Hercules
Forrest Co.
HW-MSD008182081
JMP

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STATE OF MISSISSIPPI
HALEY BARBOUR
GOVERNOR
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
TRUDY D. FISHER, EXECUTIVE DIRECTOR

November 10, 2010

Tim Hassett
Hercules Incorporated
Hercules Plaza
1313 North Market Street
Wilmington, DE 19894-0001

Re: Sludge Characterization and Bench Scale Treatability Report dated August 20, 2010
Hercules Inc. Hattiesburg facility
Hattiesburg, Forrest County, Mississippi

Dear Mr. Hassett:

The Mississippi Department of Environmental Quality (MDEQ) has reviewed the Sludge Characterization and Bench Scale Treatability Report dated August 20, 2010. MDEQ representatives were able to discuss the findings of the report in detail with your consultants from ARCADIS in a meeting on September 7, 2010. They were able to clarify some of the findings and answer questions we had about the report. MDEQ requests that a detailed version of the Impoundment Basin Decommissioning Work Plan be prepared which addresses the process and implementation of the surface impoundment sludge removal and subsequent closure. From our review of the report and our meeting with ARCADIS, MDEQ has the following comments:

1. MDEQ has some concerns associated with the proposed dewatering cell construction. Primarily, there are two issues that must be addressed in cell planning and construction before MDEQ provides more consideration for approval. First, the proposed plan suggests routing decanted water back into the existing impoundment. Whatever dewatering mechanism is employed, MDEQ will require that the decanted water be placed in a tank onsite and sampled prior to discharge to ensure its content falls within the limits of the existing Pretreatment permit (i.e. contaminates and flow). MDEQ cannot approve any plan that provides for the decanted water to be put back through the impoundment itself. Further, if dewatering cells are used, MDEQ will expect for stormwater to be diverted from the dewatering cells. Second, MDEQ recognizes that the proposed method of dewatering has potential to generate significant off-site nuisance odors (the property line serving as the point of compliance). Hercules will be required to implement odor control measures to prevent off-site odors. Therefore, before MDEQ

will consider approving on-site dewatering, Hercules must submit detailed plans to control odors. Several options were discussed in our meeting with ARCADIS.

2. Hercules must submit a complete permit modification request for the existing Pretreatment Permit No. MSP091286 to reflect a dewatering operation and subsequent discharge of resulting decant.

3. As sludges are removed from the impounding basin into the individual dewatering cells (if this method of dewatering is approved), representative composite sample(s) must be collected for each cell. If analyses of the sample(s) indicated levels below applicable TCLP disposal standards, then once the material has been dewatered to the point it passes a paint filter test, it may be disposed of as non-hazardous waste at a municipal solid waste landfill. Should the sample(s) fail TCLP disposal standards prior to dewatering, then additional composite sample(s) will be required from the dewatered sludge to ensure proper disposal. Land Disposal Restrictions (LDR) will apply to these sludges. Proposed sampling procedures and frequencies must be provided by Hercules for MDEQ review and approval.

MDEQ has recently obtained additional information which Hercules should be aware of and begin planning accordingly. In an effort to determine the location of the contaminated groundwater plume, MDEQ spoke with the City of Hattiesburg regarding utilities beneath Providence Street adjacent to the site. The Hattiesburg City Engineer informed MDEQ of deterioration of the sewer line beneath Providence Street. He explained that a portion of the sewer line down gradient from the plume has been recently replaced but that the section of line in the contaminated groundwater zone is still known to contain several areas where the lines have partially collapsed. MDEQ suspected that this created a "French drain" scenario in which contaminated groundwater was able to infiltrate the damaged sewer line and continue off-site to the publicly owned treatment works (POTW).

On October 1, 2010, MDEQ collected samples to confirm the infiltration of contaminated groundwater into the sewer system. Samples were collected from a manhole up-gradient of the contaminated groundwater plume, A370, and the first manhole down gradient, A372. Over this segment, MDEQ understands there are no lines that connect to the system, so the only possible source of discharge to the system between the two manholes is contaminated groundwater. The results from our sampling are as follows:

	A 370 ug/L 10/1/2010	**A 372 ug/L** 10/1/2010	**MW-23 GW Concentration ug/L** 5/10/2010
Acetone	137	45.2	< 2500
Benzene	<MQL	19.4	10000
Carbon Tetrachloride	<MQL	45.8	< 100
Chloroform	<MQL	32.4	2000
Toluene	<MQL	13.9	3300

The sample results indicate that contaminated groundwater is entering the city sewer system. We expect that these concentrations will fluctuate based on flow in the line, so the most recent groundwater results for MW-23 have been included in the table. MW-23 is located within fifteen feet of the sewer line. A figure showing the location of the manholes, manhole inventories, and sample results have been enclosed for your review.

Given that clean-out of the impoundment basin will provide unique opportunities for groundwater recovery, Hercules should begin engineering a groundwater recovery plan that addresses the migration of off-site groundwater contamination. The plan should include measures to hydraulically control the contaminated groundwater plume to prevent off-site migration, recovery of contaminated groundwater on-site and off-site, and treatment and disposal of all recovered groundwater. However, groundwater recovery planning must not delay finalization of the Decommissioning Work Plan, as it is MDEQ's priority for Hercules to remove and properly dispose of the sludges from the impounding basin.

MDEQ requests that the Impounding Basin Decommissioning Work Plan be completed and submitted for MDEQ review and approval by December 10, 2010. If you have any questions or comments, please contact MDEQ project personnel Jan Patton at (601)961-5782 or Willie McKercher at (601) 961-5731.

Sincerely,

for

Chris Sanders, P.E.
Chief, Environmental Compliance & Enforcement Division

Enclosures

cc: Gary Rikard – Butler Snow
Rodney S. Bolton – Ashland Hercules Water Technologies
ARCADIS

Agency Interest No. 2022
ENF20080001

MANHOLE INVENTORY

City of Hattiesburg

Area: A

Manhole Number: 370

Inventory Date: 1/22/2002

GPS Date: 1/29/2002

Weather: Fair

Manhole Location: Providence at West 8th

Surface Water Ponding Potential: No

Physical Location: Roadway

Frame/Cover: Unsealed

Frame/Cover Condition: Good

Manhole Type: Brick

Other (Specify):

Manhole Condition: Fair

Steps: Poor

Any Evidence of Infiltration: No

(If yes, describe generally how much):

General Manhole Comments:

Location:

Northing: 668,360.0

Easting: 837,218.2

Latitude: 31°20'12.61205"N

Longitude: 89°18'15.36407"W

Top Elevation: 168.225

INVERTS

	Location	Size	Type	Measure Up	Drop	Elevation
IN	6	12	Concrete	12.5		155.7
	3	6	Concrete	4.4		163.8
OUT	12	12	Concrete	12.4		155.8

Number of Services: 1

Invert: Poor

General Comments:

MANHOLE INVENTORY

City of Hattiesburg

Area: A

Manhole Number: 372

Inventory Date: 1/22/2002

GPS Date: 1/29/2002

Weather: Fair

Manhole Location: Providence - South of Red

Surface Water Ponding Potential: No

Physical Location: Roadway

Frame/Cover: Unsealed

Frame/Cover Condition: Good

Manhole Type: Precast

Other (Specify):

Manhole Condition: Good

Steps: Good

Any Evidence of Infiltration: No

(If yes, describe generally how much):

General Manhole Comments:

Location:

Northing: 669,103.8

Easting: 837,221.5

Latitude: 31°20'19.97392"N

Longitude: 89°18'15.36279"W

Top Elevation: 160.664

INVERTS

	Location	Size	Type	Measure Up	Drop	Elevation
IN	6	12	Concrete	6.7		153.9
	5	10	PVC	6		154.6
OUT	12			6.7		153.9

Number of Services: 1

Invert: Fair

General Comments: Invert (IN) measure up 6.0 (From treatment tank East of Providence)