



MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

November 2, 1998

Certified Letter No. Z 039 740 151

Mr. Charles Jordan
Environmental Coordinator
Hercules, Inc.
P.O. Box 1937
Hattiesburg, Mississippi 39401

Re: Hercules, Inc.
Draft Administrative Order
Hattiesburg, Mississippi

Dear Mr. Jordan:

Please find the enclosed Draft Order from the Mississippi Department of Environmental Quality (MDEQ) for your review and comment. I invite you to review this Draft Order and contact us if you have any comments. I will expect any written response within two (2) weeks of your receipt of this letter. If no comments are received from you within this period, the Draft Order will be issued as written.

Please note that you may appeal the Order to the Mississippi Commission on Environmental Quality within thirty (30) days after issuance if you have any objectives.

If you have any questions or if we can be of any assistance, please do not hesitate to contact Brian Young at (601) 961-5069.

Sincerely,

Tony Russell, Chief
Uncontrolled Sites Section

Enclosure

C:\WINDOWS\TEMP\Hercules Adm Order Cover Letter.wpd

OFFICE OF POLLUTION CONTROL

P.O. Box 10385 Jackson, MS 39289-0385 Phone 601.961.5171 Fax 601.354.6612

BEFORE THE MISSISSIPPI COMMISSION
ON ENVIRONMENTAL QUALITY

MISSISSIPPI COMMISSION ON
ENVIRONMENTAL QUALITY

COMPLAINANT

ORDER NO. **DRAFT**

vs.

HERCULES, INC.
ATTENTION : MR. CHARLES S. JORDAN
P.O. BOX 1937
WEST SEVENTH STREET
HATTIESBURG, MISSISSIPPI 39401

RESPONDENT

ORDER

The above captioned cause came before the Executive Director of the Mississippi Department of Environmental Quality this day for ex parte consideration under the authority of Section 49-2-13 of the Mississippi Code Annotated (Rev. 1990), and the Executive Director, having heard and considered the evidence therein, and having determined that an Administrative Order should be issued prefatory to any evidentiary hearing and without making any final adjudication of the fact or law, finds as follows:

1.

The Respondent is subject to Mississippi Code Annotated §§ 17-17-1 et. seq. (Rev. 1995 and Supp. 1998) and §§ 49-17-1 et. seq. (Rev. 1990 and Supp. 1998) and the rules and regulations of the Mississippi Commission on Environmental Quality (Commission).

2.

Respondent is the owner and operator of a chemical manufacturing business located in Hattiesburg, Mississippi. The facility has been in operation since 1923 and is situated on approximately a two hundred acre tract of land surrounded by industrial and residential properties. The site includes a

DRAFT

wastewater treatment plant, a landfill, and settling ponds. Access to the site is controlled with a fence. Greens Creek flows from west to east across the northern portion of the site and discharges into the Bowie River. The site is within the recharge area for the Miocene Aquifer System.

3.

In 1993, B&V Waste Science and Technology Corp. conducted a site investigation in order to collect data on potentially hazardous environmental conditions at the site. The investigation revealed the presence of two (2) hazardous constituents in the on-site soils above an action level: arsenic and dieldrin. Furthermore, numerous unidentified organic compounds were detected in the soils at elevated levels (500-20,000 mg/kg). The investigation of the groundwater also revealed the presence of the following four (4) heavy metals above the U.S. Environmental Protection Agency's maximum contaminant levels (MCL's): arsenic, barium, lead, and mercury. In 1998, sampling and analysis of groundwater revealed the presence of arsenic, chromium, and lead above the MCL's. The 1998 sampling and analysis of groundwater also detected two other hazardous substances: dioxathion and chlormephos.

4.

Premises considered, the Executive Director finds that the Respondent shall develop and submit a work plan that will:

- A. determine the source of the groundwater contamination, and
- B. investigate and delineate the extent of groundwater, soil, surface water, and sediment contamination at the site for contaminants of concern.

IT IS, THEREFORE, ORDERED as follows that the Respondent execute the following activities as follows:

- I. Within 30 days of the effective date of this Order, the Respondent shall submit a remedial investigation work plan and schedule sufficient to determine the source of the groundwater contamination and to further investigate and delineate the horizontal and vertical extent of the groundwater, soil, surface water, and sediment contamination for contaminants of concern.

Ex Parte Order: HERCULES, INC.

October 26, 1998

Page 3 of 3

DRAFT

- II. Within 30 days of receipt of work plan approval, Respondent shall begin implementation of the approved work plan according to the approved schedule.
- III. Respondent must complete execution of the approved work plan according to the approved schedule.
- IV. Respondent shall submit a final report of remedial investigation findings to the Mississippi Department of Environmental Quality according to the approved schedule.
- V. Respondent shall implement as necessary such interim remedial actions as are necessary to protect human health and the environment from imminent danger.

If aggrieved by the Order, the Respondent may request a hearing before the Commission by filing a sworn petition with the Commission in the manner provided by Mississippi Code Annotated § 49-17-41 (Rev. 1995).

ORDERED, this the _____ day of _____, 1998.

MISSISSIPPI COMMISSION ON
ENVIRONMENTAL QUALITY

BY: _____

J. I. PALMER, JR.
EXECUTIVE DIRECTOR
MISSISSIPPI DEPARTMENT OF
ENVIRONMENTAL QUALITY



MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

May 29, 1998

Mr. Charles S. Jordan
Environmental Coordinator
Hercules, Inc.
P.O. Box 1937
Hattiesburg, Mississippi 39403

Re: Hercules, Inc.
Hattiesburg, Mississippi

Dear Mr. Jordan:

The Mississippi Department of Environmental Quality (MDEQ) has received your written request, dated May 18, 1998, to resume quarterly sampling in the 2nd quarter of 1998. The MDEQ approves your request. These samples should be collected prior to the end of June 1998. Furthermore, MDEQ understands that quarterly sampling will continue for at least 3 more quarters. If contaminants are present in the groundwater and further monitoring is required, MDEQ may extend quarterly sampling beyond 3 more samples.

You also requested to abandon two (2) monitoring wells during this time period. The MDEQ also approves this request. The wells shall be abandoned according to those regulations set forth by the MDEQ Office of Land and Water Resources for the abandonment of monitoring wells. Please submit to MDEQ for approval a work plan that details the procedures to be used in abandoning the wells. If you should have any questions or comments you may contact Brian Young at (601) 961-5069.

Sincerely,

Russell H. Smith, P.E.
Superfund Branch Chief

A:Hercules 2nd Quarterly Sampling.wpd

OFFICE OF POLLUTION CONTROL

P.O. Box 10385 Jackson, MS 39289-0385 Phone 601.961.5171 Fax 601.354.6612



Hercules Incorporated
613 West 7th Street
P.O. Box 1937
Hattiesburg, MS 39403-1937
(601) 545-3450
Fax: (601) 584-3226

May 18, 1998

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

No. P 443 543 641

Brian Young
Office of Pollution Control
P. O. Box 10385
Jackson, Ms 39285-0385



Dear Mr. Young:

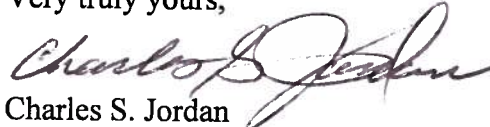
In reference to your letter of May 7, 1998, and our previous discussions addressing the delay in resampling, we will conduct the 2nd sampling event in the 2nd quarter of 1998, and if deemed necessary, the other two sampling events in the 3rd and 4th quarters, respectively. I trust this is in agreement with our previous discussions.

We would also request that we be allowed to use the same contractor to abandon the two wells you address, during the same time they are conducting the 2nd sampling event.

We will adhere to the sampling outlined in your letter. At this time, due to the lack of support data, we do not necessarily agree that monitoring well #4 contained Dioxathion.

Please let me know if the above requests are acceptable.

Very truly yours,


Charles S. Jordan
Environmental Coordinator

CSJ/vrf

cc: Walt Langhans, Plant Manager



MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

May 7, 1998

Mr. Charles S. Jordan
Environmental Coordinator
Hercules, Inc.
P.O. Box 1937
Hattiesburg, Mississippi 39403-1937

Re: Hercules, Inc.
Monitoring Well Installation, Sampling, and Analysis dated December 1997
Hattiesburg, Mississippi

Dear Mr. Jordan:

The Mississippi Department of Environmental Quality (MDEQ) has completed a review of the above referenced document and has the following comments.

1. The report did not include a potentiometric surface map showing a direction of groundwater flow. The next sampling event/report shall include a potentiometric surface map showing groundwater elevations relative to a benchmark (top of the well casing) and a direction of groundwater flow. Each successive sampling event for this site should reevaluate groundwater flow direction and if a change is observed then a new potentiometric surface map should be submitted to MDEQ.
2. Monitoring wells (MW) MW-1, MW-4, and MW-5 have several metals (including arsenic, chromium, and lead) above the U.S. Environmental Protection Agency's (EPA) Maximum Contaminant Levels (MCL's). This may be due to the fact that the samples were relatively turbid, however Hercules should modify its sampling technique to obtain samples with NTU values less than 5. Note that you may not filter the samples as the MDEQ nor the United States Environmental Protection Agency Region IV accepts filtered samples as valid.
3. Monitoring well MW-4 contained Dioxathion. In addition, the MDEQ split sample for MW-4 contained several semi-volatile organic compounds including Dioxathion and Chlormephos. The MDEQ split sample for MW-5 also contained several semi-volatile organic compounds including

Mr. Charles S. Jordan
May 7, 1998
Page 2

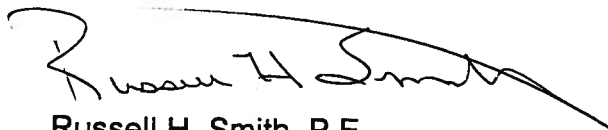
Chlormephos.

Based on the comments above, Hercules is to continue sampling quarterly all groundwater monitoring wells for metals. Monitoring wells MW-4 and MW-5 shall be sampled for volatile and semi-volatile organic compounds on a quarterly basis. MDEQ shall be notified at least two weeks prior to any sampling events.

During the MDEQ site visit to collect the split samples noted above, monitoring wells MW-B1 and MW-B2 were observed to be in poor condition and unusable. The State of Mississippi Surface Water and Groundwater Use and Protection Regulations (as Amended December 1994) required that abandoned or unused wells be decommissioned within 90 days after abandonment or cessation of use. Hercules shall within the next 30 days return these wells to a usable condition or abandon the wells in accordance with the applicable regulations. If Hercules chooses to abandon these wells, you shall provide documentation to MDEQ pertaining to when and how these wells are to be decommissioned.

If you should have any questions or comments you may contact Brian Young at (601) 961-5069.

Sincerely,



Russell H. Smith, P.E.
Superfund Branch Chief

HERCULES

RECEIVED
MAY - 5 1998
Dept. of Environmental Quality
Office of Pollution Control

April 28, 1998

Hercules Incorporated
613 West 7th Street
P.O. Box 1937
Hattiesburg, MS 39403-1937
(601) 545-3450
Fax: (601) 584-3226

CERTIFIED MAIL - RETURN RECEIPT REQUESTED
No. P 443 543 637

Brian Young
Office of Pollution Control
P. O. Box 10385
Jackson, Ms 39285-0385

*Brian, pls find the
following correction
5/4/98 CSJ/Jordan*

Dear Mr. Young:

In reference to the MDEQ letter of August 14, 1997, please find the enclosed results from six (6) monitoring wells for the first sampling event. As discussed in our previous phone conversation, Hercules respectfully requests a copy of the results from the first sampling event split samples with MDEQ.

As outlined in your letter, and based on these sampling results, (all results were none detected except for some of the metals at each well, two (2) tentatively identified volatile compounds estimated at one well, and one (1) tentatively identified semi-volatile compound estimated at one well), Hercules is petitioning the MDEQ to amend the compound list as follows:

Sample all wells for metals.

#4 CSJ
Sample well # 5 for the two tentatively identified volatile compounds estimated as detected.

Sample well # 4 for the one tentatively identified semi-volatile compound estimated as detected.

Following your approval we will proceed with the second sampling event. If I can answer any additional questions please call me at 601-545-3450 ext 360.

Very truly yours,

Charles S. Jordan
Charles S. Jordan
Environmental Coordinator

CSJ/vrf

Enclosure:

cc: Walt Langhans, Plant Manager
Tim Hassett, Hercules w/o enclosure



Hercules Incorporated
613 West 7th Street
P.O. Box 1937
Hattiesburg, MS 39403-1937
(601) 545-3450
Fax: (601) 584-3226

April 28, 1998

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

No. P 443 543 637

Brian Young
Office of Pollution Control
P. O. Box 10385
Jackson, Ms 39285-0385

RECEIVED
MAY - 4 1998
Dept. of Environmental Quality
Office of Pollution Control

Dear Mr. Young:

In reference to the MDEQ letter of August 14, 1997, please find the enclosed results from six (6) monitoring wells for the first sampling event. As discussed in our previous phone conversation, Hercules respectfully requests a copy of the results from the first sampling event split samples with MDEQ.

As outlined in your letter, and based on these sampling results, (all results were none detected except for some of the metals at each well, two (2) tentatively identified volatile compounds estimated at one well, and one (1) tentatively identified semi-volatile compound estimated at one well), Hercules is petitioning the MDEQ to amend the compound list as follows:

Sample all wells for metals.

Sample well # 5 for the two tentatively identified volatile compounds estimated as detected.

Sample well # 4 for the one tentatively identified semi-volatile compound estimated as detected.

Following your approval we will proceed with the second sampling event. If I can answer any additional questions please call me at 601-545-3450 ext 360.

Very truly yours,

Charles S. Jordan
Environmental Coordinator

CSJ/vrf

Enclosure:

cc: Walt Langhans, Plant Manager
Tim Hassett, Hercules w/o enclosure



STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

September 30, 1997

Mr. Charles S. Jordan
Environmental Coordinator
Hercules, Inc.
P.O. Box 1937
Hattiesburg, Mississippi 39403-1937

Re: Hercules, Inc.
Letter dated July 31, 1997
Letter dated September 23, 1997

Dear Mr. Jordan:

The Mississippi Department of Environmental Quality (MDEQ) has reviewed the above referenced letters. In this letter it was stated:

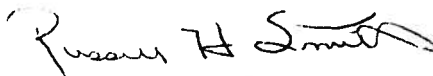
"Hercules agrees to the conditions outlined in your 08/14/97 letter response to our 07/31/97 letter, with the following understanding of our conversation. If the first complete sampling event is below the standards, as outlined in the 07/31/97 letter, we may petition the MDEQ and will be allowed to amend the compound list as outlined in our work plan. The rationale used to make these findings will be based on the standards presented in the 07/31/97 letter."

MDEQ concurs with the above statement with the following exception. If the first sampling event is below any applicable standards (background, the method detection limit, Mississippi Groundwater Quality Standards, current United States Environmental Protection Agency's (EPA) Maximum Contaminant Levels (MCLs), or proposed EPA MCLs) Hercules may at that time petition the MDEQ to amend the compound list as outlined in the work plan. The MDEQ will make a determination at that time as to whether to allow the modification.

Mr. Charles S. Jordan
September 30, 1997
Page 2

If you should have any questions or comments, you may contact Brian Young at (601) 961-5069.

Sincerely,

A handwritten signature in dark ink, appearing to read "Russell H. Smith". The signature is fluid and cursive, with the first name "Russell" being more prominent.

Russell H. Smith, P.E.
Superfund Branch Chief

WBY:HerculesSamplingClarification.wpd



Hercules Incorporated
613 West 7th Street
P.O. Box 1937
Hattiesburg, MS 39403-1937
(601) 545-3450
Fax: (601) 584-3226

September 23, 1997

CERTIFIED MAIL # P 443 543 539
RETURN RECEIPT REQUESTED

RECEIVED
SEP 24 1997
Dept. of Environmental Quality
Office of Pollution Control

Brian Young
Office of Pollution Control
P. O. Box 10385
Jackson, Ms 39289-0385

Dear Mr. Young:

The purpose of this letter is to document our recent conversation and our mutual understanding of the voluntary work plan Hercules has submitted to address groundwater sampling.

Hercules agrees to the conditions outlined in your 08/14/97 letter response to our 07/31/97 letter, with the following understanding of our conversation. If the first complete sampling event is below the standards, as outlined in the 07/31/97 letter, we may petition the MDEQ and will be allowed to amend the compound list as outlined in our work plan. The rationale used to make these findings will be based on the standards presented in the 07/31/97 letter.

Once we receive your concurrence, we will proceed in a timely manner. If I can answer any questions please call me at 601-545-3450, ext 360.

Very truly yours,

HERCULES INCORPORATED

Charles S. Jordan
Environmental Coordinator

CSJ/vrf

August 14, 1997

Mr. Charles S. Jordan
Environmental Coordinator
Hercules, Inc.
P.O. Box 1937
Hattiesburg, Mississippi 39401

Re: Hercules, Inc.
Response to letter dated July 31, 1997

Dear Mr. Jordan:

The Mississippi Department of Environmental Quality (MDEQ) has reviewed your letter referenced above. In this letter you requested several changes to the work plan approved in our letter to you dated May 19, 1997. The first change was the elimination of metals and semi-volatile organics from the sampling plan. This change cannot be approved. Metals, volatiles, and semi-volatile organics should be screened for and will be included in at least the first sampling event (SW 846 Method 3005, 8260, and 8270 respectively). Depending on the results of the first sampling event, Hercules may petition the MDEQ for an amended compound list. The placement of the monitoring wells was also changed from the approved work plan. These changes are approved with the following conditions:

1. Monitoring well #4 will be moved west and placed between the sludge disposal pits and Greens Creek. Monitoring well #5 will be moved southwest to the opposite site of the access road. These locations have been chosen to sample groundwater in the immediate vicinity of known disposal areas and to help establish groundwater flow direction. A map showing the placement locations of these wells has been enclosed.
2. All sampling shall follow Environmental Protection Agency's Region 4 Environmental Investigations Standard Operating Procedures and Quality Assurance Manual, dated May 1996.

Mr. Charles Jordan
August 14, 1997
Page 2

3. MDEQ personnel shall be given the opportunity to observe and/or split samples during the sampling event.
4. You shall provide to MDEQ the appropriate sample containers should MDEQ request to split samples.
5. MDEQ shall be notified at least two weeks prior to conducting any field work or sampling events.
6. A report documenting all field activities including sample results shall be submitted to MDEQ within ninety (90) days from the date of this letter.
7. The sampling results submittal shall be in both a digital and hard copy format. The digital copy shall be in a form and format to allow MDEQ to import it into the software Microsoft Access.

If you should have any questions or comments you may contact Mr. Brian Young at (601) 961-5069.

Sincerely,

Russell H. Smith, P.E.
Superfund Branch Chief

HERCULES
CHEMICAL SPECIALTIES

Hercules Incorporated
613 West 7th Street
P.O. Box 1937
Hattiesburg, MS 39403-1937
(601) 545-3450
Fax: (601) 584-3226

July 31, 1997

Certified Mail - Return Receipt Requested
Cert. # P 443 543 535

RECEIVED
AUG - 4 1997
Dept. of Environmental Quality
Office of Pollution Control

Mr. Brian Young
Office of Pollution Control
P. O. Box 10385
Jackson, MS 39289-0385

RE: Groundwater Investigation, Hattiesburg
Response to May 19, 1997 Letter

Dear Mr. Young:

Please find the following response to the Mississippi Department of Environmental Quality (MDEQ) May 19, 1997, letter and our subsequent conversations addressing your request.

Our understanding, based on prior correspondence, is that MDEQ believes that there is a need for investigation at the Hattiesburg plant site in Hattiesburg to confirm that no contamination exists in groundwater migrating off-site at levels that would trigger further action based on regulatory standards. To address this concern, we have obtained the services of an outside contractor (Bonner Analytical Testing Company) to perform the voluntary groundwater monitoring work described in the attached work plan.

To summarize the plan, Hercules will install and sample five down gradient perimeter wells and one up gradient perimeter well in the shallow saturated zone. The wells will be constructed as specified in your May 19, 1997 letter. The wells will be sampled quarterly for one year for the work plan compound list (CL) of volatile organics using Method 8260. The CL results will be compared to the highest of: (1) background; (2) the practical quantitation limit; and (3) the Mississippi Groundwater Quality Standards (GQS). For each CL constituent that is below the highest of such standards, it is our understanding that no further investigation, including monitoring, or remediation will be required for that constituent at the plant site. For any constituent that is above the highest of such standards, Hercules understands that before further action is required, it will have the option of demonstrating that an alternative standard should be used for comparison purposes. This is necessary in light of the fact that GQS rule assumes that the affected groundwater is potable, which is not the case under and around our site. Moreover, Section 3(E)(1) of the GQS rule itself allows for establishment of alternative standards.

Mr. Brian Young
July 31, 197
Page 2

Once we have received your approval of the work plan, including confirmation of these understandings, we will proceed to implement the work plan. We welcome the opportunity to discuss this proposal with you further and to answer any questions you may have. Please call me at (601) 545-3450, extension 360 for that purpose.

Very truly yours,

HERCULES INCORPORATED

A handwritten signature in dark ink, appearing to read "Charles S. Jordan", written in a cursive style.

Charles S. Jordan
Environmental Coordinator

Attachment:

Installation of Six Monitoring Wells

at

Hercules, Inc.
613 West 7th Street
Hattiesburg, Ms

presented to:

Charles Jordan, Environmental Supervisor
Hercules, Inc.
Hattiesburg, MS

July 31, 1997

by



Michael S. Bonner, Ph.D.
BONNER ANALYTICAL TESTING COMPANY

TABLE OF CONTENTS

| | Page |
|--|------|
| 1.0 Monitoring Well Installation..... | 1-4 |
| 2.0 Well Development..... | 4 |
| 3.0 Purging..... | 4-5 |
| 4.0 Sampling..... | 5 |
| 5.0 Analytical Protocol..... | 6 |
| 6.0 QA/QC..... | 6 |
| 6.1 Trip Blank (Volatile)..... | 6 |
| 6.2 Equipment Blank (Rinsate Blank)..... | 6-7 |
| 7.0 Sample Archival..... | 7 |
| 8.0 Decontamination..... | 7-8 |
| 9.0 Health and Safety..... | 8 |
| 10.0 Personnel..... | 8 |
| 11.0 Well Abandonment..... | 9 |

INTRODUCTION

At the request of the Mississippi Department of Environmental Quality (MDEQ), Hercules, Inc. of Hattiesburg, MS will install, develop, purge and sample six permanent monitoring wells in the following locations shown on the attached B&V - Figure 2.

The MDEQ will be notified 2 weeks prior to commencement of work.

1.0 MONITORING WELL INSTALLATION

Six two inch by twenty foot PVC monitoring wells shall be installed utilizing hollow stem drilling technology. Well depths shall be advanced deeper within the shallow saturated zone if groundwater is not encountered within the first twenty feet.

A screened interval of ten feet having a 0.01" slot shall be used. The screened interval shall extend a minimum of three feet above the groundwater interface. Casing shall be flush thread design.

Filter pack meeting the following specifications shall be tremied into the annulus to a depth of two feet above the screened interval:

| Particle Size in Inches | Allowable |
|-------------------------|-----------|
| >0.039" | 35% Max. |
| <0.039 - \geq 0.01 | 50% Min. |
| <0.01 | 0.5% Max. |

Following the filter pack, a two foot layer of fine sand (mason) shall be applied via tremie. If the zone is saturated, two feet of 10% hydrated bentonite shall be tremied, followed by 90/10 grout to the surface. An elevation data marker shall be placed in the grout at the surface as a reference point. If the zone is unsaturated, the bentonite seal will be omitted. Hydration time for bentonite shall be a minimum of 8 hours or the manufacturer's recommended hydration time—whichever is greater. Grout shall be allowed to cure for a minimum of 24 hours prior to installation of the surface pad and protective riser equipped with security locks.

Each well shall be equipped with four 3" pipes installed to a depth of 30" at the corners of each pad and grouted in place. Protective pipes shall be filled with grout and painted as specified.

The well casing will be allowed to extend a minimum of 18" above ground surface and shall be equipped with a locking cap, protective casing and a 2'x2'x4" concrete pad. The wells shall be surveyed with longitude and latitude reported along with elevation above sea level (± 0.01 ft.).

The following boring/well construction log information will be included where applicable:

- Well identification #
- Date/time of well construction
- Borehole diameter and well casing diameter
- Well depth ± 0.01 ft.
- Casing length

- Casing materials
- Casing and screen joint type
- Screened interval(s)
- Screen materials
- Screen slot size/design
- Filter pack material and size
- Calculated and actual filter pack volume
- Filter pack placement method
- Annular sealant composition
- Annular sealant placement method
- Calculated and actual annular sealant volume
- Surface sealant composition
- Surface seal placement method
- Calculated and actual surface sealant volume
- Surface seal design
- Well development procedure
- Turbidity measurement
- Type/design of protective casing
- Well cap and lock
- Ground surface elevation (± 0.01 ft.)

- Survey reference point elevation on well casing (± 0.01 ft.)
- Top of monitoring well casing elevation (± 0.01)
- Top of protective steel casing elevation (± 0.01 ft.)

2.0 WELL DEVELOPMENT

Completed wells will be allowed to cure a minimum of 24 hours prior to development. Prior to well development, water depth will be determined to ± 0.01 ft. Following completion, each well shall be developed by pumping and/or bailing, as deemed most appropriate utilizing the surge block technique. The well will be developed until a turbidity of < 5 NTU's is achieved. As a minimum, the well will be allowed to completely recharge prior to purging.

3.0 PURGING

The object of purging shall be to remove five well volumes at a rate similar to the recharge rate in order that turbidity effects are minimized. The following steps shall be used:

1. Establish the water depth and well depth to ± 0.01 ft.
2. Remove liquid from the surface and bottom hole to determine whether organic phases exist.
3. Determine pH, temperature, conductivity and turbidity prior to purging the well.
4. Remove five well volumes at a rate of 0.2 to 0.3 liter/min. utilizing a peristaltic pump if groundwater is within 28 feet of surface. Alternately, if groundwater is deeper, purging may be accomplished by means of centrifuged pump, bladder pump or bailer. (Purging by bailer must be done with caution so as not to disturb the well filter pack).

5. After removing 5 well volumes pH, temperature, conductivity and turbidity must be determined twice within 20 minutes. These data points should be $\pm 10\%$ and further, the turbidity must be < 5 NTU's. If turbidity is not < 5 NTU's, remove additional well volumes as necessary.

In the event the well is purged dry, the following protocol should be followed:

1. Allow the well to recover.
2. If the well has not fully recovered within two hours but has sufficient water for testing then:
 - a. Test the well for pH, temperature, conductivity and turbidity.
 - b. Test the well again within 20 minutes for the same parameters.
 - c. Collect samples as outlined in the sample collection process.
3. If pH, temperature and conductivity are not $\pm 10\%$ and/or turbidity is > 5 NTU and if data reflect elevated levels of any pollutant of concern, consider repurging and sampling the well.

4.0 SAMPLING

Sampling should commence as soon as the well recovers but no later than two hours after purging is completed. Samples shall be collected utilizing disposable Teflon bailers. Analytical parameters shall include the attached Compound List of volatile organics (Method 8260).

VOA samples shall be collected in duplicate in 40 ml vials preserved with hydrochloric acid to a pH of < 2 . VOA samples must contain no air bubbles. Three replicates of samples shall be collected at one designated well for QA/QC analysis.

5.0 ANALYTICAL PROTOCOL

All analyses will conform to the methodologies outlined in EPA/SW846 current edition.

6.0 QA/QC

One equipment blank, one matrix spike (MS) and one matrix spike duplicate (MSD) shall be analyzed for each event. One trip blank for VOA only shall be analyzed for each sampling event.

6.1 TRIP BLANK (VOLATILE)

Trip blank (volatile) duplicate samples shall be prepared in the laboratory utilizing deionized water and bottles from the batches to be used in the field collection and decontamination procedures. The trip blank will be taken in the field and returned to the laboratory in the same environment as the samples.

6.2 EQUIPMENT BLANK (RINSATE BLANK)

Following decontamination of the drilling equipment, carefully transfer about two liters of analyte-free deionized water to a new disposable Teflon bailer. Allow the contents of the bailer to

drain over a piece of the decontaminated hollow stem into an analyte-free stainless steel bowl.

Transfer the rinsate water to appropriate sample containers. Label and archive the rinsate blank as outlined.

7.0 SAMPLE ARCHIVAL

Following sample collection, affix a completed label to each container. Cover the label with clear tape to protect from moisture. Place the sample bottle in a zip-lock bag and wrap the container in bubble wrap. Write the sample ID number on the outside of the bubble wrap with a permanent marker, then secure the bubble-wrapped container with clear tape.

8.0 DECONTAMINATION AND RESIDUALS MANAGEMENT

Borehole cuttings will be left in place at the well site unless VOA readings indicate gross contamination (>50ppm FID readings). In the event gross contamination is encountered, cuttings will be drummed on site and analyzed for disposal.

Well development, purge and decontamination water will be placed in the Hercules treatment facility for disposal, provided levels do not exceed toxicity characteristics.

The hollow stem, drill rod, and associated tools will be decontaminated before each well is advanced. The procedure shall be as follows:

1. Pressure wash with steam and potable water
2. Brush with phosphate-free detergent to remove any additional debris
3. Pressure wash with steam and potable water
4. Rinse with analyte-free water

9.0 HEALTH AND SAFETY

1. All personnel shall have received 40 hours of OSHA training and shall have current update training.
2. Hercules, Inc. shall provide any additional safety briefings deemed appropriate for the scope of this project.
3. During boring, developing and purging operations, FID readings shall be recorded to ensure that a safe environment is maintained.
4. Elevated (>50 ppm) FID readings shall mandate respiratory protection, cease and desist operations, and re-evaluation by project director, project supervisor, project health and safety officers, and Hercules personnel.
5. Any injuries or potentially unsafe conditions shall be reported immediately to the health and safety officer and then to the project supervisor and project director.

10.0 PERSONNEL

Project Director - Michael S. Bonner, Ph.D.

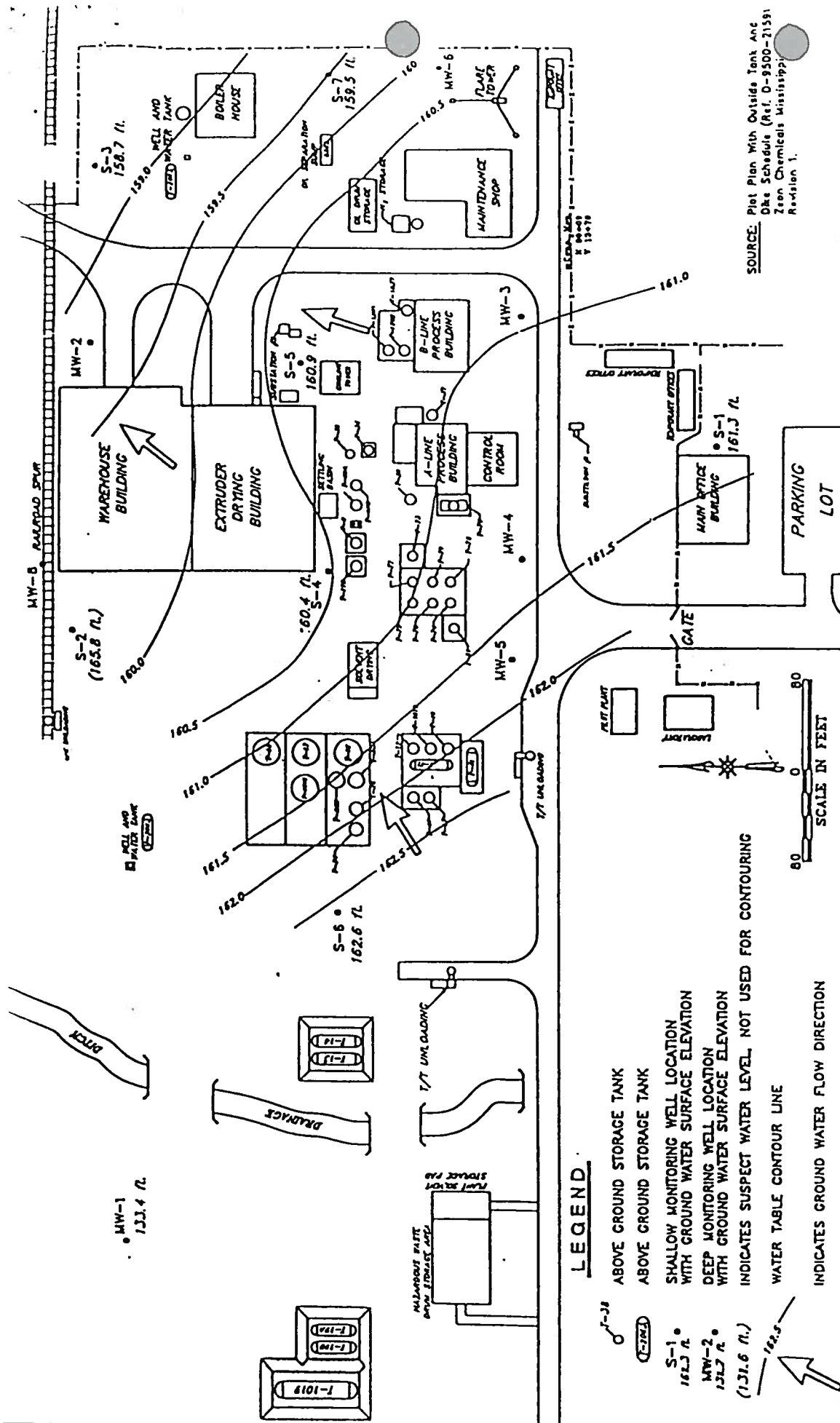
Project Supervisor - David Carter

Health and Safety Officer - Christopher M. Bonner

Hercules, Inc. Contact - Charles Jordan, Environmental Supervisor

11.0 WELL ABANDONMENT

Assuming that the wells are found to be free of analytes of concern, Hercules will have the option of abandoning the wells by then cutting the risers off at ground level and filling the casing with 90/10 grout to surface. Calculated and actual grout used will be recorded to ensure that the wells are properly sealed.



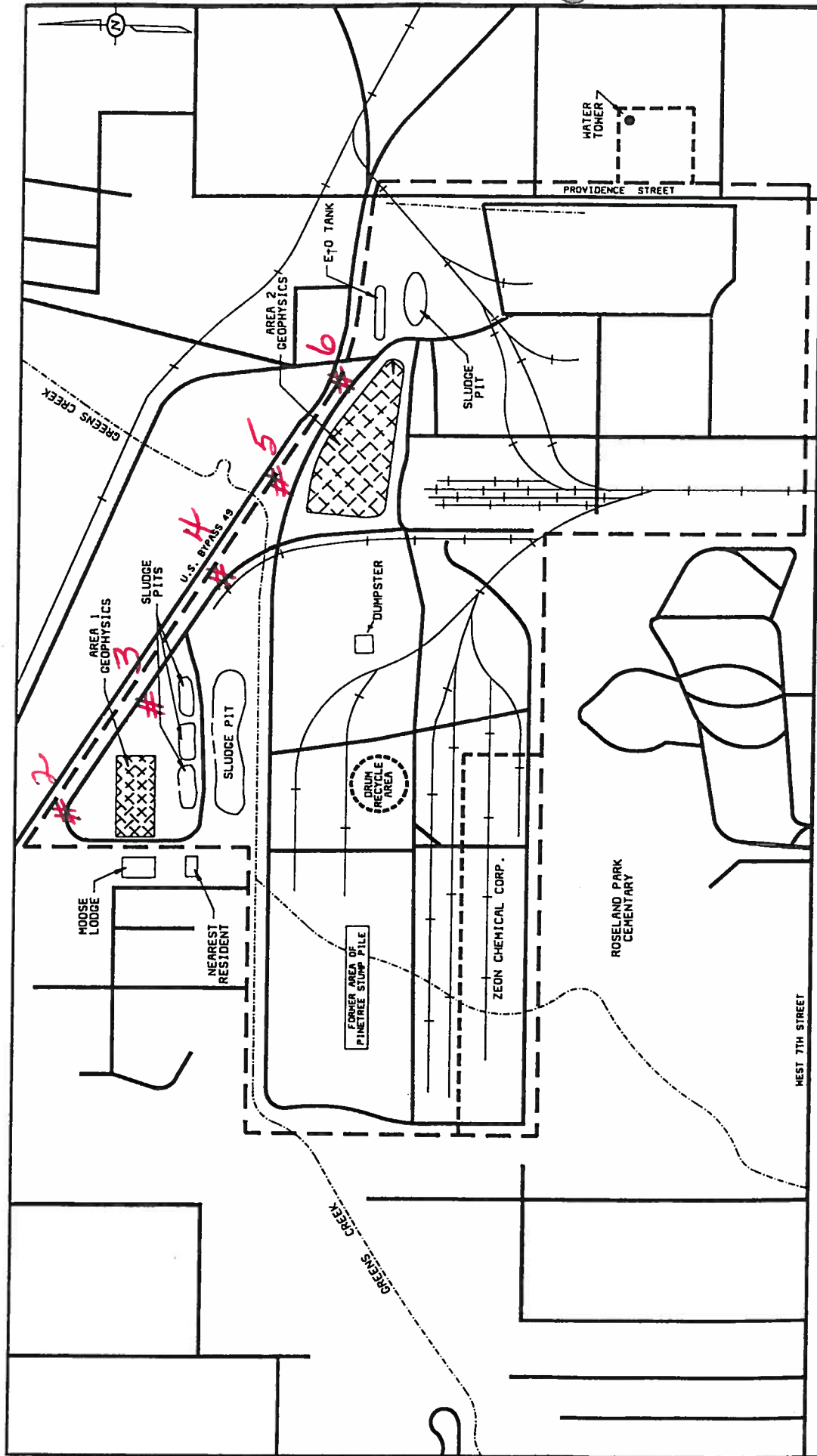
SOURCE: Plot Plan With Outside Tank And
Dike Schedule (Ref. D-9500-2159)
Zeon Chemicals Mississippi
Revision 1.

| | |
|-------------------|--|
| MALCOLM PIRNIE | ZEON CHEMICALS MISSISSIPPI, INC. HATTIESBURG, MISSISSIPPI |
|-------------------|--|

DIRECTION OF GROUND WATER FLOW
IN SHALLOW SATURATED ZONE - DECEMBER 1991

VALCOLUM PAPER INC

FIGURE 3-3:



NOT TO SCALE
WASTE SCIENCE
AND TECHNOLOGY CORP.

SITE LAYOUT MAP

HERCULES, INC.
HATTIESBURG, FORREST COUNTY, MISSISSIPPI

FIGURE 2

Compound List Report

Method : C:\APPS\HPCHEM\1\METHODS\06279701.M
 Title : 5-Point Calibration for Method 8260
 Last Update : Wed Jul 09 15:00:51 1997
 Response via : Initial Calibration
 Total Cpnds : 66

| PK# | | Compound Name | QIon | Exp_RT | Rel_RT | Cal | #Qual | A/H | ID |
|-----|---|---------------------------|------|--------|--------|-----|-------|-----|----|
| 1 | I | Pentafluorobenzene | 168 | 18.84 | 1.000 | A | 2 | A | B |
| 2 | S | Dibromofluoromethane | 113 | 19.33 | 1.026 | A | 3 | A | B |
| 3 | T | Dichlorodifluoromethane | 85 | 4.55 | 0.242 | QO | 2 | A | B |
| 4 | T | Chloromethane | 49 | 5.40 | 0.287 | A | 2 | A | B |
| 5 | T | Vinyl Chloride | 62 | 5.82 | 0.309 | QO | 1 | A | B |
| 6 | T | Bromomethane | 94 | 7.52 | 0.399 | A | 1 | A | B |
| 7 | T | Chloroethane | 49 | 7.90 | 0.419 | A | 0 | A | B |
| 8 | T | Trichlorofluoromethane | 101 | 8.92 | 0.473 | A | 1 | A | B |
| 9 | T | 1,1-Dichloroethene | 96 | 11.32 | 0.601 | A | 2 | A | B |
| 10 | T | Methylene Chloride | 84 | 13.17 | 0.699 | QO | 1 | A | B |
| 11 | T | t-1,2-Dichloroethene | 96 | 14.30 | 0.759 | A | 2 | A | B |
| 12 | T | 1,1-Dichloroethane | 63 | 15.85 | 0.841 | A | 1 | A | B |
| 13 | T | 2,2-Dichloropropane | 77 | 17.85 | 0.948 | A | 2 | A | B |
| 14 | T | c-1,2-Dichloroethene | 61 | 18.03 | 0.957 | A | 1 | A | B |
| 15 | T | Chloroform | 83 | 18.58 | 0.986 | A | 1 | A | B |
| 16 | T | Bromochloromethane | 49 | 19.17 | 1.017 | A | 1 | A | B |
| 17 | T | 1,1,1-Trichloroethane | 97 | 19.96 | 1.060 | A | 2 | A | B |
| 18 | I | 1,4-Difluorobenzene | 114 | 22.37 | 1.000 | A | 1 | A | B |
| 19 | S | Toluene-d8 | 98 | 27.67 | 1.237 | A | 1 | A | B |
| 20 | T | Carbon Tetrachloride | 117 | 20.85 | 0.932 | A | 2 | A | B |
| 21 | T | 1,1-Dichloropropene | 75 | 20.50 | 0.917 | A | 1 | A | B |
| 22 | T | Benzene | 78 | 21.45 | 0.959 | A | 0 | A | B |
| 23 | T | 1,2-Dichloroethane | 62 | 21.37 | 0.955 | A | 0 | A | B |
| 24 | T | Trichloroethene | 95 | 23.52 | 1.051 | A | 1 | A | B |
| 25 | T | 1,2-Dichloropropane | 63 | 24.10 | 1.078 | A | 1 | A | B |
| 26 | T | Bromodichloromethane | 83 | 24.94 | 1.115 | A | 1 | A | B |
| 27 | T | Dibromomethane | 93 | 25.13 | 1.124 | A | 2 | A | B |
| 28 | T | t-1,3-Dichloropropene | 75 | 26.80 | 1.198 | A | 1 | A | B |
| 29 | T | Toluene | 92 | 27.97 | 1.250 | A | 1 | A | B |
| 30 | T | c-1,3-Dichloropropene | 75 | 28.54 | 1.276 | A | 1 | A | B |
| 31 | T | 1,1,2-Trichloroethane | 83 | 29.11 | 1.302 | A | 2 | A | B |
| 32 | I | Chlorobenzene-d5 | 117 | 33.42 | 1.000 | A | 1 | A | B |
| 33 | T | Tetrachloroethene | 166 | 30.30 | 0.907 | A | 2 | A | B |
| 34 | T | 1,3-Dichloropropane | 76 | 30.02 | 0.898 | A | 2 | A | B |
| 35 | T | Dibromochloromethane | 129 | 31.02 | 0.928 | A | 1 | A | B |
| 36 | T | 1,2-Dibromoethane | 107 | 31.77 | 0.951 | A | 1 | A | B |
| 37 | T | Chlorobenzene | 112 | 33.30 | 0.996 | A | 1 | A | B |
| 38 | T | 1,1,1,2-Tetrachloroethane | 131 | 33.42 | 1.000 | A | 1 | A | B |
| 39 | T | Ethylbenzene | 91 | 33.73 | 1.009 | A | 1 | A | B |
| 40 | T | p,m-Xylene | 106 | 33.73 | 1.009 | A | 1 | A | B |
| 41 | T | o-Xylene | 106 | 35.41 | 1.060 | A | 1 | A | B |
| 42 | T | Styrene | 104 | 35.53 | 1.063 | A | 2 | A | B |
| 43 | T | Bromoform | 173 | 36.87 | 1.103 | A | 1 | A | B |
| 44 | T | Isopropylbenzene | 105 | 36.75 | 1.100 | A | 1 | A | B |

| | | | | | | | | | |
|----|---|-----------------------------|-----|-------|-------|----|---|---|---|
| 45 | T | 1,1,2,2-Tetrachloroethane | 83 | 37.40 | 1.119 | A | 1 | A | B |
| 46 | I | 1,4-Dichlorobenzene-d4 | 152 | 42.40 | 1.000 | A | 1 | A | B |
| 47 | S | 4-Bromofluorobenzene | 95 | 37.74 | 0.890 | A | 2 | A | B |
| 48 | T | Bromobenzene | 156 | 38.53 | 0.909 | A | 1 | A | B |
| 49 | T | 1,2,3-Trichloropropane | 75 | 37.97 | 0.895 | A | 1 | A | B |
| 50 | T | n-Propylbenzene | 91 | 38.30 | 0.903 | A | 1 | A | B |
| 51 | T | 2-Chlorotoluene | 91 | 38.30 | 0.903 | A | 1 | A | B |
| 52 | T | 1,3,5-Trimethylbenzene | 105 | 38.92 | 0.918 | A | 1 | A | B |
| 53 | T | 4-Chlorotoluene | 91 | 39.02 | 0.920 | A | 1 | A | B |
| 54 | T | t-Butylbenzene | 119 | 40.28 | 0.950 | A | 1 | A | B |
| 55 | T | 1,2,4-Trimethylbenzene | 105 | 40.47 | 0.954 | A | 1 | A | B |
| 56 | T | sec-Butylbenzene | 105 | 41.14 | 0.970 | A | 1 | A | B |
| 57 | T | p-Isopropyltoluene | 119 | 41.67 | 0.983 | A | 2 | A | B |
| 58 | T | 1,3-Dichlorobenzene | 146 | 42.00 | 0.991 | A | 2 | A | B |
| 59 | T | 1,4-Dichlorobenzene | 146 | 42.53 | 1.003 | A | 2 | A | B |
| 60 | T | n-Butylbenzene | 91 | 43.31 | 1.021 | A | 1 | A | B |
| 61 | T | 1,2-Dichlorobenzene | 146 | 43.41 | 1.024 | A | 2 | A | B |
| 62 | T | 1,2-Dibromo-3-chloropropane | 75 | 46.57 | 1.098 | QO | 2 | A | B |
| 63 | T | 1,2,4-Trichlorobenzene | 180 | 50.85 | 1.199 | A | 2 | A | B |
| 64 | T | Hexachlorobutadiene | 225 | 51.47 | 1.214 | A | 3 | A | B |
| 65 | T | Naphthalene | 128 | 52.12 | 1.229 | A | 0 | A | B |
| 66 | T | 1,2,3-Trichlorobenzene | 180 | 52.32 | 1.234 | QO | 2 | A | B |

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin

#Qual = number of qualifiers

A/H = Area or Height

ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

06279701.M

Wed Jul 09 15:05:05 1997



STATE OF MISSISSIPPI

DEPARTMENT OF ENVIRONMENTAL QUALITY

JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

July 1, 1997

Mr. Charles S. Jordan
Environmental Manager
Hercules, Inc.
P.O. Box 1937
Hattiesburg, Mississippi 39401

Re: Hercules, Inc.
Response to letter dated June 27, 1997

Dear Mr. Jordan:

The Mississippi Department of Environmental Quality (MDEQ) has received and reviewed your letter referenced above. In this letter you requested a thirty day extension (until July 31, 1997) in order to respond to a MDEQ letter dated May 19, 1997. This request is approved. If you should have any questions or comments, you may contact Brian Young at (601) 961-5069.

Sincerely,

A handwritten signature in black ink, appearing to read "Russell H. Smith".

Russell H. Smith, P.E., Chief
Uncontrolled Sites Section

WBY:HerculesExtension.wpd



CHEMICAL SPECIALTIES

June 27, 1997

Hercules Incorporated
613 West 7th Street
P.O. Box 1937
Hattiesburg, MS 39403-1937
(601) 545-3450
Fax: (601) 584-3226

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

No. P 443 543 531

RECEIVED
JUN 30 1997
Dept. of Environmental Quality
Office of Pollution Control

Mr. Brian Young
Office of Pollution Control
P. O. Box 10385
Jackson, MS 39289-0385

Dear Mr. Young:

Following your May 19, 1997 letter, our subsequent phone conversations, and our recent request for the Target Compound List you refer to, we respectfully request the July 1, 1997 date be extended to July 31, 1997, in order to allow Hercules time enough to responsibly respond to your wishes.

If I can answer any additional questions, please call me at (601)545-3450, extension 360.

Very truly yours,

HERCULES INCORPORATED

Charles S. Jordan
Environmental Coordinator

CSJ/vrf

cc: Douglas A. Cox
R. L. Williams
T. Hassett



STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

May 19, 1997

Mr. Charles S. Jordan
Environmental Manager
Hercules, Inc.
P.O. Box 1937
Hattiesburg, Mississippi 39401

Re: Hercules, Inc.
Response to letter dated April 3, 1997

Dear Mr. Jordan:

The Mississippi Department of Environmental Quality (MDEQ) has received and reviewed your letter referenced above. In this letter Hercules questioned the need for further sampling of the sludge material as requested in our letter to you dated March 5, 1997. After reviewing past analytical data, including analytical data provided by EPA, Hercules, and MDEQ RCRA program, MDEQ agrees that further sampling of the sludge material will not be necessary at this time.

In the above referenced letter, Hercules also stated that it had not received comments or approval for a work plan submitted in November 1994, for the installation of groundwater monitoring wells. Due to personnel changes within MDEQ, the Hercules Site has been in an inactive status since late 1994. Recently, the MDEQ moved the Hercules site into an active status and a review of the proposed work plan has been completed. The work plan is approved with the following conditions:

1. The monitoring well locations depicted in the work plan do not appear to be down gradient of the disposal areas. A B&V map is enclosed showing where monitoring wells are to be placed. The well points were chosen to provide optimum locations for detection monitoring around known disposal areas, and to help determine groundwater flow.
2. The work plan stated that the well installations would be temporary. All monitoring well installations at this site shall be permanent installations. Therefore, a surface pad and protective casing are required.

Mr. Charles S. Jordan
May 19, 1997
Page 2

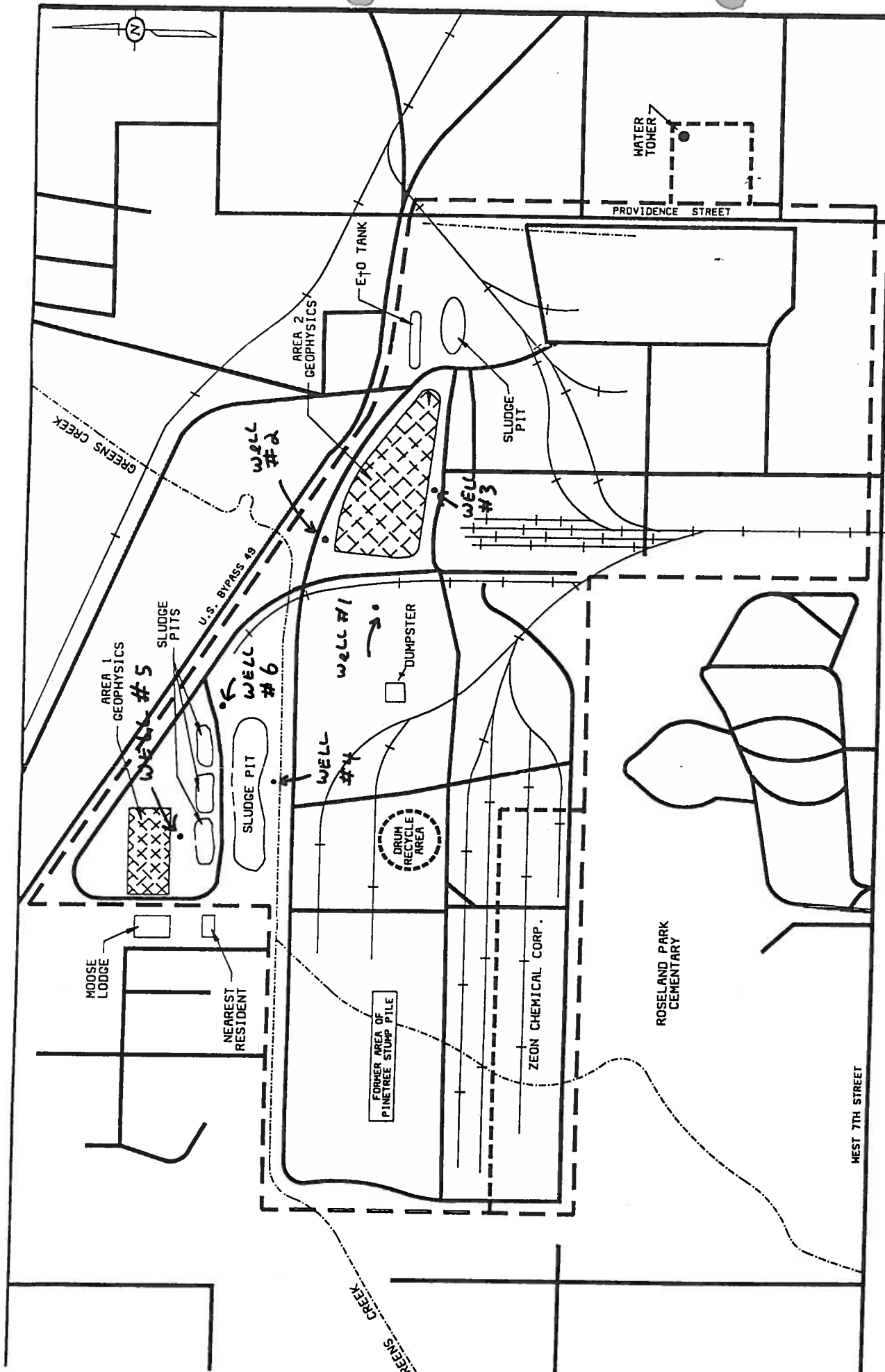
3. The hydration time for the bentonite seal shall be at least eight (8) hours or the manufacture's recommended hydration time, whichever is greater.
4. The grout slurry shall be allowed to cure for a minimum of 24 hours before installation of the surface pad and protective casing. The surface pad and protective casing shall be allowed to cure 24 hours prior to development of the well.
5. Sampling and analysis shall be in accordance with the sampling plan provided in the well installation work plan. Samples shall be collected and the results submitted to MDEQ on a quarterly basis for a minimum of one year. The first round of samples shall be analyzed for all constituents on the Target Compound List.
6. MDEQ shall be notified at least two weeks prior to commencing field activities.

The monitoring wells should be installed, developed, and sampled prior to July 1, 1997. If you should have any questions or comments, you may contact me at (601) 961-5069.

Sincerely,



Brian Young
Project Officer
Uncontrolled Sites Section



SITE LAYOUT MAP

HERCULES, INC.
HATTIESBURG, FORREST COUNTY, MISSISSIPPI



CHEMICAL SPECIALTIES

Hercules Incorporated
613 West 7th Street
P.O. Box 1937
Hattiesburg, MS 39403-1937
(601) 545-3450
Fax: (601) 584-3226

April 3, 1997

CERTIFIED MAIL # Z 079 760 360
RETURN RECEIPT REQUESTED

RECEIVED
APR - 7 1997
Miss. Dept. of Environmental Quality
Office of Pollution Control

Russell Smith, P.E., Chief
Uncontrolled Sites Section
Office of Pollution Control
P. O. Box 10385
Jackson, Ms. 39289-0385

Dear Mr Smith:

This letter is in response to your March 5, 1997, letter addressing our sludge containment area. As you are aware, there has been a long history of monitoring this area. Disposal of the wastewater treatment sludge is permitted under our NPDES permit. Over the years, State and Federal agencies and Hercules have sampled the material and have investigated environmental conditions proximate to the containment area. We are not aware of any data from these investigations which suggest that this material contains any contaminant at concentrations that would make it "hazardous" under existing conditions.

On November 9, 1994, following the most recent EPA site inspection study which began in 1992, we submitted to the MDEQ a work plan to address the remaining questions. Based on correspondence with EPA Region IV concerning the lack of ground water data, and subsequent meetings with the MDEQ uncontrolled site section, we agreed to submit a work plan to address the remaining concern for lack of ground water data. This work plan was to confirm that no contamination existed in groundwater at levels that triggered regulatory standards. To date we have not received approval of this work plan or even a response with comments.

In order to responsibly respond to the MDEQ request, we request that you provide more specific information so we can understand your specific concerns and the technical basis for them. We would like to know why the activities beyond groundwater monitoring are needed in light of our understanding that the only issue left to investigate around the containment area is groundwater. We request that you provide, or make available for review, the information (presumably test data) which is the basis of your statement that "past samples have indicated that this sludge may contain regulated constituents in amounts great enough to be considered hazardous." You have also asked for some other investigatory activities to be incorporated besides sampling. We request clarification of the relationship between these activities and the investigative activities which were contemplated when we submitted the prior work plan in 1994.

Russell Smith
April 3, 1997
Page 2

Once we receive your response to these requests, we would like to evaluate, in light of all the data gathered to date, whether or not there is already information sufficient to answer some or all of your questions. The focus of any additional work should be to fill gaps in existing knowledge, and not to gather additional data without regard to what EPA, MDEQ, and Hercules already know.

Therefore, Hercules requests that it be given an extension of time until 90 days after MDEQ provides the information requested to fully understand your specific concerns and evaluate the data needed to address those concerns, or provide a brief report showing why additional work is not necessary. Hercules estimates this is the minimum amount of time for it to evaluate the available data, and determine what additional information may be required to address the MDEQ concerns.

If you feel there is a need to discuss this matter please let us know your wishes or please call me at (601)545-3450 extension 360.

Sincerely,

HERCULES INCORPORATED

A handwritten signature in cursive script, appearing to read "Charles S. Jordan".

Charles S. Jordan
Environmental Coordinator

CSJ/vrf



STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

March 5, 1997

Mr. Charles S. Jordan
Environmental Supervisor
Hercules, Inc.
P.O. Box 1937
Hattiesburg, Mississippi 39401

Re: Hercules, Inc.
Site Visit on 02/18/97
Hattiesburg, Mississippi

Dear Mr. Jordan:

Recently, the Mississippi Department of Environmental Quality (MDEQ) conducted a site inspection at this site to determine the present status of disposal operations at the facility. The inspection revealed the presence of several disposal pits used for the disposal of sludge from the Hercules waste water treatment basin. Past samples have indicated that this sludge may contained regulated constituents in amounts great enough to be considered hazardous.

In order to fully characterize this material, the MDEQ requests that samples of the sludge from the disposal area be submitted for analysis by an independent laboratory. There should be a minimum of 1 sample for every 5,000 cubic yards of material. The quantity of sludge is estimated to be around 30,000 cubic yards, therefore a minimum of 6 samples should be taken. The disposal area should be sampled at different locations and depths.

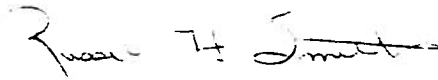
The inspection also revealed heavy staining on the sidewalls of Greens Creek adjacent to a closed on-site landfill. Soils and sediments from this area should also be sampled to determine if contaminants from the landfill are impacting Greens Creek.

A work plan for the sampling and analysis outlined in this letter should be submitted to MDEQ for review and approval within the next thirty (30) days.

Letter: Mr. Charles Jordan
March 5, 1997
Page 2

Enclosed you will find copies of the pictures taken during the inspection. If you should have any questions or comments you may contact Mr. Brian Young at (601) 961-5069.

Sincerely,

A handwritten signature in dark ink, appearing to read "Russell H. Smith". The signature is written in a cursive style with a large initial "R".

Russell Smith, P.E., Chief
Uncontrolled Sites Section

WBY:hersampl.wpd

Enclosure




STATE OF MISSISSIPPI

DEPARTMENT OF ENVIRONMENTAL QUALITY

JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

MEMORANDUM

TO: File

FROM:  Brian Young

DATE: February 20, 1997

SUBJECT: Site Visit to Hercules, Inc.

On February 18, 1997, myself and Becky Ornelas (NPDES/Compliance) conducted an inspection of the Hercules facility in Hattiesburg, Mississippi. The purpose of the visit was to determine what types of wastes are currently being disposed of on-site. A secondary purpose was to conduct an inspection of a closed on-site landfill and determine if this landfill is impacting a nearby creek (Greens Creek). Becky Ornelas conducted an NPDES Compliance inspection in conjunction with my inspection.

We were met by Mr. Charles Jordan, the facility Environmental Supervisor. Mr. Jordan stated that the only waste being generated and disposed of on-site is the sludge from the waste water treatment process. This sludge is disposed of in pits which are located in the north part of the property. He also stated that the water treatment settling basin is cleaned out about every 6 months and the sludge is trucked to the pits. In regards to the landfill, he stated that the landfill had been inactive for at least 10 years and was now only used for the storage of equipment.

The inspection revealed several sludge disposal pits covering approximately 4 acres. A walk around the perimeter showed the integrity of the dike walls to be good, but the internal walls separating the different pits were in a poor condition. Sludge was observed in various states from being totally solidified to a liquid. From the sludge area we (Mr. Jordan and myself) drove to the old landfill. An inspection of the landfill revealed that the earthen cover was in good condition and I observed no stressed vegetation, surface seepage, or methane gas odors. But, an inspection of nearby (150-300 ft. from the landfill) Greens Creek revealed what appeared to be "leachate" that was seeping from the sidewalls of the creek (see enclosed photographs).

It is my recommendation that the sludge pits be sampled to determine the presence or absence of hazardous constituents. Furthermore, due to the unknown composition of what might be landfill leachate, 1 or more temporary monitoring wells should be installed in the vicinity of the landfill and groundwater sampled to determine the presence or absence of hazardous constituents in the landfill leachate.



HERCULES, INC. SLUDGE DISPOSAL LAGOONS





HERCULES, INC. SLUDGE DISPOSAL LAGOONS





HERCULES, INC. GREENS CREEK/STAINED SIDEWALLS



BONNER ANALYTICAL TESTING COMPANY

2703 OAK GROVE ROAD
HATTIESBURG, MS 39402
PH. (601) 264-2854

Client: HERCULES, INC.

File Number: BT34003
Collected By: Client

Sample Date/Time: 08-28-96
Date/Time Rec'd: 08-28-96 @ 1600

TCLP EVALUATION--IMPOUNDMENT BASIN SLUDGE

| Analyte/Method # ----- | Result ----- | MDL ----- | Date/Time/Analyst ----- |
|---------------------------|-----------------|--------------|----------------------------|
| LEACHABLE METALS: | | | |
| Arsenic/6010 | ND | 0.02 | 09-06-96/1255/JMD |
| Barium/6010 | 0.425 | 0.002 | 09-06-96/1255/JMD |
| Cadmium/7130 | ND | 0.02 | 09-05-96/1545/JMD |
| Chromium/7190 | ND | 0.04 | 09-06-96/0900/JMD |
| Lead/7420 | ND | 0.15 | 09-06-96/0920/JMD |
| Mercury/7470 | ND | 0.001 | 09-06-96/1530/JMD |
| Selenium/6010 | ND | 0.03 | 09-06-96/1255/JMD |
| Silver/7760 | ND | 0.05 | 09-05-96/1540/JMD |
| pH, s.u./9045 | 5.95 | +0.01 | 09-24-96/1645/RML |
| REACTIVITY: | | | |
| Cyanide (mg/kg)/9010 | 0.02 | 0.02 | 10-03-96/1000/TEB |
| Sulfide (mg/kg)/9030 | 64 | 1 | 09-23-96/1400/RML |
| Ignitability °F/1020 | >180 | +0.5 | 09-18-96/1045/RML |

Data reported in mg/L, unless otherwise noted. All analyses performed in accordance with 40 CFR 136 and amendments.

MDL = Method Detection Limit.

Certified by:



Michael S. Bonner, Ph.D.
BONNER ANALYTICAL TESTING COMPANY

BONNER ANALYTICAL TESTING COMPANY
2703 OAK GROVE ROAD
HATTIESBURG, MS 39402
PH. (601) 264-2854

Client: HERCULES, INC.

File Number: BT34003
Collected By: Client

Sample Date/Time: 08-28-96
Date/Time Rec'd: 08-28-96 @ 1600

TCLP EVALUATION--IMPOUNDMENT BASIN SLUDGE

| Analyte/Method # | Result | MDL | Date/Time/Analyst |
|------------------|--------|-----|-------------------|
| Total Solids/--- | 11.64 | 0.1 | 09-23-96/1430/RWC |
| TKN/351.3 | 1,350 | 14 | 09-10-96/1130/KAW |
| Ammonia/350.2 | 180 | 14 | 09-19-96/1130/KAW |
| Phosphorus/365.2 | 170 | 0.1 | 09-18-96/1000/RML |
| Potassium/6010 | 32.2 | 0.6 | 09-18-96/0825/JMD |

Data reported in mg/L, unless otherwise noted. All analyses performed in accordance with 40 CFR 136 and amendments.

MDL = Method Detection Limit.

Certified by:


Michael S. Bonner, Ph.D.
BONNER ANALYTICAL TESTING COMPANY

BONNER ANALYTICAL TESTING COMPANY
QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

*data & coactors
C. Jordan*

Chain of Custody Data Required for BATCO Data Management Summary Reports
 Extraction Method - EPA 1311 Analysis Method - SW-846 Method 8270
 BATCO File # BT34003 Hercules COMPANY TCLP SAMPLE TYPE Sediment Basin Sludge
 Collected: 082896 @ 1400 Analyzed: 091096 @ 1413
 DATE TIME

| Compound EPA HN NO. | MDL mg/L (ppm) | SAMPLE | | REGULATORY LEVEL | | BLANK | | MATRIX | | DUPLICATE MATRIX | |
|-----------------------------|----------------------|-------------------------------------|---------------------|-------------------------|-------------------------------------|---------------------|-------------------------------------|---------------------|-------------------------------------|---------------------|-------------------------------------|
| | | Detected Concn. mg/L (ppm) | Spike Amt. ug | Concn. mg/L (ppm) | Detected Concn. mg/L (ppm) | Spike Amt. ug | Detected Concn. mg/L (ppm) | Spike Amt. ug | Detected Concn. mg/L (ppm) | Spike Amt. ug | Detected Concn. mg/L (ppm) |
| D038 Pyridine* | .020 | ND | | 5.0 | ND | | 70.0 | 100 | 65.0 | 100 | 65.6 |
| D027 1,4-Dichlorobenzene* | .020 | ND | | 7.5 | ND | | 86.9 | 100 | 75.1 | 100 | 75.1 |
| D023 2-Methylphenol* | .020 | 0.328 | | 200.0 | ND | | 131.4 | 150 | 130.3 | 150 | 66.9 |
| D024 3-Methylphenol* | .020 | 0.506 | | 200.0 | ND | | 140.1 | 150 | 135.5 | 150 | 91.0 |
| D025 4-Methylphenol* | .020 | 0.478 | | 200.0 | ND | | 132.3 | 150 | 128.6 | 150 | 85.7 |
| D034 Hexachloroethane* | .020 | ND | | 3.0 | ND | | 79.4 | 100 | 81.0 | 100 | 81.0 |
| D036 Nitrobenzene* | .020 | ND | | 2.0 | ND | | 80.0 | 100 | 76.4 | 100 | 76.4 |
| D033 Hexachlorobutadiene* | .020 | ND | | 0.5 | ND | | 92.8 | 100 | 82.9 | 100 | 82.9 |
| D042 2,4,6-Trichlorophenol* | .020 | ND | | 2.0 | ND | | 135.6 | 150 | 133.6 | 150 | 89.1 |
| D041 2,4,5-Trichlorophenol* | .100 | ND | | 400.0 | ND | | 138.1 | 150 | 136.2 | 150 | 92.1 |
| D030 2,4-Dinitrofluorene* | .020 | ND | | 0.13 | ND | | 78.1 | 100 | 79.6 | 100 | 79.6 |
| D032 Hexachlorobenzene* | .020 | ND | | 0.13 | ND | | 94.3 | 100 | 82.4 | 100 | 82.4 |
| D037 Pentachlorophenol* | .100 | ND | | 100.0 | ND | | 140.8 | 150 | 141.1 | 150 | 94.1 |
| SURROGATES: | | | | | | | | | | | |
| Fluorophenol | | 155.2 | 200 | 77.6 | 152.6 | 200 | 100.8 | 200 | 97.8 | 200 | 48.9 |
| Phenol-d6 | | 118.1 | 200 | 59.1 | 98.9 | 200 | 71.1 | 200 | 69.3 | 200 | 34.6 |
| Nitrobenzene-d5 | | 69.9 | 100 | 69.9 | 85.2 | 100 | 84.7 | 100 | 73.7 | 100 | 73.7 |
| Fluorobiphenyl | | 82.5 | 100 | 82.5 | 81.7 | 100 | 97.8 | 100 | 83.9 | 100 | 83.9 |
| 2,4,6-Tribromophenol | | 180.6 | 200 | 90.3 | 201.1 | 200 | 172.4 | 200 | 159.4 | 200 | 79.7 |
| Terphenyl-d14 | | 99.4 | 100 | 99.4 | 100.3 | 100 | 78.5 | 100 | 73.4 | 100 | 73.4 |

Certified by:

Michael S. Bonner
 MICHAEL S. BONNER, Ph. D.
 BONNER ANALYTICAL TESTING COMPANY

* MATRIX SPIKING COMPOUNDS

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
VOLATILES - GC/MS ANALYSIS DATA

Chain of Custody Data Required for BATCO Data Management Summary Reports

BT34003
BATCO File #
HERCULES
COMPANY
TCIP EXTRACTION
SAMPLE TYPE
IMPONDEMENT
BASIN SLUDGE
SAMPLE POINT
Collected: 08/28/96 @ 1400
Analyzed: 09/05/96 @ 1537
DATE TIME

| Compound EPA HW NO. | MDL mg/L (ppm) | SAMPLE | | | BLANK | | | REGULATORY LEVEL | | | MATRIX (BT34002) | | | DUPLICATE MATRIX (BT34002) | | |
|---------------------------|----------------------|--------------------------------------|------------|---------------------|--------------------------------------|------------|---------------------|--------------------------------------|------------|---------------------|--------------------------------------|------------|---------------------|--------------------------------------|------------|---------------------|
| | | Detected Concen. mg/L (ppm) | Amt. ng | Spike % Recov | Detected Concen. mg/L (ppm) | Amt. ng | Spike % Recov | Detected Concen. mg/L (ppm) | Amt. ng | Spike % Recov | Detected Concen. mg/L (ppm) | Amt. ng | Spike % Recov | Detected Concen. mg/L (ppm) | Amt. ng | Spike % Recov |
| D029 1,1-Dichloroethene | 0.05 | ND | | | ND | | | 0.7 | | | 0.051 | 250 | 101.2 | 0.053 | 250 | 106.0 |
| D018 Benzene | 0.05 | 0.012 J | | | ND | | | 0.5 | | | 0.052 | 250 | 104.8 | 0.051 | 250 | 103.0 |
| D060 Trichloroethene | 0.05 | ND | | | ND | | | 0.5 | | | 0.052 | 250 | 103.4 | 0.054 | 250 | 107.4 |
| D021 Chlorobenzene | 0.05 | ND | | | ND | | | 100.0 | | | 0.056 | 250 | 112.4 | 0.057 | 250 | 114.0 |
| D043 Vinyl Chloride | 0.1 | 0.436 | | | ND | | | 0.2 | | | 0.061 | 250 | 122.4 | 0.051 | 250 | 102.6 |
| D035 2-Butanone (MEK) | 0.05 | ND | | | ND | | | 200.0 | | | 0.167 | 250 | 107.4 | 0.195 | 250 | 162.8 |
| D022 Chloroform | 0.05 | ND | | | ND | | | 6.0 | | | 0.052 | 250 | 103.6 | 0.056 | 250 | 112.6 |
| D019 Carbon tetrachloride | 0.05 | ND | | | ND | | | 0.5 | | | 0.054 | 250 | 107.6 | 0.054 | 250 | 107.6 |
| D028 1,2-Dichloroethane | 0.05 | ND | | | ND | | | 0.5 | | | 0.050 | 250 | 99.4 | 0.050 | 250 | 99.6 |
| D039 Tetrachloroethene | 0.05 | ND | | | ND | | | 0.7 | | | 0.056 | 250 | 112.6 | 0.060 | 250 | 120.8 |
| Surrogates: | | | | | | | | | | | | | | | | |
| Dibromofluoromethane | | 48.7 | 250 | 97.4 | 51.0 | 250 | 102.0 | 49.2 | 250 | 98.4 | 51.4 | 250 | 102.8 | 48.3 | 250 | 96.6 |
| Toluene-d8 | | 50.7 | 250 | 101.4 | 51.9 | 250 | 103.8 | 50.1 | 250 | 100.2 | 48.3 | 250 | 96.6 | 51.7 | 250 | 103.4 |
| 4-Bromofluorobenzene | | 55.6 | 250 | 111.2 | 48.0 | 250 | 96.0 | 48.3 | 250 | 96.6 | 51.7 | 250 | 103.4 | 48.3 | 250 | 96.6 |

J - results estimated or Below Method Detection Level.

Certified by:

MICHAEL S. BONNER, Ph.D.
BONNER ANALYTICAL TESTING COMPANY

YOUR COMPANY NAME: Herzly
YOUR COMPANY ADDRESS: _____

NAME OF PERSON TO CONTACT: Charlie Jordan
CONTACT PERSON'S PHONE: _____

YOUR PROJECT NO.: _____ YOUR PO.# _____ YOUR PROJECT NAME: _____

YOUR SAMPLE DESCRIPTION: _____ DATE _____ TIME _____ MATRIX _____

Sediment Basin Sludge 8-28 1400

(INCLUDED BASIN SLUDGES)

SAMPLE IN COCKLE 1-gallon container
MUST BE FURNISHED

RELINQUISHED BY: _____ DATE _____ TIME _____ RECEIVED BY: _____ (Signature)

METHOD OF SHIPMENT

SHIPPED BY: _____ (Signature)

COURIER (Signature)

RECEIVED FOR BATCO BY: _____ (Signature)

DATE/TIME 8-28-01
1600

SAMPLE REMAINDER DISPOSAL

RETURN SAMPLE REMAINDER TO CLIENT VIA _____
TIME SHIPPING CHARGES MAY BE INCURRED

☐ I REQUEST BATCO TO DISPOSE OF ALL SAMPLE REMAINDERS

IF SAMPLE REMAINDER IS DETERMINED TO BE HAZARDOUS, A MINIMUM
ADDITIONAL CHARGE OF \$2500 PER SAMPLE WILL BE ASSESSED FOR DISPOSAL.

REVISION
DATE

PARAMETERS FOR ANALYSIS

NUMBER OF CONTAINERS
PRESERVATIONS

5 REMARKS

Turnaround Time

Detection Limits
Special Limits Required
Yes No

Please circle one, if Yes
please describe below
or include separate
sheet detailing
requirements.

BONNER ANALYTICAL TESTING COMPANY

Phone: 2703 Oak Grove Road
(601) 264-2854 Hattiesburg, MS 39402 Fax: (601) 268-7084

"Testing Your World for a Safer Tomorrow"



LK 3766

From: Environmental Diagnostic Laboratories
P.O. Box 15098
Hattiesburg, MS 39404-5098
(800) 606-7363 or (601) 264-2222

From Leo

March 13, 1996

To: Mr. Charles Jordan
Hercules, Inc.
P.O. Box 1937
Hattiesburg, MS 39403

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AA13228 Location Code: HERCULES
Sample Description: I.B Sludge Sample collector: J HUSBANDS
Sample collection date: 03/05/96 Time: 11:30
Lab submittal date: 03/05/96 Time: 16:21
Received by: JPH Validated by: JPH

Parameter: TCLP Extraction (Leach)
Method reference: SW846-1311
Result: Completed
Date started: 03/06/96
Time started: 16:00
MDL or sensitivity:
Date finished: 03/07/96
Analyst: JFL

Parameter: TCLP Extraction for volatiles
Method reference: SW846-1311
Result: Completed
Date started: 03/06/96
Time started: 16:00
MDL or sensitivity:
Date finished: 03/07/96
Analyst: JFL

Parameter: Acid Digestion
Method reference: SW846-3010
Result: Completed
Date started: 03/11/96
Time started: 08:45
MDL or sensitivity:
Date finished: 03/11/96
Analyst: HPG

Parameter: Mercury water digestion
Method reference: SW846-7470
Result: Completed
Date started: 03/11/96
Time started: 09:45
MDL or sensitivity:
Date finished: 03/11/96
Analyst: HPG

Parameter: TCLP Metals
Method reference: EPA 200's
Result: see below
Date started: 03/11/96
Time started: 13:15
Date finished: 03/11/96
Analyst: HPG

Mr. Charles Jordan Sample I.D. AA13228 (continued)
Page: 2
March 13, 1996

Parameter: TCLP Volatiles
Method reference: SW846-8240
Result: see below
Date started: 03/06/96
Time started: 12:34

Date finished: 03/06/96
Analyst: DCB

Parameter: TCLP Semivolatiles
Method reference: SW846-8270
Result: see below
Date started: 03/07/96
Time started: 14:44

Date finished: 03/07/96
Analyst: WHD

Parameter: BNA Extraction on TCLP Fluid
Method reference: SW846-3510
Result: Completed
Date started: 03/07/96
Time started: 11:45

MDL or sensitivity:
Date finished: 03/07/96
Analyst: RWL

Parameter: % Solids
Method reference: EPA 160.3m
Result: 14.2 %
Date started: 03/06/96
Time started: 09:08

MDL or sensitivity: 1
Date finished: 03/12/96
Analyst: DLV

Parameter: Reactive Cyanide
Method reference: SW846
Result: Not detected mg release/Kg
Date started: 03/06/96
Time started: 08:20

MDL or sensitivity: 10
Date finished: 03/06/96
Analyst: DLV

Parameter: Reactive Sulfide
Method reference: SW846
Result: Less than mg release/Kg
Date started: 03/06/96
Time started: 08:20

MDL or sensitivity: 10
Date finished: 03/06/96
Analyst: DLV

Parameter: Corrosivity (pH)
Method reference: SW846
Result: 5.48 SU
Date started: 03/06/96
Time started: 08:53

MDL or sensitivity: 0.05
Date finished: 03/06/96
Analyst: DLV

Parameter: Ignitability
Method reference: SW846-1010
Result: > 160 deg F
Date started: 03/06/96
Time started: 09:30

MDL or sensitivity: 70
Date finished: 03/06/96
Analyst: DLV

Data for TCLP Metals mg/L:

Component Name
Arsenic
Barium

| Result | Component MDL |
|--------------|---------------|
| Not detected | 0.01 |
| 0.378 | 0.001 |

Mr. Charles Jordan Sample I.D. AA13228 (continued)
 Page: 3
 March 13, 1996

Data for TCLP Metals (continued):

| Component Name | Result | Component MDL |
|----------------|--------------|---------------|
| Cadmium | Not detected | 0.05 |
| Chromium | 0.015 | 0.001 |
| Lead | 0.027 | 0.01 |
| Mercury | Not detected | 0.001 |
| Selenium | Not detected | 0.01 |
| Silver | 0.007 | 0.001 |

Data for TCLP Volatiles ug/L:

| Component Name | Result | Component MDL |
|---|--------------|---------------|
| Benzene | 95.1 | 75 |
| Carbon Tetrachloride | Not detected | 75 |
| Chlorobenzene | (39.0) | 75 |
| Chloroform | Not detected | 75 |
| 1,2-Dichloroethane | Not detected | 75 |
| 1,1-Dichloroethene | Not detected | 75 |
| 2-Butanone | (442) | 750 |
| Tetrachloroethene | Not detected | 75 |
| Trichloroethene | Not detected | 75 |
| Vinyl Chloride | Not detected | 150 |
| 1,2-Dichloroethane-d4 (surr) % Recovery | 103 | |
| Toluene-d8 (surr) % Recovery | 105 | |
| 4-Bromofluorobenzene (surr) % Recovery | 88 | |

Data for TCLP Semivolatiles ug/L:

| Component Name | Result | Component MDL |
|---|--------------|---------------|
| 2-Methylphenol (o-Cresol) | 160 | 100 |
| 3- & 4-Methylphenol (m & p Cresol), total | 280 | 100 |
| 1,4-Dichlorobenzene | Not detected | 100 |
| 2,4-Dinitrotoluene | Not detected | 100 |
| Hexachlorobenzene | Not detected | 100 |
| Hexachlorobutadiene | Not detected | 100 |
| Hexachloroethane | Not detected | 100 |
| Nitrobenzene | Not detected | 100 |
| Pentachlorophenol | Not detected | 500 |
| Pyridine | Not detected | 200 |
| 2,4,5-Trichlorophenol | Not detected | 500 |
| 2,4,6-Trichlorophenol | Not detected | 500 |
| 2-Fluorophenol (surr) % Recovery | 64 | |
| Phenol-d5 (surr) % Recovery | 42 | |
| 2-Chlorophenol-d4 (surr) % Recovery | 76 | |
| 1,2-Dichlorobenzene (surr) % Recovery | 80 | |
| Nitrobenzene-d5 (surr) % Recovery | 46 | |
| 2-Fluorobiphenyl (surr) % Recovery | 86 | |
| 2,4,6-Tribromophenol (surr) % Recovery | 95 | |
| Terphenyl-d14 (surr) % Recovery | 93 | |

Mr. Charles Jordan Sample I.D. AA13228 (continued)
Page: 4
March 13, 1996

Sample comments:

Reference Lab Report No. R3766.

Quality Control/Quality Assurance Comments are included on an attached sheet.

If there are any questions regarding this data, please call.

Reviewed by: J. Paul Hollomon, Ph.D.
Laboratory Manager

39 King Road • Hattiesburg, MS 39402
P.O. Box 15098
Office: 601-264-2222 • Fax: 601-268-2000

CHAIN OF CUSTODY RECORD

| | |
|------------------------------------|--------------|
| PROJ NO. | Project Name |
| | <i>Agave</i> |
| Samplers: (signature) | |
| <i>T. HUSBANDS / John Husbands</i> | |

[illegible]



November 9, 1994

Hercules Incorporated
West 7th Street
P.O. Box 1937
Hattiesburg, MS 39401
(601) 545-3450



Certified Mail - Return Receipt Requested
No. Z 060 871 905

Ken Whitten
Department of Environmental Quality
P. O. Box 10385
Jackson MS 39829-0385

Dear Mr. Whitten:

Please find the attached work plan for three temporary well points.
Following your approval we will proceed with developing the plan.

Very truly yours,

Charles S. Jordan
Environmental Supervisor

CSJ:mcl

Attachment

Installation of Three Temporary

Well Points at

Hercules, Inc.

613 West 7th Street

Hattiesburg, MS

Facility

presented to:

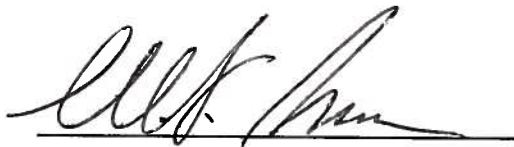
Charles Jordan, Environmental Supervisor

Hercules, Inc.

Hattiesburg, MS

October 27, 1994

by

A handwritten signature in black ink, appearing to read "M. S. Bonner", is written over a horizontal line.

Michael S. Bonner, Ph.D

BONNER ANALYTICAL TESTING COMPANY

TABLE OF CONTENTS

| | Page |
|---|-------|
| 1.0 Well Point Installation | 1 - 3 |
| 2.0 Well Development | 3 |
| 3.0 Purging | 3 - 5 |
| 4.0 Sampling | 5 |
| 5.0 Analytical Protocol | 5 |
| 6.0 QA/QC | 6 |
| 6.1 Trip Blank (Volatile) | 6 |
| 6.2 Equipment Blank (Rinsate Blank) | 6 |
| 7.0 Sample Archival | 7 |
| 8.0 Decontamination | 7 |
| 9.0 Health and Safety | 8 |
| 10.0 Personnel | 8 |
| 11.0 Well Point Abandonment | 9 |

INTRODUCTION

At the request of the Mississippi Department of Environmental Quality (MDEQ), Hercules Inc. of Hattiesburg, MS will install, develop, purge and sample three temporary well points in the following locations (shown on the attached B&V - Figure 13):

#1 - Background - same location as B&V background.

#2 - On north perimeter of Area 1 geophysics.

#3 - On north perimeter of property.

The MDEQ will be notified 10 days prior to commencement of work. Following the analysis of samples collected from these temporary well points (and assuming analytical data does not indicate contamination above the applicable action level and greater than three times background) the well points will be removed.

1.0 Well Point Installation

Well points will be installed by advancing boreholes utilizing the hollow-stem drilling technique. Bore holes will be advanced until groundwater is encountered and at that point, two inch PVC well points will be installed.

A five foot screened interval will be utilized and a factory slot of 0.01" will be used. All casing will be flush thread. (Filter pack shall be analyte free quartz sand meeting the following size specifications:

| Particle Size in Inches | Allowable |
|-------------------------|-----------|
| > 0.039" | 35% Max. |
| < 0.039 - \geq 0.01 | 50% Min. |
| < 0.01 | 0.5% Max. |

The filter pack shall be tremied into the annulus to a depth of 2 feet above the screened area.

Following the filter pack, a two foot layer of fine sand (mason) shall be applied via tremie. If the zone is saturated, two feet of 10% hydrated bentonite shall be tremied, followed by 90/10 grout to the surface. An elevation data marker shall be placed in the grout at the surface as a reference point. If the zone is unsaturated, the bentonite seal will be omitted.

The well point casing will be allowed to extend a minimum of 18" above ground surface and shall be equipped with a locking cap. Because the well points are being installed as

temporary fixtures, no protective casing will be installed. Each well point will be flagged with safety orange. The wells shall be surveyed with longitude and latitude reported along with elevation above sea level (± 0.01 ft.).

The following boring/well construction log information will be included where applicable:

- o Well identification #;
- o Date/Time of well construction;
- o Borehole diameter and well casing diameter;
- o Well depth ± 0.01 ft.;
- o Casing length;
- o Casing materials;
- o Casing and screen joint type;
- o Screened interval(s);
- o Screen materials;
- o Screen slot size/design;
- o Filter pack material and size;
- o Calculated and actual filter pack volume;
- o Filter pack placement method;
- o Annular sealant composition;
- o Annular sealant placement method;
- o Calculated and actual annular sealant volume;
- o Surface sealant composition;

- o Surface seal placement method;
- o Calculated and actual surface sealant volume;
- o Surface seal design;
- o Well development procedure;
- o Turbidity measurement
- o Type/design of protective casing;
- o Well cap and lock;
- o Ground surface elevation (± 0.01 ft.);
- o Survey reference point elevation on well casing (± 0.01 ft.);
- o Top of monitoring well casing elevation (± 0.01 ft.);
- o Top of protective steel casing elevation (± 0.01 ft.);

2.0 Well Development

Prior to well development, water depth will be determined to ± 0.01 ft. Following completion, each well point shall be developed by pumping and/or bailing, as deemed most appropriate. The well points will be developed until a turbidity of < 5 NTU's is achieved. As a minimum, the well points will be allowed to completely recharge prior to purging.

3.0 Purging

The object of purging shall be to remove five well volumes at a rate similar to the recharge

rate in order that turbidity effects are minimized. The following steps shall be used:

1. Establish the water depth and well depth to ± 0.01 ft.
2. Remove liquid from the surface and bottom hole to determine whether organic phases exist.
3. Determine pH, temperature, conductivity and turbidity prior to purging the well.
4. Remove five well volumes at a rate of 0.2 to 0.3 liter/min. utilizing a peristaltic pump if ground water is within 28 feet of surface. Alternately, if groundwater is deeper, purging may be accomplished by means of a centrifuged pump, bladder pump or bailer. (Purging by bailer must be done with caution so as not to disturb the well filter pack).
5. After removing 5 well volumes pH, temperature, conductivity and turbidity must be determined twice within 20 minutes. These data points should be $\pm 10\%$ and further, the turbidity must be < 5 NTU's. If turbidity is not < 5 NTU's, remove additional well volumes as necessary.

In the event the well is purged dry, the following protocol should be followed:

1. Allow the well to recover.
2. If the well has not fully recovered within two hours but has sufficient water for testing then:
 - a. Test the well for pH, temperature, conductivity and turbidity.

- b. Test the well again within 20 minutes for the same parameters.
 - c. Collect samples as outlined in the sample collection process.
3. If pH, temperature and conductivity are not $\pm 10\%$ and /or turbidity is > 5 NTU and if data reflect elevated levels of any pollutant of concern, consider repurging and sampling the well.

4.0 Sampling

Sampling should commence as soon as the well recovers but no later than two hours after purging is completed. Samples shall be collected utilizing disposable teflon bailers. Analytical parameters shall include the TAL of inorganics and the TCL list of organics excluding pesticides and PCBs.

Samples collected for metals analysis shall be preserved with nitric acid to a pH of < 2 and stored in polyethylene containers. VOA samples shall be collected in duplicate in 40 ml vials preserved with hydrochloric acid to a pH of < 2 . VOA samples must contain no air bubbles. Semivolatile samples shall be collected in one liter amber glass containers with teflon-lined closures. Three replicates of samples shall be collected at one designated well for QA/QC analysis.

5.0 Analytical Protocol

All analyses will conform to the methodologies outlined in EPA/SW846 current addition.

6.0 QA/QC

One equipment blank , one matrix spike (MS) and one matrix spike duplicate (MSD) shall be analyzed for each event. One trip blank for VOA only shall be analyzed for each sampling event.

6.1 Trip Blank (Volatile)

Trip blank (volatile) duplicate samples shall be prepared in the laboratory utilizing deionized water and bottles from the batches to be used in the field collection and decontamination procedures. The trip blank will be taken to the field and returned to the laboratory in the same environment as the samples.

6.2 Equipment Blank (Rinsate Blank)

Following decontamination of the drilling equipment, carefully transfer about two liters of analyte-free deionized water to a new disposable teflon bailer. Allow the contents of the bailer to drain over a piece of the decontaminated hollow stem into an analyte-free stainless steel bowl. Transfer the rinsate water to appropriate sample containers. Label and archive the rinsate blank as outlined.

7.0 Sample Archival

Following sample collection, affix a completed label to each container. Cover the label with clear tape to protect from moisture. Place the sample bottle in a zip-lock and wrap the container in bubble wrap. Write the sample ID number on the outside of the bubble wrap with a permanent marker, then secure the bubble-wrapped container with clear tape.

8.0 Decontamination and Residuals Management

Borehole cuttings will be left in place at the well site unless OVA readings indicate gross contamination. In the event gross contamination is encountered, cuttings will be drummed on site and analyzed for disposal.

Well development, purge and decontamination water will be placed in the Hercules treatment facility for disposal.

The hollow stem, drill rod, and associated tools will be decontaminated before each well point is advanced. The procedure shall be as follows:

1. Pressure wash with steam and potable water.
2. Brush with phosphate-free detergent to remove any additional debris.
3. Pressure wash with steam and potable water.
4. Rinse with analyte-free water.

9.0 Health And Safety

1. All personnel shall have received 40 Hours of OSHA training and shall have current up-date training.
2. Hercules Inc. shall provide any additional safety briefings deemed appropriate for the scope of this project.
3. During boring, developing and purging operations, FID readings shall be recorded to ensure that a safe environment is maintained.
4. Elevated (> 50 ppm) FID readings shall mandate respiratory protection, cease and desist operations, and re-evaluation by project director, project supervisor, project health and safety officers, and Hercules personnel.
5. Any injuries or potentially unsafe conditions shall be reported immediately to the health and safety officer and then to the project supervisor and project director.

10.0 Personnel

Project Director - Michael S. Bonner, Ph.D.

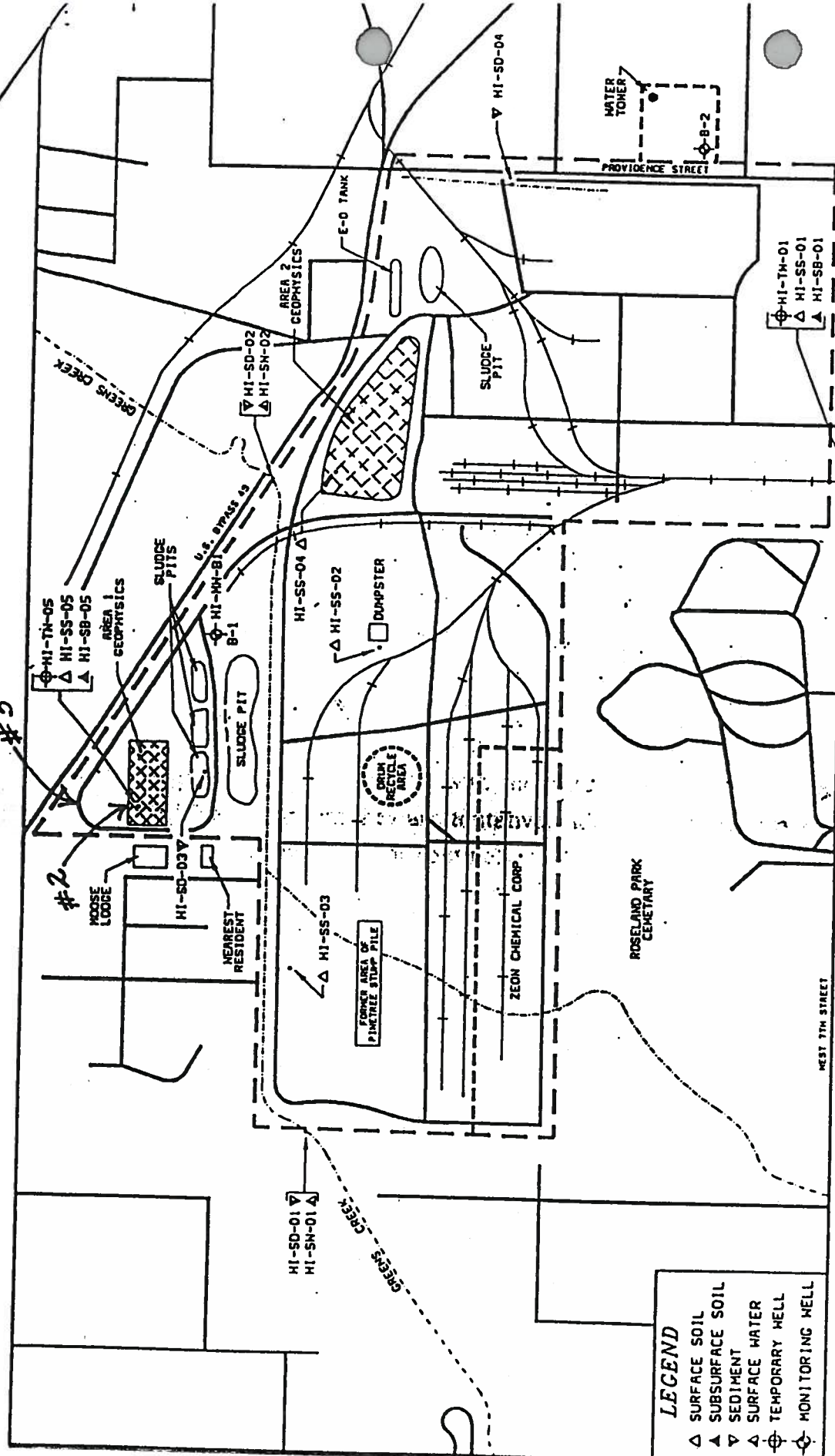
Project Supervisor - Joseph Powers

Health and Safety Officer - David Carter

Hercules, Inc. Contact - Charles Jordan, Environmental Supervisor

11.0 Well Point Abandonment

Assuming that the well points are found to be free of analytes of concern , the well points shall be abandoned by then cutting the rises off at ground level and filling the casing with 90/10 grout to surface. Calculated and actual grout used will be recorded to ensure that the wells are properly sealed.



- LEGEND**
- △ SURFACE SOIL
 - ▽ SUBSURFACE SOIL
 - SEDIMENT
 - SURFACE WATER
 - ⊕ TEMPORARY WELL
 - ⊗ MONITORING WELL

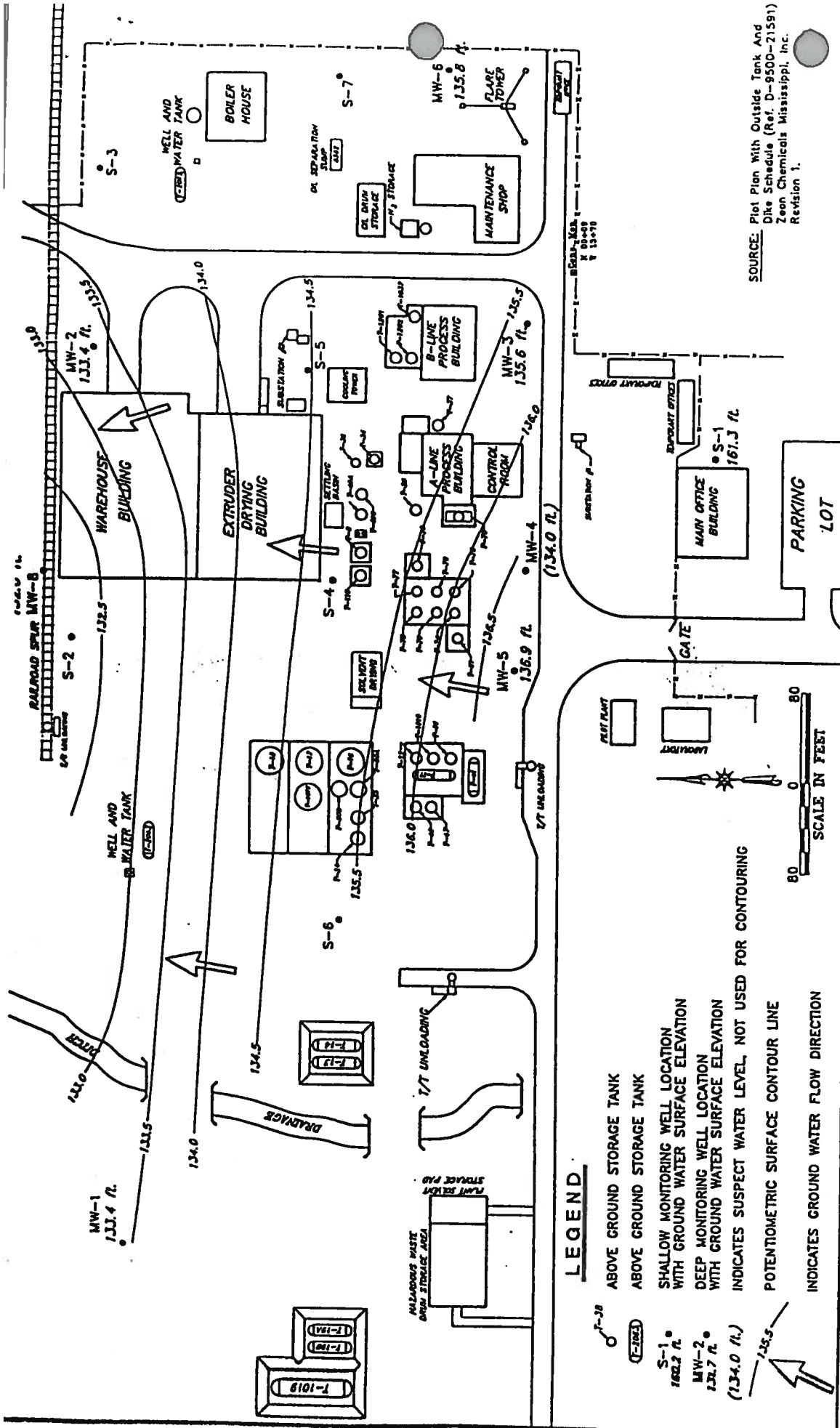
NOT TO SCALE



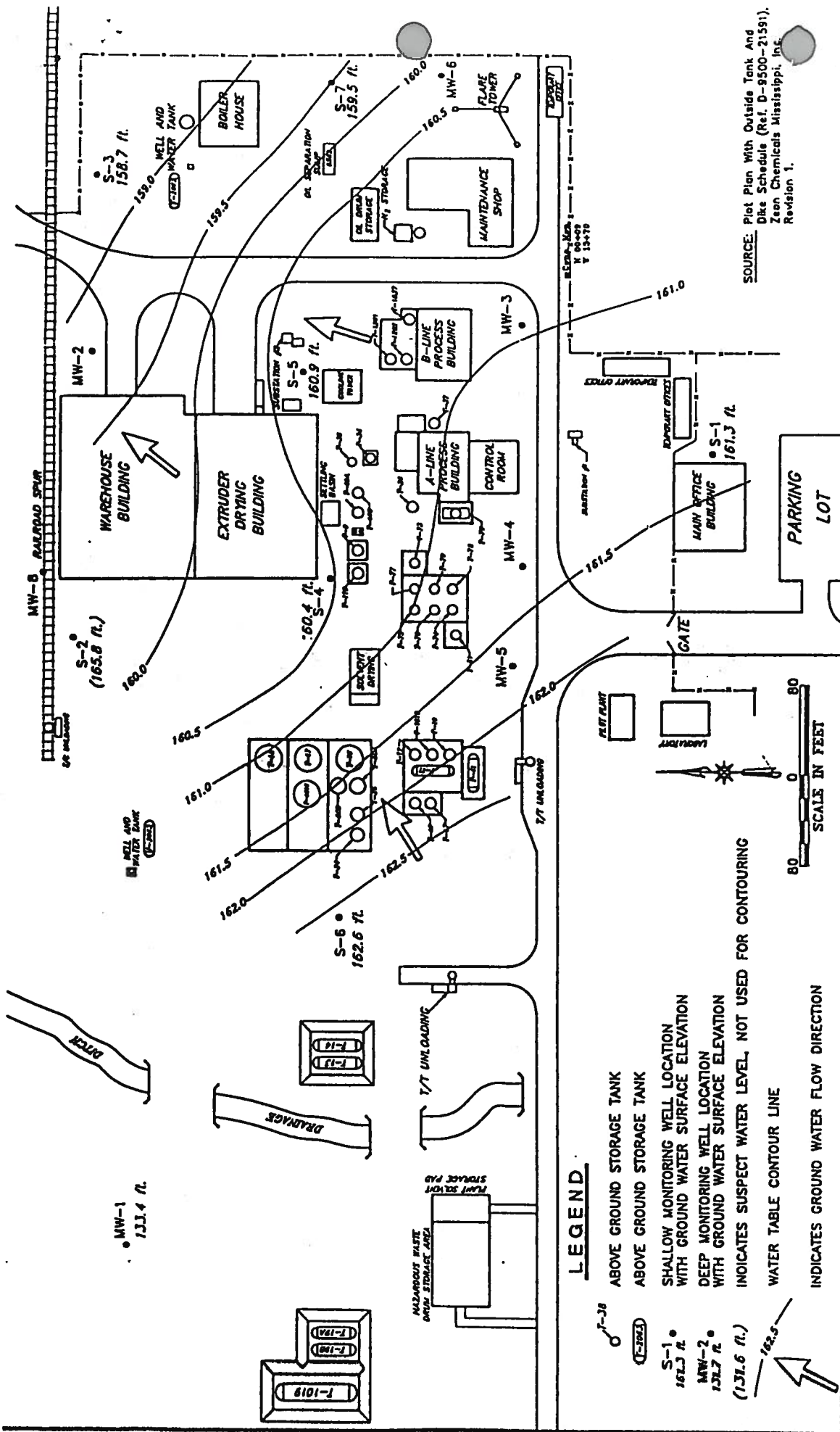
SAMPLE LOCATION MAP

HERCULES, INC.
HATTIESBURG, FORREST COUNTY, MISSISSIPPI

FIGURE 13



| | | | |
|-------------------|--|---|----------------------|
| MALCOLM PIRNIE | ZEON CHEMICALS MISSISSIPPI, INC. HATTIESBURG, MISSISSIPPI | DIRECTION OF GROUND WATER FLOW IN DEEP AQUIFER - DECEMBER 1991 | MALCOLM PIRNIE, INC. |
| FIGURE 3-4 | | | |



SOURCE: Plot Plan With Outside Tank And
Dike Schedule (Ref. D-9500-21591),
Zeon Chemicals Mississippi, Inc.
Revision 1.



Hercules Incorporated
West 7th Street
P.O. Box 1937
Hattiesburg, MS 39401-1937
(601) 545-3450

April 26, 1994

CERTIFIED MAIL - RETURN RECEIPT REQUESTED
P 664 277 453

Ken Whitten
Department of Environmental Quality
P. O. Box 10385
Jackson, MS 39829-0385

Dear Mr. Whitten:

Re our previous conversation, please find the following comments related to the B&V Waste Science and Technology Corporation report issued on April 29, 1993. The executive summary of the report states "Two source areas were detected on Hercules property: 37.7 acres of contaminated soil and 895,600 cubic feet of surface impoundments. The contaminated soil includes such contaminants as cadmium, cobalt, lead, mercury, toluene, MEK, benzene, PCB's, and acetone. Contaminants present in the surface impoundment include arsenic, heavy metals, toluene, MEK, and benzene."

The first source area was 37.7 acres formulated by connecting five sampling locations. HI-SS-02, HI-SS-03, HI-SS-04, HI-SD-04, HI-SB-05.

HI-SS-02

Located at a dumpster loading ramp. Recently this area was used to load a crude tall oil heel for disposal at Pecan Grove Sanitary Landfill. Apparently a small amount had been spilled during loading. This area was also used to re-drum Raney Nickel catalyst, Raney Cobalt catalyst, and Iron Oxide Chromium Oxide catalyst. The Nickel and Cobalt catalyst were sold to Allied Metals Corporation. The Iron Chromium catalyst was disposed of as a hazardous waste with Chemical Waste Management Incorporated. This area will be cleaned and voluntarily resampled using an independent laboratory adhering to EPA contract laboratory protocols.

The target compounds noted at this location were cadmium, cobalt, lead, acetone, MEK, and toluene.

Cadmium was 2.4 mg/Kg and was 17 times below the applicable IRIS value (Integrated Risk Information System, 12/1993), and 17 times below the applicable RCRA value (Resource Conservation and

Recovery Act action levels proposed in draft part 264, subpart S, corrective action rule).

Cobalt was 260 mg/kg and has no applicable IRIS or RCRA published values for comparison.

Lead was an estimated value of 370 mg/kg. Lead has no applicable IRIS or RCRA published values for comparison. Based on the estimated value and 6 inches of soil depth, the value is 2.4 times below the lead maximum cumulative heavy metal loading rate for landfarming application under the Mississippi Nonhazardous Solid Waste Management Regulations and Criteria.

Acetone was an estimated value of 3 mg/kg and 2,667 times below the IRIS value and 2,667 times below the RCRA value.

MEK was 0.08 mg/kg and 600,000 times below the IRIS value and 50,000 times below the RCRA value.

Toluene was 2.5 mg/kg and 6,400 times below the IRIS value and 8,000 times below the RCRA value.

Although all of these values are below the applicable IRIS and RCRA published values, there was evidence of some spillage and the area will be cleaned and voluntarily resampled using an independent laboratory adhering to EPA contract laboratory protocols.

HI-SS-03

Located on west side of plant. This area was recently used to cut up old storage tanks being sold for scrap metal. Apparently a small amount of material was spilled from a tank not entirely empty. This area will be cleaned and voluntarily resampled using an independent laboratory adhering to EPA contract laboratory protocols.

The target compounds noted at this location were MEK and toluene.

MEK was 0.023 mg/kg and 2,086,957 times below the IRIS value and 173,913 times below the RCRA value.

Toluene was 0.046 mg/kg and 347,826 times below the IRIS value and 434,783 times below the RCRA value.

Although all of these values are below the applicable IRIS and RCRA published values, there was evidence of some spillage. This was not a black viscous (viscous?) ooze percolating from the area, but apparently the result of some spillage. This area will be cleaned and voluntarily resampled using an independent laboratory adhering to EPA contract laboratory protocols.

HI-SS-04

Located on north side of plant.

The target compound noted was PCB-1254.

PCB was 0.81 mg/kg and 9 times above the IRIS value and 9 times above the RCRA value. Our split sample result analyzed by an independent third party laboratory adhering to EPA contract laboratory protocol was none detected. This area will be resampled using an independent laboratory adhering to EPA contract laboratory protocols.

HI-SD-04

Located on east side of plant.

The target compounds noted were mercury, toluene, MEK, and benzene.

Mercury was 0.21 mg/kg and 95 times below the RCRA value and has no published IRIS value for comparison.

Toluene was 14 mg/kg and 1,143 times below the IRIS value and 1,429 times below the RCRA value.

MEK was 0.47 mg/kg and 102,128 times below the IRIS value and 8,511 times below the RCRA value.

Benzene was 0.18 mg/kg and 134 times below the IRIS value and 28 times below the RCRA value.

HI-SB-05

Located on northwest side of the plant.

No target compounds were noted.

In addition to HI-SB-05, samples HI-SS-05 and HI-TW-05 were taken at this same location. There were no target compound concentrations reported other than some estimated values, none of which were above any applicable IRIS or RCRA published values. There is no apparent direct basis for additional sampling.

The second source area was the surface impoundment located on the northwest side of the plant (Sample location HI-SD-03). Actual measurements of the impoundment indicate (640,400 cubic feet) of surface impoundments. This is 255,200 cubic feet less than the original "Rough Estimates" provided to the contractor.

HI-SD-03

The target compounds noted at this location were arsenic, heavy metals, toluene, MEK and benzene.

Aluminum was an estimated value of 20,000 mg/kg. Aluminum has no applicable IRIS or RCRA published values for comparison.

Arsenic was 33 mg/kg and 1.4 times above the IRIS value and 2.4 times below the RCRA value. Our split sample result analyzed by an independent third party laboratory adhering to EPA contract laboratory protocol was none detected.

Cadmium was 1.4 mg/kg and 29 times below the IRIS value and 29 times below the RCRA value.

Calcium was 4,600 mg/kg and has no applicable IRIS or RCRA published values for comparison.

Cobalt was 27 mg/kg and has no applicable IRIS or RCRA published values for comparison.

Copper was 95 mg/kg and has no applicable IRIS or RCRA published values for comparison. Based on 6 inches of soil depth, the value is 2.3 times below the Copper maximum cumulative heavy metal loading rate for landfarming application under the Mississippi Nonhazardous Solid Waste Management Regulations and Criteria.

Mercury was 0.26 mg/kg and 77 times below the RCRA value and has no applicable IRIS published value for comparison.

Nickel was 350 mg/kg and 5.7 times below the RCRA value and has no applicable IRIS published value for comparison.

Zinc was an estimated value of 2,400 mg/kg and 10 times below the IRIS value and has no applicable RCRA published value for comparison.

Toluene was 31 mg/kg and 516 times below the IRIS value and 645 times below the RCRA value.

MEK, although noted in the executive summary, was not found in the reported analytical results.

Benzene, although noted in the executive summary, was not found in the reported analytical results.

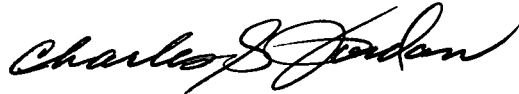
The structural integrity of the surface impoundment dike walls is controlled by an active maintenance program. The current maintenance program includes periodic visual inspections and

housekeeping. In particular trees are cut away from on the dike wall to help insure structural integrity. Over the years the sludge has been examined on several occasions and has passed the hazardous waste characterization tests including the most recent expanded TCLP. The Bureau has always been aware of the impoundment and our understanding is that it is regulated under the Nonhazardous Solid Waste Management Regulations and Criteria, Section I,B,7, exclusions..."solid wastes which do not constitute an endangerment to the environment or the public health, safety or welfare and which are disposed of on property owned by the generator"...

In addition to the above comments related to B&V Waste Science and Technology Report executive summary, there were no target compounds noted in either source area that were above the applicable IRIS, RCRA, or Drinking Water Regulations and Health Advisories (EPA, 4, 1992) for downstream samples HI-SW-02 and HI-SD-02. In general, our well water sample quality was better than background.

We will complete the work described and provide you with a written response by December 30, 1994.

Yours very truly,

A handwritten signature in black ink, appearing to read "Charles S. Jordan", written in a cursive style.

Charles S. Jordan
Environmental Supervisor

CSJ:mcl



Hercules Incorporated
West 7th Street
P.O. Box 1937
Hattiesburg, MS 39401-1937
(601) 545-3450

March 1, 1994

Certified Mail - Return Receipt Requested
No. P 664 277 448



Ken Whitten
DEPARTMENT OF ENVIRONMENTAL QUALITY
P. O. Box 10385
Jackson, MS 39289-0385

Dear Mr. Whitten:

The purpose of this letter is to document our February 22, 1994, meeting in Jackson, MS.

Following our discussion, Hercules will submit a written plan by April 29, 1994, to address items related to the B&V Waste Science and Technology Corp. report issued April 29, 1993.

Yours truly,

Charles S. Jordan
Environmental Supervisor

CSJ:mcl



FILE COPY

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

January 20, 1994

CERTIFIED MAIL NO. P 167 721 594

Mr. Charles Jordan
Hercules Incorporated
P. O. Box 1937
W. Seventh Street
Hattiesburg, MS 39401

Re: Hercules response letter to the Draft Administrative Order

Dear Mr. Jordan:

On January 12, 1994, the Office of Pollution Control (OPC) received the Hercules response letter dated January 11, 1994. Your comments and OPC' responses are listed below:

Comment 1: Review the files

Response: Frances Grillo, Phone 961-5660, is the contact person for file review information at OPC.

Comment 2: Meeting with OPC

Response: A meeting with the OPC may not be needed after you review the files. However, if a meeting is requested, a date and time will need to be determined as soon as possible.

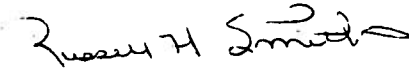
Comment: 3 30 days to prepare a workplan and schedule

Response: Numerous companies have achieved workplans and schedules within this 30 day time period. If 30 days is not adequate, you should submit to OPC a written request. This request must contain specific reasons and justifications why this deadline cannot be met.

Mr. Charles Jordan
Page 2

If you have any questions please contact Mr. Kenneth L. Whitten
(601) 961-5306.

Sincerely,

A handwritten signature in dark ink, appearing to read "Russell H. Smith", with a stylized flourish at the end.

Russell H. Smith, P.E., Chief
Uncontrolled Sites Section

RHS:KW_mes65

Enclosure

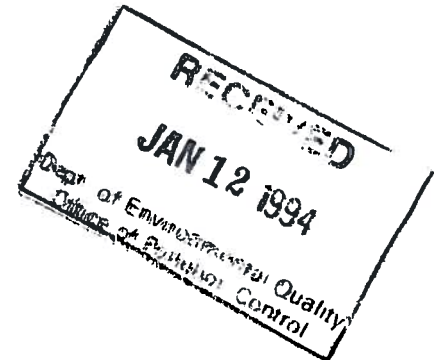


Hercules Incorporated
West 7th Street
P.O. Box 1937
Hattiesburg, MS 39401-1937
(601) 545-3450

January 11, 1994

Certified Mail - Return Receipt Requested
No. P 664 277 439

Russell H. Smith, P.E. Chief
Uncontrolled Sites Section
Office Of Pollution Control
P. O. Box 10385
Jackson, MS 39289-0385



Re: Hercules Incorporated
Draft Administrative Order

Dear Mr. Smith:

We received the draft order referenced in your 1-3-94 cover letter on 1-4-94 and certainly appreciate the opportunity to comment.

Prior to final comments on any order we would request the opportunity to first review the site assessment data referenced. We have not received any data from the Bureau. We have not received any data which suggests imminent danger to human health and the environment. We have not been provided the technical information which the Bureau believes created a need for an order. Without this understanding, Hercules cannot evaluate whether the Bureau has a sufficient factual or legal basis to take action, nor can we devise a workplan and schedule which would satisfy the Bureau's requirements. In either case, the requirement of preparing the workplan and schedule 30 days after any order is too short.

After the opportunity to review the data we would request a meeting with the Bureau to discuss the basis for issuance of an order. We believe that meeting with the Bureau prior to the possibility of the issuance of any order would be most beneficial to all. We also request that the deadline for official edits to any proposed order be extended until the conclusion of our technical discussions.

Very truly yours,

Charles S. Jordan
Environmental Supervisor

CSJ:mcl

cc: James I. Palmer, Jr.
Executive Director
Department of Environmental Quality
P. O. Box 10385
Jackson, MS 39289-0385

Preston Kirkendall, Hercules

Nikki Carlson, Hercules

Richmond Williams, Hercules



STATE OF MISSISSIPPI

DEPARTMENT OF ENVIRONMENTAL QUALITY

JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

January 3, 1994

CERTIFIED MAIL NO. P 167 721 592

Mr. Charles Jordan
Hercules, Incorporated
P. O. Box 1937
W. Seventh Street
Hattiesburg, MS 39401

Re: Hercules, Inc.
Administrative Order
Draft Copy

Dear Mr. Jordan:

Please find enclosed a draft Order from the Mississippi Department of Environmental Quality for your inspection. We invite you to review this Order and contact us if you have any comments. We will expect any written response within two (2) weeks of receipt of this letter. If no comments are received from you within this period, the Order will be issued as written.

Please note that you may appeal the Order to the Mississippi Commission on Environmental Quality within thirty (30) days after issuance if you have any objections.

If you have any questions or if we can be of any assistance, please do not hesitate to contact us.

Sincerely,

A handwritten signature in cursive script that reads "Russell H. Smith".

Russell H. Smith, P.E., Chief
Uncontrolled Sites Section

RHS:KW_mes61

Enclosure

DRAFT

BEFORE THE MISSISSIPPI COMMISSION
ON ENVIRONMENTAL QUALITY

MISSISSIPPI COMMISSION ON
ENVIRONMENTAL QUALITY

COMPLAINANT

v.

ORDER NO. _____

HERCULES, INC.
P. O. BOX 1937
W. SEVENTH STREET
HATTIESBURG, MS 39401

RESPONDENT

ORDER

The above captioned cause came before the Executive Director of the Mississippi Department of Environmental Quality this day for ex parte consideration under the authority of Section 49-2-13 of the Mississippi Code Annotated (Supp. 1993), and the Executive Director, having heard and considered the evidence therein, and having determined that an Administrative Order should issue prefatory to any evidentiary hearing and without making any final adjudication of fact or law, finds as follows:

1.

The Respondent is subject to Section 17-17-1 et. seq. and Section 49-17-1 et. seq. of the Mississippi Code Annotated (Supp. 1993) and the rules and regulations of the Mississippi Commission on Environmental Quality (Commission). *Rev 200 Supp. 1993*

2.

The site is two hundred acres in size. Since 1923, Hercules has been in the chemical operation business. Structures at the site include offices, laboratories, shops, powerhouses, a wastewater treatment plant, settling ponds, landfills, central loading and packing facilities. Access to the site is fenced.

The site is located in Hattiesburg, Mississippi, on West Seventh Street and is surrounded by residential and industrial areas. Greens Creek flows from west to east through the north portion of the site. An unnamed tributary flows in a northern direction into Greens Creek. This creek flows into the Bowie River. The site is within the recharge area for the Miocene Aquifer System.

Hercules, Inc., facility ID number MSD008182081, is the owner and operator of the site located in Hattiesburg, Mississippi.

A contractor (i.e. B & V Waste Science and Technology Corporation) for the United States Environmental Protection Agency conducted a Site Assessment of Hercules, Inc., in 1992 and found the existence of groundwater, soil, surfacewater and sediment contamination. The hazardous substances identified in groundwater include, but are not limited to: chromium, lead, barium, cobalt, copper, manganese and mercury. Contaminants of concern in the soils include, but are not limited to: cadmium, cobalt, copper, lead, magnesium, nickel, sodium, acetone, toluene, total xylenes, methyl ethyl ketone (MEK), heptachlor epoxide, endrin ketone and polychlorinated biphenyls. Contaminants of concern in the surface water include, but are not limited to: arsenic, sodium, barium, copper, iron, magnesium, manganese, nickel, and zinc. Contaminants of concern in the sediment include, but are not limited to, copper, mercury, nickel, toluene, MEK and benzene.

3.

Premises considered, the Executive Director finds that Respondent shall develop and submit a workplan that will determine the source of the groundwater, soil, surface water and sediment contamination and that will delineate the extent of groundwater, soil, surface water, and sediment contamination at the site in Hattiesburg, Forrest County, Mississippi.

IT IS, THEREFORE, ORDERED as follows that the Respondent execute the following activities as follows:

1. Within 30 days of the effective date of this Order, Respondent shall submit a workplan and schedule sufficient to determine the source of the groundwater, soil, surface water, and sediment contamination and to delineate the horizontal and vertical extent of groundwater, soil, surface water and sediment contamination.
2. Within 14 days of receipt of workplan approval, Respondent shall begin implementation of the approved workplan according to the approved schedule.
3. Respondent shall implement as necessary such interim remedial actions as are necessary to protect human health and the environment from imminent danger.
4. Respondent shall submit a final report of remedial investigation findings to the Department according to the approved schedule.

If aggrieved by this Order, Respondent may request a hearing before the Commission by filing a sworn petition with the Commission in the manner provided by Section 49-17-41 of the Mississippi Code Annotated (Supp. 1993).

ORDERED, this the _____ day of _____, 1993.

MISSISSIPPI COMMISSION ON
ENVIRONMENTAL QUALITY

BY: _____
J. I. PALMER, JR.
EXECUTIVE DIRECTOR
MISSISSIPPI DEPARTMENT OF
ENVIRONMENTAL QUALITY

August 11, 1993

Ms. Frances Grillo
Public Records Administrator
Legal Department
P. O. Box 20305
Jackson, Mississippi 39289-1305

Dear Ms. Grillo:

I am writing to request to review CERCLA files for the Hercules, Inc. facility in Hattiesburg, Mississippi (Jones County) the afternoon of August 11 or 12, 1993. I am particularly interested in reviewing the Hercules file on Site Assessment, BWST Project Number 520011.040. Jim Hardage may have a copy of the file.

If you have questions, please call me at (601) 352-7020.

Very truly yours

MALCOLM PIRNIE, INC.



Ramesh S. Melarkode, P.E.
Project Engineer

**MALCOLM
PIRNIE**

**MALCOLM PIRNIE, INC.
ENVIRONMENTAL ENGINEERS, SCIENTISTS & PLANNERS**

August 5, 1993

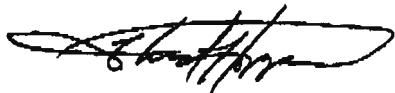
Ms. Frances Grillo
Public Records Administrator
Legal Department
P. O. Box 20305
Jackson, Mississippi 39289-1305

Dear Ms. Grillo:

I am writing to request to review CERCLA files for the Hercules, Inc. facility in Hattiesburg, MS (Jones County) the afternoon of August 5, 1993. I am particularly interested in reviewing the NUS Phase II Site Investigation Report. Jim Hardage may have a copy of this report.

Very truly yours,

MALCOLM PIRNIE, INC.



Thad Hopper
Project Geologist

c: Ramesh Melarkode

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

MAY 21 1992

4WD-WPB

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Charles Jordan
Hercules, Inc.
P.O. Box 1937
W. Seventh St.
Hattiesburg, Mississippi 39401

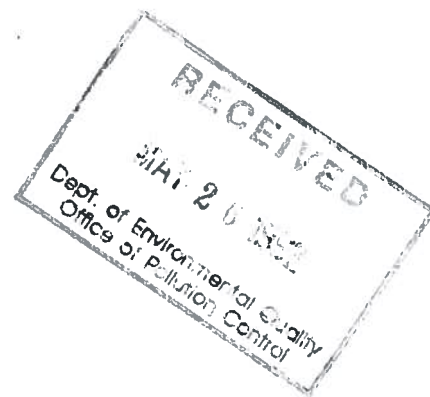
Re: Hercules, Inc.
EPA ID No. MSD008182081
Site Investigation (SI)

Dear Mr. Jordan:

The United States Environmental Protection Agency (EPA), pursuant to the authority and requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 U.S.C. 9601 et seq., as amended by the Superfund Amendments and Reauthorization Act (SARA), Public Law 99-499, is planning to conduct an investigation of the above referenced site. Hercules, Inc. is located on Seventh St. in Hattiesburg, Mississippi. EPA has reason to believe that there may be a release or threat of a release of hazardous substances from the site into the surrounding environment. The purpose of the investigation is to determine the nature and extent of contamination at the site and to determine what, if any, further response action would be appropriate.

As per the telephone conversation between you and Mr. Brian Farrier of EPA on May 21, 1991, EPA was granted access to your property beginning June 22, 1991 and continuing through the completion of the investigation on or about June 27, 1991. It is also understood that this investigation will supplement the onsite reconnaissance agreed to during the week of June 1; a previous letter has already been provided to you regarding that date. Activities to be conducted during this investigation include:

1. Inspect, sketch, and photograph the premises;



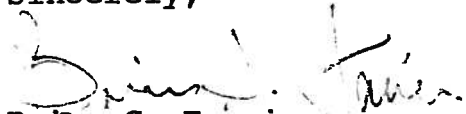
2. Collect surface and subsurface soil samples;
3. Collect groundwater and subsurface water samples;
4. Collect sediment samples;
5. Conduct air monitoring;
6. Transportation of equipment onto and about the site as necessary to accomplish the activities above, including trucks and sampling equipment.

The above referenced sampling activity will be conducted by personnel from EPA Region IV's field investigation team. Mr. Jim O'Brien will contact you prior to the investigation to make final arrangements and note any changes.

Split samples will be made available if requested. However, you will be required to furnish your own containers as well as your own laboratory analyses.

Your cooperation in this matter is appreciated. Please call me at (404) 347-5065 if you have any questions. You may also use my facsimile number to contact me. That number is (404) 347-4862.

Sincerely,



Brian G. Farrier
Mississippi Site Assessment Manager

cc: Jim Hardage, MDEQ
Jim O'Brien, Black & Veatch Corporation



THE COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

MAY 15 1992

4WD-WPB

CERTIFIED MAIL
RETURN RECEIPT REQUESTED



Mr. Charles Jordan
Hercules, Inc.
P.O. Box 1937
W. Seventh St.
Hattiesburg, Mississippi 39401

Re: Hercules, Inc.
EPA ID No. MSD008182081
Site Investigation (SI)

Dear Mr. Jordan:

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As per the telephone conversation between you and Mr. Brian Farrier of EPA on May 13, 1991, EPA was granted access to your property beginning June 1, 1991 and continuing through the completion of the investigation on or about June 5, 1991. Activities to be conducted during the investigation include:

1. Inspect, sketch, and photograph the premises;
2. Collect surface and subsurface soil samples;
3. Collect groundwater and subsurface water samples;
4. Collect sediment samples;
5. Conduct air monitoring;
6. Transportation of equipment onto and about the site as necessary to accomplish the activities above, including trucking.

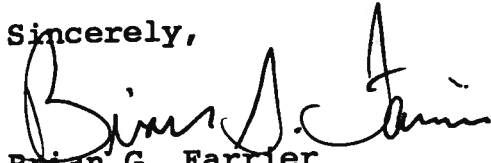
Page 2

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Split samples will be made available if requested. However, you will be required to furnish your own containers as well as your own laboratory analyses.

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Sincerely,



Brian G. Farrler
Mississippi Site Assessment Manager

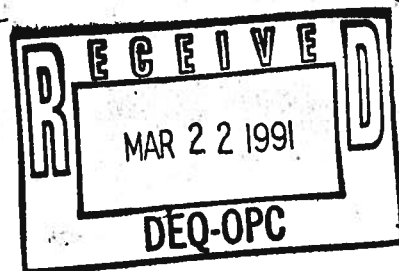
cc: Jim Hardage, MDEQ
Jim O'Brien, Black & Veatch Corporation



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365



4WD-WPB

MAR 20 1991

Jim Hardage
Mississippi Dept. of Environmental Quality
Office of Pollution Control
P.O. Box 10385
Jackson, Mississippi 39289

Re: Site Investigations

Dear Mr. Hardage:

This is to inform you that the sites listed below are being cancelled by FIT. The Hercules site has been determined to be a potential conflict of interest; therefore, NUS Corporation is removing itself from any further evaluation of this site. The George County site has been issued a consent order by the state and is scheduled for future sampling, as per your office.

In any case, it is expected that your office will deliver the SI report to EPA using cooperative agreement funds. If not feasible for 1991, then this work will be planned for calendar year 1992.

| <u>Site</u> | <u>EPA Id No.</u> | <u>City</u> | <u>County</u> |
|--------------------|-------------------|-------------|---------------|
| Hercules, Inc. | MSD008182081 | Hattiesburg | Forrest |
| George County Site | MSD980840102 | Lucedale | George |

If you have any questions, please call me.

Sincerely,

Brian G. Farrier
Mississippi Project Officer
Site Assessment Section

FILE COPY

April 13, 1989

Ms. Undine Johnson
Site Investigation and
Support Branch
U.S. EPA - Region IV
345 Courtland Street, N. E.
Atlanta, Georgia 30365

Dear Ms. Johnson:

The Mississippi Bureau of Pollution Control (Bureau) plans to add the following sites that are on the CERCLIS list to our 1989 preremedial schedule:

Hercules Incorporated
MSD086556388
Forrest County

Sonford Products
MSD008182081
Rankin County

Although both sites have been previously assessed and inspected (Hercules in 1980 and Sonford in 1985), a preliminary HRS score has not been calculated for either site.

A preliminary reassessment of each site is needed in order to gather additional information regarding migration pathways, particularly the groundwater pathway. A preliminary score for each site needs to be calculated in order to see if additional investigation under the CERCLA program is warranted.

The Bureau plans to initiate the PA2 for the Sonford site the latter part of April. The PA2 for the Hercules site is tentatively planned for June.

In June the Bureau will identify two (2) sites that will be deleted from the 1989 preremedial schedule.

Please let me know as soon as possible if these substitutions are acceptable. If you have any questions or need additional information, please contact me.

Sincerely,

Caleb Dana
Hazardous Waste Division

CD:JH:34

April 13, 1989

Ms. Undine Johnson
Site Investigation and
Support Branch
U.S. EPA - Region IV
345 Courtland Street, N. E.
Atlanta, Georgia 30365

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MSD086556388
Forrest County

Sonford Products
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Rankin County

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In June the Bureau will identify two (2) sites that will be deleted from the 1989 preremedial schedule.

Please let me know as soon as possible if these substitutions are acceptable. If you have any questions or need additional information, please contact me.

Sincerely,

Caleb Dana
Hazardous Waste Division

CD:JH:34

June 30, 1981

Mr. Charles Jordan
Hercules, Incorporated
P. O. Box 1937
Hattiesburg, MS 39401

Dear Mr. Jordan:

As mentioned in my telephone conversation with you on June 30, 1981, representatives of the Solid Waste Management Branch, along with EPA sampling and analyses personnel, will be at your facility on July 8, 1981 for the purpose of collecting waste stream samples. If you have any questions concerning this matter, please feel free to contact this office.

Sincerely,

Jim Hardage
Jim Hardage, Chemist
Solid Waste Management Branch

JH/cs

December 15, 1989

Mr. Narindar Kumar
Site Investigation & Support Branch
Waste Management Division
U.S. EPA - Region IV
345 Courtland Street, N. E.
Atlanta, Georgia 30365

Re: Hercules, Incorporated
Hattiesburg, Mississippi
MSD008182081

Dear Mr. Kumar:

Enclosed is a preliminary assessment report for the above referenced site. If you have any questions about the report, please contact Mr. Michael Slack at (601) 961-5217.

Sincerely,

Jim Hardage
Hazardous Waste Division

JH:MS-21
Enclosure