complete tightening piping to top of column. Verify no parts are missing.

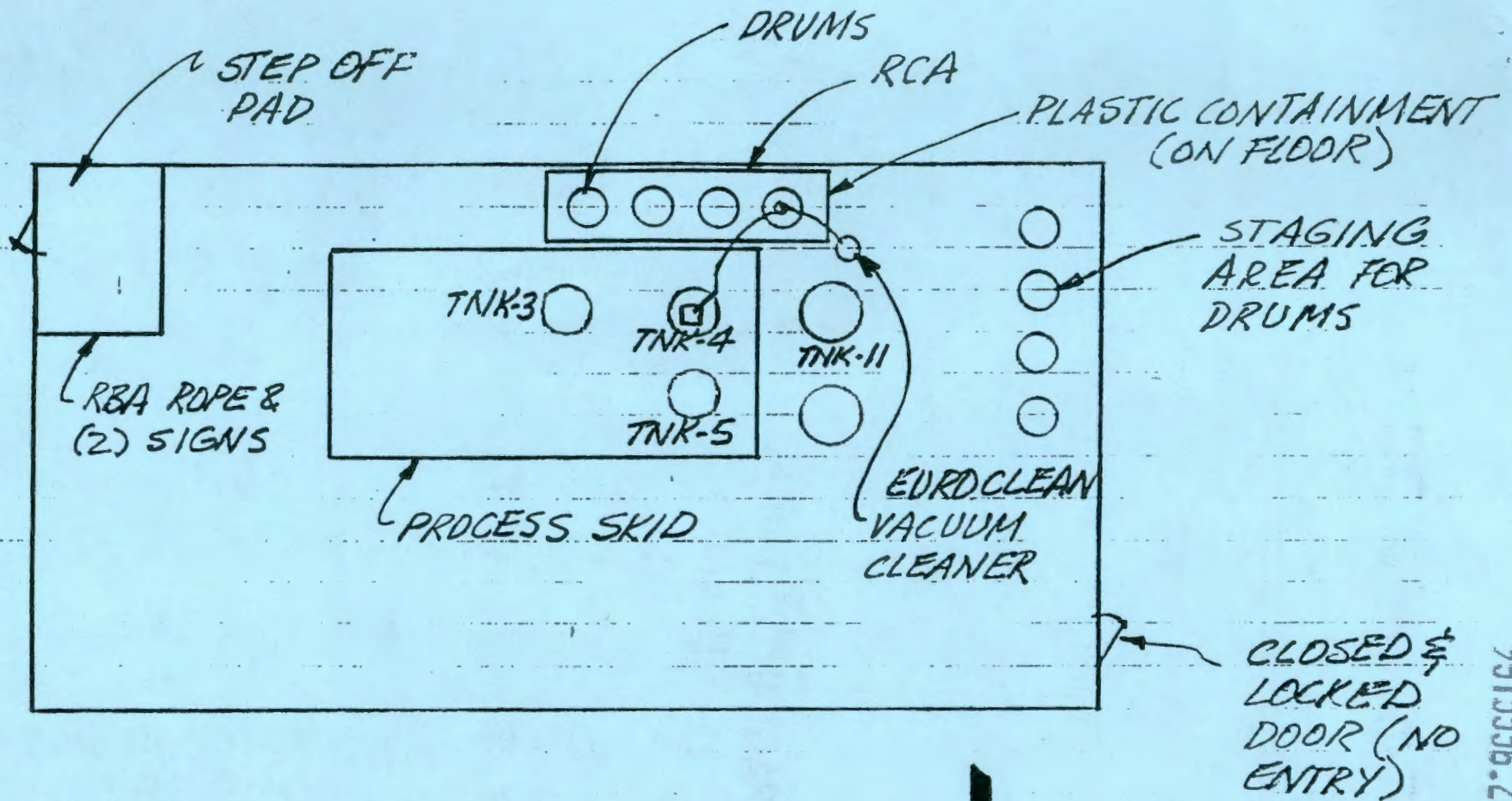


FIGURE 8-1
 ADSORBENT CHANGEOUT
 AREA SET UP

John 3/14/95

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