

Ethanolamines/Glycol Ethers Tier 3 Procedure

Section Number: 5016
Issue Number: 1.1
Original Date: 11-19-96 **Author:** Tim Dill/Townsend
Revision Date: 02-17-97
Title: Operation of the DV-135 Temporary Charcoal Filter
References: Glossary Of Equipment Identification (Text # 114)
1713 Use of Flexible Hoses
1703 Blowing Out Product Lines and Equipment with Nitrogen
2000 Quick Disconnects and Bleeds

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5016. Operation of the DV-135 Temporary Charcoal Filter

1.0 Objective:

1.1 Improve color of DB in DV-135 storage tank and loaded material by recirculation of material in storage tank and material to be loaded through a portable charcoal filter. This procedure provides operation instruction, as well as information on charging and dumping the charcoal in the portable filter.

2.0 Responsibility:

2.1 It is the responsibility of the operations personnel to ensure that this procedure is fully complied with.

2.2 It is the responsibility of the operations personnel to ensure that this procedure is executed in a safe and efficient manner.

3.0 Charcoal Inventory:

3.1 The AD-180HP portable filter from Cetco uses 3 supersacks (2500# total) of Petrodarco 8x30 charcoal. Ensure that we have enough material available or one bag of Calgon with one bag of Petrodarco.

4.0 Safety/Environmental:

4.1 Monogoggles, safety glasses, gloves and a dust mask are required when blowing, dumping or charging the filter.

4.2 The AD-180HP filter has a glass-flake, amine-cured epoxy phenolic lining. This material is compatible with glycol ether products at temperatures below 180 °F (82 °C).

4.3 The filter will be set up adjacent to the amines check tanks within the "contained" boundaries of area 2 in the event of a spill. This will ensure that material is properly contained.

4.4 Product will be blown from the filter with nitrogen into a T/T trailer prior to dumping used charcoal. The charcoal is then dumped into a charcoal bin through the dump valve and the bed is recharged with fresh charcoal. The used charcoal will be incinerated at environmental operations.

Date Printed: April 19, 1998

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4.5 When the charcoal beds have product in them, they should be flowing. Stagnation of the product can create a potential fire hazard.

4.6 Place a note on the G/E board that reflects the status of the portable charcoal filter.

5.0 Procedures:

5.1 Blowing product from spent charcoal in filter prior to dumping:

5.1.1 Tag and isolate DV-135 charcoal filter for charcoal replacement.

5.1.2 Connect a nitrogen hose to the ¾ inch blow valve on the DV-135 charcoal filter. Be sure all lines are isolated to prevent contamination.

5.1.3 Connect a flex hose to the 2" inch bleed with screen insert on the bottom of the filter to the T/T trailer. Note: Never blow this material to the storage tank as spent carbon in DV-135 will allow the color bodies to grow in the tank.

5.1.4 Start a nitrogen flow through the DV-135 charcoal filter to the T/T trailer and blow until the filter is empty of product.

5.2 Dumping spent charcoal from the filter:

5.2.1 Connect one end of the flex hose to the 2 inch dump valve and put the other end in the charcoal bin.

5.2.2 Open the dump valve and turn on the N2 to blow the charcoal into the charcoal bin. Keep the N2 press between 5 & 10 lbs.

5.2.3 As soon as all the charcoal is removed from the charcoal filter, close the dump valve and prepare to recharge the bed.

5.2.4 Turn off the N2 and open the DV-135 charcoal filter vent to depad the vessel.

5.2.5 Determine if spent charcoal needs to be washed out completely.

5.3 Charging DV-135 portable charcoal filter with fresh charcoal:

5.3.1 Blow the DV-135 charcoal filter out with nitrogen for 1 hour to dry it. Blow out all lines exposed to water. (No water should be added to the system).

5.3.2 Fill the bed with enough DB to cover approximately 2 feet above the internal bottom laterals (spray arms) and begin dumping charcoal through the top open manway. (Dust mask, gloves, and monogoggles are required for this task).

5.3.3 Fill the bed with charcoal with three supersacks of Petrodarco 8x30 or one bag of Calgon and one bag of Petrodarco (approximately 2500lbs.). Leave at least 2-3 feet of the bed top section empty to allow for charcoal expansion. Calgon should be put first.

5.3.4 Put the manway back on and bolt it up.

5.5 Placing the DV-135 Charcoal filter in service:

5.5.1 Connect a nitrogen hose to the bottom of the filter bed and purge all oxygen from the "system" through the top bleed for 30 minutes.

5.5.2 Fill the bed with DB from the bottom using the top bleed to remove all the air in the vessel.

5.5.3 Continue to flow DB through the filter for thirty minutes to remove charcoal fines from the charcoal. The flushing should continue until the product is free from fines.

5.5.4 If the pressure drop across the cotton filter (FP-1) is greater than 15 psig, shutdown the system and change the filter elements in FP-1.

5.5.5 Start the DB flow forward through the charcoal filter.

5.5.6 Record the pressure drop across the cotton filter and the product temperature through the charcoal filter on the log sheet.

5.5.7 DV-135 should be recirculated through the charcoal filter until the color on well mixed storage tank samples indicate that the material is in specification.

5.5.8 In addition, any material loaded from DV-135 should be sent through the charcoal filter on pass prior to being loaded. Piping on the return line from the charcoal filter to DV-135 has been modified to feed the load line.

5.6 Sampling

5.6.1 In order to collect data for the terminals who are putting like filters for DB color, we need to gather data on color removal as well as filter life. Data to be collected every four hours will be as follows:

- date and time that filter put in operation (flow started)
- date and time of each sample set
- product temperature on storage tank
- color before the charcoal filter (discharge of P135)
- color after charcoal filter (downstream FP-1)
- pressure drop across FP-1

5.7 Changing cotton filter elements in FP-1

5.7.1 Shutdown P-135 and close the isolation valve upstream of FP-1

5.7.2 Blow FP-1 empty through the upstream bleed to DV-135 with nitrogen.

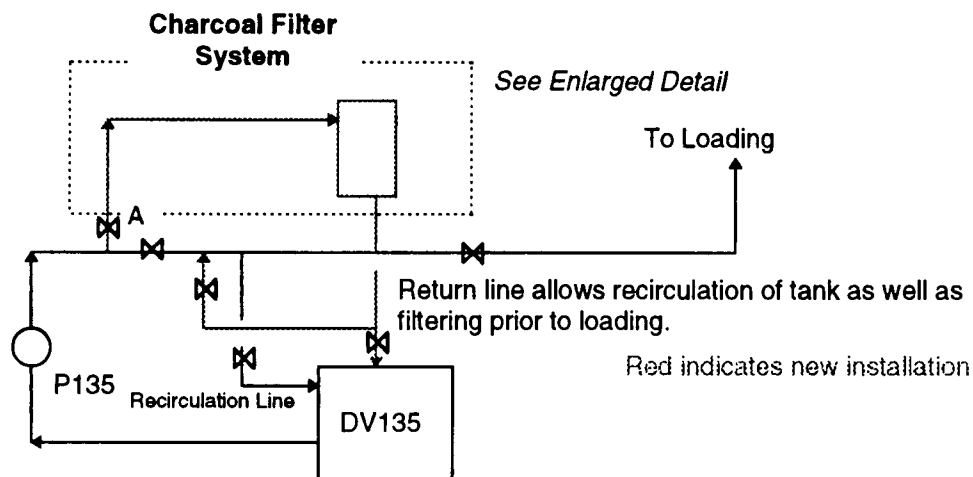
5.7.3 Red tag the upstream and downstream FP-1 isolation valves as closed. Red tag open the upstream and downstream bleed valves.

5.7.4 Open the head of FP-1 and replace all filter elements.

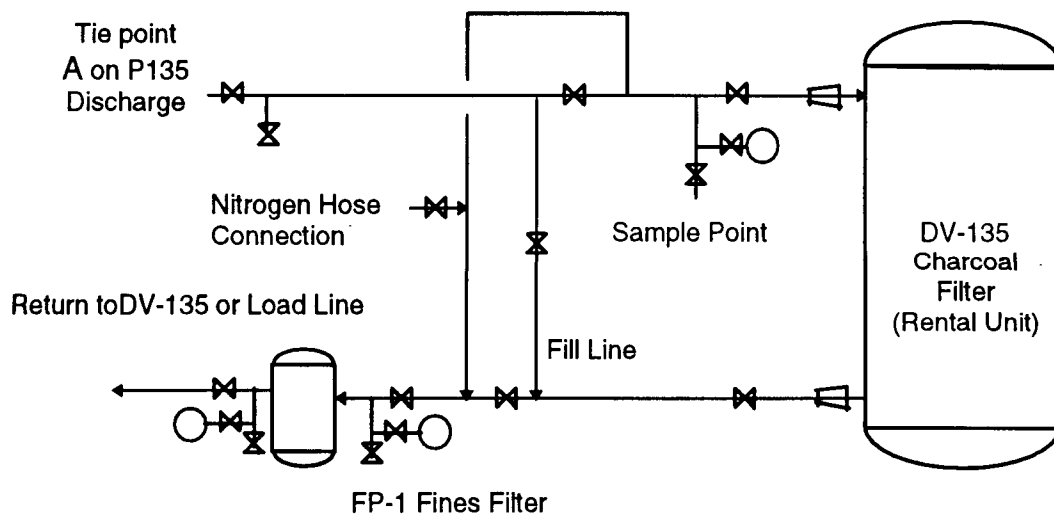
5.8 Emergency Operations

5.8.1 In the event of a spill or leaks to the system, shutdown P-135.

6.0 Schematic of Setup



Charcoal Filter System Detail



7.0 Revisions

Revision #1	2-17-97	Changed and added wording in Section 5.1.3 Added Section 5.2.5 Added Section 5.5.1 and renumbered
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EA/GE MATERIAL REQUEST (Glycol Ethers Charcoal)

FAX TO GERALD SANDERS AT 6914

DATE: _____

CURRENT INVENTORY = _____ Super sacks target inventory = 4 super sacks

JOB DESCRIPTION: Order Charcoal for Glycol Ethers

REQUESTED BY: _____

COST CENTER: 78

SUGGESTED VENDOR: Weskem-Hall

CONTACT: Chad Sanchez PHONE #: 504-749-8378

ACTUAL NEED DATE: Within 3 weeks of the above date.

QUANTITY	CODE #	FULL DESCRIPTION WITH PART NUMBER IF NOT CODED	P.O.#
1,760#	2290204	Petrodarco 8x30	

SPECIAL INSTRUCTIONS: _____
