STATE OF MISSISSIPPI
HAZARDOUS WASTE MANAGEMENT
PERMIT

THIS CERTIFIES THAT

Loresco I, LLC and
Hess Corporation, Landfarm Treatment Unit (LTU)
5181 Highway 11
Purvis, Mississippi
Lamar County
MSD 079 461 406

is hereby authorized to conduct post closure care for a closed Land Treatment Facility

This permit is issued under the authority of the Mississippi Solid Wastes Disposal Law, and particularly Section 17-17-27 thereof, and rules adopted and promulgated thereunder, all of which authorize the Department of Environmental Quality to enforce all applicable requirements, under the Mississippi Hazardous Waste Management Regulations, and associated conditions included therein.

Permit Issued: October 11, 2010
Modified: February 14, 2018 (Loresco I, LLC as co-permittee)

MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD

Mark Williams

AUTHORIZED SIGNATURE
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

Permit No.: HW-87-406-02

Expires: September 30, 2020

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MODULE 1 – GENERAL PERMIT CONDITIONS

I.A EFFECT OF PERMIT

The Permittee is authorized to conduct post-closure care of a closed land treatment unit, or landfarm, in accordance with the conditions of this permit. Subject to MHWMR 270.4, compliance with this permit constitutes compliance, for purposes of enforcement, with Subtitle C of the Resource Conservation and Recovery Act (RCRA). Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, and invasion of other private rights, or any infringement of state or local law or regulations or preclude compliance with any other Federal, State, and/or local laws. Compliance with the terms of this permit does not constitute a defense to any order issued or any action brought under Section 3008(a), Section 3008 (h), Section 3013, of Section 7003 of RCRA; Sections 106(a), 104 or 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601 et seq., commonly known as CERCLA) or any other law providing for protection of public health or the environment.

I.B. PERMIT ACTIONS

I.B.1 Permit Modification, Revocation and Reissuance, and Termination

This permit may be modified, revoked and reissued, or terminated for cause as specified in MHWMR Part 270.41, 270.42, 270.43, and 270.50(d). The filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit conditions.

I.B.2 Permit Renewal

This permit may be renewed as specified in MHWMR 270.30(b) and Permit Condition I.E.2. Review of any application for a permit renewal shall consider improvements in the state of control and measurement technology, as well as changes in applicable regulations.

I.C. SEVERABILITY

The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

I.D. DEFINITIONS

For purposes of this permit, terms used herein shall have the same meaning as those in MHWMR Parts 124, 260, 264, 268 and 270, unless this permit specifically provides otherwise; where terms are not defined in the regulations or the permit, the meaning associated with such terms shall be defined by a standard dictionary or the generally accepted scientific or industrial meaning to the term. "Executive Director" means the Executive Director of MDEQ, or his designated or authorized representative.

I.E. DUTIES AND REQUIREMENTS

I.E.1. Duty to Comply

The Permittee shall comply with all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit. Any permit noncompliance, other than noncompliance authorized by an emergency permit, constitutes a violation of RCRA and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

I.E.2. Duty to Reapply

If the Permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the Permittee shall submit a complete application for a new permit at least 180 days prior to permit expiration.

I.E.3. Permit Expiration

Pursuant to MHWMR Part 270.50, this permit shall be effective for a fixed term not to exceed ten (10) years. This permit and all conditions herein will remain in effect beyond the permit's expiration date, if the Permittee has submitted a timely, complete application and, through no fault of the Permittee, the Executive Director has not issued a new permit, as set forth in MHWMR 270.51.

I.E.4. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

I.E.5. Duty to Mitigate

In the event of noncompliance with the permit, the Permittee shall take all reasonable steps to minimize releases to the environment and shall carry

out such measures as are reasonable to prevent significant adverse impacts on human health or the environment.

I.E.6. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate staffing and training, and adequate laboratory and process controls, including appropriate quality assurance/quality control procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

I.E.7. Duty to Provide Information

The Permittee shall furnish to the Executive Director, within a reasonable time, any relevant information which the Executive Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish the Executive Director, upon request, copies of records required to be kept by this permit.

I.E.8. Inspection and Entry

Pursuant to MHWMR 270.30(i), the Permittee shall allow the Executive Director, or an authorized representative, upon the presentation of credentials and other documents, as may be required by law, to:

I.E.8.a. Enter, at reasonable times, upon the Permittee's premises where a regulated activity is located or conducted, or where records must be kept under the conditions of this permit;

I.E.8.b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

I.E.8.c. Inspect at reasonable times any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

I.E.8.d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by RCRA, any substances or parameters at any location.

I.E.9. Monitoring and Records

The Executive Director may require such testing by the Permittee and may make such modifications to this permit deemed necessary to ensure implementation of new regulations or requirements, or to ensure protection of human health and the environment.

I.E.9.a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the wastes to be analyzed must be the appropriate method from Appendix I of MHWMR Part 261, the EPA Region 4 Field Branches Quality System and Technical Procedures (SOP) (most recent version), or an equivalent method approved by the Executive Director. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods SW-846, Standard Methods for the Examination of Water and Wastewater, or an equivalent method approved by the Executive Director and specified herein.

I.E.9.b. The Permittee shall retain records of all monitoring information, including all calibration and maintenance records, records of all data used to prepare documents required by this permit, copies of all reports and records required by this permit, the certification required by MHWMR 264.73(b)(9), and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report, record, certification, or application. This period may be extended by the Executive Director at any time and is automatically extended during the course of any unresolved enforcement action regarding this facility. The Permittee shall also maintain records for all groundwater monitoring wells and associated groundwater surface elevations for the duration of the post-closure care period. All records required by this condition may be maintained in electronic form on the Hess electronic database that is accessible by the Hess Corporation Purvis Site Manager and the managing consultant for the Hess Corporation, Purvis LTU. These records shall be made available upon request.

I.E.9.c. Records of monitoring information shall specify:

i. The date(s), exact place, and time(s) of sampling or measurements;

ii. The individual(s) who performed the sampling or measurements;

iii. The date(s) the analyses were performed;

iv. The individual(s) who performed the analyses;

v. The analytical techniques or methods used, including any method detection limits for said technique; and

vi. The results of such analyses.

I.E.10. Reporting Planned Changes

The Permittee shall give notice to the Executive Director as soon as possible of any planned physical alterations or additions to the permitted facility.

I.E.11. Anticipated Noncompliance

The Permittee shall give advance notice to the Executive Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

I.E.12. Transfer of Permits

This permit is not transferable to any person, except after notice to the Executive Director. The Executive Director may require modification or revocation and reissuance of the permit pursuant to MHWMR 270.40. Before transferring ownership or operation of the facility, the Permittee shall notify the new owner or operator in writing of the requirements of MHWMR Parts 264 and 270 and of this permit.

I.E.13. Twenty-Four Hour Reporting

I.E.13.a. The Permittee shall report to the Executive Director any noncompliance with the permit which may endanger health or the environment. Any such information shall be reported orally within twenty-four (24) hours from the time the Permittee becomes aware of the circumstances. This report shall include the following:

i. Information concerning release of any hazardous waste that may cause an endangerment to public drinking water supplies.

ii. Any information of a release or discharge of hazardous waste or of a fire or explosion from the hazardous waste management facility which could threaten the environment or human health outside the facility.

I.E.13.b. The description of the occurrence and its cause shall include:

i. Name, address, and telephone number of the owner or operator;

ii. Name, address, and telephone number of the facility;

iii. Date, time, and type of incident;

iv. Name and quantity of materials involved;

v. The extent of injuries, if any;

vi. An assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and

vii. Estimated quantity and disposition of recovered material that resulted from the incident.

I.E.13.c. A written submission shall also be provided within five (5) days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period(s) of noncompliance (including exact dates and times); whether the noncompliance has been corrected, and if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Executive Director may waive the five-day written notice requirement in favor of a written report within 15 days.

I.E.14. Other Noncompliance

The Permittee shall report all other instances of noncompliance not otherwise required to be reported above at the time monitoring reports are submitted. The reports shall contain the information listed in condition I.E.13. of this Permit.

I.E.15. Obligation for Corrective Action

The Permittee is required to continue this permit for any period necessary to comply with the corrective action requirements of this permit.

I.E.16. Other Information

Whenever the Permittee becomes aware that it failed to submit relevant facts in the permit application or submitted incorrect information in a permit application or any report to the Executive Director, the Permittee shall promptly submit such facts or information.

I.F. SIGNATORY REQUIREMENT

All applications, reports, or information submitted to the Executive Director shall be signed and certified in accordance with MHWMR 270.11.

I.G. REPORTS, NOTIFICATIONS, AND SUBMISSIONS TO THE EXECUTIVE DIRECTOR

All reports, notifications, or other submissions which are required by this permit to be sent to or given to the Executive Director should be sent by certified mail or given to:

Mississippi Department of Environmental Quality
Office of Pollution Control
P.O. Box 2261
Jackson, MS 39225

I.H. CONFIDENTIAL INFORMATION

In accordance with MHWMR Part 270.12, the Permittee may claim confidential any information required to be submitted by this permit.

MODULE II – GENERAL FACILITY CONDITIONS

II.A. FACILITY DESCRIPTION

This permit is issued to Hess Corporation for their Purvis, Mississippi Facility [MSD 079 461 406] as described in the permit renewal application submitted on March 3, 2009, including all subsequently submitted supplementary information and modifications; and hereinafter referred to as "the application." This permit authorizes the Permittee to conduct post-closure care for the closed hazardous waste land treatment unit (LTU), commonly referred to as the Purvis Landfarm.

II.B. DESIGN AND OPERATION OF FACILITY

The Permittee shall maintain and operate the facility to minimize the possibility of fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment, as required by MHWMR 264.31.

II.C. REQUIRED NOTICES

II.C.1. Hazardous Waste Imports

The Permittee shall not receive hazardous waste from a foreign source.

II.C.2. Hazardous Waste from Off-Site Sources

The Permittee shall not receive hazardous waste from an off-site source.

II.C.3. Transfer of Permit

Before transferring ownership or operation of the facility, the owner or operator must notify the new owner or operator in writing of the requirements of MHWMR Parts 264 and 270.

II.D. SECURITY

The Permittee shall comply with the security provisions of MHWMR Section 264.14(b)(2) and (c) as described in Attachment F.

II.E. GENERAL INSPECTION REQUIREMENTS

The Permittee shall comply with the inspection requirements of MHWMR Section 264.15 as described in Attachment F. The Permittee shall follow the inspection schedule set out in Table F-1 of Attachment F. The Permittee shall remedy any deterioration or malfunction discovered by an inspection as required by MHWMR 264.15(c). Records of inspections shall be kept as required by MHWMR 264.15(d).

II.F. LOCATION STANDARD

The facility is not located in an area described by MHWMR 264.18(a). None of the regulated units is located within a 100-year floodplain.

II.G. PREPAREDNESS AND PREVENTION

II.G.1 Required Equipment

At a minimum, the Permittee shall equip the facility with the equipment required by MHWMR 264.32, as described in Attachment F.

II.G.2 Testing and Maintenance of Equipment

As required by MHWMR 264.33, the Permittee shall test and maintain the equipment specified above as necessary to assure its proper operation in time of emergency.

II.G.3 Access to Communications or Alarm System

Personnel who handle hazardous waste at the facility's hazardous waste management units shall be provided with an emergency communication device unless they are in visual or voice contact with another worker.

II.H. GENERAL POST-CLOSURE REQUIREMENTS

II.H.1. Post-Closure Care Period

The Permittee shall conduct post-closure care for the land treatment unit after completion of closure of the unit and continue for 30 years after that date. Post-closure care of the unit shall be in accordance with MHWMR 264.117 and the Post Closure Plan as required by MHWMR 264.118.

II.H.2. Amendment to Post-Closure Plan

The Permittee shall request a permit modification and amend the post closure plan, whenever necessary, in accordance with MHWMR Section 264.118(d).

II.H.3. Post-Closure Notices

II.H.3.a. The Permittee has submitted records of the type, location, and quantity of hazardous waste disposed within each cell or disposal unit, in accordance with MHWMR 264.119(a).

II.H.3.b. Within 60 days of certification of closure of the first hazardous waste disposal unit and within 60 days of certification of closure of the last hazardous waste disposal unit, the Permittee performed the following:

i. Recorded a notation on the deed to the facility property, in accordance with MHWMR 264.119(b)(1).

ii. Submitted a certification that the notation required by MHWMR 264.119(b)(1) has been recorded, in accordance with MHWMR 264.119(b)(2).

II.H.3.c. The Permittee shall request and obtain a permit modification prior to the post-closure removal of hazardous wastes, hazardous waste residues, liners, or contaminated soils in accordance with MHWMR 264.119(c).

II.H.4. Certification of Completion of Post-Closure Care

The Permittee shall certify that post-closure care was performed in accordance with the specifications in the Post-Closure Plan, Permit Attachment I, as required by MHWMR 264.120.

II.I. COST ESTIMATE FOR POST-CLOSURE CARE

II.I.1. The Permittee must have a detailed written estimate of the cost of providing post-closure care of the facility, prepared in accordance with MHWMR 264.144 and 264.280.

II.I.2. The Permittee must annually adjust the post-closure care cost estimate for inflation as required by MHWMR 264.144(b).

II.I.3. The Permittee must revise the post-closure cost estimate whenever there is a change in the facility's post-closure plan as required by MHWMR Section 264.144(c).

II.I.4. The Permittee must keep the latest post-closure cost estimate, as required by MHWMR Section 264.144(d), at the Hess Corp., Purvis Landfarm central file located at the offices of the Hess Corporation Purvis Site Manager and/or the offices of the managing consultant for the Hess Corp., Purvis Landfarm.

II.J. FINANCIAL ASSURANCE FOR POST-CLOSURE CARE

The Permittee shall demonstrate continuous compliance with MHWMR 264.145 by providing documentation of financial assurance in at least the amount of the cost estimate required by Condition II.I. of this permit. Changes in financial assurance mechanisms must be approved by the Executive Director pursuant to MHWMR Section 264.145.

II.K. OPERATING RECORD

Pursuant to MHWMR Part 264.73(a), the Permittee must keep a written operating record of post-closure care activities and those activities specified in MHWMR Part 264.73(b)(5) and (6) and 264.280(c), as well as post-closure cost estimates required by MHWMR 264.73(b)(8). These records shall be maintained at the Hess Corp., Purvis Landfarm central file located in the offices of the Hess Corporation Purvis Site Manager and/or the offices of the managing consultant for the Hess Corp., Purvis Landfarm, and shall be made available upon request.

II.L. INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS

The Permittee shall comply with MHWMR 264.148 whenever necessary.

II.M. SPECIAL CONDITIONS

Where a discrepancy exists between the wording of an item in the application and this permit, the permit requirements take precedence over the application.

MODULE III – LAND TREATMENT

III.A. APPLICABILITY

The conditions of this module apply to the land treatment unit, which includes landfarm cells #1 through #4. Prior to closure, the landfarm was composed of 23 cells. These cells have been consolidated to only four, as shown in Figure E-1, Attachment E, and listed below.

Cell #1 = Former cells 1 through 4
Cell #2 = Former cells 5 through 14
Cell #3 = Former cells 15 through 22
Cell #4 = Former cell 23 (the leaded cell)

III.B. FOOD CHAIN CROPS

The Permittee is prohibited from growing food chain crops on the Landfarm during the operating life, closure and post-closure care period. [MHWMR 264.280(c)(6)]

III.C. UNSATURATED ZONE MONITORING

III.C.1. The Permittee shall operate and maintain an Unsaturated Zone Monitoring Program as required by MHWMR 264.278, except that the soil-pore liquid monitoring is no longer required, as allowed by MHWMR 264.280(c)(7). The Permittee shall conduct the soil monitoring immediately below the treatment zone as specified in Attachment D.

III.C.2. The soil monitoring program shall include, at a minimum, the following parameters [MHWMR 264.278(a)(1)]:

Principal Hazardous Constituents (PHC)	Surrogate Parameters
Benzene	pH
Benzo(a)pyrene	Specific Conductivity
Chromium	Total Kjeldahl Nitrogen
Lead	Oil and Grease
Toluene	Total Phenolics
Xylenes (total)	
Naphthalene	

III.C.3. The Permittee shall perform soil monitoring at the frequency specified in the Unsaturated Zone Monitoring Program [Attachment D]. The Permittee shall express the results of the soil monitoring in a form necessary for the determination of statistically significant increases required by Condition III.C.5. [MHWMR 264.278(d)]

III.C.4. The Permittee shall follow the sample collection, sample preservation and shipment, analytical procedures, QA/QC procedures, and chain of custody control procedures as specified in the Unsaturated Zone Monitoring Program [Attachment D]. [MHWMR 264.278(e)]

III.C.5. The Permittee shall determine whether there is a statistically significant change over background values for any parameter required to be monitored under Condition III.C.2. each time soil monitoring is conducted. This determination shall be made within ninety (90) days following sample collection, using the statistical procedures specified in the Unsaturated Zone Monitoring Program [Attachment D]. [MHWMR 264.278(f)]

III.C.6. If the Permittee determines, pursuant to Condition III.C.5., that there is a statistically significant increase of any parameter required to be monitored below the treatment zone, the Permittee shall notify the Executive Director of the finding and submit an application for a permit modification in accordance with the provisions of MHWMR 264.278(g).

III.C.7. If the Permittee determines, pursuant to Condition III.C.5, that there is a statistically significant increase in any parameter, the Permittee may demonstrate that a source other than the regulated unit caused the increase or that the increase resulted from an error in sampling, analysis, or evaluation. In making such a determination, the Permittee shall comply with the requirements of MHWMR 264.278(h).

III.D. RECORDKEEPING AND REPORTING

III.D.1. In accordance with Condition I.E.9., the Permittee shall maintain records of all monitoring, testing, and analytical data obtained under Condition III.C.

III.D.2. In accordance with Condition I.G., the Permittee shall submit a report containing the results of the unsaturated zone monitoring required in Condition III.C. no later than March 31 of the year following the date(s) of the monitoring.

III.E. POST-CLOSURE CARE

During the post-closure care period, the Permittee shall comply with the requirements of Module V and Conditions II.H., II.I., and II.J. The Permittee shall also comply with the activities and duties in the Post Closure Care Plan [Attachment I] required by MHWMR 264.118. [MHWMR 264.280(c)]

MODULE IV – GROUNDWATER DETECTION MONITORING

IV.A. APPLICABILITY

IV.A.1. The conditions of this module apply to the land treatment unit, which includes landfarm cells #1 through #4, as shown in Figure E-1 of Attachment E.

IV.A.2. The Permittee shall conduct a groundwater detection monitoring program as required by MHWMR 264.91(a)(4) and 264.98 and described in Attachment E.

IV.B. WELL LOCATION, INSTALLATION AND CONSTRUCTION

The Permittee shall install and maintain a groundwater monitoring system as specified below:

IV.B.1. The Permittee shall install and maintain groundwater monitoring wells at the locations specified on the map, Figure E-1 of Attachment E. Wells B, C, F, G, H, I, J, K and L and/or any applicable wells required under Condition IV.B.2. shall be designated and maintained as Point of Compliance/Detection Monitoring Wells. Wells A and E shall be designated and maintained as Background Monitoring Wells.

IV.B.2. Due to changes that may occur in groundwater flow direction under the groundwater detection program; construction, redesignation, or deletion of wells from the monitoring program may be required.

IV.B.3. The Permittee shall maintain the monitoring wells identified in Condition IV.B.1. in accordance with the detailed plans and specifications presented in Attachment E.

IV.B.4. Should the Permittee determine during an inspection or sampling event that any well identified in Condition IV.B.1. has been damaged such that it no longer meets the requirements of MHWMR 264.97(a) and (c), the Permittee shall notify the Executive Director in writing within seven (7) days of making such a determination and replace or repair the damaged well within forty-five (45) days. The replacement wells should be constructed to the same specifications as the well being replaced.

IV.B.5. Any well deleted from the monitoring program shall be plugged and abandoned in accordance with Mississippi Office of Land and Water regulations. Well plugging and abandonment methods and

certification shall be submitted to the Executive Director within thirty (30) days from the date the well is removed from the monitoring program.

IV.C. INDICATOR PARAMETERS AND MONITORING CONSTITUENTS

The Permittee shall monitor the wells indicated in Condition IV.B.1. for the following parameters and hazardous constituents and shall compare these results with the established background levels or method detection limit in such case where a parameter was not detected in the background monitoring wells.

Parameter/Constituent	
pH[1]	Benzene
Specific Conductance[1]	Benzo(a)pyrene
Total Organic Carbon	Naphthalene
Total Organic Halogen	Toluene
Oil and Grease	Total Xylenes
Total Phenolics	Chromium
Total Kjeldahl Nitrogen	Lead

[1] These parameters may be analyzed in the field per the sampling and analysis procedures found in Attachment E.

IV.D. POINT OF COMPLIANCE

The point of compliance for the land treatment unit shall be the vertical surface located at the hydraulically downgradient limit of the land treatment unit that extends down into the uppermost aquifer underlying the land treatment unit. The location of the point of compliance is depicted in Figure E-3 of Attachment E. [MHWMR 264.95]

IV.E. GROUNDWATER MONITORING PROGRAM AND DATA EVALUATION

IV.E.1. The Permittee shall collect, preserve, and analyze samples in accordance with Condition IV.F.

IV.E.2. The Permittee shall sample groundwater from each well specified in Condition IV.B.1. for the parameters in Condition IV.C. on an **annual, calendar year** basis during the post-closure care period. [MHWMR 264.98(d)] **No two sampling events used to comply with this condition shall occur within six months of each other.** The Permittee shall express the groundwater quality at each monitoring well in a form necessary for the determination of significant evidence of a release. [MHWMR 264.98(c)]

IV.E.3. The Permittee shall determine the groundwater flow rate and direction in the uppermost aquifer at least annually. [MHWMR 264.98(e)]

IV.E.4. The Permittee shall determine if there has been a statistically significant increase over the background values for each parameter identified in Condition IV.C. each time groundwater sampling is conducted per Condition IV.E.2. In determining whether statistically significant evidence of contamination exists, the Permittee must use the method(s) specified in Condition IV.H. These methods must compare data collected at each detection monitoring well specified in IV.B.1. to the background groundwater quality data or method detection limit, whichever is applicable. This statistical determination shall be made within sixty (60) days after completion of sampling. [MHWMR 264.98(f)]

IV.F. SAMPLING AND ANALYSIS PROCEDURES

The Permittee shall use the following techniques and procedures when obtaining and analyzing samples from groundwater monitoring wells described in Condition IV.B.1. [MHWMR 264.97(d)]:

IV.F.1. Samples shall be collected using the techniques in Attachment E.

IV.F.2. Samples shall be preserved and shipped in accordance with the procedures specified in Attachments D and E.

IV.F.3. Samples shall be analyzed in accordance with the procedures specified in Attachments D and E.

IV.F.4. Samples shall be tracked and controlled using the chain-of-custody procedures specified in Attachments D and E.

IV.F.5. Appropriate QA/QC measures shall be used, including equipment, field, and trip blanks, as specified in Attachment E.

IV.G. ELEVATION OF THE GROUNDWATER SURFACE

IV.G.1. The Permittee shall determine the elevation of the groundwater surface at each well each time the groundwater is sampled per Condition IV.E.2. [MHWMR 264.97(f)]

IV.G.2. The Permittee shall determine and record the surveyed elevation of any future monitoring well when installed.

IV.H. STATISTICAL PROCEDURES

When evaluating the monitoring results to determine whether there has been a statistically significant increase over background in accordance with Permit Condition IV.E.4., the Permittee shall use the statistical procedures as specified in Attachment E. [MHWMR 264.98(f)(1)]

IV.I. RECORDKEEPING AND REPORTING

IV.I.1. The Permittee shall enter all monitoring, testing, and analytical data obtained in the operating record. The data must contain all computations, calculated means, variances, and results of the statistical test(s) specified in Condition IV.H.

IV.I.2. The Permittee shall submit the analytical results and evaluation required by Conditions IV.E. annually to the Executive Director no later than March 31 of the following year.

IV.I.3. If the Permittee determines, pursuant to Permit Condition IV.H., that there is a statistically significant increase for any of the parameters specified in Permit Condition IV.C., the Permittee may demonstrate that a source other than a regulated unit caused the increase or that the increase resulted from an error in sampling, analysis, or evaluation or natural variation in the groundwater. The Permittee may make this demonstration in addition to, or in lieu of, submitting a permit modification application required by Condition IV.I.4.d.; however, this demonstration does not extend the submission time required by Condition IV.I.4.d. unless the demonstration is successful. In making a demonstration, the Permittee shall comply with the requirements of MHWMR 264.98(g)(6)(i)-(iv).

IV.I.4. If the Permittee determines, pursuant to Permit Condition IV.H., that there is statistically significant evidence of contamination for any parameter in Condition IV.C., the Permittee shall [MHWMR 264.98(g)]:

IV.I.4.a. Notify the Executive Director in writing within seven (7) days. The notification must indicate what chemical parameters or hazardous constituents have shown statistically significant evidence of contamination.

IV.I.4.b. Immediately sample the groundwater in all monitoring wells, unless the demonstration in Condition IV.I.3. is successful, and determine whether constituents in the list of Appendix IX of MHWMR 264 are present, and if so, in what concentration.

IV.I.4.c For any Appendix IX constituent found in the analysis conducted pursuant to Condition IV.I.4.b., the Permittee may resample within thirty (30) days and repeat the analysis for those constituents detected. If the results of the second analysis confirm the initial results or if the Permittee does not resample, then these constituents will form the basis for compliance monitoring.

IV.I.4.d. Within ninety (90) days, submit to the Executive Director an application for a permit modification to establish a compliance monitoring program meeting the requirements of MHWMR 264.99. The application must include the information required in MHWMR 264.98(g)(4)(i)-(iv).

IV.I.4.e. Within 180 days, submit to the Executive Director all data necessary to justify an alternate concentration limit sought under MHWMR 264.94(b) and submit an engineering feasibility plan in accordance to MHWMR 264.98(g)(5)(ii).

IV.J. REQUEST FOR PERMIT MODIFICATION

If the Permittee or the Executive Director determines the detection monitoring program no longer satisfies the requirements of the regulations, the Permittee must, within 90 days of the determination, submit an application for a permit modification to make any appropriate changes to the program which will satisfy the regulations. [MHWMR 264.98(h)]

MODULE V – POST-CLOSURE CARE

V.A. APPLICABILTY

The Permittee shall provide post-closure care for the land treatment unit, which includes landfarm cells #1 through #4. Prior to closure, the landfarm was composed of 23 cells. These cells have been consolidated to only four, as shown in Figure E-1, Attachment E, and listed below.

Cell #1 = Former cells 1 through 4
Cell #2 = Former cells 5 through 14
Cell #3 = Former cells 15 through 22
Cell #4 = Former cell 23 (the leaded cell)

V.B. POST-CLOSURE CARE AND USE OF PROPERTY

V.B.1. Post-closure care for the land treatment unit shall extend for thirty (30) years from the certification of complete closure dated April 6, 2005, (Attachment B-2 in Attachment B) except that the 30-year post-closure care period may be shortened upon application and demonstration approved by MDEQ that the facility is secure, or may be extended by MDEQ if the Executive Director or his authorized representative finds this is necessary to protect human health and the environment. [MHWMR 264.117(a)]

V.B.2. During the post-closure period, the Permittee shall perform maintenance, monitoring, and reporting for the groundwater monitoring program in accordance with the applicable requirements of Subpart F of MHWMR Part 264, as provided in detail in Module IV of this permit. [MHWMR 264.117(a)(1)]

V.B.3. The Permittee shall comply with the requirements for land treatment units in MHWMR Part 264, Subpart M, as follows [MHWMR 264.117(a)(1) and 264.280(c)]:

V.B.3.a. Continue all operations necessary to enhance degradation and transformation and sustain immobilization of hazardous constituents in the treatment zone to the extent that such measures are consistent with other post-closure care activities;

V.B.3.b. Maintain the integrity and effectiveness of the final vegetative cover, including making repairs to the cap, as

necessary, to correct the effects of settling, subsidence, erosion and other events;

V.B.3.c. Maintain the run-on control system required under MHWMR 264.273(c);

V.B.3.d. Maintain the run-off management system required under MHWMR 264.273(d);

V.B.3.e. Continue to comply with the prohibition concerning growth of food-chain crops under Condition III.B.; and

V.B.3.f. Continue unsaturated zone monitoring as specified under Condition III.C.

V.B.4. The Permittee shall comply with the security requirements specified in Attachment F. [MHWMR 264.117(b)]

V.B.5. The Permittee shall not allow any use of the closed land treatment unit which will disturb the integrity of the final cover or the function of the facility's monitoring system during the post-closure care period. [MHWMR 264.117(c)]

V.B.6. The Permittee shall implement the Post-Closure Plan found in Attachment I. All post-closure care activities must be conducted in accordance with the provisions of the Post-Closure Plan. [MHWMR 264.117(d)]

V.C. INSPECTIONS

The Permittee shall inspect the components, structures, and equipment at the site in accordance with the Inspection Schedule in Attachment F.

V.D. POST-CLOSURE NOTICES

If the Permittee or any subsequent owner or operator of the land upon which the hazardous waste disposal unit is located, wishes to remove hazardous wastes and hazardous waste residues or contaminated soils, he shall request a modification to this post-closure permit in accordance with the applicable requirements in MHWMR Parts 124 and 270. The Permittee or any subsequent owner or operator of the land shall demonstrate that the removal of hazardous wastes will satisfy the criteria of MHWMR 264.117(c). [MHWMR 264.119(c)]

V.E. CERTIFICATION OF COMPLETION OF POST-CLOSURE CARE

No later than sixty (60) days after completion of the established post-closure care period for each hazardous waste disposal unit, the Permittee shall submit to the Executive Director, by registered mail, a certification that the post-closure care for the hazardous waste disposal unit was performed in accordance with the specifications in the approved Post-Closure Plan. The certification must be signed by the Permittee and an independent, professional engineer registered in the State of Mississippi. Documentation supporting the independent, professional engineer's certification must be furnished to the Executive Director upon request until the Executive Director releases the Permittee from the financial assurance requirements for post-closure care under MHWMR 264.145(i). [MHWMR 264.120]

V.F. FINANCIAL ASSURANCE

V.F.1. The Permittee shall maintain financial assurance during the post-closure period and comply with all applicable requirements of MHWMR 264, Subpart H. [MHWMR 264.145]

V.F.2. The Permittee shall demonstrate to the Executive Director that the value of the financial assurance mechanism exceeds the remaining cost of post-closure care, in order for the Executive Director to approve a release of funds. [MHWMR 264.145(a)(10)]

V.F.3. The Permittee shall submit itemized bills to the Executive Director when requesting reimbursement for post-closure care. [MHWMR 264.145(a)(11)]

V.G. POST-CLOSURE PERMIT MODIFICATIONS

The Permittee must submit a written request for a permit modification to authorize a change in the approved Post-Closure Plan. This request must be made in accordance with applicable requirements of MHWMR Parts 124 and 270 and must include a copy of the amended Post-Closure Plan for approval by the Executive Director. The Permittee shall request a permit modification whenever changes in operating plans or facility design affect the approved Post-Closure Plan; there is a change in the expected year of final closure; or other events occur during the active life of the facility that affect the approved Post-Closure Plan. The Permittee must submit a written request for a permit modification at least sixty (60) days prior to the proposed change in facility design or operation, or no later than sixty (60) days after an unexpected event has occurred which has affects the Post-Closure Plan. The Executive Director will approve, disapprove, or modify this plan in accordance with the procedures in MHWMR Parts 124 and 270. [MHWMR 264.118(d)]

MODULE VI – LAND DISPOSAL RESTRICTIONS

VI.A. GENERAL RESTRICTIONS

MHWMR 268 identifies hazardous wastes that are restricted from land disposal and defines those limited circumstances which an otherwise prohibited waste may continue to be land disposed. The Permittee shall maintain compliance with the requirements of MHWMR 268. Where the Permittee has applied for an extension, waiver or variance under MHWMR 268, the Permittee shall comply with all restrictions on land disposal under this Module once the effective date for the waste has been reached pending final approval of such application.

VI.B. LAND DISPOSAL PROHIBITIONS AND TREATMENT STANDARDS

VI.B.1. A restricted waste identified in MHWMR Part 268, Subpart C, may not be placed in a land disposal unit without further treatment unless the requirements of MHWMR 268, Subparts C and/or D are met.

VI.B.2. The storage of hazardous wastes restricted from land disposal under MHWMR 268 is prohibited unless the requirements of MHWMR 268, Subpart E, are met.

MODULE VII – ORGANIC AIR EMISSIONS REQUIREMENTS FOR PROCESS VENTS AND EQUIPMENT LEAKS

VII.A. GENERAL INTRODUCTION

In the June 21, 1990, Federal Register, EPA published the final rule for Phase I Organic Air Emission Standards (40 CFR Parts 264 and 265, Subparts AA and BB) for hazardous waste treatment, storage and disposal facilities. The State of Mississippi adopted these regulations in September, 1990. Subpart AA contains emission standards for process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, and air or steam stripping operations that process hazardous waste with an annual average total organic concentration of at least ten (10) part per million (ppm) by weight. Subpart BB contains emission standards that address leaks from specific equipment (i.e. pumps, valves, compressors, etc.) that contains or contacts hazardous waste that has an organic concentration of at least ten (10) percent by weight.

VII.B. ORGANIC AIR EMISSION STANDARDS

Prior to constructing any equipment with process vents subject to the requirements of MHWMR 264, Subpart AA or installing any additional equipment subject to the requirements of MHWMR 264, Subpart BB, the Permittee shall supply the specific Part B information required pursuant to MHWMR 270.24 and 270.25, as applicable.

MODULE VIII – WASTE MINIMIZATION

VIII.A. APPLICABILITY

No less than one year from the date of the future generation of hazardous waste and pursuant to MHWMR 264.73(b)(9); Section 3005(h) of RCRA, 42 U.S.C. 6925(h); and Section 49-31-1 et seq., Mississippi Code of 1972; the Permittee must certify, no less often than annually, that:

VIII.A.1. The Permittee has a program in place to reduce the volume and toxicity of hazardous waste generated to the degree determined by the Permittee to be economically practicable; and

VIII.A.2. The proposed method of treatment, storage or disposal is the most practical method available to the Permittee which minimizes the present and future threat to human health and the environment.

VIII.B. WASTE MINIMIZATION CERTIFICATION OBJECTIVES

Any future waste minimization program under Condition VIII.A should include the following elements:

VIII.B.1. Top Management Support

VIII.B.1.a. Dated and signed policy describing management support for waste minimization and for implementation of a waste minimizing plan.

VIII.B.1.b. Description of employee awareness and training programs designed to involve employees in waste minimization planning and implementation to the maximum extent feasible.

VIII.B.1.c. Description of how a waste minimization plan has been incorporated into management practices so as to ensure ongoing efforts with respect to product design, capital planning, production operations and maintenance.

VIII.B.2. Characterization of Waste Generation

Identification of types, amounts and hazardous constituents of waste streams with the source and date of generation.

VIII.B.3. Periodic Waste Minimization Assessments

VIII.B.3.a. Identification of all points in a process where materials can be prevented from becoming a waste, or can be recycled.

VIII.B.3.b. Identification of potential waste reduction and recycling techniques applicable to each waste, with a cost estimate for capital investment and implementation.

VIII.B.3.c. Specify performance goals, preferably quantitative, for the source reduction of waste by stream. Whenever possible, goals should be stated as weight of waste generated per standard unit of production, as defined by the generator.

VIII.B.4. Cost Allocation System

VIII.B.4.a. Identification of waste management costs for each waste, factoring in liability, transportation, recordkeeping, personnel, pollution control, treatment, disposal, compliance and oversight to the extent feasible.

VIII.B.4.b. Description of how departments are held accountable for the wastes they generate.

VIII.B.4.c. Comparison of waste management costs with costs of potential reduction and recycling techniques applicable to each waste.

VIII.B.5. Technology Transfer

Description of efforts to seek and exchange technical information on waste minimization from other parts of the company, other firms, trade associations, technical assistance programs, and professional consultants.

VIII.B.6. Program Evaluation

VIII.B.6.a. Description of types and amounts of hazardous waste reduced or recycled.

VIII.B.6.b. Analysis and quantification of progress made relative to each performance goal established and each reduction technique to be implemented.

VIII.B.6.c. Amendments to waste minimization plan and explanation.

VIII.B.6.d. Explanation and documentation of reduction efforts completed or in progress before development of the waste minimization plan.

VIII.B.6.e. Explanation and documentation regarding impediments to hazardous waste reduction specific to the individual facility.

VIII.C. RECORDKEEPING AND REPORTING

VIII.C.1. Annually, the Permittee shall submit a certification report of the types and quantities of waste generated, and the types and quantities of waste reduced/minimized. This certified report shall include a narrative study explaining the waste generated and minimization data, a description of goals and progress made in reducing/minimizing the generation of wastes, and a description of any impediment to the reduction and minimization of waste.

VIII.C.2. The Permittee shall maintain copies of this certification in the facility operating record as required by MHWMR 264.73.

MODULE IX - PHASE II RCRA ORGANIC AIR EMISSION REQUIREMENTS

IX.A. GENERAL INTRODUCTION

On December 6, 1994, EPA published the final rule for Phase II Organic Air Emissions Standards (40 CFR Parts 264 and 265, Subpart CC) for hazardous waste treatment, storage, and disposal facilities, including certain hazardous waste generators accumulating waste on-site in RCRA permit-exempt (90-day) tanks and containers. In general, under these standards air emissions controls must be used for tanks, surface impoundments, containers and miscellaneous units which contact hazardous waste containing an average volatile organic concentration greater than 500 ppmw at the point of origination determined by the procedures outlined in MHWMR 264.1083(a), except as specifically exempted under MHWMR 264.1080 and 264.1082.

IX.B. ORGANIC AIR EMISSION STANDARDS

Prior to installing any tank, container, surface impoundment or miscellaneous unit subject to MHWMR Part 264, Subpart CC, or modifying an existing process, waste handling, or tank or container such that the unit(s) will become subject to MHWMR Part 264 Subpart CC, the Permittee shall apply for a permit modification under MHWMR 270.42, and provide specific Part B application information required under MHWMR 270.14-17 and 270.27, as applicable, with the modification request.

ATTACHMENT A

HAZARDOUS WASTE PERMIT APPLICATION PART A

SEND COMPLETED FORM TO: The Appropriate State or EPA Regional Office.

United States Environmental Protection Agency

RCRA SUBTITLE C SITE IDENTIFICATION FORM

1. Reason for Submittal (See instructions on page 14.)

MARK ALL BOX(ES) THAT APPLY

Reason for Submittal:

- ☐ To provide Initial Notification of Regulated Waste Activity (to obtain an EPA ID Number for hazardous waste, universal waste, or used oil activities)
- ☑ To provide Subsequent Notification of Regulated Waste Activity (to update site identification information)
- ☐ As a component of a First RCRA Hazardous Waste Part A Permit Application
- ☐ As a component of a Revised RCRA Hazardous Waste Part A Permit Application (Amendment #_____)
- ☐ As a component of the Hazardous Waste Report

2. Site EPA ID Number (page 15)

EPA ID Number: MSD079461406

3. Site Name (page 15)

Name: HESS CORPORATION - LTU

4. Site Location Information (page 15)

Street Address: 5151 U. S. HIGHWAY 11

City, Town, or Village: PURVIS | State: MISSISSIPPI

County Name: LAMAR | Zip Code: 39475

5. Site Land Type (page 15)

Site Land Type: ☑ Private ☐ County ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other

6. North American Industry Classification System (NAICS) Code(s) for the Site (page 15)

A. N/A | B. | C. | D.

7. Site Mailing Address (page 16)

Street or P. O. Box: ONE HESS PLAZA

City, Town, or Village: WOODBRIDGE

State: NEW JERSEY

Country: USA | Zip Code: 07095

8. Site Contact Person (page 16)

First Name: DONALD | MI: G | Last Name: Bull

Phone Number: (732) 750-6000 Extension: | Email address: DBull@HESS.COM

9. Operator and Legal Owner of the Site (pages 16 and 17)

A. Name of Site's Operator: SAME | Date Became Operator (mm/dd/yyyy):

Operator Type: ☐ Private ☐ County ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other

B. Name of Site's Legal Owner: HESS CORPORATION | Date Became Owner (mm/dd/yyyy): 07/01/1956

Owner Type: ☑ Private ☐ County ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other

9. Legal Owner (Continued) Address	Street or P. O. Box: ONE HESS PLAZA	
	City, Town, or Village: WOODBRIDGE	
	State: NEW JERSEY	
	Country: USA	Zip Code: 07095

10. Type of Regulated Waste Activity
Mark "Yes" or "No" for all activities; complete any additional boxes as instructed. (See instructions on pages 18 to 21.)

A. Hazardous Waste Activities
Complete all parts for 1 through 6.

Y ☑ N ☐ **1. Generator of Hazardous Waste**
If "Yes", choose only one of the following - a, b, or c.

- ☐ a. LQG: Greater than 1,000 kg/mo (2,200 lbs./mo.) of non-acute hazardous waste; or
- ☐ b. SQG: 100 to 1,000 kg/mo (220 - 2,200 lbs./mo.) of non-acute hazardous waste; or
- ☑ c. CESQG: Less than 100 kg/mo (220 lbs./mo.) of non-acute hazardous waste

In addition, indicate other generator activities.

Y ☐ N ☑ d. United States Importer of Hazardous Waste

Y ☐ N ☑ e. Mixed Waste (hazardous and radioactive) Generator

Y ☐ N ☑ **2. Transporter of Hazardous Waste**

Y ☐ N ☑ **3. Treater, Storer, or Disposer of Hazardous Waste (at your site)** Note: A hazardous waste permit is required for this activity.

Y ☐ N ☑ **4. Recycler of Hazardous Waste (at your site)**

Y ☐ N ☑ **5. Exempt Boiler and/or Industrial Furnace**
If "Yes", mark each that applies.
- ☐ a. Small Quantity On-site Burner Exemption
- ☐ b. Smelting, Melting, and Refining Furnace Exemption

Y ☐ N ☑ **6. Underground Injection Control**

B. Universal Waste Activities

Y ☐ N ☑ **1. Large Quantity Handler of Universal Waste (accumulate 5,000 kg or more) [refer to your State regulations to determine what is regulated]. Indicate types of universal waste generated and/or accumulated at your site. If "Yes", mark all boxes that apply:**

	Generate	Accumulate
a. Batteries	☐	☐
b. Pesticides	☐	☐
c. Thermostats	☐	☐
d. Lamps	☐	☐
e. Other (specify) _____	☐	☐
f. Other (specify) _____	☐	☐
g. Other (specify) _____	☐	☐

Y ☐ N ☑ **2. Destination Facility for Universal Waste**
Note: A hazardous waste permit may be required for this activity.

C. Used Oil Activities
Mark all boxes that apply.

Y ☐ N ☑ **1. Used Oil Transporter**
If "Yes", mark each that applies.
- ☐ a. Transporter
- ☐ b. Transfer Facility

Y ☐ N ☑ **2. Used Oil Processor and/or Re-refiner**
If "Yes", mark each that applies.
- ☐ a. Processor
- ☐ b. Re-refiner

Y ☐ N ☑ **3. Off-Specification Used Oil Burner**

Y ☐ N ☑ **4. Used Oil Fuel Marketer**
If "Yes", mark each that applies.
- ☐ a. Marketer Who Directs Shipment of Off-Specification Used Oil to Off-Specification Used Oil Burner
- ☐ b. Marketer Who First Claims the Used Oil Meets the Specifications

11. Description of Hazardous Wastes (See instructions on page 22.)

A. Waste Codes for Federally Regulated Hazardous Wastes. Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g., D001, D003, F007, U112). Use an additional page if more spaces are needed.

NONE						

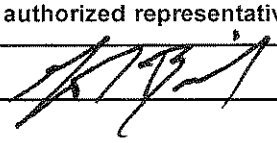
B. Waste Codes for State-Regulated (i.e., non-Federal) Hazardous Wastes. Please list the waste codes of the State-regulated hazardous wastes handled at your site. List them in the order they are presented in the regulations. Use an additional page if more spaces are needed for waste codes.

NONE						

12. Comments (See instructions on page 22.)

Hess Corporation (formerly Amerada Hess Corporation) owned and operated the Purvis Refinery in Purvis, MS from 1971 to 1996. Since that time, the facility has been operated as a product storage terminal. The current operating area is now owned by TransMontaigne. Hess Corporation (Hess) still retains ownership of the closed landfarm treatment unit (LTU). The LTU operated under a RCRA Operation Permit/State of Mississippi Hazardous Waste Management Permit (permit) which specified soil-pore, soil cell, and ground water sampling to ensure that operation of the LTU did not impact the surrounding area. The permit also specified a post-closure sampling program which eliminated soil-pore sampling and reduced soil cell sampling. The LTU was closed in 2003 and a LTU Closure Permit Report was submitted in November 2004. LTU closure approval was received in April 2005. Hess does not generate any RCRA listed remediation waste other than non hazardous waste related to groundwater and soil sampling. As such, Hess is a Conditional Exemption Small Quantity Generator (CESQG).

13. Certification. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.
For the RCRA Hazardous Waste Part A Permit Application, all operator(s) and owner(s) must sign (see 40 CFR 270.10 (b) and 270.11).
(See instructions on page 22.)

Signature of operator, owner, or an authorized representative	Name and Official Title (type or print)	Date Signed (mm/dd/yyyy)
	GERALD I. BRESNICK, VP EHS & SR	5/18/2010

EPA ID NO: I_M_I_S_I_D_I I_0_I_7_I_9_I I_4_I_6_I_1_I I_4_I_0_I_6_I

OMB #: 2050-0034 Exp

United States Environmental Protection Agency

HAZARDOUS WASTE PERMIT INFORMATION FORM

1. Facility Permit Contact (See instructions on page 23)	**First Name:** STEVE	**MI:** Y	**Last Name:** FREEMAN
	Phone Number: (713) 609-5955		**Phone Number Extension:**
2. Facility Permit Contact Mailing Address (See instructions on page 23)	**Street or P.O. Box:** P.O. BOX 2040		
	City, Town, or Village: HOUSTON		
	State: TEXAS		
	Country: USA		**Zip Code:** 77252
3. Operator Mailing Address and Telephone Number (See instructions on page 23)	**Street or P.O. Box:**		
	City, Town, or Village:		
	State:		
	Country:	**Zip Code:**	**Phone Number**
4. Legal Owner Mailing Address and Telephone Number (See instructions on page 23)	**Street or P.O. Box:** ONE HESS PLAZA		
	City, Town, or Village: WOODBRIDGE		
	State: NEW JERSEY		
	Country: USA	**Zip Code:** 07095	**Phone Number** (732) 636-3000
5. Facility Existence Date (See instructions on page 24)	**Facility Existence Date (mm/dd/yyyy):** 07/01/1956		

6. Other Environmental Permits (See instructions on page 24)

A. Permit Type *(Enter code)*	B. Permit Number	C. Description
		APPLICABLE PERMITS TRANSFERRED TO TRANSMONTAIGNE

7. Nature of Business (Provide a brief description; see instructions on page 24)

CLOSED HAZARDOUS WASTE LAND TREATMENT UNIT - ALL PROCESS EQUIPMENT HAS BEEN CLOSED AND/OR REMOVED FROM HESS SITE OR SOLD TO TRANSMONTAIGNE.

8. Process Codes and Design Capacities (See instructions on page 24) - Enter information in the Sections on Form Page 3.

A. PROCESS CODE - *Enter the code from the list of process codes in the table below that best describes each process to be used at the facility. Fifteen lines are provided for entering codes. If more lines are needed, attach a separate sheet of paper with the additional information. For "other" processes (i.e., D99, S99, T04 and X99), enter the process information in Item 9 (including a description).*

B. PROCESS DESIGN CAPACITY- *For each code entered in Section A, enter the capacity of the process.*

1. **AMOUNT** - *Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action) enter the total amount of waste for that process.*

2. **UNIT OF MEASURE** - *For each amount entered in Section B(1), enter the code in Section B(2) from the list of unit of measure codes below that describes the unit of measure used. Select only from the units of measure in this list.*

C. PROCESS TOTAL NUMBER OF UNITS - *Enter the total number of units for each corresponding process code.*

PROCESS CODE	PROCESS	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
	Disposal:	
D79	Underground Injection Well Disposal	Gallons; Liters; Gallons Per Day; or Liters Per Day
D80	Landfill	Acre-feet; Hectare-meter; Acres; Cubic Meters; Hectares; Cubic Yards
D81	Land Treatment	Acres or Hectares
D82	Ocean Disposal	Gallons Per Day or Liters Per Day
D83	Surface Impoundment Disposal	Gallons; Liters; Cubic Meters; or Cubic Yards
D99	Other Disposal	Any Unit of Measure in Code Table Below
	Storage:	
S01	Container	Gallons; Liters; Cubic Meters; or Cubic Yards
S02	Tank Storage	Gallons; Liters; Cubic Meters; or Cubic Yards
S03	Waste Pile	Cubic Yards or Cubic Meters
S04	Surface Impoundment Storage	Gallons; Liters; Cubic Meters; or Cubic Yards
S05	Drip Pad	Gallons; Liters; Acres; Cubic Meters; Hectares; or Cubic Yards
S06	Containment Building Storage	Cubic Yards or Cubic Meters
S99	Other Storage	Any Unit of Measure in Code Table Below
	Treatment:	
T01	Tank Treatment	Gallons Per Day; Liters Per Day
T02	Surface Impoundment Treatment	Gallons Per Day; Liters Per Day
T03	Incinerator	Short Tons Per Hour; Metric Tons Per Hour; Gallons Per Hour; Liters Per Hour; Btu Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Gallons Per Day; Liters Per Day; Metric Tons Per Hour; or Million Btu Per Hour
T04	Other Treatment	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; Btu Per Hour; Gallons Per Day; Liters Per Hour; or Million Btu Per Hour
T80	Boiler	Gallons; Liters; Gallons Per Hour; Liters Per Hour; Btu Per Hour; or Million Btu Per Hour

PROCESS CODE	PROCESS	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
	Treatment (continued):	
T81	Cement Kiln	For T81-T93:
T82	Lime Kiln	
T83	Aggregate Kiln	Gallons Per Day; Liters Per Day; Pounds
T84	Phosphate Kiln	Per Hour; Short Tons Per Hour; Kilograms
T85	Coke Oven	Per Hour; Metric Tons Per Day; Metric
T86	Blast Furnace	Tons Per Hour; Short Tons Per Day; Btu Per
T87	Smelting, Melting, or Refining Furnace	Hour; Liters Per Hour; Kilograms Per Hour; or Million Btu Per Hour
T88	Titanium Dioxide Chloride Oxidation Reactor	
T89	Methane Reforming Furnace	
T90	Pulping Liquor Recovery Furnace	
T91	Combustion Device Used In The Recovery Of Sulfur Values From Spent Sulfuric Acid	
T92	Halogen Acid Furnaces	
T93	Other Industrial Furnaces Listed In 40 CFR §260.10	
T94	Containment Building - Treatment	Cubic Yards; Cubic Meters; Short Tons Per Hour; Gallons Per Hour; Liters Per Hour; Btu Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Metric Tons Per Day; Gallons Per Day; Liters Per Day; Metric Tons Per Hour; or Million Btu Per Hour
	Miscellaneous (Subpart X):	
X01	Open Burning/Open Detonation	Any Unit of Measure in Code Table Below
X02	Mechanical Processing	Short Tons Per Hour; Metric Tons Per Hour; Short Tons Per Day; Metric Tons Per Day; Pounds Per Hour; Kilograms Per Hour; Gallons Per Hour; Liters Per Hour; or Gallons Per Day
X03	Thermal Unit	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; Btu Per Hour; or Million Btu Per Hour
X04	Geologic Repository	Cubic Yards; Cubic Meters; Acre-feet; Hectare-meter; Gallons; or Liters
X99	Other Subpart X	Any Unit of Measure Listed Below

UNIT OF MEASURE	UNIT OF MEASURE CODE
Gallons	G
Gallons Per Hour	E
Gallons Per Day	U
Liters	L
Liters Per Hour	H
Liters Per Day	V

UNIT OF MEASURE	UNIT OF MEASURE CODE
Short Tons Per Hour	D
Metric Tons Per Hour	W
Short Tons Per Day	N
Metric Tons Per Day	S
Pounds Per Hour	J
Kilograms Per Hour	R
Million Btu Per Hour	X

UNIT OF MEASURE	UNIT OF MEASURE CODE
Cubic Yards	Y
Cubic Meters	C
Acres	B
Acre-feet	A
Hectares	Q
Hectare-meter	F
Btu Per Hour	I

8. Process Codes and Design Capacities (Continued)

EXAMPLE FOR COMPLETING Item 8 (shown in line number X-1 below): A facility has a storage tank, which can hold 533.788 gallons.

Line Number		A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY (1) Amount (Specify)	B. (2) Unit of Measure (Enter code)	C. Process Total Number of Units	For Official Use Only
X	1	S	0	2	5 3 3 . 7 8 8	G	0 0 1	
	1	D	8	1	0 . 0	NONE	001	
	2				.			
	3				.			
	4				.			
	5				.			
	6				.			
	7				.			
	8				.			
	9				.			
1	0				.			
1	1				.			
1	2				.			
1	3				.			
1	4				.			
1	5				.			

NOTE: If you need to list more than 15 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" processes (i.e., D99, S99, T04 and X99) in Item 9.

9. Other Processes (*See instructions on page 25 and follow instructions from Item 8 for D99, S99, T04 and X99 process codes*)

Line Number (Enter #s in sequence with Item 8)		A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY (1) Amount (Specify)	B. (2) Unit of Measure (Enter code)	C. Process Total Number of Units	D. Description of Process
X	2	T	0	4	1 0 0 . 0 0 0	U	0 0 1	In-situ Vitrification
N	/	A			0 . 0			NONE
					.			
					.			
					.			
					.			

10. Description of Hazardous Wastes (See instructions on page 25) - Enter information in the Sections on Form Page 5.

A. EPA HAZARDOUS WASTE NUMBER - ***Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR Part 261, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.***

B. ESTIMATED ANNUAL QUANTITY - ***For each listed waste entered in Section A, estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in Section A, estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.***

C. UNIT OF MEASURE - ***For each quantity entered in Section B, enter the unit of measure code. Units of measure which must be used and the appropriate codes are:***

ENGLISH UNIT OF MEASURE	*CODE*	*METRIC UNIT OF MEASURE*	*CODE*
POUNDS	*P*	*KILOGRAMS*	*K*
TONS	*T*	*METRIC TONS*	*M*

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure, taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in Section A, select the code(s) from the list of process codes contained in Items 8A and 9A on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the listed hazardous wastes.

For non-listed hazardous waste: For each characteristic or toxic contaminant entered in Section A, select the code(s) from the list of process codes contained in Items 8A and 9A on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

1. ***Enter the first two as described above.***
2. ***Enter "000" in the extreme right box of Item 10.D(1).***
3. ***Use additional sheet, enter line number from previous sheet, and enter additional code(s) in Item 10.E.***

2. PROCESS DESCRIPTION: ***If a code is not listed for a process that will be used, describe the process in Item 10.D(2) or in Item 10.E(2).***

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER - Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. ***Select one of the EPA Hazardous Waste Numbers and enter it in Section A. On the same line complete Sections B, C and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.***
2. ***In Section A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In Section D(2) on that line enter "included with above" and make no other entries on that line.***
3. ***Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.***

EXAMPLE FOR COMPLETING Item 10 (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operations. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

Line Number		*A. EPA Hazardous Waste No. (Enter code)*				*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES*									
								(1) PROCESS CODES (Enter code)									*(2) PROCESS DESCRIPTION- (If a code is not entered in D(1))*
X	1	K	0	5	4	900	P	T	0	3	D	8	0				
X	2	D	0	0	2	400	P	T	0	3	D	8	0				
X	3	D	0	0	1	100	P	T	0	3	D	8	0				
X	4	D	0	0	2												Included With Above

10. Description of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)

Line Number		A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	N / A	0			NONE
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
1	0					
1	1					
1	2					
1	3					
1	4					
1	5					
1	6					
1	7					
1	8					
1	9					
2	0					
2	1					
2	2					
2	3					
2	4					
2	5					
2	6					
2	7					
2	8					
2	9					
3	0					
3	1					
3	2					
3	3					
3	4					
3	5					
3	6					
3	7					
3	8					
3	9					

11. Map (See instructions on pages 25 and 26)

Attach to this application a topographic map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in this map area. See instructions for precise requirements.

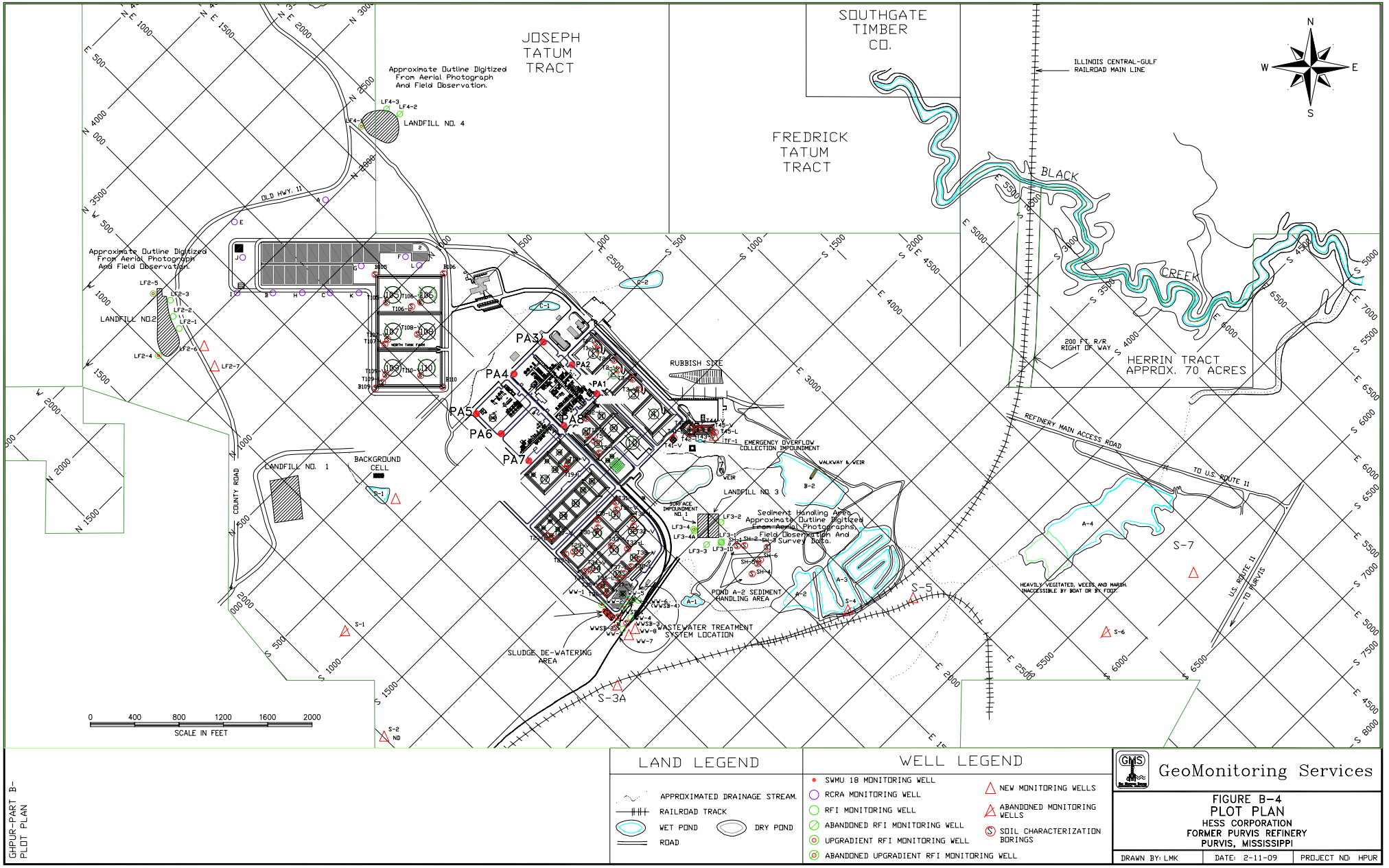
12. Facility Drawing (See instructions on page 26)

All existing facilities must include a scale drawing of the facility (see instructions for more detail).

13. Photographs (See instructions on page 26)

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

14. Comments (See instructions on page 26)



LAND LEGEND

- APPROXIMATED DRAINAGE STREAM
- RAILROAD TRACK
- WET POND
- DRY POND
- ROAD

WELL LEGEND

- SWMU 18 MONITORING WELL
- RCRA MONITORING WELL
- RFI MONITORING WELL
- ABANDONED RFI MONITORING WELL
- UPGRADIENT RFI MONITORING WELL
- ABANDONED UPGRADIENT RFI MONITORING WELL
- NEW MONITORING WELLS
- ABANDONED MONITORING WELLS
- SOIL CHARACTERIZATION BORINGS

GeoMonitoring Services

FIGURE B-4
PLOT PLAN
HESS CORPORATION
FORMER PURVIS REFINERY
PURVIS, MISSISSIPPI

DRAWN BY: LMK	DATE: 2-11-09	PROJECT NO: HPUR

GHPUR-PART B-
PLOT PLAN

SECTION B

FACILITY DESCRIPTION

SECTION B

FACILITY DESCRIPTION

This section provides a general description of the RCRA listed waste management facility as required by MHWMR 270.14(b). This description is intended to acquaint the reader with an overview of the facility. Additional information is located elsewhere in this permit application.

B-1 GENERAL DESCRIPTION [MHWMR 270.14(b)(1)]

Amerada Hess Corporation (now Hess Corporation) operated a 35,000 barrel per day petroleum refinery near Purvis, Mississippi where crude oil was formerly processed into gasoline and fuel oil. The refinery was decommissioned on January 17, 1994 and subsequently served as a Hess Corporation bulk storage and distribution terminal with an SIC code of 5171 until it was sold. Amerada Hess Corporation sold the terminal to TransMontaigne in 1999 but retained portions of the property. The areas that Hess Corporation retained include the former refinery process area (SWMU 18) and closed land treatment area. TransMontaigne owns the terminal tanks and all terminal operations. Hess also retained all of the property surrounding the terminal operations. Amerada Hess closed the land treatment unit in Fall 2003. Amerada Hess Corporation became Hess Corporation in May 2006. Hess has no current operating facilities or equipment at the Purvis Terminal.

Hess Purvis Site is located off of State Highway 11 on a private road. The main access road and most of the terminal roads are paved with asphalt. The roads on which

wastes were transported are surfaced with asphalt and are 30 ft wide. They can bear 88,000 lbs of weight. All traffic is controlled by TransMontaigne.

The street address is:

TransMontaigne
Purvis Terminal
5181 Highway 11
Purvis, Mississippi 39475

The mailing address is:

Hess Corporation
M&R Remediation Department
Attention: Steve Freeman
One Hess Plaza
Woodbridge, New Jersey 07095

The location is shown on **Figure B-1**.

The contacts responsible for the RCRA listed waste management activities are:

Steve Freeman
Environmental Advisor
Hess Corporation
(713) 609-5955

Gerald I Bresnick, Vice President
Environment, Health & Safety
Hess Corporation
(212) 997-8500

As mentioned above, the refinery was decommissioned in 1994 and as such, only characteristic wastes from terminal operations, and very limited amounts of RCRA listed wastes that were generated as the result of ongoing maintenance, closure, investigation and/or remediation projects at the facility through 2003 were transported to the landfarm prior to complete closure. Wastes that were previously generated during the operation of the refinery were:

- Leaded tank bottom sludge (EPA ID No. K052;
- API separator sludge (EPA ID No. K051) (includes heat exchanger bundle wash and recovery oil emulsion solids, EPA ID Nos. K050 and K049, respectively);
- Dissolved air flotation (DAF) float, EPA ID No. K048;

- Characteristic sludges, EPA ID No. D002 and D018 (corrosive tank bottoms and benzene characteristic sludges and contaminated soils, respectively); and
- Characteristic sludges, EPA ID No. D007 and D008 are chromium and lead characteristic sludges and contaminated soils; and
- F037/F038/K169/K170 sludges.

Because Purvis no longer operates as a refinery and the F and K listing codes apply only to wastes from petroleum refining, wastes generated from the former Hess Purvis Terminal Operations, such as API Separator sludge, are not listed wastes. Listed wastes generated as the result of ongoing maintenance, closure, investigation and/or remediation projects associated with the past operation of the refinery were still handled and disposed of as RCRA "listed" wastes.

Because these wastes may still be undergoing treatment within the closed landfarm as part of the ongoing remediation project at the facility, these wastes have been included in this permit renewal application. Land Banned wastes were not placed upon the land treatment unit (landfarm) unless they met the Best Demonstrated Available Treatment (BDAT) standards listed in MHWMR 268.40.

RCRA wastes would only be potentially generated as the possible result of ongoing maintenance, closure, investigation and/or remediation projects at the facility. Since Hess will no longer treat, store (more than 90 days) and/or dispose of waste on-site these requirements are no longer applicable. As such, Hess is a Conditional Exemption Small Quantity Generator (CESQG). TransMontaigne owns the majority of the former refinery and terminal areas, including entrance and plant roads. Traffic is controlled by stop signs at appropriate intersections.

Hess submitted a land treatment unit closure permit in November 2004 and received confirmation from MSDEQ on April 5, 2005. The approval letter is included as

Attachment B-2. No wastes have been added to the land treatment unit since prior to the final closure construction activities in October 2003.

B-2 TOPOGRAPHIC MAP [MHWMR 270.14(b)(19)]

B-2a General Requirements

A topographic map is provided as **Attachment A-1**. The map extends 1,000 feet beyond the landfarm and storage areas in all directions at a scale of 1 inch equals 200 feet with ten-foot contour intervals. The topographic map and the closured LTU plot plan, as shown in **Attachments A-1** and **A-2**, detail:

- Surface water;
- Location of access control;
- Withdrawal wells within 1,000 feet of the RCRA areas;
- Buildings;
- Structures (such as tanks);
- Loading and unloading areas;
- Wastewater treatment system;
- Fire control facilities;
- Drainage barriers;
- Runoff control systems;
- Location of the closed landfarm;
- Location of Tank #6 (now RCRA closed); and
- Access and internal roads.

Hess owns the land within 1,000 feet of the facility and storage areas, except for an area north of inactive Landfarm Cells 1 through 4. This land is forested.

The legal description of the plot of land encompassing the Purvis facility is included in **Attachment B-1**.

B-2b Additional Topographic Requirements for Land Storage, Treatment and Disposal Facilities

Information regarding the additional topographic requirements is referenced from Sections A and E and addressed separately in the following discussion:

1. The point of compliance is shown in **Figure E-1.** This point was determined based on the location of site boundaries and the direction of groundwater flow.

2. The groundwater monitoring well locations are depicted on **Figures E-1** and **E-2** of Section E. The downgradient wells were placed at the point of compliance. The upgradient wells were located sufficiently upgradient from the land treatment unit as to ensure that they represent background conditions unaffected by the operation of the landfarm.

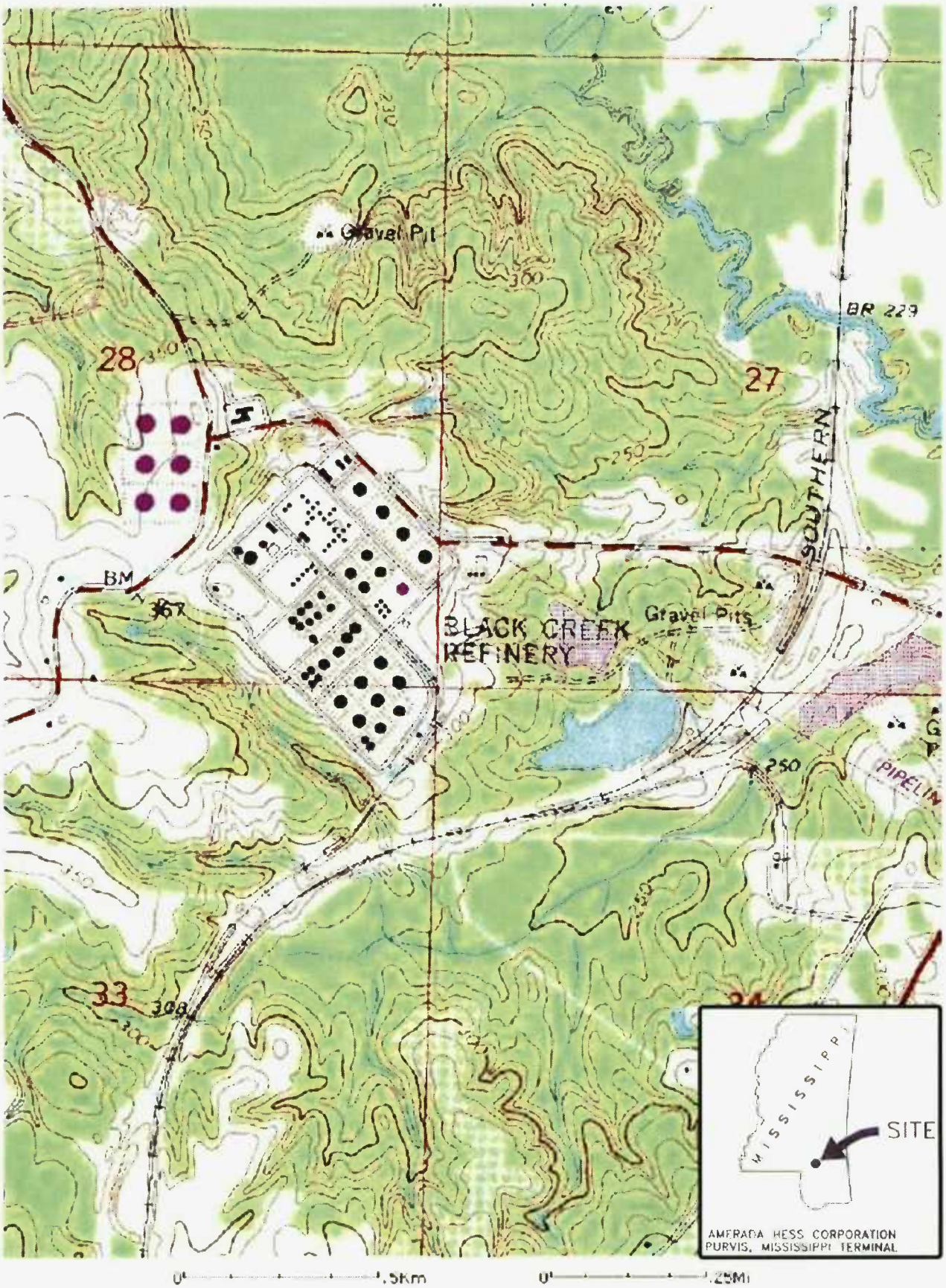
3. The locations of the aquifers are described in **Attachment E-1, the Hydrogeological Report**.

4. The uppermost aquifer is identified in **Attachment E-1**. The uppermost aquifer was identified based on the professional experience of a geologist following a literature review and borehole water level measurements.

5. A review of the regional geology indicates that there is no underlying interconnection between the uppermost aquifer and the lower aquifer. Additional discussion of this topic is provided in **Attachment E-1.**

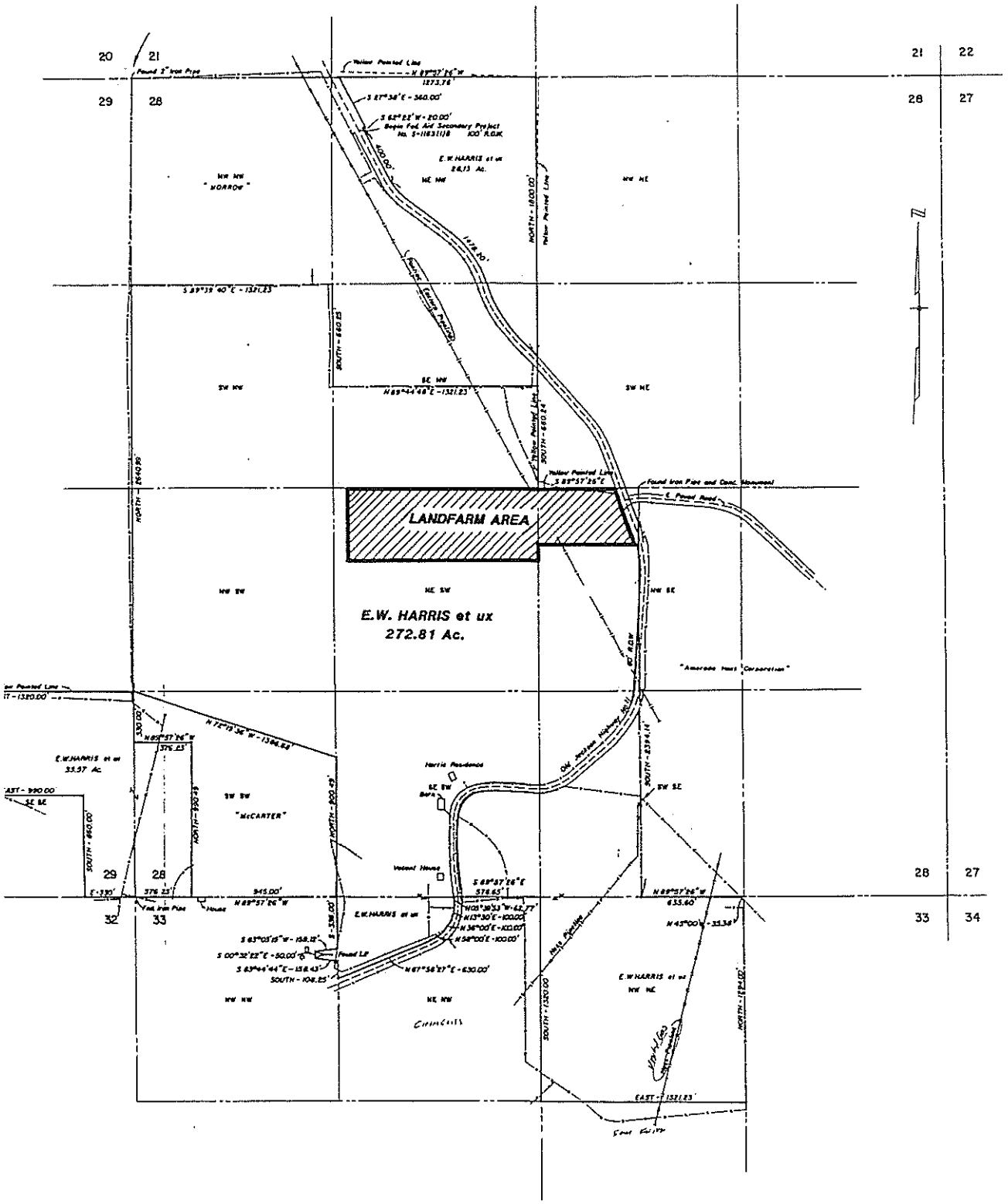
6. **Figure E-2** of Section E depicts the groundwater flow direction. The rate of groundwater flow is discussed and provided in **Attachment E-3.** The direction of groundwater flow was determined by analysis of groundwater level measurements. The rate was calculated using Darcy's Law.

Figure B-1
Site Location Map



ATTACHMENT B-1

LEGAL DESCRIPTION



LOCATED IN UNINCORPORATED AREA OF LAMAR COUNTY.

PROPERTY MAP

LANDFARM AREA

AMERADA HESS CORPORATION
PURVIS, MISSISSIPPI

W A R R A N T Y D E E D

FOR AND IN CONSIDERATION of the sum of Ten Dollars ($10.00), cash in hand paid, and other good and valuable considerations, the receipt of which is hereby acknowledged, we the undersigned, E. W. HARRIS, and wife, ALICE HARRIS, do hereby sell, convey and warrant unto AMERADA HESS CORPORATION, a Delaware Corporation, qualified to do business in the State of Mississippi, the land and property lying and being in Lamar County, Mississippi, and being more particularly described as follows, to-wit:

The SE 1/4 of the SE 1/4, Section 29, Township 3 North, Range 14 West, less and except a strip of land located in the Southwest corner, and described as beginning at the Southwest corner of said 40, and run East 330 yards, thence North 220 yards, thence run West 330 yards, thence run 220 yards South to the point of beginning;

The SW 1/4 of the SW 1/4 in Section 28, Township 3 North, Range 14 West, less and except the N 1/2 of the N 1/2 of said 40, and also less and except, a parcel of land more particularly described as beginning at the Southeast corner of the SW 1/4 of the SW 1/4 of Section 28, T3N, R14W, and run thence West 945 feet, thence North 990 feet, more or less, to the South line of the N 1/2 of the N 1/2 of the SW 1/4 of the SW 1/4, thence run East 945 feet to the East margin of the said SW 1/4 of the SW 1/4 of said Section, Township and Range, and thence run South 990 feet, more or less, to the point of beginning;

And also, the land described as, the SW 1/4 of the NW 1/4; the S 1/2 of the SE 1/4 of the NW 1/4; the N 1/2 of the SW 1/4; the SE 1/4 of the SW 1/4; the W 1/2 of the W 1/2 of the SE 1/4; and 10 acres in the SW 1/4 of the SW 1/4 described as, beginning at the Northeast corner thereof, and run South 140 yards, thence run diagonally Westward to the Northwest corner of the SW 1/4 of the SW 1/4, thence East to the point of beginning; all in Section 28, Township 3 North, Range 14 West; and also, the NW 1/4 of the NE 1/4 and that part of the NE 1/4 of the NW 1/4 lying and being West and North of the Jackson Highway as now laid out, and being 5 acres, more or less, both in Section 33, Township 3 North, Range 14 West; less and except, that portion

of the NW 1/4 of the SE 1/4 of Section 28, Township 3 North, Range 14 West, lying East of the Lamar County Farm to Market Road and West of the present property line of Amerada Hess Corporation, beginning at the point of intersection of the East line of the 60 foot right of way of said Lamar County Road with the North line of the NW 1/4 of the SE 1/4 of Section 28, thence due East along said North line of the NW 1/4 of the SE 1/4 of Section 28, a distance of 75 feet, more or less, to the point of intersection with the present property line of the property owned by Amerada Hess Corporation, thence due South along said property line a distance of 200 feet, more or less, to the point of intersection with the said East line of the right of way of said Lamar County Road, thence in Northwesterly direction along the curve of said East line of said right of way to the point of beginning, containing 0.20 acres of land, more or less.

And also, the land described as, all that part of the NE 1/4 of the NW 1/4 lying and being East of the East margin of Old Jackson Highway No. 11, as now laid out and constructed, and all that part of the N 1/2 of the SE 1/4 of the NW 1/4 lying and being East of the East margin of Old Jackson Highway No. 11, as now laid out and constructed; all of said land lying and being in Section 28, Township 3 North, Range 14 West.

All the above-described lands being in Lamar County, Mississippi, and containing a grand total of 335.3 acres, more or less.

Grantors do also sell and convey unto Grantee its successors and assigns that portion of Section 28, Township 3 North, Range 14 West, Lamar County, Mississippi, lying West of the East right of way line of the Lamar County Farm to Market Road hereinabove referred to in the land described above; and also, all lands which are adjacent to the above-described lands over which the Grantors have heretofore exercised possession.

Excepted from the warranties herein contained are the following:

1. Ad valorem taxes for the year 1971. Grantee by its acceptance of this deed agrees to pay such taxes, they having been prorated to the date of sale.

2. The encroaching fence lines as shown by the survey of D. F. Simmons of the above-described lands in Northwest corner, SE 1/4 of SE 1/4 Sec. 28; in Southeast Corner and East side of the tract located on West side of S 3/4 of SW 1/4 of SW 1/4 Sec. 28; on East side N 1/2 of SW 1/4 of NW 1/4 Sec. 28, in Northeast corner of S 1/2 of SE 1/4 of NW 1/4 Sec. 28 and in Northeast corner and on East side of NW 1/4 of NE 1/4 of Sec. 33, all in T3N, R14W, Lamar County, Mississippi.

3. The undivided one-half mineral interest conveyed to Alfred S. Black, Trustee, on August 11, 1937, recorded Lease Book 7, Page 323, and on August 12, 1937, recorded Lease Book 7, Page 318.

4. The Rights of Way granted Pontiac Eastern Corporation on September 19, 1956, recorded Book 3X, Page 179 and on March 21, 1957, recorded Book 3X, Page 201.

5. The Rights of Way granted United Gas Pipeline Company on May 3, 1955, recorded Book 3E, Page 313, and on April 19, 1957, recorded Book 3J, Page 61.

6. The Right of Way granted Hess Pipeline Company on June 17, 1969, recorded Book 4Q, Page 492.

WITNESS OUR SIGNATURE this the 14th day of September, 1971.

His
E. W. Harris
E. W. HARRIS

Alice Harris
ALICE HARRIS

WITNESSES:

Jeanette H. Marquis

John A. Weldon

STATE OF MISSISSIPPI

COUNTY OF LAMAR

Personally appeared before the undersigned authority in and for the jurisdiction aforesaid, the within named E. W. HARRIS and ALICE HARRIS, who acknowledged that they signed and delivered the foregoing instrument on the day and year therein mentioned.

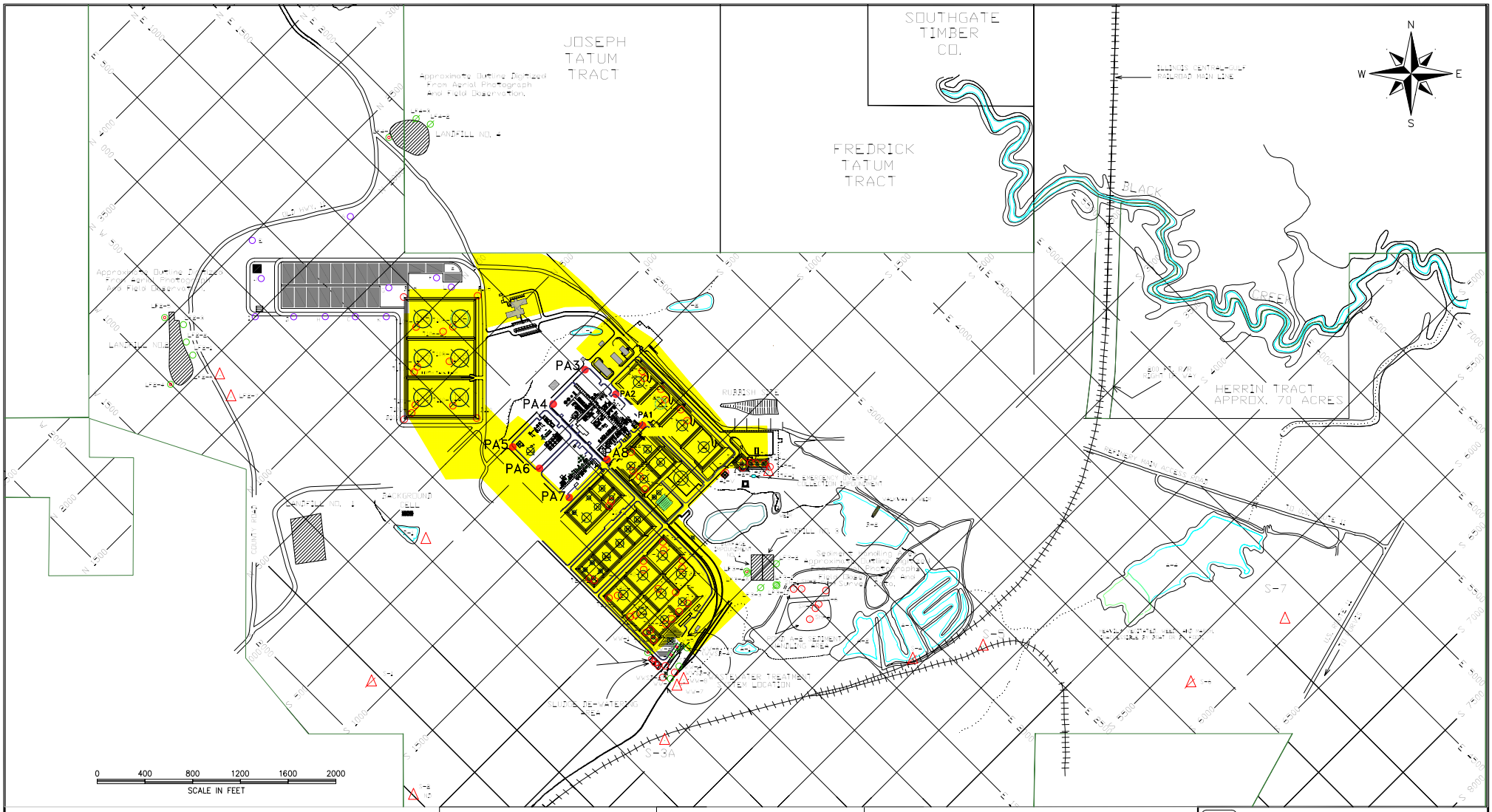
Given under my hand and official seal, this the 14th day of September, 1971.

Mrs. Dorothy L Roberts
NOTARY PUBLIC

My Commission Expires: Nov 7, 1972

11:55
16
129

- 4 -



GHPUR-PART B-PLOT PLAN

KEY	LAND LEGEND	WELL LEGEND
TRANSMONTAIGNE PROPERTY	APPROXIMATED DRAINAGE STREAM	SWMU 18 MONITORING WELL
	RAILROAD TRACK	RCRA MONITORING WELL
	WET POND / DRY POND	RFI MONITORING WELL
	ROAD	ABANDONED RFI MONITORING WELL
		UPGRADIENT RFI MONITORING WELL
		ABANDONED UPGRADIENT RFI MONITORING WELL
		NEW MONITORING WELLS
		ABANDONED MONITORING WELLS
		SOIL CHARACTERIZATION BORINGS

GeoMonitoring Services

FIGURE B-1
CURRENT HESS & TRANSMONTAIGNE PROPERTY PLOT
HESS CORPORATION
FORMER PURVIS REFINERY – PURVIS, MISSISSIPPI

DRAWN BY: LMK	DATE: 2-17-09	PROJECT NO: HPUR

STATE OF MISSISSIPPI

HALEY BARBOUR
GOVERNOR

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

CHARLES H. CHISOLM, EXECUTIVE DIRECTOR

April 6, 2005

Mr. Harold Small
Amerada Hess Corporation, Purvis Landfarm
One Hess Plaza
Woodbridge, NJ 07095

Dear Mr. Small:

Re: Amerada Hess Corporation, Purvis Landfarm
Lamar County
Haz. Waste Ref. No. HW079461406

We have received and reviewed the closure certification reports for the Purvis landfarm. A visual inspection conducted February 3, 2005, verified that the unit had been closed in accordance with the approved closure plan.

Since all operating units have now been certified closed, by copy of this letter Amerada Hess Corporation is hereby released from the financial assurance requirements for closure and for liability coverage under the Mississippi Hazardous Waste Management Regulations.

If you have any questions, please contact me at 601-961-5067

Sincerely,

Toby M. Cook, P.E.
Environmental Permits Division

cc: Rick Sumrall

18593 PER20000001

OFFICE OF POLLUTION CONTROL
POST OFFICE BOX 10385 • JACKSON, MISSISSIPPI 39289-0385 • TEL: (601) 961-5171 • FAX: (601) 354-6612 • www.deq.state.ms.us
AN EQUAL OPPORTUNITY EMPLOYER

SECTION C

RESERVED

SECTION D

LAND TREATMENT PROGRAM

SECTION D

PROCESS INFORMATION

Hess Corporation (Hess) monitors a closed Resource Conservation and Recovery Act (RCRA) landfarm system for the treatment of RCRA wastes and other similar oily wastes generated in the production of petroleum products. The landfarm system was operated under a Mississippi Hazardous Waste Operating Permit. This landfarm was closed in the Fall of 2003. This section provides a description of the former landfarm system, the landfarm closure, and the soil monitoring program.

MHWMR 270.24, 270.25, and 270.27 require that information be provided for facilities that are subject to MHWMR part 264, subparts AA, BB, and CC. Subpart AA pertains to facilities that have process vents to which the requirements of MHWMR 264 apply. The Purvis site does not have any process vents to which subpart AA of part 264 applies. Subpart BB pertains to facilities that have equipment to which the requirements of MHWMR 264 apply. The Purvis site does not have any equipment to which subpart BB of part 264 applies. Subpart CC pertains to tanks, surface impoundments, and containers to which the requirements of MHWMR 264 apply. The subpart CC requirements and the facility's compliance with them are discussed further in the following sections.

D-1. CONTAINERS [MHWMR 270.15 and 264.175]

The Hess site at Purvis, Mississippi does not use containers subject to permitting requirements for RCRA listed waste management. Storage does not exceed 90 days. The permitting requirements of this section are therefore not applicable.

MHWMR 270.27 requires that information be provided for facilities that are subject to MHWMR part 264, subpart CC. Subpart CC pertains to tanks, surface impoundments, and containers which manage hazardous waste with an average organic concentration greater than or equal to 500 parts per million weight (ppmw) at the point of waste origination. The Purvis site does utilize hazardous waste containers which are larger than 0.1 cubic meters (m^3), less than 0.46 m^3, and which store hazardous waste with an average organic concentration greater than or equal to 500 ppmw at the point of waste origination. Level 1 control standard applies to this type of container and service. Level 1 control standard allows for the use of a container which meets Department of Transportation (DOT) regulations. This facility uses only 55 gallon DOT drums for this service, and therefore, meets the requirements of subpart CC.

D-2. LAND TREATMENT

Land treatment is a treatment technology which utilizes the biotic (biological) and abiotic (physical) components of a soil system to remediate oily residual waste. The hazardous constituents and possible pollutants in the waste are either transformed by microorganisms, adsorbed by the soil, or subjected to other natural processes (such as photolysis) so that any liquid or air leaving the site does not result in constituent transport.

D-2a. Treatment Demonstration

A Land Treatment Demonstration was conducted at the Purvis site to provide site-specific information through field and laboratory studies combined with a literature review and research to define and observe the types of waste attenuation that occur at the Purvis facility landfarm. The demonstration, performed from 1988-1989 by The Advent Group, Inc., showed that representative oily wastes of the sort produced through refinery (and later terminal) operations were effectively degraded in the treatment zone. The results of the Land Treatment Demonstration (December 7, 1989) were approved by MDEP and copies can be provided if requested. The ongoing results of the Detection Monitoring Program for the unit have further demonstrated that the oily waste constituents are degraded, transformed or immobilized in the treatment zone, as no landfarm wastes have entered the unsaturated zone or groundwater. Only Post Closure Monitoring Permit requirements are now necessary for this permit renewal.

D-2b. Treatment Program

The Second Semi-annual 2008 Landfarm Statistical Report dated November 2008 of landfarm monitoring at the Purvis Terminal is provided in **Attachment D-1**. This report describes the various sampling locations and collection, sample preparation, and analytical methods used during the landfarm treatment zone monitoring event.

RCRA Listed Constituents

The following constituents can reasonably be expected to be in, or derived from, the wastes that have historically been land treated at the Purvis Landfarm: antimony,

arsenic, beryllium, barium, cadmium, mercury, nickel, selenium, vanadium, chromium, lead, l,l,l—trichloroethane, benzene, toluene, total xylenes, benzo(a)anthracene, benzo(b)fluoranthene, bis(2—chlorisopropyl)-ether, dimethyl phthalate, fluoranthene, ideno(l,2,3—cd)pyrene, benzo(a)pyrene, and naphthalene. These constituents were screened from the Skinner List through waste analyses of typical refinery wastes.

Unsaturated Zone Monitoring Program (MHWMR 270.20(b)(3)

The unsaturated zone monitoring program has been developed with the intent of accomplishing the following objectives:

- demonstrate the immobilization of RCRA listed wastes and RCRA listed waste constituents beneath the treatment zone of the land treatment facility; and
- develop information of the background concentrations of RCRA listed wastes and RCRA listed wastes in similar, nearby soils where land treatment of RCRA listed wastes has not occurred.

This program consists of soil quality monitoring.

Soil Monitoring

Note soil pore monitoring was terminated after the LTU closure in accordance with MHWNR 270.2 requirements. Soil core sampling will be continued in accordance with MHWMR 270.20(b)(3).

(i) SAMPLING EQUIPMENT, PROCEDURES AND FREQUENCY [MHWMR 270.20(b)(3)]

Prior to closure, the landfarm unit was composed of 23 cells. After closure, the landfarm unit is composed of 4 cells. The breakdown is as follows:

Former cells 1 through 4 = CELL 1
Former cells 5 through 14 = CELL 2
Former cells 15 through 22 = CELL 3
Former cell 23 (leaded cell) = CELL 4 (Pb)

Post closure documentation will refer to the cells by the new numbering system (i.e., CELLS 1 through 4).

Sampling Equipment

The frequency of soil sampling was specified to follow a geometrically progressive schedule consisting of sampling at 6 months (2004), 1 year (2005), 2 years (2006), 4 years (2008), 8 years (2012), 16 years (2016), and at 30 years (2034) after the commencement of the post-closure period. Hess uses a hand auger to obtain its soil samples as shown on **Figure D-1**. Hess collects four composite soil samples. One composite sample is collected from the leaded sludge treatment site (Cell 4-Pb), two composite samples are collected from the unleaded sludge treatment area [Cell 2 (former cell 5) and Cell 3 (former cell 18)], and one composite sample is collected from the control site. The control area is located south of the landfarm.

The parameters for which soil is monitored include:

- pH
- Specific Conductivity
- Total Kjeldahl Nitrogen
- Oil and Grease
- Total Phenolics
- Chromium
- Lead
- Benzene
- Toluene
- Total Xylenes
- Naphthalene
- Benzo(a)pyrene

Sample Collection Procedures

The following procedures are used to collect samples at the Purvis site:

1. Each composite sample will include three individual grab samples in each cell at random points. Excavate the surficial materials using a hand auger down to just above the desired depth. Make sure the base of the excavation is free of all waste materials. Place the sampler tip on the soil surface at the exact sampling location.
2. With the sampling point and extension rod at the exact vertical position, push or pull down on the handle to force the sampler into the soil.
3. When the auger has reached a depth equivalent to the length of the sampling tube, twist handle to shear off soil. Pull tube out of soil.
4. Discard the upper one inch of sample. Transfer the lower portion of the sample into plastic ziplock bags with the aid of a spatula and/or scoop. Fill the bag completely.
5. Insert the auger into the next composite point and repeat step 1 through 4. Keep track of the sampling depth using the marks on the rod or by extending a steel tape into the hole. If necessary, screw on an additional extension rod.
6. Backfill the sampling excavation to the original grade.
7. Wipe the sampling auger clean and repeat the above sampling methods across the three random grab points to obtain composite samples. Combine the three ziplock bags of samples into one sample bag.
8. Transfer soil from ziplock bag to laboratory-supplied containers for the composite samples.
9. Cap each sampler container; attach the sample label and seal.
10. Enter all pertinent sampling information into field log book.
11. Complete chain-of custody record.

During dry conditions for the samples within or below the treatment zone, it may be necessary to use a drill rig equipped with a continuous sampling tube.

The shovel, hand auger and spatulas/scoops will be decontaminated between soil sampling locations utilizing the following method: alconox/liquinox and water wash, potable water rinse, and distilled water rinse. The decontamination fluids will be treated at granular activated carbon drum inside the landfarm fence (**Attachment A-1**). Cuttings will be placed back into the core hole and Bentonite will be used to seal the surface of the core location.

(ii) SAMPLING LOCATIONS

One composite sample is collected from the leaded sludge treatment site (Cell 4-Pb), two composite samples are collected from the unleaded sludge treatment area [Cell 2 (former cell 5) and Cell 3 (former cell 18)], and one composite sample is collected from the control site (Background to the South of landfarm). The sampling locations within each cell will be determined by using a random number generator on a hand-held calculator. For locations within each cell, a pair of numbers will be generated and located on the Landfarm grid (**Figure D-2**). Three locations per plot (for each composite sample) will be chosen during each sampling event. If the same location is selected twice, the second selection will be disregarded. Locations on berms or dikes will also be disregarded. (Additional selections will be made in either case). "Hot spots" will be determined during the reconnaissance survey following the determination that a statistically significant event has occurred. “Hot spot" sampling will not be repeated during routine monitoring.

(iii) ANALYTICAL PROCEDURES FOR SOIL MONITORING

The analytical procedures for laboratory analyses of the soil-core samples are in accordance with acceptable EPA methods or equivalent methods. These are presented in **Attachment D-1**.

(iv) QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) PROGRAM

Field QA/QC Program:

The sampling procedure for soil analyses incorporates a routine collection and analysis of three types of QC blanks:

- Equipment Blank;
- Field Blank; and
- Trip Blank.

Equipment Blanks are prepared to ensure that the nondedicated sampling equipment (the sampling hand auger) has been effectively cleaned and/or decontaminated. The water used for this blank is distilled/deionized water. The blanks are transferred to a sample bottle after being exposed to the equipment and returned to the laboratory for analysis. Appropriate preservatives are added, and the samples are labeled, packaged and shipped using the same protocols as those used for other soil samples. The equipment blank is analyzed for the same parameters as the other soil samples. These blanks have no special numerical identification and are submitted with the remaining samples. A minimum of one equipment blank for each sampling event is used.

Field Blanks are prepared to ensure that the samples are not cross-contaminated (influenced) by conditions encountered in the field. The water used for this blank is distilled/deionized water. The blank water is transferred by pouring from the blank water bottles directly to sample bottles provided by the laboratory. This operation is performed in the landfarm area. Appropriate preservatives are added, and the samples are labeled, packaged and shipped using the same protocols as those used for other soil samples. The field blank is analyzed for the same parameters as the other soil samples. These blanks have no special numerical identification and are submitted with the remaining samples. A minimum of one field blank for each event of sampling is used.

Trip Blanks are included each time a group of sample containers is prepared for use in the field. The containers are prepared in the same manner as the sample bottles and are filled with deionized water. The trip blanks are transported and handled in the same manner as the sample containers. Any contaminants in the trip blanks could be attributed to:

- interaction between the sample and the container;
- contaminated rinse water; or
- a handling procedure that alters the sample analysis.

One trip blank per sampling event is used.

Duplicate samples are not taken for soils due to the variability of this matrix and because the soil samples are composites.

Laboratory QA/QC:

Hess contracts with an outside laboratory to perform all laboratory analyses during the monitoring period. The laboratory is responsible for implementing a QA/QC program consistent with recommended EPA methodologies and procedures and as a minimum this includes the following components:

- Standards;
- Duplicates;
- Operator training;
- Laboratory blanks;
- Spiked samples; and
- Instrument Maintenance.

The QA/QC program of the laboratory will include sections describing:

- Laboratory methodologies;
- Personnel Qualification;
- Analytical Methods; and
- Holding times.

(v) CHAIN-OF-CUSTODY RECORD FOR SOIL MONITORING AND SAMPLE SHIPMENT

To establish the documentation necessary to trace sample possession from the time of collection to the time of analysis, a chain-of-custody record is filled out and accompanies every sample. This form includes the sample analysis request. The sampling personnel complete the field portion of this form. The laboratory portion of this form is intended to be completed by laboratory personnel. The chain-of-custody record will contain the following minimum information:

- Site name, address, and location,
- Collector's sample number,
- Signature of collector,
- Date and time of collection,
- Place and address of collection,

- Sample type,
- Signatures of persons involved in the chain of possession,
- Inclusive dates of possession, and
- Final disposition.

Sample Labels and Custody Seals

Sample labels and custody seals (**Figure D-3**) are used to preserve the integrity of the samples and prevent mistaken (or false) identification from the time a sample is collected until it is opened in the laboratory. Sample labels, attached to the exterior of each bottle following sample collection, carry the following information:

- Site name, address, and location,
- Name of collector,
- Date and time of collection,
- Place of collection, and
- Collector's sample number.

Sample custody seals identifying the date of sample shipment, the place of collection (the facility) and the name of the sample collector are affixed to the outside of each sample transport container prior to sample shipment. The custody seal is attached in such a way that it is necessary to break it in order to open the sample transport container.

Field Book

All information pertinent to a field survey and/or sampling event will be recorded in a log book. Entries in the log book must include, at a minimum:

- Purpose of sampling (e.g., surveillance, contract number),
- Location of sampling point,
- Name and address of field contact,
- Number and volume of samples taken,

- Description of sampling point and sampling methodology,
- Date and time of collection,
- Collector's sample identification number(s),
- Sample distribution and how transported (e.g., name of laboratory, UPS, Federal Express),
- Field observations, and
- Any field measurements made (e.g., pH, specific conductance).

Sample Preservation and Shipment

Following the collection of each series of samples, the samples will be cooled to approximately 4^0C, if necessary. If required, ice, blue ice, or similar material will be used to keep samples cool during shipment. Ice will be properly packaged to prevent water leakage. The individual sample containers will be shipped to the laboratory in suitable coolers or fiberboard boxes. The shipping containers will be properly labeled as "Environmental Samples". Shipment of samples will be accomplished as soon as practicable; however, holding time onsite should not exceed 24-48 hours.

Sample Delivery to the Laboratory

The sample is delivered to the laboratory for analysis as soon as practicable-usually within 1 to 2 days after sampling. The sample is accompanied by the chain-of-custody record (**Figure D-4**). The samples are delivered to the person in the laboratory authorized to receive samples.

(vi) PROCEDURES FOR ESTABLISHING BACKGROUND VALUES

The control area is located south of the landfarm in a similar soil series. One background sample will be taken during each sampling event. The results of the background soil cell sample analysis will then be statistically compared to the

downgradient or compliance soil cells. A summary of the background soil cell samples from November 1986 to June 1997 is shown in **Attachment D-1**. The data to be used to define current background conditions are shown in **Attachment D-1.** The background soil database to be used for statistical analyses is based on data collected from December 1992 to June 1997 only, with the exception of Oil & Grease which began in 2001 due to a new analytical procedure, to reflect improved sample collection and handling, techniques and analytical procedures. This database is summarized in **Attachment D-1**.

(vii) STATISTICAL METHODS FOR INTERPRETING RESULTS

Statistical Procedures

The goal of the RCRA detection monitoring program is to determine whether hazardous constituents have migrated from the Landfarm treatment zone. This determination should be made by statistically comparing the concentrations of the analyzed parameters in the samples taken at or beneath the treatment zone to the concentrations detected in similar background samples. The statistical methods utilized to achieve this goal for soil monitoring are the same as those employed for soil-pore monitoring. These methods are discussed in detail in the preceding soil-pore monitoring section.

The results of the Test for the Distribution of data and the percent of non-detects in the background database are summarized in **Attachment D-1**. These results are then applied to the decision flowchart (presented as **Figure 1-1** of **Attachment D-1**) to determine the appropriate statistical procedure to be used. **Attachment D-1** summarizes

the statistical procedures determined appropriate to analyze the soil detection monitoring data.

(viii) PRINCIPAL HAZARDOUS CONSTITUENTS [MHWMR 264.271(b) and MHWMR 270.20(b)(3)(vii)]]

The constituents to be monitored in soil were determined based on the land treatment demonstration analytical results and landfarm treatment capacity. These constituents are used to monitor the ability for the landfarm to degrade, transform or immobilize waste. The surrogate parameters are used as indicators of contamination in the soil. The constituents to be monitored are listed below:

The principal hazardous constituents include:

- Chromium
- Lead
- Benzene
- Toluene
- Total Xylenes
- Naphthalene
- Benzo(a)pyrene

The surrogate parameters include:

- pH
- Specific Conductivity
- Total Kjeldahl Nitrogen
- Oil and Grease
- Total Phenolics

D-2c. Treatment Design and Operation

Run-On Control

Dikes that have a height of 18 to 24 inches above treatment grade (13-19 inches above clay cap) surround the landfarm. The site topography is such that the

surrounding terrain slopes away from the landfarm in all directions (see **Attachment A-1**). The topography of the site prevents run—on to the landfarm. The peripheral dikes provide additional protection from run—on. The final LTU surface and containment berm elevations are shown on Sheet 3 of 3 in **Attachment A-1**. With the advantageous siting of the landfarm and the external dikes, the landfarm is protected from run-on.

Minimization of Hazardous Constituent Run-Off

The run-off of RCRA listed constituents is minimized by design. Each cell is sloped to allow drainage, and the clay and vegetative cover prevents interaction with the constituents.

Post Closure Inspections

The landfarm is an area divided into three individual landfarm plots, plus a "leaded" treatment cell. Three land treatment demonstration plots are located south west of the active landfarm cells but these units are no longer in service and were closed in July 1990. Each cell is surrounded by earthen dikes, which are covered with grass to prevent erosion. These areas will be inspected by the Environmental Coordinator or the designated representative according to the following procedures.

1. The Landfarm Cover will be inspected quarterly and after storms for any signs of deterioration. This includes cracks, erosion, or any signs of seepage through the cap or erosion of the cap. The vegetation on the cap will be checked, since it aids in maintaining cover integrity.

2. The operation of the groundwater monitoring wells will be checked semi-annually.

An inspection checklist for this purpose is presented in **Figure D-5**.

If inspections reveal that maintenance is needed, it will be completed as soon as possible. If a hazard is imminent or has already occurred during the course of an inspection or any time between inspections, remedial action will be taken immediately. Possible remedial measures include mowing, repair of equipment or repair of the dike system.

An inspection log is maintained for each calendar year. It includes the dates upon which inspections were made. Each inspection is documented with an inspection record. As required, records of inspections are kept for at least three years from the date of inspection. Recent inspection reports are included in **Attachment F-1**.

Vegetative Cover

The closed landfarm area is covered with topsoil and stabilized with low maintenance grass species such as Bermuda grass (Cynodon dactylon) and Bahaia (Paspalum notatum). If the seeds do not grow adequately, additional seeds will be broadcasted. Fertilizer will be added as necessary.

Figure D – 1

Typical Hand Auger for Soil Sampling

EPA ID# MSD 079 461 406

Hess Corporation, former Purvis Refinery/Terminal, Purvis, MS

Hand augers are suitable for hand-boring in cohesive soils or sands and gravels, above the water table to a depth of 5 or 6 meters.

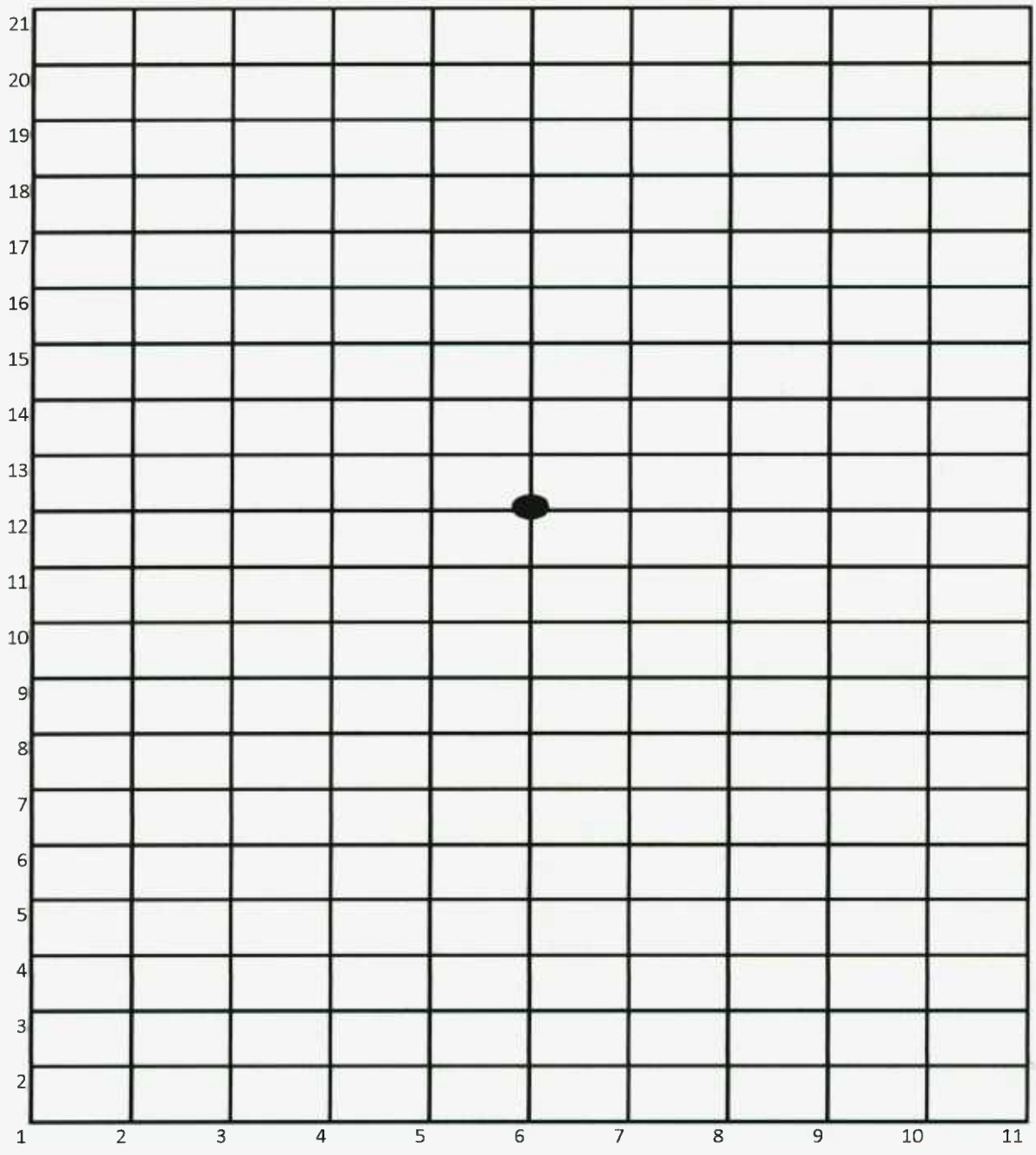
Soil Auger Heads are constructed of heavy duty steel plates forming an open tube partly interlocking at the cutting end. Two diameters are available - 100 mm or 150 mm.

The Gravel Auger Head comprises a one piece steel casting with a spiral point and two clap plates designed to close when lifting samples from the borehole. Its diameter is 150 mm.

The auger heads is connected to Extension Rods constructed of steel tubing 1 meter long. A Handle with T-piece is attached to the uppermost extension rod.



FIGURE D-2
SOIL CORE SAMPLING LOCATIONS
EPA ID# MSD 079 461 406
Hess Corporation, former Purvis Refinery/Terminal, Purvis, MS



NOTES:

Each Interval is 10 Feet.

The same pattern will be used for all plots per sampling event.

As an example, if the numbers 6 and 12 are chosen, soil core sampling will occur at the location marked on the grid.

Figure D-3

EPA ID# MSD 079 461 406

Hess Corporation, former Purvis Refinery/Terminal, Purvis, MS

ACCUTEST Laboratories

Custody Seal

179

ACCUTEST Laboratories

Custody Seal

180

AVERY® 5163®
1-800-GO-AVERY
www.avery.com
Impression antibourrage et à séchage rapide
Utilisez le gabarit 5163®

Client Proj: **By:**
Sample ID:
Date: **Time:**
Analysis: VOC
Preservative: HCL

Client Proj: **By:**
Sample ID:
Date: **Time:**
Analysis: VOC
Preservative: HCL

Client Proj: **By:**
Sample ID:
Date: **Time:**
Analysis: VOC
Preservative: HCL

Client Proj: **By:**
Sample ID:
Date: **Time:**
Analysis: VOC
Preservative: HCL

Client Proj: **By:**
Sample ID:
Date: **Time:**
Analysis: VOC
Preservative: HCL

Figure D-4

EPD ID# MSD 079 461 406

Hess Coporation, former Purvis REfinery/Terminal, Purvis, MS

ACCUTEST.

CHAIN OF CUSTODY

4405 Vineland Rd., Suite C15
Orlando, FL 32811
407.425.6700, fax 407.425.0707

Accutest Job #:

Accutest Quote #: ENTER SKIFF # HERE

Client Information

Name: Hess Corporation
Address: One Hess Plaza
City Woodbridge State NJ Zip 07096
PROJECT MANAGER
Send Report to: Natalie Warner
Phone #: 609-903-1061, natwarnj@gmail.com

Facility Information

Project Name: Hess Purvis Terminal
Location: 5151 Hwy 11, Purvis, MS
Project No.: Soil Work
FAX #:

Analytical Information

Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Preservation: VOC	NaOH	HNO3	H2SO4	None	V8260BTEX	B8270NAP, BMS+BAPYRN	TKN	pH	Cr, Pb	OG1664	Phenols (PNCE)	sp. Conductivity
C2-123				so	3						X	X	X	X	X	X	X	x
LC-123				so	3						X	X	X	X	X	X	X	x
C3-123				so	3						X	X	X	X	X	X	X	x
Background				so	3						X	X	X	X	X	X	X	x
Equipment Blank				aq	11	3		1			x	x	x	X	X	X	X	x

Turnaround Information

- [ ] 21 Day Standard — Approved By:
- [x] 14 Day
- [ ] 7 Days *EMERGENCY*
- [ ] Other _____ (Days)

RUSH TAT is for FAX data Data unless previously approved. Rush Code:

Data Deliverable Information

- [ ] NJ Reduced
- [ ] NJ Full
- [ ] FULL CLP
- [ ] Disk Deliverable
- [ ] Other (Specify) _____
- [ ] Commercial "A"
- [x] Commercial "B"
- [ ] ASP Category B
- [ ] State Forms

Comments / Remarks

If Trip Blank needs to be run, client is to note it on coc above. If Trip Blank is not noted above, Trip Blank will NOT be analyzed. Phenols are Low Level- Accutest will sub to Accutest in Mass.

Sample Custody must be documented below each time samples change possesion, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 SAMPLERS SIGNATURE		1	2		2
3		3	4		4
5		5	Seal # CUSTODY SEAL #	Preserved where applica ☐	On Ice: ☐

FIGURE D-5
QUARTERLY POST CLOSURE INSPECTION CHECKLIST
EPA ID # MSD 079 461 406
Hess Corporation, Former Purvis Refinery/Terminal
Purvis, MS Terminal

DATE/TIME:_____ INSPECTOR:_____

PERIMETER INSPECTION	OK ✓	FIX ✓	Comments
No damage or breaks in fencing or gates			
No damage to locks or posts			
No missing posts			
Ability of gates to close and lock			
No evidence of vandalism			
No excessive vegetation present to damage fence or gates			
Warning signs present and legible			
No excessive vegetation present to damage or block warning signs			
Survey control monuments visible			
Other:			

CLOSED LTU CAP INSPECTION	OK	FIX	Comments
Erosion			
Settlement			
Established grass cover			
No erosion or blockage in runoff ditches			
Perimeter Berm/Roadway intact			
Cap mowed			
Other:			

GROUNDWATER MONITORING WELL INSPECTION	OK	FIX	Comments
No cracks to well casing or concrete			
No corrosion or damage			
No burrowing rodents			
No signs of vandalism			
No insect nests			
No excessive vegetation present to damage or block access to well			
Other:			

Maintenance Performed – record date and nature of work:

Corrective Actions (if required):

SECTION E

GROUNDWATER DETECTION MONITORING PROGRAM

SECTION E

DETECTION MONITORING PROGRAM [MHWMR 270.14(c)(6)]

This section details the characteristics of and the methodology involved in the protection of the groundwater underlying the Hess site. As such, this information satisfies the requirements of MHWMR 270.14(c) and 264.90 through 264.100.

E-1 INTERIM STATUS MONITORING AND COMPLIANCE MONITORING HISTORY [MHWMR 270.14(c)(1) and 265.90-265.94]

Hess collected groundwater monitoring data under Interim Status provisions from 1982 until 1988, when the RCRA Part B Permit was issued. The interim status monitoring system comprised a total of four wells, which were designated Wells A, B, C and D (**Figure E-1**).

Background data were collected in 1982, and subsequent semi—annual data served to indicate the variability in groundwater quality. Specific conductance, pH, total organic carbon, and total organic halogen data were analyzed using the Students t—Test. Statistically significant differences in pH, specific conductance and total organic carbon were observed. Consequently, a groundwater assessment was performed in May 1984. The 1986 Hydrogeological Report is presented in **Attachment E—1**. The observed differences were attributed to natural fluctuations in the groundwater and analytical variability, so Purvis continued semi-annual monitoring under the Interim Status provisions until 1988, when the Part B Permit was approved. Purvis has continued routine semi-annual monitoring from 1988 until present utilizing the statistical procedures described in **Attachment D-1 in the**

Second Semi-annual 2008 Landfarm Statistical Report. These procedures were supplemented with Alternate Statistical Procedures in September 1991 (please refer to discussion in **Attachment D-1**) to address continuing statistical problems with the Student's t-test method. These alternate procedures have been employed to analyze statistical data from the landfarm from 1991 to present with the exception of Oil and Grease. Due to a change in analytical methods and the method detection limit (see **Attachment D-1**), a different statistical method was necessary for the analysis of Oil and Grease groundwater and soil results since September 2001. The Poisson Tolerance intervals, Trend Analysis statistical method was chosen and found applicable. The background database will be built upon each sampling event until there are 20 samples.

Wells A through D were later supplemented in 1990 by wells E through L to more completely characterize groundwater in the landfarm area. The installation of these wells is discussed in **Section E4a**. Well D was removed from service in 1985 due to an obstructed casing. Currently, Wells A and E serve as upgradient (background) monitoring wells. Wells B, C, F, G, H, I, J, K, and L serve as downgradient (compliance) monitoring wells (**Figure E-1**). The design and construction of these wells are described in **Section E-4**.

E—2 GENERAL HYDROGEOLOGIC INFORMATION [MHWMR 270.14(c)(2)]

A hydrogeological report concerning the landfarm and the Purvis area was prepared by a Registered Professional Geologist in 1986 and is located in **Attachment E—1**. The hydrogeological report describes the regional and site—

specific geology and hydrogeology in detail. A summary of the conclusions of that report follows.

The Pliocene Citronelle Formation and the underlying Miocene Pascagoula Formation were identified as the two uppermost geologic formations. This conclusion was based upon background research on regional geology and bore logs performed in the landfarm area. These formations help define the hydrogeology of the landfarm area. The dense calcareous clay of the Pascagoula Formation acts as a relatively impermeable barrier to water infiltrating downward through the more permeable Citronelle Formation from the surface of the landfarm area. Geotechnical data are presented in **Attachment 1 of Attachment E—1**. The moisture content of the Pascagoula generally decreases with depth and increasing clay content. These results indicate that the Pascagoula acts as a barrier to the downward migration of water; therefore, subsurface water is contained within the lower gravels and sands of the Citronelle Formation where it can move downgradient under water table conditions above the clays of the Pascagoula Formation. As discussed in **Attachment E—1**, no hydraulic connection exists on a local scale between the Citronelle Formation and the deeper sands (below the Pascagoula Formation clays) tapped by most water wells in the area of Purvis and the Purvis site.

The groundwater flow direction is generally towards the south—southeast. The Pascagoula clay beds have a local or regional stratigraphic gradient of 15 to 30 feet per mile to the southeast, thereby allowing subsurface water to drain in that direction. Pumping withdrawals are too small to substantially affect this trend. Water level measurements from the monitoring system indicate a hydraulic gradient across

the landfarm towards the south—southeast, confirming the direction of groundwater flow.

A maximum groundwater flow rate of 4.5 to 5.3 feet per day within the Citronelle aquifer was calculated using Darcy's Law as discussed in the Attachment E-1 (Hydrogeological Report by Engineering-Science, Inc.). Engineering-Science used a conservative hydraulic conductivity value of 1000 gpd per square foot of Citronelle aquifer based upon local values and a regional average was assumed. The measured hydraulic gradient varies from 0.010 to 0.012 ft/ft across the landfarm and a porosity of 30 percent was assumed to perform the calculations in Attachment E-1. Based on subsequent site soil testing results and observed site hydraulic gradients, the average groundwater velocity is actually much slower than Engineering-Science estimate. The 2008 flow rate estimates ranged from 20 to 27 feet per year with hydraulic gradients from 0.0045 to 0.006 ft/ft. **Figure E-2** indicates the most recent groundwater flow direction.

E—3 CONTAMINANT PLUME DESCRIPTION [MHWMR 270.14(c)(4)]

The Purvis site does not have a contaminant plume in the groundwater as a result of landfarm operations. The requirements of MHWMR 270.14(c) are therefore not applicable. Based on historical t-test statistics analysis, it was concluded that the data demonstrate that no hazardous waste constituents have been released and that the statistical differences under the required Student's t—Test procedures are a result of:

- low concentrations of parameters used in the statistical tests, and
- normal shallow variations of groundwater quality.

The Mississippi Department of Natural Resources (MDNR) concurred with the Groundwater Quality Assessment Report in a letter dated January 6, 1986.

E—4 GENERAL MONITORING PROGRAM REQUIREMENTS [MHWMR 270.14(c)(5), 264.90, 264.95, and 264.97]

E—4a Description of Wells

The groundwater monitoring well network was designed to assess groundwater quality at the boundary of the RCRA waste management site. The groundwater monitoring network is currently comprised of 11 monitoring wells, with two wells located hydraulically upgradient and nine wells located downgradient of the closed landfarm. Individual monitoring well locations are depicted in **Figure E-1**. All of the wells were constructed as described in this section.

Historically the direction of groundwater flow was determined prior to well installation. Three borings were drilled using a 4—inch diameter continuous flight auger. Standpipe piezometers were installed in each boring for the determination of groundwater elevations. Groundwater elevations were determined by differential measurement. The measured groundwater elevations were as follows:

P—l	287.7 ft.
P—2	294.7 ft.
P—3	294.3 ft.

On the basis of this information and the RCRA monitoring well data, the groundwater flow is generally south—southeastward (see Attachment E-1 **Figure 11**).

One upgradient monitoring well (A) is located approximately 250 feet north of the closed landfarm unit. The second upgradient well (E) is located approximately 150 feet north of the landfarm and is southwest of Well A (see Attachment E-1 **Figure 3**). These well locations provide groundwater quality data representative of background conditions. The locations of the upgradient wells have been selected to ensure that the wells are not impacted by the individual waste management sites at the facility or miscellaneous plant activities that might result in the release of potential contaminants. Currently nine downgradient monitoring wells are located immediately downgradient of the closed landfarm unit to ensure the prompt detection of statistically significant amounts of RCRA listed wastes or waste constituents that might migrate to the uppermost aquifer (see Attachment E-1 Cross-section **Figures 5, 6 and 7**). The downgradient wells, Wells B, C, F, G, H, I, J, K, and L, (Well D is out of service) are roughly evenly spaced along the southern/southeastern flanks of the closed landfarm (see Figure E-1)

All groundwater monitoring wells developed as part of the monitoring network were constructed to prevent inter-aquifer exchange and routing of surface water through the annular space around well casings. Each groundwater monitoring well at the Purvis site was constructed of 4-inch schedule 40 PVC casing equipped with a 10-foot section of slotted 4-inch schedule 40 PVC screen. The slot opening for the monitoring well screens is 0.01 inch. The annular space was backfilled with gravel pack material to a level approximately 5 feet above the top of the well screen. A 1-foot bentonite seal was then placed above the gravel pack. The seal was followed by a continuous cement grout to the ground surface. A 5-foot section of 8-inch steel casing was installed around the PVC casing for protective purposes. This protective

casing was grouted into place. The surface cement seal was graded to prevent ponding of surface water around the well casing. The 4-inch PVC casing was equipped with a threaded cap, and the 8-inch protective steel casing was equipped with a lockable cap. In 1991, monitoring wells B, F, G, H, and I were abandoned and replaced with 2-inch diameter wells. Monitoring wells J, K and L were installed at that time as 2-inch diameter wells. Available soil boring logs and well construction diagrams for the wells are shown in **Attachment E-2**.

Following installation, each groundwater monitoring well was developed by surging and bailing or by the air-lift method to remove any potential contaminants that might have entered the borehole or well casing during the drilling operation and to develop the gravel pack at each well. Each groundwater monitoring well was developed until the water was relatively clear and free of suspended solids. **Attachment E-3** presents water elevations of the active wells during the 2008 sampling event.

The natural groundwater flow is south—southeast, away from Wells A and E (see **Figures E-2**). This gives assurance that the upgradient wells provide an unaffected background water measurement. Wells B, C, F, G, H, I, J, K, and L intercept the groundwater as it flows under the landfarm, thus assuring compliance point groundwater monitoring.

E—5 DESCRIPTION OF DETECTION MONITORING PROGRAM FOR FACILITIES NOT DETECTING THE PRESENCE OF HAZARDOUS CONSTITUENTS [MHWMR 270.14(c)(6), 264.9l(a)(4), 264.93, and 264.98]

E—5a Proposed List of Indicators of the Presence of Hazardous Constituents to be Monitored

The constituents to be monitored were determined based on the land treatment demonstration analytical results and landfarm treatment capacity. These constituents are used to monitor the ability for the landfarm to degrade, transform or immobilize waste, preventing a release from the units to the groundwater.

The regulation MHWMR 264.98(d) stipulates that four independent samples be collected from all background and compliance monitoring wells at least semi-annually. However, Hess (with MDEQ concurrence) will collect one sample per well per event on an annual basis for the following reasons:

1) The hydraulic conductivity for the landfarm area soils indicates that groundwater linear flow velocity is overall slow, as presented in the 2008 Annual Groundwater Report to the MDEQ (**Attachment E-3**). Flow velocities for the January 2008 data ranged from $5.59X10^{-5}$ to 20.07 ft/yr, with July 2008 calculated flow velocities ranging from $7.45X10^{-5}$ to 26.8 ft/yr. The wide range in flow velocities is due to the highly variable clay content of the area soils. Based on the variability of the calculated flow velocities, it would be difficult to collect 4 independent samples within the monitoring period since groundwater would require greater than 6 months to travel through the annular space (assume 1 foot) of a 6 inch monitoring well. Thus, 1 sample would be as representative as 4 samples based on the slow flow velocities. In addition, solute transport would also be very slow (possibly even slower than groundwater due to the attenuation/retardation factors of the soil). Therefore, the collection of 1 sample would be as protective of the environment as 4 samples.

2) The Purvis closed landfarm lies in a climatic area exhibiting relatively minor seasonal changes. Groundwater elevations are relatively static and there are no significant freeze/thaw cycles. Therefore, the collection of 1 sample would be representative of groundwater quality conditions at any time during the 12 month monitoring period.

3) The Purvis closed landfarm does not lie in close proximity to a stream or other body of water that would influence the magnitude or direction of groundwater flow in the landfarm area.

4) Hess has an extensive database of groundwater analytical data from over 20 years of semi-annual sampling conducted at the site.

The constituents to be monitored on an annual basis per the landfarm closure report are listed below:

Annual Indicators

- pH (in field),
- Specific conductance (in field),
- Total organic carbon,
- Total organic halogen,
- Oil and grease (HEM),
- Total Phenolics,
- Total Kjeldahl Nitrogen,
- Total xylenes,
- Benzene,
- Toluene,
- Benzo(a)pyrene
- Naphthalene,
- Chromium, and
- Lead

E-5b Groundwater Monitoring System [MHWMR 264.98(b)]

The current monitoring system, as mentioned above, is comprised of 11 monitoring wells designated A, B, C, E, F, G, H, I, J, K, and L. The locations of these wells are shown in **Figure E-1**. In January 1991, Purvis replaced five wells and added three new wells. The total number of wells was increased from eight to eleven. The replaced wells were B, F, G, H, and I. The new wells were J, K, and L. Wells A and E, as previously stated, are the upgradient wells. Groundwater potentiometric maps showing the direction of groundwater flow in the area (July 2008 data) are shown in **Figure E-2**. This potentiometric map indicates that the groundwater detection monitoring system for the closed landfarm continues to effectively monitor groundwater underneath the monitored unit.

E-5c Proposed Compliance Point and Quality of Water Passing the Point of Compliance [MHWMR 264.97(a)(2)]

The compliance point for groundwater monitoring is defined in MHWMR 264.95 as “a vertical surface located at the hydraulically downgradient limit of the waste management area that extends down into the uppermost aquifer underlying the regulated units.” The compliance point is the southern border of the closed landfarm immediately outside the dike. Where the tank farm abuts the landfarm, the compliance point lies outside the tank farm dike.

Wells A and E represent the background wells. The background database for groundwater is summarized in **Tables 2-1 through 2-2 of Attachment D-1**. Since constituents from the regulated units have not affected the wells, Hess proposes to update the background database to be used to evaluate the closed landfarm performance as sampling and analytical techniques have improved.

E-5d Proposed Sampling and Analysis Procedure for Groundwater Data [MHWMR 264.98(c) and MHWMR 264.97(g)]

The Sampling and Analysis procedure has been written to provide guidance consistent with the best available technologies and describes what the EPA guidance suggests as essential components of a groundwater monitoring and sampling plan as per EPA Region IV Field Branches Quality System & Technical Procedures dated November 2007-February 2008.

Sample Collection:

The sample collection procedures are designed to facilitate the collection of groundwater samples that are unaffected by sampling technique. The well construction methods are described in **Section E-4a** and are based on proven techniques for installing monitoring wells. Groundwater samples will be collected beginning at the most upgradient wells and proceeding downgradient. One sample per well will be collected during each annual sampling event, as previously stated. As described in the following procedures, only clean equipment is used in order to avoid contaminating any samples, and care is taken to prevent contamination of the wells.

The following procedures will be utilized when collecting any groundwater samples from monitoring wells at the Purvis facility:

1. Determine the depth to the groundwater surface by means of an electric water level indicator to the nearest 0.01 foot. Water level measurements will be recorded on a water level data sheet or similar record.

2. The wells will be purged utilizing low-flow techniques (flow rate less than 500 ml/minute) until indicator parameters pH, Specific Conductance (SC), and temperature stabilize within a 10% range over four successive measurements taken three minutes apart. The samples will then be collected at a flow rate of approximately 100 ml/minute or lower. Purge water will be collected in 5-gallon buckets and taken to the GAC drum unit inside the closed landfarm area. This water has been shown to be non-hazardous based on laboratory analyses.

   During extended periods of dry weather conditions, groundwater levels within the monitoring wells may not be significant enough to allow for utilizing low-flow techniques. In this case, it may be necessary to purge and collect remaining sample volumes with new disposable bailers. This would be a site-specific sampling procedure to be approved by the MSDEQ as a slight variation from the EPA Region IV Field Branches Quality System & Technical Procedures.

3. Collect the sample directly from the discharge line of the pump. Samples will be collected in suitable, clean plastic or glass containers depending on the parameters to be analyzed. Care should be taken during collection of volatile

samples to minimize agitation and to completely fill the volatile containers (no headspace).

Samples should be collected in the following order:

- Volatile organics
- Total Organic halogens (TOX)
- Total Organic Carbon (TOC)
- Extractable Organics
- Total Metals
- Total Phenolics

4. Specific Conductance and pH of each sample will be measured immediately prior to sample collection at purge stabilization.
5. Cap each sample container and attach a sample label and seal.
6. If required, each sample will be promptly cooled to 4°C for subsequent shipment to the laboratory.
7. Enter all pertinent information into the field log book.
8. Complete the chain-of-custody record (**Figure D-4**), or similar record.

Sample Processing and Shipment:

Chain-of-custody, labeling, custody seals, field book and sample shipping procedures for groundwater samples will be the same as those established for soil samples. Refer to **Section D** for detailed discussion of these procedures.

Analytical Procedures:

The analytical procedures for laboratory analyses of the water samples collected as part of the groundwater monitoring program are in accordance with acceptable EPA methods or equivalent methods. **Attachment D-1** details the applicable analytical method for each parameter, the method detection limit (MDL) as provided by the lab and the EPA Procedure Detection Limit (PDL).

Field QA/QC Program:

The sampling procedure for groundwater analyses incorporates routine collection and analyses of two types of QC blanks:

- Equipment Blank;
- Field Blank; and
- Trip Blank.

Equipment Blanks are prepared to ensure that the nondedicated sampling equipment (the water level measurement tool and groundwater pumps) has been effectively cleaned and/or decontaminated. The water used for this blank is distilled/deionized water. The blanks are transferred to a sample bottle after being exposed to the equipment and returned to the laboratory for analysis. Appropriate preservatives are added, and the samples are labeled, packaged and shipped using the same protocols as those used for other groundwater samples. The equipment blank is analyzed for the same parameters as the other groundwater samples. These blanks have no special numerical identification and are submitted with the remaining samples. A minimum of one equipment blank for each sampling event is used.

Field Blanks are prepared to ensure that the samples are not cross-contaminated (influenced) by conditions encountered in the field. The water used for this blank is distilled/deionized water. The blank water is exposed to the atmosphere then poured from the blank water bottles directly to sample bottles provided by the laboratory. This operation is performed in the closed landfarm area. Appropriate preservatives are added, and the samples are labeled, packaged and shipped using the same protocols as those used for other groundwater samples. The field blank is analyzed for the same parameters as the other groundwater samples. These blanks

have no special numerical identification and are submitted with the other groundwater samples. A minimum of one field blank for each event of sampling is used.

Trip Blanks are included each time a group of sample containers is prepared for use in the field. The containers are prepared in the same manner as the sample bottles and are filled with deionized water by the contract laboratory. The trip blanks are transported and handled in the same manner as the sample containers. Any contaminants in the trip blanks could be attributed to:

- interaction between the sample and the container;
- contaminated rinse water; or
- a handling procedure that alters the sample analysis.

One trip blank per sampling event is used.

In addition, one duplicate sample (blind-coded) from a randomly selected well is obtained during each sampling event.

Laboratory QA/QC:

Hess contracts with an outside laboratory to perform most laboratory analyses during the groundwater monitoring period. The laboratory is responsible for implementing a QA/QC program consistent with recommended EPA methodologies and procedures and, at a minimum, this includes the following components:

- Standards;
- Duplicates;
- Operator training;
- Laboratory blanks;
- Spiked samples; and
- Instrument Maintenance.

The QA/QC program of the laboratory will include sections describing:

- Laboratory methodologies;
- Personnel Qualification;
- Analytical Methods; and
- Holding times.

E-5e Statistical Procedures [MHWMR 264.97(h) and (i)]

The goal of the RCRA detection monitoring program is to determine whether hazardous constituents have migrated from the landfarm treatment zone. This determination should be made by statistically comparing the concentrations of the determined parameters in the samples taken at or beneath the treatment zone to the concentrations detected in similar background samples. Since issuance of the Purvis Operating Permit, the EPA has revised the statistical procedures for analysis of RCRA monitoring data (MHWMR 264.97) in the final document, *Guidance Document on the Statistical Analysis of Ground-Water Monitoring Data of RCRA Facilities*. These regulatory revisions were made to correct the misapplication of the CABF Student's t-test (the test mandated in the existing Purvis Operation Permit) to most monitoring databases.

Selection of Statistical Procedure

A statistical procedure needs to be able to compare background (upgradient) sample results to compliance (downgradient) sample results without bias. The statistical procedure should be selected to minimize the incidence of failure to detect migration (Type II or ß error) or incorrectly show migration (Type I or α error). The appropriate statistical procedure is selected based on the hypothesis to be tested, the distribution of the data and the number of non-detects in the background database.

The hypothesis for the Purvis detection monitoring program is that the compliance sample is the same as the background at a specified α value (currently, α = 0.05 represents a 95 percent confidence factor). **Figure ES-1 in Attachment D-1** is the determination flowchart which can be applied for each parameter. It summarizes the decision making process Hess will follow during the detection monitoring program to determine the appropriate course of action. The groundwater background database used for the statistical procedures is based on analyses from December 1992 to August 1997 with the exception of Oil and Grease. Statistical procedures are based on the distribution of the background monitoring data and ruggedness of the test; hence, periodic revaluation of the statistical tests may occur during the life of the permit. In addition, background data generated during the detection monitoring program for the renewed permit will be used to expand the current background database. If the statistical methods selected show a statistically significant difference between defined background and new annual sample results, then Hess may re-evaluate the background database and/or the statistical method.

Testing for the Distribution of Data

Most statistical tests assume that the data being tested came from a Normal Distribution. Therefore, it is important to test for the Normality or Lognormality of the data before applying a particular statistical procedure. The EPA addendum to the Guidance Document *(Statistical Analysis of Ground-water Monitoring Data at RCRA Facilities, Addendum to Interim Final Guidance, Washington, DC, July 1992),* recommends four methods for testing the distribution of data: Coefficient of Skewness, the Shapiro-Wilk test, the Shapiro-Francia test, and the Probability Plot Correlation

Coefficient. The first two tests are used in the Purvis groundwater monitoring program. These tests (Coefficient of Skewness, the Shapiro-Wilk test) are recommended for samples with 50 or fewer data points, and are discussed in detail in the soil monitoring portion of **Section D** of this application. The same logic decisions applying to these tests are employed for soil and groundwater statistical analyses at the Purvis site. The terms used in the formulas below are defined in brief tables following each formula.

The percent of non-detect data will also influence the choice of a statistical method. **Attachment D-1** summarizes the results of the Test for the Distribution of data, and the percent of non-detects in the background database. The groundwater background database used for the statistical procedures is based on analyses from December 1992 to August 1997. These results are then applied to the decision flowchart to determine the appropriate statistical procedure to be used. Databases with 90% or more non-detects are not tested for normality. Non-parametric procedures will be used to analyze those data. **Attachment D-1** summarizes the statistical procedures determined to be appropriate to analyze the detection monitoring data for the monitored unit. These procedures are also discussed in detail in the soil monitoring portion of **Section D**.

Trends Based on Non-Parametric Tolerance Intervals

If normality cannot be justified, especially if the data set has a significant portion of non-detects, Non-Parametric Tolerance Intervals are recommended. The maximum sample value in the uncontaminated background database is taken to represent the 95% confidence upper tolerance limit. Sample results from

compliance wells are then compared to this upper tolerance limit. If there is a sample result that exceeds the limit, this is considered evidence of contamination at the well from which the sample was taken.

Control Charts

Combined Shewhart-Cumulative Sum (CUSUM) control charts are an effective technique for monitoring the levels of a constituent at a given well over time. As with the other statistical methods, this method assumes that the data is normally distributed. The data are therefore first tested for normality using the techniques described above. If the data passes the normality tests, the data is constructed (charted) either as is or by using the Lognormal model.

To construct the chart, baseline parameters must be obtained; these values estimate the background well mean and variance of each parameter. In this case, they were obtained from the pre-existing background database. As future sample results are added to the chart, they are standardized by the estimated mean and variance.

The standardized mean is computed by the following equation:

$$Z_i = \sqrt{n_i}(x - m)/s \qquad \textbf{(1)}$$

where:

m = the baseline mean pH/specific conductance;
s = the baseline standard deviation;
n_i = the number of observations; and
x = the average value of the observations.

A cumulative sum (CUSUM) is also calculated using the formula:

$$S_i = \max\{0,(Z_i - k) + S_{i-1}\} \qquad \textbf{(2)}$$

where:

S = the cumulative sum;
Z_i = the standardized mean for that period; and
k = a pre-chosen Control Chart parameter. The *Guidance Document* recommends selecting k = 1, which allows for a displacement of two standard deviations.

Using the steps outlined in the USEPA's *Interim Final Guidance Document*, the chart is then plotted and a determination is made as to whether the data is "in control" or "out of control". A control chart is declared "out of control" when the sample values become too large when compared to the baseline parameter. This happens when the standardized means cross the Shewhart Control Limit (SCL) or when the CUSUM of the standardized means becomes too large crossing the "decision interval" (h). The combination of k = 1, h = 5, and SCL = 4.5 was found to be the most appropriate for the application of combined Shewhart-CUSUM charts for groundwater monitoring at this monitored unit.

Currently, Purvis is using the statistical procedures required in the current Part B Permit for statistical analyses of groundwater collected at the site. Upon approval and implementation of the new Permit, Purvis will use the statistical procedures described in **Attachment D-1** of this application for the Detection Monitoring Program.

E—5f <u>Procedure to be Implemented if a Statistically Significant Increase in any Constituent or Parameter is Identified at any Compliance Point Monitoring Well</u>

In the event that a statistically significant increase (or pH decrease) for any monitoring parameter is verified in the comparison of downgradient wells to the background upgradient wells, the Executive Director of the MDEQ will be notified in

writing within seven days of such verification. This notification will indicate which parameters have shown significant differences.

Upon verification of a potential statistically significant increase (SSI) for any monitoring parameter, any well(s) which yielded the SSI sample(s) will be immediately re-sampled for the affected parameter(s). If the SSI is confirmed, the Executive Director of the MDEQ will be notified within seven days of such verification. All of the landfarm monitoring wells will then be sampled for the Appendix IX parameters of Part 264, as required by MHWMR 264.98(g)(2)unless the MSDEQ Case Manager approves an alternate sampling plan. Hess will then determine if the confirmed SSI is explainable through an Outside Source Demonstration (OSD) or if Corrective Actions are required for the unit. If the confirmed SSI is explainable through an OSD and the results of subsequent sampling events exhibit SSI(s) of the same constituent(s) at the same well(s), Purvis proposes to eliminate repetitive Appendix IX sampling and cite the appropriate OSD in the 7-Day Letter to the MDEQ.

Within 90 days, an application for a permit modification to establish a compliance monitoring program will be submitted to the Executive Director of the MDEQ if the statistically significant increase(s) are not found to be the result of the influence of an outside source or are the result of a sampling/statistical error (see below). At a minimum, the groundwater quality compliance program would specify:

- The concentrations of the constituents identified in the waste characterization found in the groundwater from each monitoring well at the compliance point;
- The compliance period for the facility under this program;
- The number, location, and depth of any additional monitoring wells that may be needed;

- Sampling and analytical methods for those RCRA listed wastes and RCRA listed waste constituents at the Purvis site;
- The sampling schedule necessary for compliance monitoring;
- The procedures for determination of groundwater flow; and
- Data evaluation procedures, including the use of previously gathered groundwater quality data, for the proposed program.

If necessary, within 180 days, all data necessary to justify any requested variance and an engineering feasibility plan for a corrective action program will be submitted to the Executive Director of the MDEQ.

In the event that a statistically significant increase for any monitoring parameter is verified in the comparison of downgradient wells to the background upgradient wells, Hess may demonstrate that the regulated facility is not affecting the groundwater and that the increase is caused by a non-regulated unit or an error in sampling, analysis or evaluation. The Executive Director of the MDEQ will be notified in writing within seven days of verifying a statistically significant increase of an intent to demonstrate that the regulated facility is not affecting groundwater quality. Within 90 days, an OSD report will be submitted to the Executive Director of the MDEQ demonstrating that the regulated facility is not affecting the groundwater, and, if necessary, an application for a permit modification for the detection monitoring program will be submitted. During this demonstration, Purvis will continue with the detection monitoring program.

As part of the groundwater monitoring program at the Purvis site, periodic reports and data summaries will be submitted to the Executive Director of the MDEQ. Reports and data summaries to be submitted will include routine RCRA annual monitoring reports presenting groundwater quality and Annual Reports

presenting water level data. The analytical results and statistical evaluations generated as part of the routine indicator groundwater monitoring program will be submitted on an annual basis to the Executive Director of the MDEQ. Information that is incorporated into the annual groundwater monitoring report includes:

- Analytical results for the annual indicator parameters for each monitoring well (see **Section E—5a**);
- Results of all statistical analyses performed on the routine annual indicator parameters for each monitoring well; and
- Identification of any significant differences from the initial background quality data that have been detected in the upgradient monitoring wells.

Information that is incorporated into the annual groundwater monitoring report includes:

- Annual elevations of the groundwater surface for each monitoring well; and
- Evaluation of the groundwater surface elevation data to determine the direction of groundwater movement beneath the site in order to ensure the locations of the upgradient and downgradient wells maintain effectiveness with regard to potential contaminant migration patterns.

All records associated with the baseline and routine groundwater monitoring program will be maintained in the corporate files throughout the life of the land treatment site. Information and data to be recorded and maintained on file will include:

- All analytical results from the baseline and routine sampling program;
- All groundwater level data; All field sampling sheets and all field groundwater level data sheets;
- Results of all statistical analyses performed on the background and routine groundwater indicator parameters for each monitoring well, including:

Arithmetic mean,
Variance, and
Statistical significance;

- All other evaluations and determinations made in determining continued facility compliance; and

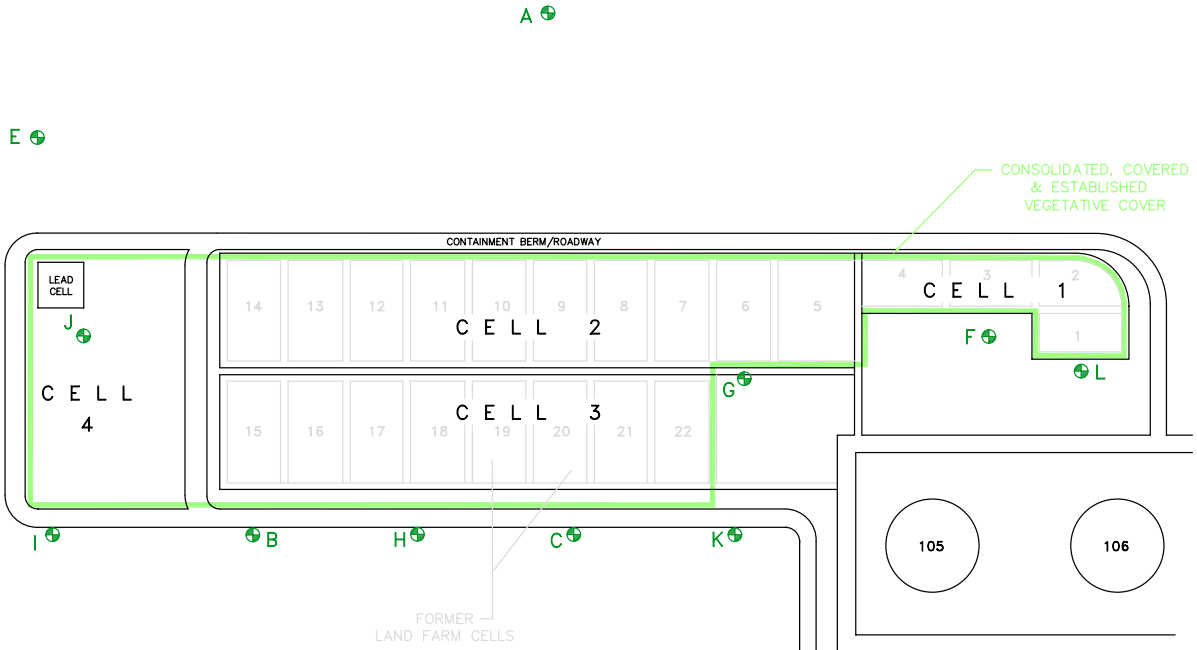
- All correspondence, reports, and data submitted to regulatory agencies as required in the above sections.

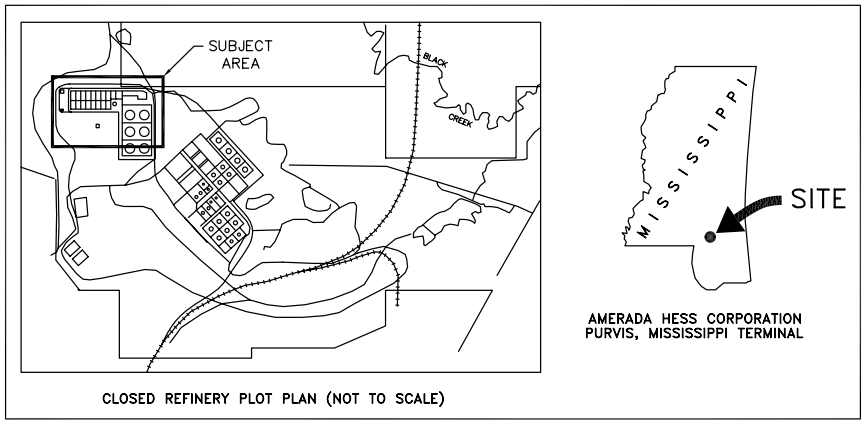
E—6 COMPLIANCE MONITORING PROGRAM FOR FACILITIES WHICH HAVE DETECTED PRESENCE OF HAZARDOUS CONSTITUENTS [MHWMR 270.14(c)(7)]

The site has not detected the presence of RCRA listed waste constituents in the groundwater. The requirements of MHWMR 264.99 will be complied with if a compliance monitoring program is required in the future.

E—7 DESCRIPTION OF CORRECTIVE ACTION PROGRAM [MHWMR 270.14 (c)(8)]

A groundwater corrective action program is not currently required at the Hess Purvis site. The requirements of MHWMR 264.100 will be followed if a corrective action program is required.

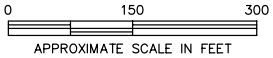






LEGEND

K MONITOR WELL LOCATION

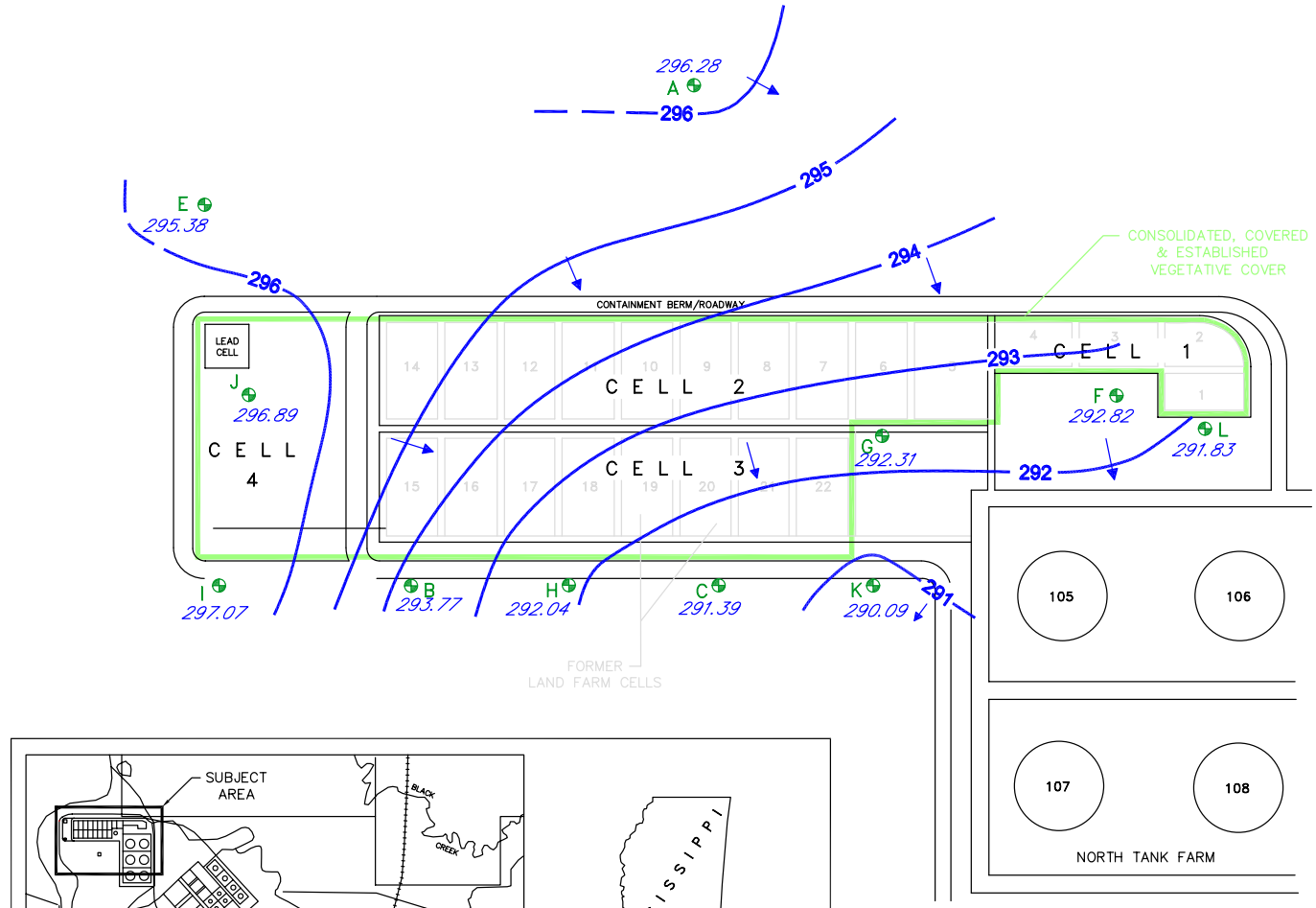


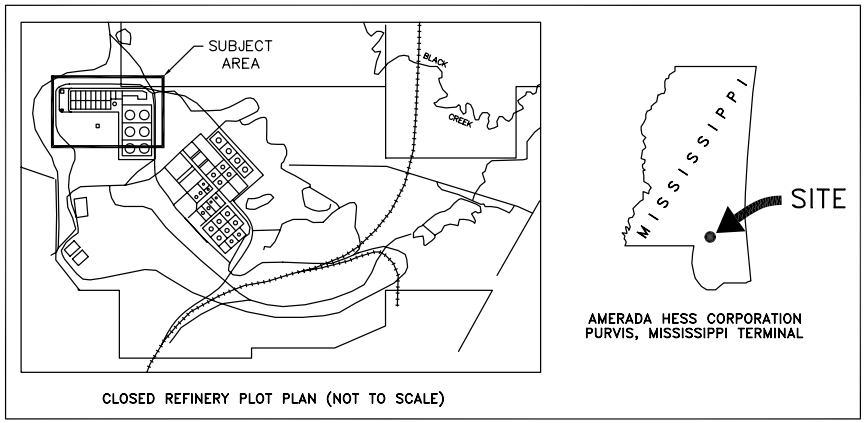
GeoMonitoring Services

FIGURE E-1
LTU GROUNDWATER
LOCATION MAP
HESS CORPORATION
PURVIS, MISSISSIPPI TERMINAL

DRAWN BY:	DATE:	PROJ. NO.
LMK	2-18-09	HPUR

GHPUR-PART B-FIG E-1





CLOSED REFINERY PLOT PLAN (NOT TO SCALE)

AMERADA HESS CORPORATION
PURVIS, MISSISSIPPI TERMINAL

N

LEGEND

K MONITOR WELL LOCATION

290.09 GROUNDWATER ELEVATION

291 GROUNDWATER CONTOUR

GROUNDWATER FLOW DIRECTION

0 150 300

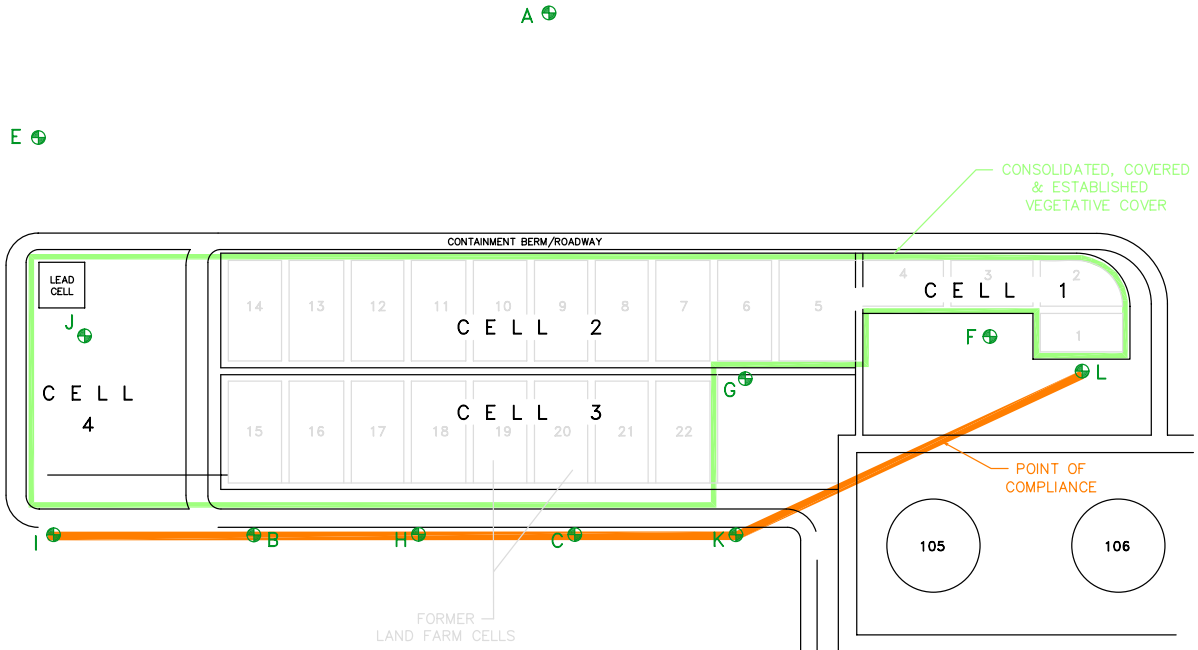
APPROXIMATE SCALE IN FEET

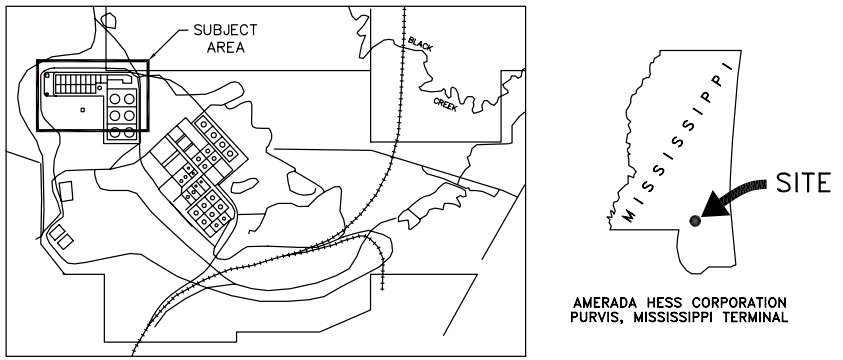
GeoMonitoring Services

FIGURE E-2
LTU GROUNDWATER ELEVATION
CONTOUR MAP FOR JULY 2008
HESS CORPORATION
PURVIS, MISSISSIPPI TERMINAL

DRAWN BY:	DATE:	PROJ. NO.
LMG	2-17-09	HPUR

GHPUR-PART B-GW 7/08





N

LEGEND

K MONITOR WELL LOCATION

0 150 300

APPROXIMATE SCALE IN FEET

GeoMonitoring Services

Figure E-3

DETECTION MONITORING SYSTEM

HESS CORPORATION

PURVIS, MISSISSIPPI TERMINAL

DRAWN BY:	DATE:	PROJ. NO.
LMG	2-11-09	HPUR

GHPUR-PART B-B6

SECTION F

PROCEDURES TO PREVENT HAZARDS

SECTION F

PROCEDURES TO PREVENT HAZARDS

This section is designed to provide information that fulfills the requirements of MHWMR 264.14, 264.15, 264.17 and 270.14(b).

F-1. SECURITY [MHWMR 264.14, 264.15, and 270.14(b)

F-1a. Security Procedures and Equipment

The Purvis site is located in an isolated area about three miles north of Purvis, Mississippi. Access to the plant is provided via a two lane access road from US Highway 11 North (**Attachment A**). Three gates control entry, one at the entrance of the access road and two at the truck loading rack (one at each end). The loading rack gates are visible from an operator-manned control room in the immediate area. All pedestrian and vehicular traffic is controlled through these gates by TransMontaigne. For accountability and control purposes, visitors are required to stop and sign in at the control room building. A continuous six-foot fence surrounding the entire facility prevents uncontrolled entry of persons or animals onto the terminal property. As all waste management activities at the facility are conducted within the plant site, entry into all waste management areas is controlled by the system described above.

The gate on the main road is only unlocked via a TransMontaigne employee upon driver request and by employees through a phone operated system as no 24-hour

manned surveillance exists. A third gate restricts the driver to the immediate loading rack area and isolates him from the remainder of the terminal

.

F-la(1). 24-Hour Surveillance System

The Purvis site has no 24-hour surveillance system. The requirements of this section are not applicable.

F-la(2). Barrier and Means to Control Entry

The Purvis site uses a barrier and other means to control entry into the facility. In addition to the isolation afforded the facility due to its remote location and large buffer area as a result of the wooded lands surrounding it, a fence prohibits entry. As previously stated, uncontrolled entry of persons or animals onto the terminal property is prevented by a continuous six-foot fence surrounding the entire facility.

F-la(2)(a). Barrier

All traffic into the site, both pedestrian and vehicular, is limited to one access road passing through three gates, as previously stated. The main gate is always locked and controlled by TransMontaigne personnel. Between the second and third gates, in the immediate truck rack loading area is the loading rack control room manned by terminal employees when in use. Traffic through the second and third gates can be monitored as they are visible from this building. Visitors are required to stop and sign in at the

office/control room. Daily activity in the general area acts as a monitoring device. A second access road exists into the terminal; however, it is restricted to entry by means of three locked gates. This access road and gates are seldom used and are controlled by TransMontaigne. A railroad gate located by the former oil/water separator is kept locked by terminal personnel and is only unlocked on an as-needed basis. Access to the terminal other than through the controlled front gate is restricted by the continuous six-foot cyclone fence topped with 3-strand barbed wire surrounding the entire site.

F-la(2)(b). Means to Control Entry

To obtain entry into the terminal, a person must stop at the control room/office and sign in. The logbook requires the visitor to indicate name, company affiliation, date, and time of entry and time of departure. The visitor must also indicate the purpose of the visit so that the personnel necessary to respond may be notified. Access is restricted solely to the area(s) as required by the purpose of the visit. In this manner, all movement into and out of the terminal is monitored by TransMontaigne. The closed landfarm is also fenced, gated, and locked.

F-la(3). Warning Signs

As a part of its overall security system, Hess has posted signs specifying restricted entry to those on authorized business only. Signs that state "Danger-Authorized Personnel Only Closed Unit No. Amerada Hess Corp. MSD 079-461-406, 713-609-

5955" are posted at each of the two entrances to the closed landfarm. These signs can be read at a distance of at least 25 feet.

F-lb. Waiver

Hess does not request a waiver of the requirements stated in MHWMR 264.14(a).

F-2. INSPECTION SCHEDULE [MHWMR 270.14(b)(5) AND 264.15]

F-2a. General Inspection Requirements

The inspection schedule for the Purvis closed landfarm and SWMUs is described in **Table F-1**. Monitoring equipment, emergency and safety equipment, security devices, operating and structural equipment to prevent environmental or human health hazards, and fire protection equipment testing are all scheduled for inspections by TransMontaigne. Hess inspects the closed landfarm unit, SWMU units, and associated internal fencing.

F-2a(1). Types of Problems

The types of problems to be noted during an inspection are detailed in **Table F-1**.

F-2a(2). Frequency of Inspection

The frequency of inspections is provided in **Table F-1**.

F-2b. Specific Process Inspection Requirements

F-2b(1). Container Inspection

Any Hess waste containers onsite contain wastes only for periods of less than 90 days. It is company policy to dispose of containerized wastes within 90 days.

F-2b(2). Land Treatment Inspection

The inspection procedure for the closed landfarm is described below.

Closed Landfarm Inspections

The closed landfarm is an area divided into three landfarm cells plus a "leaded" treatment cell, which were all closed in Fall 2003. Each plot is surrounded by earthen dikes, which are covered with grass to prevent erosion. These areas will be inspected according to the following procedures.

1. The dikes and drain valve in the closed landfarm area will be inspected quarterly and after storms for any signs of deterioration. This includes cracks, erosion, or any signs of seepage through the dikes. The vegetation on the dikes will be checked, since it aids in maintaining dike integrity.
2. The area around the closed landfarm will be checked quarterly for signs of leakage or spillage. This includes the roads, gates, and fences.
3. The monitoring wells will be inspected on a semi-annual basis.

F-2c. Remedial Action

If inspections reveal that non-emergency maintenance is needed, it will be completed as soon as possible to preclude further damage and reduce the need for emergency repairs. If a hazard is imminent or has already occurred during the course of

an inspection or any time between inspections, remedial action will be taken immediately. Hess personnel will notify the appropriate authorities and initiate remedial actions. In the event of an emergency involving the release of RCRA characteristic waste or waste constituents to the environment, efforts will be directed toward containing the hazard, removing it, and subsequently decontaminating the affected area. Possible remedial actions include:

- contain spilled material;
- repair dikes;
- repair equipment;
- clean up leaking or spilled material; and
- replace items used during the emergency.

F-2d. Inspections

Monthly (proposed quarterly) RCRA environmental inspections of the closed landfarm are made, as provided in MHWMR 264.273(g), with appropriate logs maintained. An example of a landfarm inspection log is provided in **Attachment F-1**. Inspections of other areas, including the less than 90 day container storage area, effluent treatment ponds, and other SWMU areas are also performed. In the event that leaks or other problems are discovered, immediate corrective action is taken to mitigate the problem. The inspections are further detailed in **Table F-1**. Each inspection is documented with an inspection record. As required, records of inspections are kept for at least 3 years from the date of inspection. Historical inspection logs are included in **Attachment F-1**.

F-3. WAIVER OF PREPAREDNESS AND PREVENTION REQUIREMENTS [MHWMR 270.14(b)(6)]

Hess does not wish to request a waiver of the preparedness and prevention requirements under MHWMR 264, Sub-part C. Since the only Hess activities at the site are related to monitoring of the closed landfarm and remedial activities of the SMWUs a waiver is not required. Descriptions of preparedness and prevention related to those activities are detailed below.

F-3a. Equipment Requirements

F-3a(1). Internal Communications

There are two internal communication systems used at the Purvis Terminal: cell phones and land line telephones. These forms of communication will be available to all site personnel at all times.

F-3a(2). External Communications

In-plant telephones are available at TransMontaigne operating areas to allow personnel to contact the terminal manager in the event of an emergency. The terminal manager or designee is responsible for contacting local fire, police, and other emergency teams if necessary. Cell phones may be used in lieu of the in-plant telephones.

F-3a(3). Emergency Equipment

Hess personnel/contractors carry their own personal protective equipment and first aid cases. The TransMontaigne terminal has permanent fire-water lines, fire extinguishers, skimmers, sorbent spill materials, boats, emergency showers and eyewash stations, and first aid cabinets available onsite. Two fire hydrants are located near the closed landfarm. Hess personnel would contact TransMontaigne to open the fire hydrants if necessary.

The equipment decontamination facility is temporarily set up for each sampling event. Potentially contaminated rinse water is collected and treated at the GAC drum in the closed landfarm.

Emergency communication equipment includes cell phones and land line phones. Hess personnel in all areas of the site carry these cell phones and generally work in buddy teams.

The TransMontaigne terminal also has several pieces of heavy equipment which may be used in an emergency. Access to a tractor and backhoe/front-end loader or other heavy equipment is available through local private contractors should a situation arise that requires heavy equipment not available onsite.

F-3a(4). Water for Fire Control

Fire hydrants are located in close proximity to the closed landfarm on TransMontaigne property. The fire water system was designed for use in case of a fire in the petroleum storage areas. This system should be adequate for any fire emergency at the closed landfarm.

F-3b. Aisle Space Requirements

Sufficient space is available at the closed landfarm to allow for the unobstructed movement of personnel, fire protection equipment, and spill control equipment to, from and within these areas.

F-4. PREVENTIVE PROCEDURES, STRUCTURES, AND EQUIPMENT [MHWMR 270.14(b)(8)]

F-4a. Unloading Operations

The closed landfarm area activities are referenced in **Section D** of this permit renewal application. All loading and unloading of the 55 gallon (or smaller) waste drums is performed by trained Hess employees or subcontractors utilizing methods to prevent spillage of the wastes or migration of the wastes beyond landfarm dike boundaries.

F-4b. Run-on/Run-off

Dikes that have a height of 18 to 24 inches above grade surround the closed landfarm. The dikes and landfarm cap and cover and run-off management system are described in **Section D-3c** of this Permit Application. The dikes and cap/cover ensure that surface runoff will not be impacted by wastes. The dikes and caps/cover also serve as protection from run-on from other portions of the facility.

F-4c. Water Supplies

The system of dikes surrounding the closed landfarm prevents contamination of the surrounding area. All run-off from the closed landfarm flows to Pond D-1 and then to Pond A-4 before being released in the NPDES outfall. A detailed description of the run-off collection system is presented in **Section D-3c** of this application.

F-4d. Equipment and Power Failure

Equipment Failure

In the event of equipment failure, Hess will make repairs or acquire additional equipment.

Power Failure

The TransMontaigne Terminal is equipped with two power feed lines. If all electrical power is lost, the closed landfarm would not be impacted, as electrical or electronic control devices are not used in this area.

F-4e. Personnel Protection Equipment

All personnel working at the Hess site have access to protective equipment such as dust masks, rubber boots, respirators, rubber gloves, and disposable coveralls.

F-5. PREVENTION OF REACTION OF IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTES [MHWMR 270.14(b)(9) AND 264.17]

The LTU has been closed and the former wastes applied to the landfarm at the Purvis Terminal were not ignitable or reactive, and they are compatible with each other. Therefore, this section is not applicable.

Table F-1
SITE INSPECTION SCHEDULE
EPA ID# MSD 079 461 406
Hess Corporation, former Purvis Refinery/Terminal, Purvis, MS

AREA*	TYPES OF PROBLEMS	ITEMS TO BE INSPECTED	PROPOSED FREQUENCY
Landfarm	Odors, Standing Water, Dike Erosion, Seepage, Equipment Not Operational, Excessive Grass Growth (1), Presence of Woody Vegetation (1), Dying Vegetation	1. General Area 2. Landfarm Plot Dikes 3. Fire Hydrants 4. Landfarm Gate Valves / Sumps	Quarterly Quarterly and After Storms Yearly Quarterly and After Storms
Monitoring Wells	broken locks, caps open, casing cracked, excessive vegetation	LTU and SWMU Monitoring Wells	Semi-annually
Security	Broken or Malfunctioning Hardware, Fence Breaks	1. Fence 2. Gate and Locks	Quarterly Quarterly

NOTES:

* No RCRA listed wastes are stored in these areas.

(1) Grass on and surrounding the landfarm dikes will be mowed if it reaches greater than 4 inches in height (or during regularly scheduled mowing events). Woody vegetation will be immediately removed.

Revised August 20, 2009

SECTION G

RESERVED

SECTION H

RESERVED

SECTION I

POST-CLOSURE PLAN AND FINANCIAL REQUIREMENTS

SECTION I

Post-Closure Plan and Financial Requirements

This Section is submitted in accordance with the requirements of MHWMR Subpart G, Closure and Post-Closure Standards, Closure Plan; Amendment of Plan, 264.112 through 115 and 264.280. This Post-Closure Plan identifies all steps that will be necessary following complete closure of the facility at the end of its intended operating life. The Post-Closure Plan will describe the maintenance activities at the facility following closure.

The Hess Site in Purvis, Mississippi maintained an on-site copy of the approved Post-Closure Plan for its landfarm and all revisions to the Plan and Certification of Closure completeness was submitted and accepted by the Mississippi Bureau of Pollution Control. Hess notified the Executive Director of the Mississippi Department of Environmental Quality (MDEQ) at least 180 days prior to the date of the beginning of the closure when it was expected. Upon completion of the landfarm facility closure, Hess submitted to the Executive Director a certification by an independent Registered Professional Engineer and Hess that the landfarm facility had been closed in accordance with the specifications in the approved Post-Closure Plan.

Hess submitted a Closure Report for the landfarm unit in November 2004. MSDEQ conducted a visual inspection on February 3, 2005. As stated in a letter of closure approval by MSDEQ of April 6, 2005, Hess was released from financial assurance requirements for closure and liability coverage. Hess is currently in the 5th year of the post-closure plan implementation.

1-1 Post-Closure Plan [MHWMR 270.14(b)(l3), 270.18, 264.118, and 264.280(c)]

I-1a Post-Closure Care Use of Property [MHWMR 264.117]

The post-closure information is presented in accordance with MHWMR 264.117. This plan describes the measures that Hess will take to maintain the immobilization of waste constituents within the treatment zone. Hess will continue post-closure care for 30 years after the date of completing closure (until 2034), unless the Executive Director of MDEQ amends this time requirement. Hess will not use this property in any manner that will disturb the run-on and run-off control systems or the site integrity during the post-closure period. If process changes or any waste modifications are made during closure or the operational life of the landfarm, the post-closure plan will be updated or modified, if needed.

The person to contact about the Hess landfarm during the post-closure period is:

M&R Remediation Department
Attention: Steve Freeman
One Hess Plaza
Woodbridge, NJ 07095
(732) 750-6000

Hess will continue groundwater monitoring as required. **Figure E-1** is a plot plan of the landfarm showing the current monitoring well locations. These wells will be utilized to conduct post-closure groundwater monitoring of the landfarm. During post-closure care, groundwater samples will be analyzed annually for pH, specific conductance, total organic carbon, total organic halogen, oil and grease, total Kjeldahl nitrogen, benzene, toluene, total xylenes, total phenols, benzo(a)pyrene, naphthalene, chromium, and lead. The groundwater sampling procedures, chain of custody requirements, and analytical methods, are the same as those proposed in **Section E - Groundwater Monitoring** of this Permit Application. Hess is proposing that the groundwater samples will be collected annually

beginning 2010 (currently semi-annually) through 2014 then every 5 years through 2020.

Monitoring of this permit application

Pursuant to MHWMR 264.280(e), Hess specifically reserves the right to discontinue groundwater monitoring upon the submission, and subsequent approval by the Executive Director of MDEQ, of documentation that RCRA listed constituents have not migrated beyond the treatment zone, as indicated by unsaturated zone monitoring, during the life of the landfarm. This documentation may be submitted any time during the post-closure period. Groundwater well maintenance inspections will occur semi-annually during post-closure care.

I-1b Specific Post-Closure Plan Requirements

I-1b(1) Land Treatment Facilities

Hess will maintain the security of the closed landfarm by timely repairs to fences and gates and the timely painting of fences, gates, and signs as needed.

Soil sampling will be performed with decreasing frequency as recommended in EPA's September 1980 SW874 document. The frequency of sampling will follow a geometrically progressive schedule. This schedule implies sampling 1/2, 1, 2, 4, 8, 16 and 30 years after the post-closure care period begins. This sampling schedule should be sufficient to monitor the wastes, since the properly designed, managed, and closed landfarm will exhibit little potential for releasing constituents into the unsaturated zone below the zone of incorporation or into the groundwater.

The soil samples will be analyzed for the following parameters: pH, conductivity, total phenols, oil and grease, total Kjeldahl nitrogen, benzene, toluene, total xylenes, lead,

chromium, naphthalene, and benzo(a)pyrene.

Pursuant to MHWMR 264.280(d), Hess specifically reserves the right to discontinue unsaturated zone monitoring with the approval of the Executive Director of MDEQ if the level of hazardous constituents in the treatment zone is not significantly higher than background levels. The vegetative cover will be inspected once a month. Fertilizer and lime will be applied as needed. In the event of cover degradation or erosion, Hess will take prompt remedial action including the addition of soil and vegetation and erosion control implementation. At no time during post-closure care will food-chain crops be grown.

The run-on control system will be maintained by dike inspection quarterly and after storm events and by timely response to signs of dike erosion. The run-off control system of dikes and drainage valves will be inspected quarterly and after storm events. Piping will be examined for leaks. Hess will respond to signs of dike erosion or drainage pipe leakage before the next scheduled inspection. The effectiveness of wind dispersal controls will be inspected quarterly and after storm events.

Pursuant to MHWMR 264.120, Hess will submit, by certified mail, a certification to the Regional Administrator that the post-closure care period for the landfarm was performed in accordance with the specifications of this post-closure plan. The certification will be sent no later than 60 days after completion of the established post-closure care period and will be signed by both Hess and an independent registered professional engineer. Documentation supporting the independent registered professional engineer's certification will be furnished to the Regional Administrator upon request until AHC is released from the financial assurance requirements for post-closure care under MHWMR 264.145.

I-2 Notices Required for Disposal Facilities [MHWMR 270.14(b)(14), 264.119 and

264.120]

I-2a Notice to Local Land Authority

Hess submitted to the County Clerk of Lamar County, Mississippi and the Executive Director of MDEQ a survey plat, prepared and certified by a professional land surveyor, indicating the location and dimensions of landfarm cells with respect to permanently surveyed benchmarks. The filed plat contained a prominently displayed note which states an obligation to restrict disturbance of the site. In addition, a record of the type, location and quantity of wastes applied within each landfarm cell was filed with the County Clerk of Lamar County, Mississippi and the Executive Director.

I-2b Notice in Deed of Property

Hess recorded a notation on the Deed to the Property that the land had been used to manage RCRA listed wastes, that land use is restricted under MHWMR 264.117(c), and that a survey plat and record of the type, location and quantity of the RCRA listed wastes applied to each cell has been filed with the County Clerk of Lamar County, Mississippi and the Executive Director of MDEQ. Pursuant to MHWMR 264.119b, this deed notation was recorded no later than 60 days after Certification of closure of the landfarm.

I-3 Post-Closure Cost Estimate [MHWMR 270.14(h)(.16) and 264.144]

The cost estimate for 30 years of post closure care for the landfarm in current dollars at the Hess Site in Purvis, Mississippi is presented in **Table I-1**. This estimate is based upon the post-closure plan presented in **Section I-2 and is based upon hiring third party consultants to complete all required post-closure care requirements, as required by**

40 CFR 264.144(a)(1).

This post-closure cost estimate will be kept at the office of the environmental coordinator and will be revised whenever a change in the post-closure plan affects the cost of post-closure care. The annual post-closure cost will be reviewed annually and adjusted as required.

I-4 Financial Assurance Mechanism for Post-Closure [MHWMR 270.14(b)(16), 264.145 and 264.151]

Hess or an owner or operator of a hazardous waste management unit subject to the requirements of § 264.144 must establish financial assurance for post-closure care in accordance with the approved post-closure plan for the facility 60 days prior to the initial receipt of hazardous waste or the effective date of the regulation, whichever is later. Hess must choose from the following options:

I-4a Post-Closure Trust Fund

(1) Hess may satisfy the requirements of this Section by establishing a post-closure trust fund which conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Regional Administrator. Hess or an owner or operator of a new facility must submit the originally signed duplicate of the trust agreement to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for disposal.

The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(2) The wording of the trust agreement must be identical to the wording specified in § 264.151(a)(1), and the trust agreement must be accompanied by a formal certification of acknowledgment (for example, see § 264.151(a)(2)). Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current post-closure cost estimate covered by the agreement.

(3) Payments into the trust fund must be made annually by Hess over the term of the initial RCRA permit or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the ‘‘pay-in period.’’ The payments into the post-closure trust fund must be made as follows:

(i) For a new facility, the first payment must be made before the initial receipt of hazardous waste for disposal. A receipt from the trustee for this payment must be submitted by the owner or operator to the Regional Administrator before this initial receipt of hazardous waste. The first payment must be at least equal to the current post-closure cost estimate, except as provided in § 264.145(g), divided by the number of years in the pay-in period. Subsequent payments must be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment must be determined by this formula:

Next payment = (CE − CV)/Y

where CE is the current post-closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(ii) If an owner or operator establishes a trust fund as specified in § 265.145(a) of this chapter, and the value of that trust fund is less than the current post-closure cost estimate when a permit is awarded for the facility, the amount of the current post-closure cost estimate still to be paid into the fund must be paid in over the pay-in period as defined in paragraph (a)(3) of this section. Payments must continue to be made no later than 30 days after each anniversary date of the first payment made pursuant to Part 265 of this chapter. The amount of each payment must be determined by this formula:

Next payment =(CE − CV)/Y

where CE is the current post-closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) Hess may accelerate payments into the trust fund or Hess may deposit the full amount of the current post-closure cost estimate at the time the fund is established. However, Hess must maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in paragraph (a)(3) of this section.

(5) If the owner or operator establishes a post-closure trust fund after having used one or more alternate mechanisms specified in this section or in § 265.145 of this Chapter, Hess' first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to specifications of this paragraph and § 265.145(a) of this chapter, as applicable.

(6) After the pay-in period is completed, whenever the current post-closure cost estimate changes during the operating life of the facility, Hess will compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, Hess, within 60 days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current post-closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(7) During the operating life of the facility, if the value of the trust fund is greater than the total amount of the current post-closure cost estimate, Hess may submit a written request to the Regional Administrator for release of the amount in excess of the current post-closure cost estimate.

(8) If Hess substitutes other financial assurance as specified in this Section for all or part of the trust fund, Hess may submit a written request to the Regional Administrator for release of the amount in excess of the current post-closure cost estimate covered by the trust fund.

(9) Within 60 days after receiving a request from Hess to release of funds as specified in paragraph (a) (7) or (8) of this Section, the Regional Administrator will instruct the trustee to release to Hess such funds as the Regional Administrator specifies in writing.

(10) During the period of post-closure care, the Regional Administrator may approve a release of funds if Hess demonstrates to the Regional Administrator that the value of the trust fund exceeds the remaining cost of post-closure care.

(11) Hess or any other person authorized to conduct post-closure care may request reimbursements for post-closure care expenditures by submitting itemized bills to the Regional Administrator. Within 60 days after receiving bills for post-closure care activities, the Regional Administrator will instruct the trustee to make reimbursements in those amounts as the Regional Administrator specifies in writing, if the Regional Administrator determines that the post-closure care expenditures are in accordance with the approved post-closure plan or otherwise justified. If the Regional Administrator does not instruct the trustee to make such reimbursements, Hess will provide the owner or operator with a detailed written statement of reasons.

(12) The Regional Administrator will agree to termination of the trust when:

(i) Hess substitutes alternate financial assurance as specified in this Section; or

(ii) The Regional Administrator releases Hess from the requirements of this Section in accordance with § 264.145(i).

I-4b Surety Bond

(1) Hess may satisfy the requirements of this Section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Regional Administrator. Hess or an owner or operator of a new facility must submit the bond to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in § 264.151(c).

(3) If Hess uses a surety bond to satisfy the requirements of this Section Hess must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust fund must meet the requirements specified in § 264.145(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Regional Administrator with the surety bond; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this Section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 264.145(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current post-closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that Hess will:

(i) Perform post-closure care in accordance with the post-closure plan and other requirements of the permit for the facility; or

(ii) Provide alternate financial assurance as specified in this section, and obtain the Regional Administrator's written approval of the assurance provided, within 90 days of receipt by both Hess and the Regional Administrator of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a final administrative determination pursuant to section 3008 of RCRA that Hess has failed to perform post-closure care in accordance with the approved post-closure plan and other permit requirements, under the terms of the bond the surety will perform post-closure care in accordance with the post-closure plan and other permit requirements or will deposit the amount of the penal sum into the standby trust fund.

(6) The penal sum of the bond must be in an amount at least equal to the current post-closure cost estimate.

(7) Whenever the current post-closure cost estimate increases to an amount greater than the penal sum during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the penal sum may be reduced to the amount of the current post-closure cost estimate following written approval by the Regional Administrator.

(8) During the period of post-closure care, the Regional Administrator may approve a decrease in the penal sum if the owner or operator demonstrates to the Regional Administrator that the amount exceeds the remaining cost of post-closure care.

(9) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to Hess and to the Regional Administrator.

Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both Hess and the Regional Administrator, as evidenced by the return receipts.

(10) The owner or operator may cancel the bond if the Regional Administrator has given prior written consent. The Regional Administrator will provide such written consent when:

(i) An owner or operator substitutes alternate financial assurance as specified in this Section; or

(ii) The Regional Administrator releases Hess from the requirements of this Section in accordance with § 264.145(i).

(11) The surety will not be liable for deficiencies in the performance of post-closure care by Hess after the Regional Administrator releases Hess from the requirements of this section in accordance with § 264.145(i).

I-4c Post-Closure Letter of Credit

(1) Hess may satisfy the requirements of this Section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph and submitting the letter to the Regional Administrator. Hess or an owner or operator of a new facility must submit the letter of credit to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for disposal. The letter of credit must be effective before this initial receipt of hazardous waste. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(2) The wording of the letter of credit must be identical to the wording specified in § 264.151(d).

(3) Hess or an owner or operator who uses a letter of credit to satisfy the requirements of this Section must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Regional Administrator will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust fund must meet the requirements of the trust fund specified in § 264.145(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Regional Administrator with the letter of credit; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this Section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 264.145(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current post-closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the EPA Identification Number, name, and address of the facility, and the amount of funds assured for post-closure care of the facility by the letter of credit.

(5) The letter of credit must be irrevocable and issued for a period of at least 1 year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least 1 year unless, at least 120 days before the current expiration date, the issuing institution notifies both Hess and the Regional Administrator

by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both Hess and the Regional Administrator have received the notice, as evidenced by the return receipts.

(6) The letter of credit must be issued in an amount at least equal to the current post-closure cost estimate, except as provided in § 264.145(g).

(7) Whenever the current post-closure cost estimate increases to an amount greater than the amount of the credit during the operating life of the facility, Hess, within 60 days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current post-closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this Section to cover the increase. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the amount of the credit may be reduced to the amount of the current post-closure cost estimate following written approval by the Regional Administrator.

(8) During the period of post-closure care, the Regional Administrator may approve a decrease in the amount of the letter of credit if Hess demonstrates to the Regional Administrator that the amount exceeds the remaining cost of post-closure care.

(9) Following a final administrative determination pursuant to section 3008 of RCRA that the owner or operator has failed to perform post-closure care in accordance with the approved post-closure plan and other permit requirements, the Regional Administrator may draw on the letter of credit.

(10) If Hess does not establish alternate financial assurance as specified in this Section and obtain written approval of such alternate assurance from the Regional

Administrator within 90 days after receipt by both Hess and the Regional Administrator of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Regional Administrator will draw on the letter of credit. The Regional Administrator may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any such extension the Regional Administrator will draw on the letter of credit if Hess has failed to provide alternate financial assurance as specified in this Section and obtain written approval of such assurance from the Regional Administrator.

(11) The Regional Administrator will return the letter of credit to the issuing institution for termination when:

(i) An owner or operator substitutes alternate financial assurance as specified in this Section; or

(ii) The Regional Administrator releases Hess from the requirements of this Section in accordance with § 264.145(i).

I-4d Post-Closure Insurance

(1) Hess may satisfy the requirements of this section by obtaining post-closure insurance which conforms to the requirements of this paragraph and submitting a certificate of such insurance to the Regional Administrator. Hess must submit the certificate of insurance to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for disposal. The insurance must be effective before this initial receipt of hazardous waste. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) The wording of the certificate of insurance must be identical to the wording specified in § 264.151(e).

(3) The post-closure insurance policy must be issued for a face amount at least equal to the current post-closure cost estimate, except as provided in § 264.145(g). The term ‘‘face amount’’ means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer’s future liability will be lowered by the amount of the payments.

(4) The post-closure insurance policy must guarantee that funds will be available to provide post-closure care of the facility whenever the post-closure period begins. The policy must also guarantee that once post-closure care begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Regional Administrator, to such party or parties as the Regional Administrator specifies.

(5) If Hess is authorized to conduct post-closure care may request reimbursements for post-closure care expenditures by submitting itemized bills to the Regional Administrator. Within 60 days after receiving bills for post-closure care activities, the Regional Administrator will instruct the insurer to make reimbursements in those amounts as the Regional Administrator specifies in writing, if the Regional Administrator determines that the post-closure care expenditures are in accordance with the approved post-closure plan or otherwise justified. If the Regional Administrator does not instruct the insurer to make such reimbursements, he will provide Hess with a detailed written statement of reasons.

(6) The owner or operator must maintain the policy in full force and effect until the Regional Administrator consents to termination of the policy by Hess as specified in

paragraph (e)(11) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in this Section, will constitute a significant violation of these regulations, warranting such remedy as the Regional Administrator deems necessary. Such violation will be deemed to begin upon receipt by the Regional Administrator of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(8) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to Hess and the Regional Administrator. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the Regional Administrator and Hess, as evidenced by the return receipts.

Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

(i) The Regional Administrator deems the facility abandoned; or

(ii) The permit is terminated or revoked or a new permit is denied; or

(iii) Closure is ordered by the Regional Administrator or a U.S. District Court or other Court of competent jurisdiction; or

(iv) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

(v) The premium due is paid.

(9) Whenever the current post-closure cost estimate increases to an amount greater than the face amount of the policy during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the face amount may be reduced to the amount of the current post-closure cost estimate following written approval by the Regional Administrator.

(10) Commencing on the date that liability to make payments pursuant to the policy accrues the insurer will thereafter annually increase the face amount of the policy. Such increase must be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to 85 percent of the most recent investment rate or of the equivalent coupon issue yield announced by the U.S. Treasury for 26-week Treasury securities.

(11) The Regional Administrator will give written consent to the owner or operator that he may terminate the insurance policy when:

(i) Hess substitutes alternate financial assurance as specified in this Section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

I-4e Financial Test and Corporate Guarantee for Post-Closure

(1) Hess may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. Refer to **Attachment I-1** for the 2007 Finance Assurance submittal and the original 1994 Letter of Credit. To pass this test the owner or operator must meet the criteria of either paragraph (f)(1)(i) or (ii) of this Section:

(i) The owner or operator must have:

(A) Two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(B) Net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A or Baa as issued by Moody's; and

(B) Tangible net worth at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets located in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(2) The phrase ‘‘current closure and post-closure cost estimates’’ as used in paragraph (f)(1) of this section refers to the cost estimates required to be shown in paragraphs 1–4 of the letter from the owner’s or operator’s chief financial officer (§ 264.151(f)). The phrase ‘‘current plugging and abandonment cost estimates’’ as used in paragraph (f)(1) of this section refers to the cost estimates required to be shown in paragraphs 1–4 of the letter from the owner’s or operator’s chief financial officer (§ 144.70(f) of this title).

(3) To demonstrate that he meets this test, the owner or operator must submit the following items to the Regional Administrator:

(i) A letter signed by the owner’s or operator’s chief financial officer and worded as specified in § 264.151(f); and

(ii) A copy of the independent certified public accountant’s report on examination of the owner’s or operator’s financial statements for the latest completed fiscal year; and

(iii) A special report from Hess’ independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, yearend financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) An owner or operator of a new facility must submit the items specified in paragraph (f)(3) of this section to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for disposal.

(5) After the initial submission of items specified in paragraph (f)(3) of this section, the owner or operator must send updated information to the Regional Administrator within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (f)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, he must send notice to the Regional Administrator of intent to establish alternate financial assurance as specified in this section. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within 120 days after the end of such fiscal year.

(7) The Regional Administrator may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (f)(1) of this section, require reports of financial condition at any time from the owner or operator in

addition to those specified in paragraph (f)(3) of this section. If the Regional Administrator finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, the owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of such a finding.

(8) The Regional Administrator may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (f)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Regional Administrator will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of the disallowance.

(9) During the period of post-closure care, the Regional Administrator may approve a decrease in the current post-closure cost estimate for which this test demonstrates financial assurance if the owner or operator demonstrates to the Regional Administrator that the amount of the cost estimate exceeds the remaining cost of post-closure care.

(10) The owner or operator is no longer required to submit the items specified in paragraph (f)(3) of this section when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

(11) An owner or operator may meet the requirements of this section by obtaining a written guarantee. The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a ‘‘substantial business relationship’’ with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (f)(1) through (9) of this section and must comply with the terms of the guarantee. The wording of the guarantee must be identical to the wording specified in § 264.151(h). A certified copy of the guarantee must accompany the items sent to the Regional Administrator as specified in paragraph (f)(3) of this section. One of these items must be the letter from the guarantor’s chief financial officer. If the guarantor’s parent corporation is also the parent corporation of the owner or operator, the letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a ‘‘substantial business relationship’’ with the owner or operator, this letter must describe this ‘‘substantial business relationship’’ and the value received in consideration of the guarantee. The terms of the guarantee must provide that:

(i) If the owner or operator fails to perform post-closure care of a facility covered by the corporate guarantee in accordance with the post-closure plan and other permit requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in § 264.145(a) in the name of the owner or operator.

(ii) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by

both the owner or operator and the Regional Administrator, as evidenced by the return receipts.

(iii) If the owner or operator fails to provide alternate financial assurance as specified in this section and obtain the written approval of such alternate assurance from the Regional Administrator within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternate financial assurance in the name of the owner or operator.

I-4f Combinations

An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, and insurance. The mechanisms must be as specified in paragraphs (a), (b), (d), and (e), respectively, of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current post-closure cost estimate.

If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The Regional Administrator may use any or all of the mechanisms to provide for post-closure care of the facility.

I-4g Multiple Facilities [MHWMR 164.145]

Hess may use a financial assurance mechanism specified in this section to meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the Regional Administrator must include a list showing, for each facility, the EPA Identification Number, name, address, and the amount of funds for post-closure care assured by the mechanism. If the facilities covered by the mechanism are in more than one Region, identical evidence of financial assurance must be submitted to and maintained with the Regional Administrators of all such regions. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for post-closure care of any of the facilities covered by the mechanism, the Regional Administrator may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

I-4h Release of Financial Requirements [MWHWMR 264.145(i)]

Within 60 days after receiving certifications from the owner or operator and a qualified Professional Engineer that the post-closure care period has been completed for a hazardous waste disposal unit in accordance with the approved plan, the Regional Administrator will notify the owner or operator that he is no longer required to maintain financial assurance for post-closure of that unit, unless the Regional Administrator has reason to believe that post-closure care has not been in accordance with the approved post-closure plan. The Regional Administrator shall provide the owner or operator a detailed written statement of any such reason to believe that post-closure care has not been in accordance with the approved post-closure plan.

I-5 Liability Requirements [MHWMR 270.14(b)(17) and 264.1471

As of July 17, 2007, Hess has been released from the requirements to obtain sudden and nonsudden insurance as allowed under 40 CFR 264.147(e).

Table I-1

POST CLOSURE COST ESTIMATES

EPA ID# MSD 079 461 406

Hess Corporation, former Purvis Refinery/Terminal, Purvis, MS

Post Closure Cost Estimate - For Remaining 26 Years

Activity	REQUIRED WORK	For 2009 to End Permit (26 years)	
Site Care			
	Inspections of Dikes, Sump, and Piping Maintenance of Security	inc. w cover care	
	Site Care Subtotal		**$0**
Cover Care			

Facility Maintenance	Annual Costs	Events for Next 26 Years	Time Line Events	Extended Costs	Totals
Mowing twice per year	$ 1,800	26	Twice per year for 26 years	$ 46,800	
Quarterly Inspections LTU	$ 500	26	Four Times per year for 26 years	$ 13,000	
Cap Maintenance	$ 1,850	5	Five events in 26 years	$ 9,250	
Drainage Maintenance	$ 1,300	5	Five events in 26 years	$ 6,500	
Well Shelter Repairs	$ 1,650	13	Two events in 26 years	$ 21,450	
Fence Maintenance	$ 1,400	5	Five events in 26 years	$ 7,000	
			26 Year Costs:	$ 104,000	

	Cover Care Subtotal		**$ 104,000**
Monitoring			
	Groundwater Monitoring Well Inspection and Repair	inc. w cover care	$0
	Groundwater Samples & Analytical $12,000/event	52 events remain	$ 624,000
	Administration/Reporting $3000/event		$ 156,000
	Monitoring Subtotal		**$ 780,000**
Soil Sampling			
	Soil Samples (1/2, 1, 2, 4, 8, 16, and 30 years) $2400/event	3 events remain	$ 7,200
	Note: Only 8, 16 and 30 years sampling still pending		
	15% Contingencies		$ 2,100
	Soil Sampling Subtotal		**$ 9,300**
Well Plugging and Abandonment			
	Wells A, B, C, E, F, G, H, I, J, K, L	11 wells @ $3500/ea	**$ 38,500**
	TOTAL 30 YEAR ESTIMATED POST CLOSURE COSTS	**26 year est.**	**$ 1,711,800**

This estimate does not include anticipated reductions in groundwater sampling schedule at years 2010 (annual) and 2014 (every 5 years).
This estimate is based on costs for third party consultant to provide all post-closure care.
Cover care/inspections estimate based on Northlake Maintenance invoices for monthly events.
Groundwater/soil sampling and analytical based on Accutest invoices for analytical and GMS invoices for field work & equipment for semiannual events.
Administration/reporting based on GMS invoices for semiannual reports and monthly project management.

Revised 8/20/2009

Citibank,N.A.

OUR REFERENCE NO : 30014228

L/C AMENDMENT

MAR. 29, 2007

IRREVOCABLE STANDBY LC

CITIBANK,N.A.
C/O ITS SERVICER, CITICORP NORTH AMERICA, INC.
3800 CITIBANK CENTER
BUILDING B, 3RD FLOOR
TAMPA, FL 33610

AMENDMENT(S) TO STANDBY LETTER OF CREDIT

CREDIT NO.
30014228

ADVISING BANK:

APPLICANT:
HESS CORPORATION
1185 AVE OF THE AMERICAS
ATTN. TUFFLI NGUYEN
NEW YORK NY 10036 U.S.A.

BENEFICIARY
EXECUTIVE DIRECTOR, MISSISSIPPI
DEPARTMENT OF
NATURAL RESOURCES, PO BOX 10385
JACKSON MS 0392090000 U.S.A.

DEAR SIR(S),

THE LETTER OF CREDIT REFERENCED ABOVE IS AMENDED AS FOLLOWS :

L/C AMOUNT INCREASED BY: USD60,595.00.

NEW L/C AMOUNT AFTER AMENDMENT: USD2,058,991.00

ALL OTHER TERMS AND CONDITIONS OF THE ORIGINAL CREDIT INSTRUMENT REMAIN UNCHANGED.

THIS AMENDMENT(S) IS AN INTEGRAL PART OF THE ORIGINAL CREDIT AND MUST BE ATTACHED THERETO.

Citibank,N.A.

OUR REFERENCE NO : 30014228

PLEASE DIRECT ANY INQUIRIES, QUOTING OUR REFERENCE NUMBER, TO:
CUSTOMER SERVICE DEPARTMENT ,
CITIBANK,N.A.
C/O ITS SERVICER, CITICORP NORTH AMERICA, INC.

3800 CITIBANK CENTER
BUILDING B, 3RD FLOOR
TAMPA, FL 33610

TEL: 813-604-7000()
FAX: ()

AUTHORIZED SIGNATURE
CITIBANK,N.A.

Citibank, N.A.

NORTH AMERICAN TRADE FINANCE

NOVEMBER 12, 1993

EXECUTIVE DIRECTOR
MISSISSIPPI DEPARTMENT OF NATURAL RESOURCES
PO BOX 10385
JACKSON, MISSISSIPPI 39209

REF: IRREVOCABLE STANDBY LETTER OF CREDIT NO. NY-02406-30014228

DEAR SIR OR MADAM:

WE HEREBY ESTABLISH OUR IRREVOCABLE STANDBY LETTER OF CREDIT NO. NY-02406-30014228 IN YOUR FAVOR, AT THE REQUEST AND FOR THE ACCOUNT OF AMERADA HESS CORPORATION UP TO THE AGGREGATE AMOUNT OF U.S. DOLLARS ONE MILLION FIVE HUNDRED THIRTY SIX THOUSAND TWO HUNDRED EIGHTY FIVE AND 00/100 (U.S. $1,536,285.00) AVAILABLE UPON PRESENTATION OF:

1) YOUR SIGHT DRAFT, BEARING REFERENCE TO THIS LETTER OF CREDIT NO. NY-02406-30014228, AND

2) YOUR SIGNED STATEMENT READING AS FOLLOWS: "I CERTIFY THAT THE AMOUNT OF THE DRAFT IS PAYABLE PURSUANT TO REGULATIONS ISSUED UNDER AUTHORITY OF THE RESOURCE CONSERVATION AND RECOVERY ACT OF 1976 AS AMENDED."

THIS LETTER OF CREDIT IS EFFECTIVE AS OF MARCH 27,1994 AND SHALL EXPIRE ON MARCH 27,1995, BUT SUCH EXPIRATION DATE SHALL BE AUTOMATICALLY EXTENDED FOR A PERIOD OF ONE YEAR ON MARCH 27,1995 AND ON EACH SUCESSIVE EXPIRATION DATE, UNLESS, AT LEAST 120 DAYS BEFORE THE CURRENT EXPIRATION DATE, WE NOTIFY BOTH YOU AND AMERADA HESS CORPORATION BY CERTIFIED MAIL THAT WE HAVE DECIDED NOT TO EXTEND THIS LETTER OF CREDIT BEYOND THE CURRENT EXPIRATION DATE. IN THE EVENT YOU ARE SO NOTIFIED, ANY UNUSED PORTION OF THE CREDIT SHALL BE AVAILABLE UPON PRESENTATION OF YOUR SIGHT DRAFT FOR 120 DAYS AFTER THE DATE OF RECEIPT BY BOTH YOU AND AMERADA HESS CORPORATION AS SHOWN ON THE SIGNED RETURN RECEIPTS.

WHENEVER THIS LETTER OF CREDIT IS DRAWN ON UNDER AND IN COMPLIANCE WITH

THE TERMS OF THIS CREDIT, WE SHALL DULY HONOR SUCH DRAFT UPON PRESENTATION TO US, AND WE SHALL DEPOSIT THE AMOUNT OF THE DRAFT DIRECTLY INTO THE STANDBY TRUST FUND OF AMERADA HESS CORPORATION IN ACCORDANCE WITH YOUR INSTRUCTION.

WE UNDERSTAND THAT THE WORDING OF THIS LETTER OF CREDIT IS IDENTICAL TO THE WORDING SPECIFIED IN 40 CFR 264.151(D) AS SUCH REGULATIONS WERE CONSTITUTED ON THE DATE SHOWN IMMEDIATELY BELOW.

THIS CREDIT IS SUBJECT TO THE UNIFORM CUSTOMS AND PRACTICE FOR DOCUMENTARY CREDITS; 1993 REVISION I.C.C. PUBLICATION NO. 500, SHALL BE DEEMED TO BE A

Added 8/20/2009

CONTRACT MADE UNDER, AND AS TO MATTERS NOT GOVERNED BY THE UCP, SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK AND APPLICABLE U.S. FEDERAL LAW.

CITIBANK, N.A.

Bernadette M Manuel

AUTHORIZED SIGNATURE
NOVEMBER 12,1993

Added 8/20/2009