GIS REGISTRY
Cover Sheet

March, 2010
(RR 5367)

Source Property Information

CLOSURE DATE: Aug 13, 2010

BRRTS #: 03-41-270187

FID #: 241053450

ACTIVITY NAME: Jacobus Energy Jones Island Bulk Terminal

DATCP #:

PROPERTY ADDRESS: 1726 South Harbor Drive, Milwaukee, WI 53207

COMM #: 53207102326

MUNICIPALITY: Milwaukee

PARCEL ID #: 462-9997-118-7

***WTM COORDINATES:**

X: 691495 Y: 284291

** Coordinates are in WTM83, NAD83 (1991)*

WTM COORDINATES REPRESENT:

○ Approximate Center Of Contaminant Source

◉ Approximate Source Parcel Center

Please check as appropriate: (BRRTS Action Code)

Contaminated Media:

☒ Groundwater Contamination > ES *(236)*

☐ Contamination in ROW

☐ Off-Source Contamination

*(**note:** for list of off-source properties see "Impacted Off-Source Property" form)*

☒ Soil Contamination > *RCL or **SSRCL *(232)*

☐ Contamination in ROW

☐ Off-Source Contamination

*(**note:** for list of off-source properties see "Impacted Off-Source Property" form)*

Land Use Controls:

☐ N/A (*Not Applicable*)

☒ Soil: maintain industrial zoning *(220)*

*(**note:** soil contamination concentrations between non-industrial and industrial levels)*

☒ Structural Impediment *(224)*

☐ Site Specific Condition *(228)*

☒ Cover or Barrier *(222)*

*(**note:** maintenance plan for groundwater or direct contact)*

☐ Vapor Mitigation *(226)*

☐ Maintain Liability Exemption *(230)*

*(**note:** local government unit or economic development corporation was directed to take a response action)*

Monitoring Wells:

Are all monitoring wells properly abandoned per NR 141? *(234)*

◉ Yes ○ No ○ N/A

** Residual Contaminant Level*
***Site Specific Residual Contaminant Level*

FID# 241053450

State of Wisconsin
Department of Natural Resources
http://dnr.wi.gov

GIS Registry Checklist

Form 4400-245 (R 4/08)

This Adobe Fillable form is intended to provide a list of information that is required for evaluation for case closure. It is to be used in conjunction with Form 4400-202, Case Closure Request. The closure of a case means that the Department has determined that no further response is required at that time based on the information that has been submitted to the Department.

NOTICE: Completion of this form is mandatory for applications for case closure pursuant to ch. 292, Wis. Stats. and ch. NR 726, Wis. Adm. Code, including cases closed under ch. NR 746 and ch. NR 726. The Department will not consider, or act upon your application, unless all applicable sections are completed on this form and the closure fee and any other applicable fees, required under ch. NR 749, Wis. Adm. Code, Table 1 are included. It is not the Department's intention to use any personally identifiable information from this form for any purpose other than reviewing closure requests and determining the need for additional response action. The Department may provide this information to requesters as required by Wisconsin's Open Records law [ss. 19.31 - 19.39, Wis. Stats.].

BRRTS #: 03-41-270187 PARCEL ID #: 463-9997-118-7

ACTIVITY NAME: Jacobus Jones Island Bulk WTM COORDINATES: X: 691495 Y: 284291

CLOSURE DOCUMENTS (the Department adds these items to the final GIS packet for posting on the Registry)

- [x] **Closure Letter**
- [x] **Maintenance Plan** *(if activity is closed with a land use limitation or condition (land use control) under s. 292.12, Wis. Stats.)*
- [x] **Conditional Closure Letter**
- [ ] **Certificate of Completion (COC)** for VPLE sites

SOURCE LEGAL DOCUMENTS

- [x] **Deed:** The most recent deed as well as legal descriptions, for the **Source Property** (where the contamination originated). Deeds for other, off-source (off-site) properties are located in the **Notification** section.
  Note: *If a property has been purchased with a land contract and the purchaser has not yet received a deed, a copy of the land contract which includes the legal description shall be submitted instead of the most recent deed. If the property has been inherited, written documentation of the property transfer should be submitted along with the most recent deed.*
- [x] **Certified Survey Map:** A copy of the certified survey map or the relevant section of the recorded plat map *for those properties where the legal description in the most recent deed refers to a certified survey map or a recorded plat map.* (lots on subdivided or platted property (e.g. lot 2 of xyz subdivision)).

  Figure #: **Title:**
- [x] **Signed Statement:** A statement signed by the Responsible Party (RP), which states that he or she believes that the attached legal description accurately describes the correct contaminated property.

MAPS (meeting the visual aid requirements of s. NR 716.15(2)(h))

Maps must be no larger than 8.5 x 14 inches unless the map is submitted electronically.

- [x] **Location Map:** A map outlining all properties within the contaminated site boundaries on a U.S.G.S. topographic map or plat map in sufficient detail to permit easy location of all parcels. If groundwater standards are exceeded, include the location of all potable wells within 1200 feet of the site.
  Note: *Due to security reasons municipal wells are not identified on GIS Packet maps. However, the locations of these municipal wells must be identified on Case Closure Request maps.*

  Figure #: 1 / 1 **Title: Site Location Map / Aerial Image Map**
- [x] **Detailed Site Map:** A map that shows all relevant features (buildings, roads, individual property boundaries, contaminant sources, utility lines, monitoring wells and potable wells) within the contaminated area. This map is to show the location of all contaminated public streets, and highway and railroad rights-of-way in relation to the source property and in relation to the boundaries of groundwater contamination exceeding a ch. NR 140 Enforcement Standard (ES), and/or in relation to the boundaries of soil contamination exceeding a Residual Contaminant Level (RCL) or a Site Specific Residual Contaminant Levels (SSRCL) as determined under s. NR 720.09, 720.11 and 720.19.

  Figure #: 2 **Title: Site Plan Map**
- [x] **Soil Contamination Contour Map:** For sites closing with residual soil contamination, this map is to show the location of all contaminated soil and a single contour showing the horizontal extent of each area of contiguous residual soil contamination that exceeds a Residual Contaminant Level (RCL) or a Site Specific Residual Contaminant Level (SSRCL)as determined under s. NR 720.09, 720.11 and 720.19.

  Figure #: 4 **Title: Soil Quality Map**

BRRTS #: 03-41-270187 ACTIVITY NAME: Jacobus Jones Island Bulk

MAPS (continued)

☒ **Geologic Cross-Section Map:** A map showing the source location and vertical extent of residual soil contamination exceeding a Residual Contaminant Level (RCL) or a Site Specific Residual Contaminant Level (SSRCL). If groundwater contamination exceeds a ch. NR 140 Enforcement Standard (ES) when closure is requested, show the source location and vertical extent, water table and piezometric elevations, and locations and elevations of geologic units, bedrock and confining units, if any.

Figure #: 3 **Title: Geologic Cross Sections A-A'**

Figure #: **Title:**

☒ **Groundwater Isoconcentration Map:** For sites closing with residual groundwater contamination, this map shows the horizontal extent of all groundwater contamination exceeding a ch. NR140 Preventive Action Limit (PAL) and an Enforcement Standard (ES). Indicate the direction and date of groundwater flow, based on the most recent sampling data.
Note: *This is intended to show the total area of contaminated groundwater.*

Figure #: 5 **Title: Groundwater Quality Map**

☒ **Groundwater Flow Direction Map:** A map that represents groundwater movement at the site. If the flow direction varies by more then 20° over the history of the site, submit 2 groundwater flow maps showing the maximum variation in flow direction.

Figure #: 3 **Title: Groundwater Contour Map (8-6-09)**

Figure #: **Title:**

TABLES (meeting the requirements of s. NR 716.15(2)(h)(3))

Tables must be no larger than 8.5 x 14 inches unless the table is submitted electronically. Tables must not contain shading and/or cross-hatching. The use of **BOLD** or *ITALICS* is acceptable.

☒ **Soil Analytical Table:** A table showing remaining soil contamination with analytical results and collection dates.
Note: This is one table of results for the contaminants of concern. Contaminants of concern are those that were found during the site investigation, that remain after remediation. It may be necessary to create a new table to meet this requirement.

Table #: **Title: See attached page**

☒ **Groundwater Analytical Table:** Table(s) that show the most recent analytical results and collection dates, for all monitoring wells and any potable wells for which samples have been collected.

Table #: 5 **Title: Groundwater Quality Results**

☒ **Water Level Elevations:** Table(s) that show the previous four (at minimum) water level elevation measurements/dates from all monitoring wells. If present, free product is to be noted on the table.

Table #: 1 **Title: Groundwater Elevation Data**

IMPROPERLY ABANDONED MONITORING WELLS

For each monitoring well not properly abandoned according to requirements of s. NR 141.25 include the following documents.
Note: *If the site is being listed on the GIS Registry for only an improperly abandoned monitoring well you will only need to submit the documents in this section for the GIS Registry Packet.*

☒ **Not Applicable**

☐ **Site Location Map:** A map showing all surveyed monitoring wells with specific identification of the monitoring wells which have not been properly abandoned.
Note: *If the applicable monitoring wells are distinctly identified on the Detailed Site Map this Site Location Map is not needed.*

Figure #: **Title:**

☐ **Well Construction Report:** Form 4440-113A for the applicable monitoring wells.

☐ **Deed:** The most recent deed as well as legal descriptions for each property where a monitoring well was not properly abandoned.

☐ **Notification Letter:** Copy of the notification letter to the affected property owner(s).

BRRTS #: 03-41-270187 ACTIVITY NAME: Jacobus Jones Island Bulk

NOTIFICATIONS

Source Property

☒ **Letter To Current Source Property Owner:** If the source property is owned by someone other than the person who is applying for case closure, include a copy of the letter notifying the current owner of the source property that case closure has been requested.

☐ **Return Receipt/Signature Confirmation:** Written proof of date on which confirmation was received for notifying current source property owner.

Off-Source Property

Group the following information per individual property and label each group according to alphabetic listing on the "Impacted Off-Source Property" attachment.

☐ **Letter To "Off-Source" Property Owners:** Copies of all letters sent by the Responsible Party (RP) to owners of properties with groundwater exceeding an Enforcement Standard (ES), and to owners of properties that will be affected by a land use control under s. 292.12, Wis. Stats.
Note: *Letters sent to off-source properties regarding residual contamination must contain standard provisions in Appendix A of ch. NR 726.*

Number of "Off-Source" Letters:

☐ **Return Receipt/Signature Confirmation:** Written proof of date on which confirmation was received for notifying any off-source property owner.

☐ **Deed of "Off-Source" Property:** The most recent deed(s) as well as legal descriptions, for all affected deeded **off-source property(ies).** This does not apply to right-of-ways.
Note: *If a property has been purchased with a land contract and the purchaser has not yet received a deed, a copy of the land contract which includes the legal description shall be submitted instead of the most recent deed. If the property has been inherited, written documentation of the property transfer should be submitted along with the most recent deed.*

☐ **Letter To "Governmental Unit/Right-Of-Way" Owners:** Copies of all letters sent by the Responsible Party (RP) to a city, village, municipality, state agency or any other entity responsible for maintenance of a public street, highway, or railroad right-of-way, within or partially within the contaminated area, for contamination exceeding a groundwater Enforcement Standard (ES) and/or soil exceeding a Residual Contaminant Level (RCL) or a Site Specific Residual Contaminant Level (SSRCL).

Number of "Governmental Unit/Right-Of-Way Owner" Letters:

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

WISCONSIN
DEPT. OF NATURAL RESOURCES

Jim Doyle, Governor
Matthew J. Frank, Secretary
Gloria L. McCutcheon, Regional Director

Southeast Region Headquarters
2300 N. Dr. Martin Luther King, Jr. Drive
Milwaukee, Wisconsin 53212-0436
Telephone 414-263-8500
FAX 414-263-8606
TTY 711

August 13, 2010

Mr. Michael Helgesen
Jacobus Energy, Inc.
11815 West Bradley Road
Milwaukee, WI 53224

Subject: Final Case Closure with Continuing Obligations
Jacobus Energy Jones Island Bulk Terminal
1726 South Harbor Drive, Milwaukee, WI 53207
FID #: 241053450; BRRTS #: 03-41-270187
PECFA Claim #: 53207-1023-26

Dear Mr. Helgesen:

On May 4, 2010, the Southeast Region Closure Committee reviewed the above referenced case for closure. This committee reviews environmental remediation cases for compliance with state laws and standards to maintain consistency in the closure of these cases. On May 17, 2010, you were notified that the Closure Committee had granted conditional closure to this case.

On May 25, 2010, the Department received information or documentation indicating that you have complied with the requirements for final closure. The condition of closure required the responsible party to abandon the monitoring wells used for the cleanup activities at the site.

Based on the correspondence and data provided, it appears that your case meets the closure requirements in ch. NR 726, Wisconsin Administrative Code. The Department considers this case closed and no further investigation or remediation is required at this time; however, you and future property owners must comply with certain continuing obligations as explained in this letter.

GIS Registry

This site will be listed on the Remediation and Redevelopment Program's GIS Registry. The specific reasons are summarized below:

- Residual soil contamination exists that must be properly managed should it be excavated or removed
- If a structural impediment that obstructed a complete site investigation or cleanup is removed or modified, additional environmental work must be completed
- Pavement, an engineered cover or a soil barrier must be maintained over contaminated soil and the state must approve any changes to this barrier
- Groundwater contamination is present above Chapter NR 140 enforcement standards

This letter and information that was submitted with your closure request application will be included on the GIS Registry. To review the sites on the GIS Registry web page, visit the RR Sites Map page at http://dnr.wi.gov/org/aw/rr/gis/index.htm. If the property is listed on the GIS Registry because of remaining contamination and you intend to construct or reconstruct a well, you will need prior Department approval in accordance with s. NR 812.09(4)(w), Wis. Adm. Code. To obtain approval, Form 3300-254 needs to be completed and submitted to the DNR Drinking and Groundwater program's regional water supply specialist. This form can be obtained on-line http://dnr.wi.gov/org/water/dwg/3300254.pdf or at the web address listed above for the GIS Registry.

Closure Conditions

Please be aware that pursuant to s. 292.12 Wisconsin Statutes, compliance with the requirements of this letter is a responsibility to which you the current property owner and any subsequent property owners must adhere. You must pass on the information about these continuing obligations to the next property owner or owners. If these requirements are not followed or if additional information regarding site conditions indicates that contamination on or from the site poses a threat to public health, safety, welfare, or the environment, the Department may take enforcement action under s. 292.11 Wisconsin Statutes to ensure compliance with the specified requirements, limitations or other conditions related to the property or this case may be reopened pursuant to s. NR 726.09, Wis. Adm. Code. The Department intends to conduct inspections in the future to ensure that the conditions included in this letter including compliance with referenced maintenance plans are met.

Impervious Barrier Required

Pursuant to s. 292.12(2)(a), Wis. Stats., the ground cover (i.e. concrete pavements, gravel pavements or other impervious cap) and the perimeter fence that currently exists in the location shown on the attached map **(Figure 1- Jacobus Energy Jones Island, 1726 South Harbor Drive, Milwaukee, WI, Maintenance Plan for Ground Cover and Perimeter Fence Map)** shall be maintained in compliance with the **attached maintenance plan** in order to minimize the infiltration of water and prevent additional groundwater contamination that would violate the groundwater quality standards in ch. NR 140, Wis. Adm. Code, and to prevent direct contact with residual soil contamination that might otherwise pose a threat to human health. If soil in the specific locations described above is excavated in the future, the property owner at the time of excavation must sample and analyze the excavated soil to determine if residual contamination remains. If sampling confirms that contamination is present the property owner at the time of excavation will need to determine whether the material is considered solid or hazardous waste and ensure that any storage, treatment or disposal is in compliance with applicable statutes and rules. In addition, all current and future owners and occupants of the property need to be aware that excavation of the contaminated soil may pose an inhalation or other direct contact hazard and as a result special precautions may need to be taken during excavation activities to prevent a health threat to humans.

Prohibited Activities

The following activities are prohibited on any portion of the property where pavement, a building foundation, soil cover, engineered cap or other barrier is required as shown on the attached map **(Figure 1- Jacobus Energy Jones Island, 1726 South Harbor Drive, Milwaukee, WI, Maintenance Plan for Ground Cover and Perimeter Fence Map),** unless prior written approval has been obtained from the Wisconsin Department of Natural Resources: 1) removal of the existing barrier; 2) replacement with another barrier; 3) excavating or grading of the land surface; 4) filling on capped or paved areas; 5) plowing for agricultural cultivation; 6) construction or placement of a building or other structure.

Residual Groundwater Contamination

Groundwater impacted by Arsenic and Cadmium contamination (Figure 5) greater than enforcement standards set forth in ch. NR140, Wis. Adm. Code, is present on this contaminated property and the source property owner (Mr. Larry Sullivan - Port Authority of the City of Milwaukee, 2323 S. Lincoln Memorial Drive, Milwaukee, WI 53207) has been notified of the presence of groundwater contamination. For more detailed information regarding the locations where groundwater samples have been collected (i.e., monitoring well locations) and the associated contaminant concentrations, refer to the Remediation and Redevelopment Program's GIS Registry at the RR Sites Map page at http://dnr.wi.gov/org/aw/rr/gis/index.htm.

Vapor Migration

In addition, depending on site-specific conditions, construction over contaminated materials may result in vapor migration of contaminants into enclosed structures or migration along newly placed underground utility lines. The potential for vapor inhalation and means of mitigation should be evaluated when planning any future redevelopment, and measures should be taken to ensure the continued protection of public health, safety, welfare and the environment at the site.

Post-Closure Notification Requirements

In accordance with ss, 292.12 and 292.13, Wis. Stats., you must notify the Department before making changes that affect or relate to the conditions of closure in this letter. For this case, examples of changed conditions requiring prior notification include, but are not limited to:

- Any activity or construction that results in the removal or modification of a structural impediment that obstructed a complete site investigation or cleanup
- Disturbance, construction on, change or removal in whole or part of pavement, an engineered cover or a soil barrier that must be maintained over contaminated soil

Please send written notifications in accordance with the above requirements to Southeast Region RR Program, 2300 N. Dr. MLK Jr., Drive, Milwaukee, WI 53212, to the attention of Victoria Stovall.

State Statute 101.143 requires that PECFA claimants seeking reimbursement of interest costs, submit a final reimbursement claim within 120 days after they receive a closure letter on their site. For claims not received by the PECFA Program within 120 days of the date of this letter, interest costs after 60 days of the date of this letter will not be eligible for PECFA reimbursement.

The Department appreciates your efforts to restore the environment at this site. If you have any questions regarding this closure decision or anything outlined in this letter, please contact Eric Amadi at (414) 263-8639.

Sincerely,

James A. Schmidt

James A. Schmidt, Team Supervisor
SER Remediation & Redevelopment Program
Milwaukee Service Center

Enclosures: Cap Maintenance Plan
Figure 1 - Maintenance Plan for Ground Cover and Perimeter Fence Map
Figure 5 - Estimated Extent of Groundwater Contamination Above NR 140 ES

cc: Adam Roder - Sigma Environmental Services, Inc., 1300 West Canal Street, Milwaukee, WI 53233
Greg Michael - Wisconsin Department of Commerce, 9316 North 107th Street, Milwaukee, WI 53224-1121
Larry Sullivan - Port Authority of the City of Milwaukee, 2323 S. Lincoln Memorial Drive, Milwaukee, WI 53207
SER Case File #: 03-41-270187

MAINTENANCE PLAN FOR GROUND COVER AND PERIMETER FENCE
JACOBUS JONES ISLAND BULK TERMINAL
1726 S. HARBOR DRIVE, MILWAUKEE, WI
WDNR BRRTS #03-41-270187
MARCH 2009

This "Maintenance Plan for Ground Cover and Perimeter Fence" ("Plan") is designed to protect the public from residual petroleum hydrocarbon impacts that remain in shallow soils at the site. The site is an active bulk storage facility that routinely handles tens of thousands of gallons of liquid petroleum hydrocarbons, so worker exposure to residual soil impacts is of a secondary concern relative to typical daily operations at the site.

The entire property is secured with a perimeter fence that restricts public access to the site. Access to the site is limited to gates along the south property line (from S. Harbor Drive); these gates are controlled by the site operator and locked at the end each day's work shift. Furthermore, the site operator has instituted site security measures that satisfy requirements of US Department of Homeland Security.

Ground coverings (e.g., asphalt and concrete pavements, gravel pavements) and the perimeter fence are depicted on the attached "Maintenance Plan for Ground Cover and Perimeter Fence Map". Through normal operation of the site as a bulk plant, the residual soil impacts will not pose an extraordinary health risk to employees and the perimeter fence will prevent unauthorized users from entering the site.

Disturbance Management

The site operator shall take the following steps to assure that uncontrolled disturbances of the ground and perimeter fence do not occur:

- The Wisconsin Department of Natural Resources' (WDNR's) case closure documents and Geographic Information System (GIS) Registry will establish any future land use, development, and management restrictions for the site. This Plan will be incorporated into the case closure documents and/or GIS Registry, which will together identify the environmental impacts, the nature of engineered barriers, the requirements regarding the management of impacted soils, and the availability of this Plan.

- A copy of this Plan will be available from the site operator to all interested parties.

- A copy of this Plan will be provided to all private utilities seeking easements for the purpose of installing facilities on the property.

- A copy of this Plan will be provided to all contractors and repair workers, including utility and landscaping services, during construction and repairs on the property.

- On-site personnel employed by future business operators will be made familiar with the contents and restriction requirements of this Plan.

Inspections

Inspections will be required to assure that the ground surface and perimeter fence are functioning as planned:

- Annual inspections of the ground surface and perimeter fence shall be completed for all accessible areas of the site.

- As necessary, the ground surface and perimeter fence will be repaired to maintain integrity. Repairs may include, but are not limited to, the following:

    - Replacing soil in low areas and re-establishing appropriate vegetation;

    - Patching or replacing concrete, asphalt, or gravel pavement where it has cracked, eroded, or otherwise broken and would allow direct contact with underlying soil; and

    - Patching breaches in the perimeter fence that could potentially allow unauthorized human access to the site.

- An inspection log will be maintained to record any disturbances of the ground surface and perimeter fence and the steps that have been taken to maintain their integrity. The inspection log will be made available for inspection by representatives of the WDNR upon reasonable prior request.

Amendments

The Plan may be amended or withdrawn upon written approval from the WDNR or its successor agency.

Contact Information

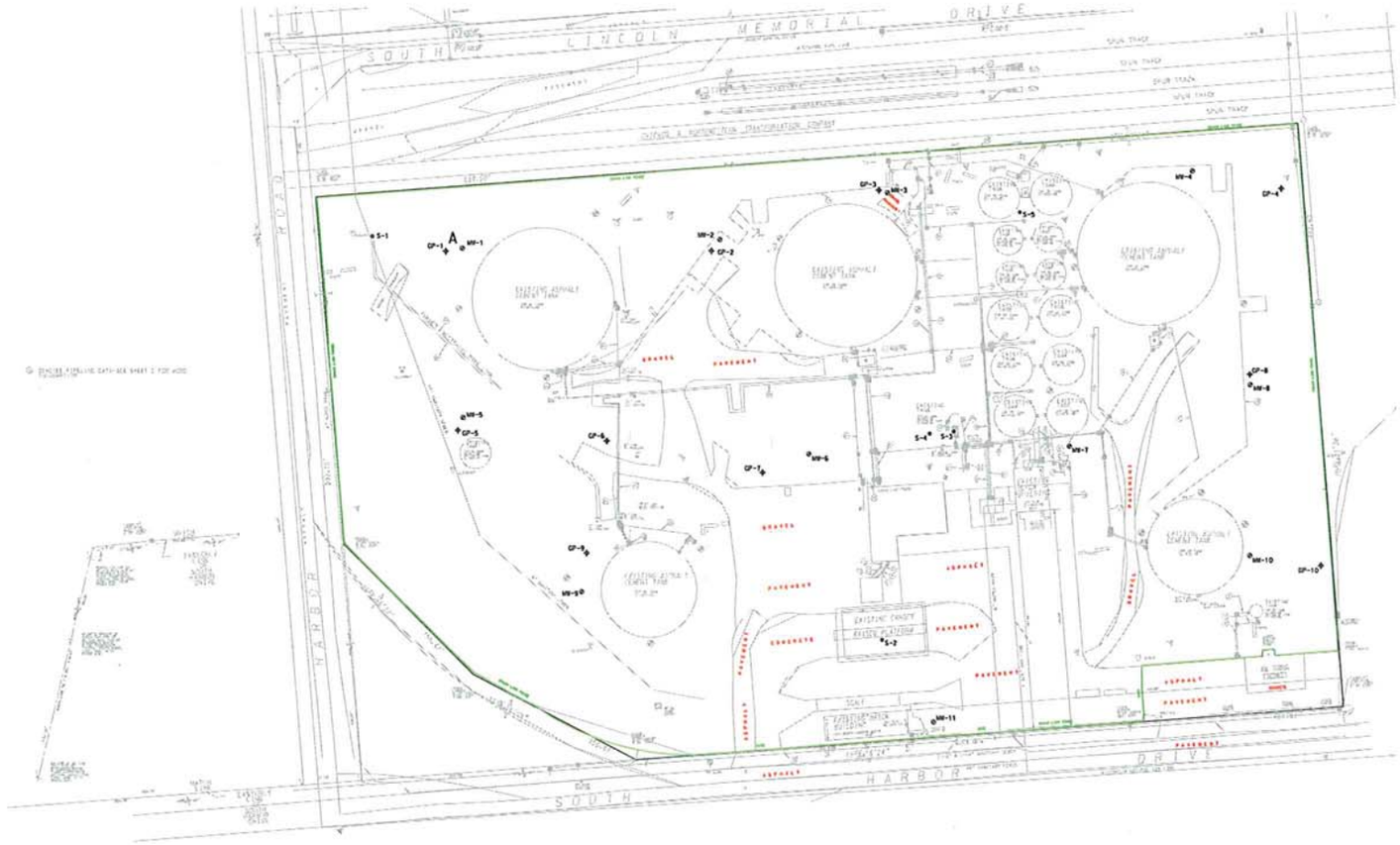
- For responsible party information contact:

  Jacobus Energy, Inc.
  11815 W. Bradley Road
  Milwaukee, WI 53224
  Telephone: (414) 577-0217
  Fax: (414) 359-1364
  Contact: Mr. Mike Helgesen, Environmental/Safety Manager

- For property owner information contact:
  Port Authority of the City of Milwaukee
  2323 S. Lincoln Memorial Drive
  Milwaukee, WI 53207
  Telephone: (414) 286-3511
  Fax: (414) 286-8506
  Contact: Mr. Larry Sullivan

- For environmental consultant information contact:
  Sigma Environmental Services, Inc.
  1300 West Canal Street
  Milwaukee, WI 53233
  Telephone: (414) 643-4200
  Fax: (414) 643-4210
  Contact: Mr. Adam Roder, Project Engineer

- For Wisconsin Department of Natural Resources information contact:
  Wisconsin Department of Natural Resources
  Southeast Region Headquarters
  2300 N. Dr. Martin Luther King Jr. Drive
  Milwaukee, WI 53212
  Telephone: (414) 263-8639
  Fax: (414) 263-8606
  Contact: Mr. Eric Amadi



LEGEND

- ⊗ = MONITORING WELL LOCATION
- ✚ = GEOPROBE BORING / TEMP. WELL LOCATION
- ● = HAND AUGER LOCATION

NOTES:
1. BASE MAP IS FROM ON A SURVEY PREPARED BY JAHNKE & JAHNKE ASSOCIATES INC. ON 8-23-08
2. MONITORING WELL LOCATIONS ARE BASED ON A SURVEY PREPARED BY SURVEYING ASSOCIATES, INC. (MAP DATED 3-1-05).
3. GEOPROBE SOIL BORINGS / TEMPORARY WELL LOCATIONS WERE MEASURED BY SIGMA RELATIVE TO SITE FEATURES.

THE SIGMA GROUP
SIGMA ENVIRONMENTAL SERVICES, INC.
SIGMA DEVELOPMENT, INC.
SIGMA LEASING, INC.
1300 W. CANAL STREET
MILWAUKEE, WISCONSIN 53233
PHONE : (414) 643-4200
1-800-732-4671

SCALE - 1' = 50'- 0"

0' 25' 50' 75' 100'

NO	DATE	REVISIONS	BY	APVD

	NAME:	DATE:
DRAWN BY:	AJR	3-10-08
DESIGNED BY:		
CHECKED BY:		
APPROVED BY:		

JACOBUS ENERGY - JONES ISLAND
1726 S. HARBOR DRIVE, MILWAUKEE, WISCONSIN
MAINTENANCE PLAN FOR GROUND COVER AND PERIMETER FENCE MAP

DRAWING NUMBER
6660-014

FIGURE 1

INSPECTION LOG
JACOBUS JONES ISLAND BULK TERMINAL
1726 S. HARBOR DRIVE, MILWAUKEE, WI
WDNR BRRTS #03-41-270187
MARCH 2009

Inspection Date	Inspector	Condition of Ground Surface & Perimeter Fence	Recommendations	Have recommendations from previous inspection been implemented?

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor
Matthew J. Frank, Secretary
Gloria L. McCutcheon, Regional Director

Southeast Region Headquarters
2300 N. Dr. Martin Luther King, Jr. Drive
Milwaukee, Wisconsin 53212-0436
Telephone 414-263-8500
FAX 414-263-8606
TTY 711

May 17, 2010

Mr. Michael Helgesen
Jacobus Energy, Inc.
11815 West Bradley Road
Milwaukee, WI 53224

Subject: Conditional Case Closure Decision With Requirements to Achieve Final Closure
Jacobus Energy Jones Island Bulk Terminal
1726 South Harbor Drive, Milwaukee, WI 53207
FID# 241053450; BRRTS# 03-41-270187; PECFA Claim #: 53207-1023-26

Dear Mr. Helgesen:

On May 4, 2010, the Department of Natural Resources (Department) reviewed your request for closure of the case described above. The Department reviews environmental remediation cases for compliance with state rules and statutes to maintain consistency in the closure of these cases. Information submitted to the Department for the closure request include: soil and groundwater documents for GIS registry; notification letter to the property owner, (Mr. Larry Sullivan, Port Authority of the City of Milwaukee, 2323 South Lincoln memorial Drive, Milwaukee, WI 53207), regarding soil and groundwater petroleum hydrocarbon impacts that remain at the subject property which he currently owns; and cap maintenance plan for ground cover and perimeter fence and map **(Figure 1- Jacobus Energy Jones Island, 1726 South Harbor Drive, Milwaukee, WI, Maintenance Plan for Ground Cover and Perimeter Fence Map),** regarding residual petroleum hydrocarbon contamination that remain on the property.

Based on the information provided, the Department has determined that the solvent and/or petroleum release discovered on the site appear to have been investigated and remediated to the extent practicable under site conditions. Your case has been remediated to the Department standards in accordance with s. NR 726.05, Wis. Adm. Code and will be closed if the following condition is satisfied:

MONITOR WELL ABANDONMENT/"LOST" OR UNABANDONED MONITOR WELL(S)

The monitoring wells at the site must be properly abandoned in compliance with ch. NR 141, Wis. Adm. Code. Documentation of well abandonment must be submitted to the Department on Form 3300-5B found at www.dnr.state.wi.us/org/water/dgw/gw/ or provided by the Department. If you have a "lost" or unabandoned monitoring well, please include a copy of site location map with the surveyed well location (from construction) identified, and a copy of the well construction report for that well. These items will be added to the GIS packet. When the indicated condition has been satisfied, please submit a letter to let me know that the applicable condition has been met, and your case will be closed.

Your site will be listed on the DNR Remediation and Redevelopment GIS Registry of Closed Remediation Sites when closure letter is issued. Information that was submitted with your closure request application will be included on the GIS Registry.

To review the sites on the GIS Registry web page, visit http://dnr.wi.gov/org/aw/rr/gis/index.htm. If your property is listed on the GIS Registry because of remaining contamination and you intend to construct or reconstruct a well, you will need prior Department approval in accordance with s. NR 812.09(4)(w), Wisconsin Administrative Code.

To obtain approval, Form 3300-254 needs to be completed and submitted to the DNR Drinking and Groundwater program's regional water supply specialist. This form can be obtained on-line http://www.dnr.state.wi.us/org/water/dwg/3300254.pdf or at the web address listed above for the GIS Registry.

State Statute 101.143 requires that PECFA claimants seeking reimbursement of interest costs, submit a final reimbursement claim within 120 days after they receive a closure letter on their site. For claims not received by the PECFA Program within 120 days of the date of this letter, interest costs after 60 days of the date of this letter will not be eligible for PECFA reimbursement.

Please be aware that the case may be reopened pursuant to s. NR 726.09, Wis. Adm. Code, if additional information regarding site conditions indicates that contamination on or from the site poses a threat to public health, safety, or welfare or to the environment.

We appreciate your efforts to restore the environment at this site. If you have any questions regarding this letter, please contact me at (414) 263-8639.

Sincerely,

Eric Amadi

Eric Amadi - Hydrogeologist
Remediation & Redevelopment Program,
SER Milwaukee Service Center

Enclosure: Cap Maintenance Plan
Maintenance Map: Figure 1 - Jacobus Energy Jones Island, 1726 S. Harbor Drive, Milwaukee, WI, Maintenance Plan for Ground Cover and Perimeter Fence Map

cc: Adam Roder - Sigma Environmental Services, Inc., 1300 West Canal Street, Milwaukee, WI 53233
Greg Michael - Wisconsin Department of Commerce, 9316 North 107th Street, Milwaukee, WI 53224-1121
SER Case File #: 03-41-270187

LEASE AGREEMENT

Between

JACOBUS ENERGY, INC.

and the

BOARD OF HARBOR COMMISSIONERS

For lease of 10.0 acres on the South Harbor Tract

TERM: 1/1/01 – 12/31/07

DATE OF AGREEMENT:

LEASE AGREEMENT

Lease Agreement made as of the 3rd day of October, 2001, by and between Jacobus Energy, Inc. a Wisconsin corporation, (hereinafter referred to as "Tenant"), and the CITY OF MILWAUKEE, a Wisconsin corporation, by and through its Board of Harbor Commissioners (hereinafter collectively referred to as the "City").

WITNESSETH:

City hereby leases, demises and lets unto Tenant the unimproved real property comprised of approximately 10.0 acres (hereinafter referred to as the "Property"), located on the South Harbor Tract of the City of Milwaukee, and grants Tenant an easement (hereinafter referred to as the "Easement") for the maintenance of a pipeline system. The Property and Easement are more particularly described in Exhibit A, which is affixed hereto and incorporated into this document by this reference.

This Lease is entered into by the parties under the following terms and conditions:

1. **Term**. The term of this Lease and Easement shall be for a single period of seven (7) consecutive years, commencing at 12:00 A.M. on January 1, 2001 and terminating at 11:59 P.M. on December 31, 2007.

2. **Rent**. For the use and occupancy of the Property, Tenant shall pay as "Base Rental", the sum as specified in the following schedule:

	Annual Rent	Quarterly "Base Rental" Payment
Year 2001	$72,500	$18,125
Year 2002	$75,000	$18,750
Year 2003	$80,000	$20,000
Year 2004	$82,500	$20,625
Year 2005	$85,000	$21,250
Year 2006	$85,000	$21,250
Year 2007	$85,000	$21,250

A. Rent shall be payable quarterly, in advance, on January 1, April 1, July 1 and October 1 each year. Each rent payment shall be for the immediately succeeding quarter. The obligation to pay rent shall commence on the date Tenant takes possession and occupies the Property. The first quarterly payment shall be for the period from the date Tenant took possession to the end of that quarter prorated to cover any partial quarter.

B. Throughput in Lieu of Wharfage. In addition to the foregoing Base Rental, during the term of this Lease, for cargo, product, or ingredients shipped to the property by vessels, barges, rail cars, trucks or other conveyances, Tenant shall also pay City throughput charges as specified in the following schedule:

Calendar Year	Throughput on Petroleum Products Charge per Metric Ton
2001	$.11
2002	$.11
2003	$.20
2004	$.20
2005	$.25
2006	$.25
2007	$.25

Tenant agrees to a guaranteed minimum annual throughput revenue equal to 50,000 metric tons of actual receipts of petroleum products. Tenant will pay the City the difference in throughput charges between actual annual receipts and the 50,000 metric ton minimum level guarantee for any year Tenant's activity falls below the 50,000 metric ton minimum level.

For the purpose of calculating throughput, tonnage is to be counted upon receipt at the facility.

Throughput shall be payable quarterly in arrears on January 1, April 1, July 1 and October 1 each year. Each throughput charge payment shall be for the immediately preceding quarter. The obligation to pay throughput shall commence on the date Tenant takes possession and occupies the Property. The first quarterly payment shall be for the period from the date Tenant took possession to the date of said payment, prorated to cover any partial quarter.

C. In addition to Base Rental and throughput charges set forth above, Tenant shall pay City dockage charges on vessels or barges mooring at City docks, in accordance with the rates, terms and provisions set forth in the Municipal Port Tariff in effect at the time the charge is made.

3. **Records**. Tenant agrees for the determination of throughput charges, in accordance with the fee schedules herein above set forth, that it will keep accurate books and records relative thereto, the form of such books and records to be subject to the approval of the Board of Harbor Commissioners and the City Comptroller and to be made available to properly accredited representatives of the Board of Harbor Commissioners and of the City of Milwaukee, at any reasonable time after request at Tenant's office, for audit or for such other inspection as may be deemed desirable by the City. Tenant shall maintain adequate books and records for determination of all amounts due City under this Lease; such books and records shall be kept in accordance with generally-accepted accounting principles. Tenant's books and records are its private property, and City shall endeavor to keep confidential all information which it derives therefrom to the fullest extent allowed by law.

4. **Rail Track Usage**.

A. Tenant shall have exclusive use of the spur track serving the southwest portion of the 10.0 acre leasehold, shown in yellow on Exhibit "A" attached hereto.

B. Upon application to, and approval of, the City, Tenant shall have non-exclusive use of Tracks 13 and 14, as designated as such on Exhibit "A" attached hereto.

C. Tenant, as track rental for such trackage, shall pay City the sum of Five Hundred Dollars ($500) per month, payable quarterly in arrears.

D. Tenant agrees to pay the annual cost of track maintenance on the spur track as itemized and invoiced by City; and its prorated share (on a car count basis) of the annual maintenance of tracks 13 and 14, as itemized and invoiced.

5. **Berthing**. Upon application to and approval of the City, Tenant shall have use of sufficient berthing space at Municipal South Pier #5 for its operations. Tenant's use shall be non-exclusive, however, City shall grant Tenant preferential berthing rights at said pier provided Tenant gives City a minimum twenty-four (24) hours notice that a berth shall be needed at said pier.

6. **Use of the Property**. Tenant shall use the Property for the purpose of operating and maintaining a bulk liquid tank farm, for the receipt, preparation, processing, handling and/or shipping of bulk liquid materials. Additional uses of the Property are not permitted without the prior written approval of the Municipal Port Director.

7. **Occupancy Subject to Existing Easements and Restrictions**. Tenant's occupancy of the Property is subject to any recorded easements and restrictions of record.

8. Termination and Vacation; Default.

A. Termination and Vacation Date. Tenant shall vacate the Property on or before the expiration of this Lease. The Property shall be returned to City by Tenant in substantially the same condition in which it was received with normal wear and tear excepted. In the event that Tenant fails to vacate the Property in a timely fashion, City shall have the option to cause the Property to be vacated, and to assess the actual costs of such vacation against the Tenant.

B. Property to be Vacated Clear of all Materials. Tenant shall vacate the Property free and clear of all materials and equipment. In the event that Tenant fails to vacate the Property in the prescribed state of clearance, as determined by City, after thirty (30) days' written notice to Tenant, City shall have the option to have such clearance and clean-up conducted as in its reasonable judgment is necessary in order to bring the Property to the prescribed state of clearance and to assess the costs of such action against Tenant.

9. Default. The occurrence of one or more of the following events shall be considered events of default under the terms of this Lease:

A. Tenant shall be adjudged a bankrupt, or a decree or order, approving as properly filed, a petition or answer asking reorganization of Tenant under Federal Bankruptcy Laws as now or hereafter amended, or under the laws of this State, shall be entered, and any such decree, judgment or order shall not have been vacated, stayed or set aside within sixty (60) days from the date of the entry or granting thereof; or

B. Tenant shall file or admit the jurisdiction of the court and the material allegations contained in any petition in bankruptcy or any petition pursuant or purporting

to be pursuant to the Federal Bankruptcy Laws as now or hereafter amended, or Tenant shall institute any proceedings or shall give its consent to the institution of any proceedings for any relief of Tenant under any bankruptcy or insolvency laws or any laws relating to the relief of debtors, readjustment of indebtedness, or reorganization; or

C. Tenant shall make an assignment for the benefit of creditors or shall apply for or consent to the appointment of a receiver for Tenant; or

D. Tenant shall abandon the Property for a period of thirty (30) days or be delinquent in any payments due under this Lease required to be made by Tenant hereunder and such delinquency shall continue for ten (10) days after notice thereof in writing to Tenant; or

E. Tenant shall default in any of the other covenants or agreements herein contained to be kept, observed and performed by Tenant, and such default shall continue for thirty (30) days after notice thereof in writing to Tenant; or

F. Tenant shall make any assignment, transfer, conveyance or other disposition of its interest in the Property without the express written consent of City.

Upon occurrence of any one or more of such events of default, it shall be lawful for City, at its election in the manner and terms herein provided, to declare this Lease ended, and to recover possession of the Property, either with or without process of law, to enter and to expel, and remove Tenant and all agents, employees and representatives of Tenant engaged in operating the Property or occupying the Property, using such force as may be necessary in so doing. If default shall be made in any covenants, agreements, conditions or undertakings herein contained, to be observed and performed by Tenant, which cannot with due diligence be cured within a period of thirty (30) days, and if notice

thereof in writing shall have been given to Tenant, and if Tenant prior to the expiration of said thirty (30) days from and after the giving of such notice, commences to eliminate the cause of such default and proceeds diligently and with reasonable dispatch to take all steps and do all work required to cure such default and thereafter does so cure such default, then City shall not have the right to declare the term of the Lease as ended; however, that the curing of any default in such manner shall not be construed to limit or restrict the right of City to declare this Lease ended and terminated, and to enforce all of City's rights and remedies hereunder for any other default not so cured.

10. Maintenance and Housekeeping. Routine maintenance, housekeeping and cleanliness shall be the responsibility of Tenant. City retains the right to have any of its officers, agents or employees inspect the Property at all reasonable times and Tenant shall be required to grant full access to the Property at such time. City shall not unduly interrupt Tenant's business during such inspections.

11. Utilities. Tenant shall be solely responsible for the installation and purchase of all utility services required by Tenant during the term of this Lease.

12. Assignment and Subleasing. Tenant shall not, except with prior written consent of City, assign any interest in this Lease, nor sublet any portion of the Property.

13. Indemnification. Tenant hereby agrees to indemnify and save harmless City from and against all liabilities, claims, demands, judgments, losses and all suits at law or in equity, costs and expenses, including reasonable attorney's fees, for injury to and/or death of any person or persons and/or loss and/or damage to the property or material, including cargo, of any person, firm or corporation whomsoever, including both parties hereto and their employees, arising from the construction, maintenance or operation of

Tenant's improvements and equipment, or in the carrying on of its business as hereinbefore set forth, except when such liability, claim, demand, judgment or loss arises from a negligent act of the City, its agents, contractors or employees.

14. Insurance. Tenant will furnish a Certificate of Insurance showing insurance written by a company licensed in the State of Wisconsin approved by City and covering any and all liability or obligations which may result from the operations by Tenant's employees, agents, contractors or subcontractors as aforesaid in this Lease; such Certificate of Insurance will name both the Board of Harbor Commissioners and the City of Milwaukee as additional insureds. The Certificate shall provide that the company will furnish City with a thirty (30) day written notice of cancellation, non-renewal or material change. Said insurance shall be written in comprehensive form and shall protect tenant and City against all claims arising from injuries to members of the public or damage to property of others arising out of any act or omission of Tenant's employees, agents, contractors or subcontractors as follows:

Coverage	Amount
- Comprehensive General Liability (including applicable contractual liability specifically relating to this Agreement)	$1,000,000.00 per occurrence $5,000,000.00 aggregate
- Worker's Compensation	In accordance with Ch. 102, Wisconsin Statutes, and Federal law.

The limits and adequacy of said insurance shall be determined by City and the form and proof of insurance shall also be approved by City. Failure of Tenant to maintain adequate coverage shall not relieve it of any contractual responsibility or

obligation under this Lease. City shall have the right to review policies providing the required coverage.

The attorney in fact or agent of any insurance company furnishing any policy of insurance shall sign and furnish an affidavit setting forth that no City official or employee has any interest, direct or indirect, or is receiving any premium, commission, fee or other thing of value on account of furnishing said policy of insurance.

15. Taxes. Tenant shall pay and discharge when due all taxes, if any, assessments, levies and other charges, general and special, that are or may be during the term hereof levied, assessed, imposed or charged on the Property or the improvements thereon or hereafter placed thereon.

16. Status of Improvements. Tenant shall make no substantial improvements upon the Property without the prior written consent of City.

Upon termination of this Lease, Tenant shall, upon notice from the City, be required and obligated to remove from said property at any time within sixty (60) days after the termination of this Lease, or any renewal or extension thereof, however effected, all buildings, or other improvements and any and all appurtenances thereto brought or placed upon said Property by Tenant. In the event such removals are not completed within said sixty (60) days, City shall have the right to collect damages from Tenant; provided, however, that City may in lieu of removal require Tenant to convey title to such improvements to the City, free and clear of all liens and encumbrances. Any such election shall be made in writing and communicated to Tenant. No such option with respect to election of either to remove or not to remove shall rest with Tenant and Tenant shall have the obligation and responsibility to perform that which City shall direct.

17. Compliance with Laws and Orders. Tenant agrees to observe fully and to comply with any lawful rule, regulation or directive which shall emanate from any state, federal or local departments or agencies having jurisdiction.

18. Environmental Compliance and Obligations.

A. Compliance with Environmental Regulations. Tenant shall fully comply with all statutes, regulations, or other applicable requirements imposed by any federal, state, or municipal agency with respect to the environmental condition of the Property and/or with respect to any activities or operations that Tenant may conduct upon the Property (hereinafter referred to as "Environmental Requirements"). Tenant shall not cause, permit or suffer the existence or commission by Tenant, its agents, employees, contractors or invitees, or by any other person of any violation of any Environmental Requirements upon, about or beneath the Property or any portion thereof.

B. Hazardous Material; Environmental Liens. Except to the extent commonly used in the day-to-day business or operation of the Property, and in strict compliance with all Environmental Requirements (including those relating to storage, use and disposal), Tenant shall not cause, permit or suffer any "hazardous material" or "hazardous substance" (as defined by applicable Federal or State statutes or regulations) to be brought upon, treated, kept, stored, disposed of, discharged, released, produced, manufactured, generated, refined, or used upon, about, or beneath the Property or any portion thereof by Tenant, its agents, employees, contractors, tenants or invitees, or any other person without the prior written consent of the City. Any request by Tenant for such consent by the City shall be in writing and shall demonstrate to the reasonable

satisfaction of the City that such "hazardous material" or "hazardous substances" is necessary to the conduct of the business of Tenant and will be stored, used, and disposed of in a manner that complies with all applicable Environmental Requirements. Tenant shall not create or suffer to exist with respect to the Property any lien, security interest, or other charge or encumbrance of any kind relating to the environmental condition of the Property, including (without limitation) any lien imposed pursuant to Sec. 107(f) of the Superfund Amendments and Reauthorization Act 1986 (42 U.S.C. § 9607(L)) or any similar State Statute.

C. Obligation to Remediate. Tenant shall, upon demand of the City, and at its sole cost and expense, promptly take all actions to remediate the environmental condition of the Property which may be required by any federal, state or local governmental agency or political subdivision which remediation is necessitated from, or attributable to, the presence upon, about, or beneath the Property of any "hazardous material" or "hazardous substances" or any violation of Environmental Requirements caused by the Presence of and/or activities or operations conducted by the Tenant upon the Property. Tenant agrees to allow entry upon the Property by the City, or agents, contractors or employees of the City for purposes of conducting environmental audits and/or other tests for the purpose of determining the impact of Tenant's presence and/or activities or operations upon or with respect to the Property upon the environmental condition thereof. In the event that Tenant performs any such environmental audit and/or test on its own behalf, it shall promptly provide to the City full and complete copies of any results and/or reports that are generated in connection with the above activities.

D. Survival of Obligations. Tenant's obligations with respect to the environmental condition of the Property (as more fully set forth in subparagraphs (a) through (c) above) shall survive the expiration or termination of this Lease.

19. Time of the Essence. It is expressly understood and agreed to by the parties hereto that time is of the essence for each term and provision of this Lease.

20. Waiver. One or more waivers by any party of any covenant or condition of this Lease shall not be construed as a waiver of a subsequent breach of the same or of any other covenant or condition. The consent or approval given by any party with respect to any act by the other party requiring such consent or approval shall not be deemed to waive or render unnecessary further consent or approval of any subsequent similar act by such party.

21. Sole Agreement and Amendment. This Lease and the attached exhibits to which reference is made herein contain all of the agreements and covenants made between the parties hereto, shall be binding upon the parties hereto and their respective successors and assigns, and may not be modified orally or in any other manner other than by agreement, in writing, signed by each of the parties to this Lease.

22. Notice. Any notice provided for herein or given pursuant to this Lease, shall be deemed in compliance herewith if in writing and sent by United States certified or registered mail, postage prepaid, return receipt requested, or by receipted personal delivery to the parties as follows:

To the City:

BOARD OF HARBOR COMMISSIONERS
2323 S. Lincoln Memorial Drive
Milwaukee, WI 53207
Attention: Municipal Port Director

To The Tenant:

Jacobus Energy, Inc.
11815 W. Bradley Road
Milwaukee, WI 53224
Attention: Mr. Eugene T. Jacobus

23. Governing Law. This Lease shall be governed by the internal laws of the State of Wisconsin. If any term or provision of this Lease or any exhibits hereto, or the application thereof to any person or circumstance, shall to any extent be declared invalid or unenforceable, then the remainder of this Lease and exhibits, or the application of such term or provision to persons or circumstances other than those as to which it is invalid or unenforceable, shall not be affected thereby, and each term and provision of this Lease shall be valid and be enforced to the fullest extent permitted by applicable law.

24. Nondiscrimination. Tenant hereby agrees that in its use of the Property and in its activities undertaken pursuant hereto it shall not discriminate, permit discrimination or restriction on the basis of race, sexual orientation, creed, ethnic origin or identity, color, gender, religion, marital status, age, handicap or national origin.

25. Counterparts. This Lease may be executed in any number of counterparts, each of which shall constitute an original and all of which shall constitute one and the same Lease. The terms "Board of Harbor Commissioner" and "City" whenever used herein shall mean and include the Board of Harbor Commissioners of the City of Milwaukee and/or its successors and assigns in authority, as the context may require.

26. Approval. IT IS FURTHER AGREED AND UNDERSTOOD that this Lease must be submitted to the Common Council of the City of Milwaukee and that the same must be approved by the Common Council and its execution authorized.

IN WITNESS WHEREOF, the parties hereto have by their duly authorized officers executed this Lease Agreement under seal as of the day and year first above written.

In the Presence of:

CITY OF MILWAUKEE

JOHN O. NORQUIST, Mayor

CITY CLERK, Ronald D. Leonhardt

COUNTERSIGNED:

DEPUTY

W. MARTIN MORICS, City Comptroller

In the Presence of:

BOARD OF HARBOR COMMISSIONERS

DANIEL J. STEININGER, President

DONNA C. LUTY, Secretary

In the Presence of:

JACOBUS ENERGY INC.

Name Title

Name Title

STATE OF WISCONSIN
MILWAUKEE COUNTY

Personally came before me this 27 day of September, 2001, John O. Norquist, Mayor of the above-named municipal corporation, who by its authority and on its behalf executed the foregoing instrument and acknowledged the same.

M. Christofferson
NOTARY PUBLIC, State of Wisconsin
My Commission Expires 11/23/03

NOTARY PUBLIC
STATE OF WISCONSIN
M. CHRISTOFFERSON

STATE OF WISCONSIN
MILWAUKEE COUNTY

Personally came before me this 1st day of October, 2001, Ronald D. Leonhardt, the City Clerk of the above-named municipal corporation, who by its authority and on its behalf executed the foregoing instrument and acknowledged the same.

Kathleen H Mollica
NOTARY PUBLIC, State of Wisconsin
My Commission Expires 2-15-04

KATHLEEN H. MOLLICA
NOTARY PUBLIC
STATE OF WISCONSIN

STATE OF WISCONSIN
MILWAUKEE COUNTY

Personally came before me this 2nd day of October, 2001, JOHN EGAN, the DEPUTY City Comptroller of the above-named municipal corporation, who by its authority and on its behalf executed the foregoing and acknowledged the same.

E. Pizano
NOTARY PUBLIC, State of Wisconsin
My Commission Expires 11-19-2003

E. PIZANO
NOTARY
PUBLIC
STATE OF WISCONSIN

STATE OF WISCONSIN
MILWAUKEE COUNTY

Personally came before me this 24th day of September, 2001, Daniel J. Steininger, President, and Donna C. Luty, Secretary of the Board of Harbor Commissioners, who by its authority and on its behalf executed the foregoing instrument and acknowledged the same.

Michael J. Mathias
NOTARY PUBLIC, State of Wisconsin
My Commission Expires 02/06/05

NOTARY PUBLIC MICHAEL J. MATHIAS STATE OF WISCONSIN

STATE OF WISCONSIN
MILWAUKEE COUNTY

Personally came before me this 16th day of August, 2001, E.T. JACOBUS, the PRESIDENT, and EJ RESENPAS, the EXEC. V.P., of Jacobus Energy, Inc., who by its authority and on its behalf executed the foregoing instrument and acknowledged the same.

Gail A Burke
NOTARY PUBLIC, State of Wisconsin
My Commission Expires My Commission Expires August 22, 2004

APPROVED as to Form and Execution this 3 day of October, 2003

Robert S. Mukamal
Assistant City Attorney
mw/i:jacobuslse.doc

City of Milwaukee

PROPERTY ASSESSMENT RESULTS
TAX ACCOUNT BALANCE

GENERAL INFORMATION

ADDRESS	1225 THRU 1225 S CARFERRY DR
TAXKEY	463-9997-118-7
OWNER	CITY OF MILWAUKEE C/O CITY REAL ESTATE
OWNER ADDRESS	809 N BROADWAY MILWAUKEE, WI 532020000

ASSESSMENT

	2008	2007
LAND	N/A	$0
IMPROVEMENTS	N/A	$0
TOTAL	N/A	$0
CURRENT CLASS	EXEMPT	

Assessments reflect the estimated value on January 1st .of the indicated year.
The current assessment will be available after April 29.

OTHER PROPERTY INFORMATION

- LAST CONVEYANCE:
  - DATE: 00/00
  - TRANSFER FEE: $0.00 (CLICK HERE FOR FEE EXPLANATION)
- STORIES: 0.0
- RESIDENTIAL BUILDING STYLE:
- EXTERIOR WALL TYPE:
- YEAR BUILT: 0000
- DWELLING UNITS: 1 (CLICK HERE FOR DWELLING UNITS EXPLANATION)
- TOTAL SQUARE FEET FLOOR AREA: 0
  - FIRST FLOOR AREA:
  - SECOND FLOOR AREA:
  - THIRD FLOOR AREA:
  - FINISHED ATTIC AREA:
  - FINISHED HALF STORY AREA:
  - BASEMENT LIVING AREA:
- ROOM-COUNTS
  - TOTAL ROOMS: 0
  - BEDROOMS: 0
  - BATHS: 0
  - HALF BATHS: 0
- CENTRAL AIR CONDITIONING: NO
- BASEMENT: NONE
- FIRE PLACE:
- GARAGE TYPE: NONE
- LOT SIZE: 0
- PLAT PAGE: 43005
- ZONING: IH (CLICK HERE FOR ZONING EXPLANATION)
  (For zoning information contact Milwaukee Development Center at 286-8211.)

- ASSESSMENT NEIGHBORHOOD 6279
- ALDERMANIC DISTRICT: 14
- CENSUS TRACT: 154
- LEGAL DESCRIPTION:
  LEGALS PARTITION LOTS IN SE 1/4 SEC 4-6-22
  DESCRIPTION PART (PARTITION LOTS & FILLED LANDS IN SW & SE 1/4 SECS 33-7-22 & NW & NE 1/4 SECS 4-6-22 & VAC STS) BETW LAKE MICHIGAN-E LINCOLN AV-C & NW RR ROW-MUNI MOORING BASIN-KK RIVER & HARBOR ENTERANCE EXC STS & THOSE PARTS CONVEYED TO MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

For more information contact the Assessor's office at 414-286-3651

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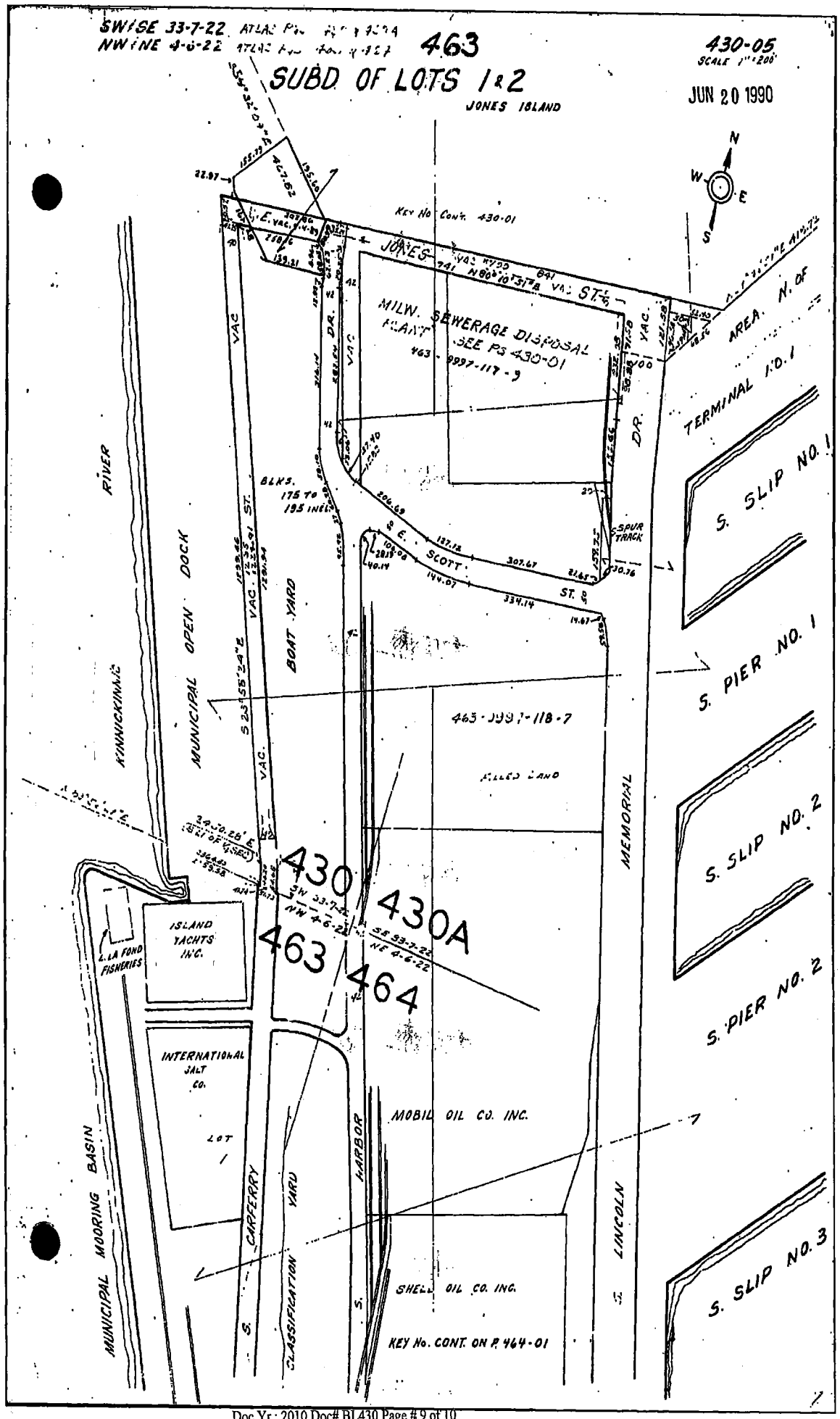
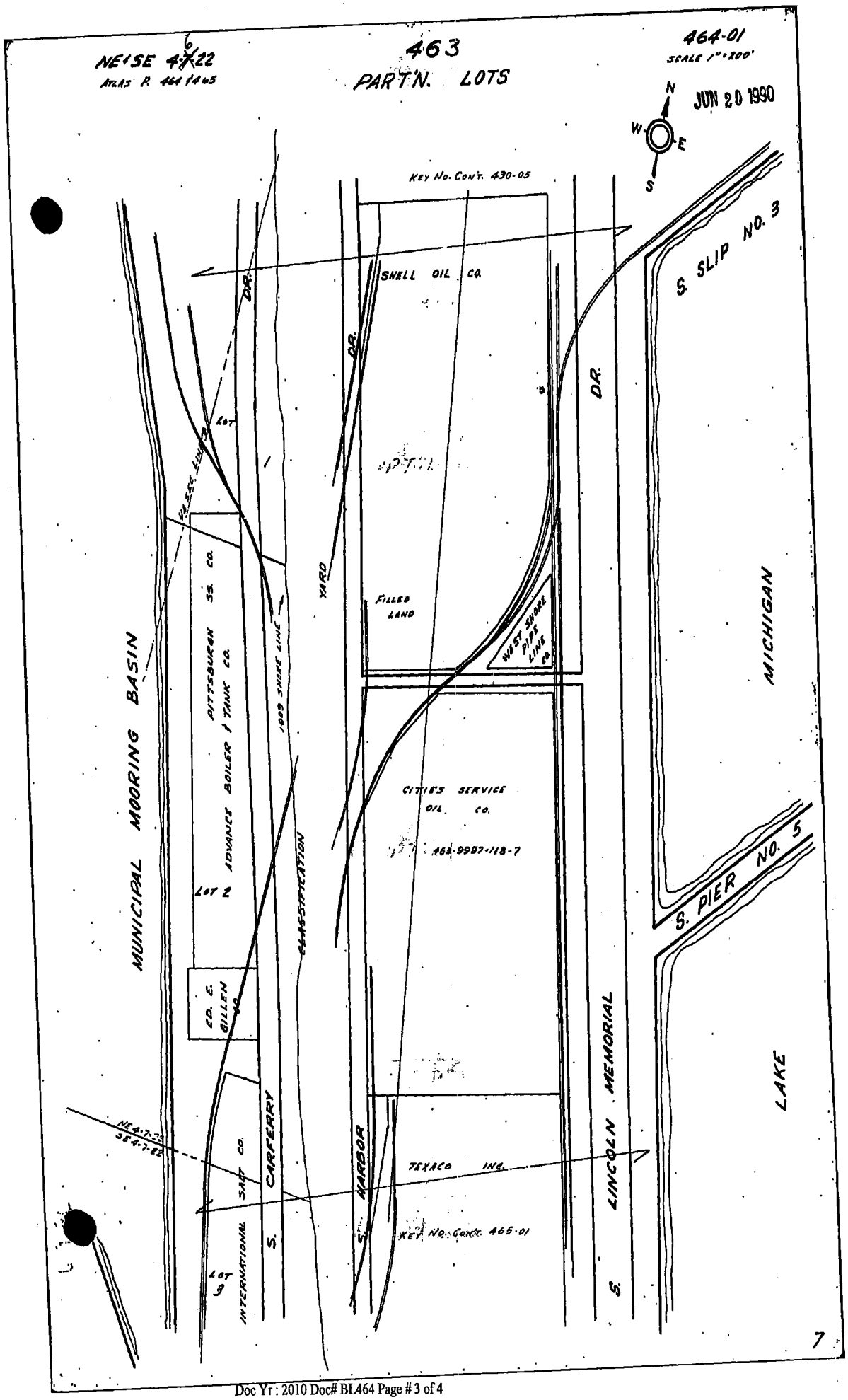
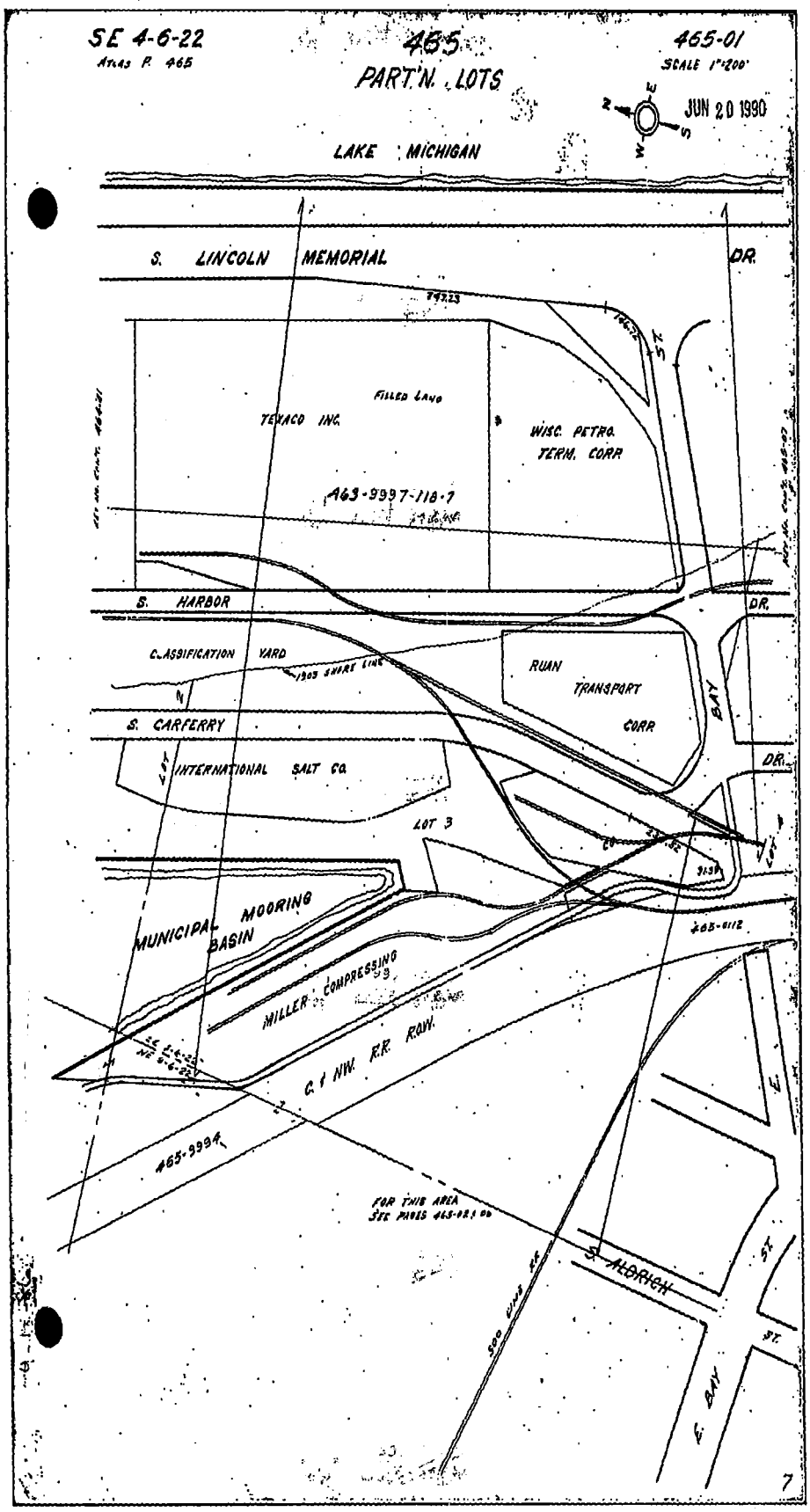

SW/SE 33-7-22
NW/NE 4-6-22
463
430-05
SCALE 1" = 200'
SUBD OF LOTS 1 & 2
JONES ISLAND
JUN 20 1990
N
W
E
S
KEY No. CONT. 430-01
JONES
ST.
MILW. SEWERAGE DISPOSAL PLANT
SEE PS 430-01
463-9997-117-9
AREA N. OF TERMINAL NO. 1
S. SLIP NO. 1
S. PIER NO. 1
S. SLIP NO. 2
S. PIER NO. 2
S. SLIP NO. 3
RIVER
KINNICKINNIC
MUNICIPAL OPEN DOCK
BOAT YARD
VAC.
DR.
BLKS. 175 TO 195 INCL.
E. SCOTT ST.
SPUR TRACK
463-9997-118-7
FILLED LAND
MEMORIAL
430
430A
463
464
ISLAND YACHTS INC.
L. LA FOND FISHERIES
INTERNATIONAL SALT CO.
LOT 1
MOBIL OIL CO. INC.
SHELL OIL CO. INC.
KEY No. CONT. ON P. 464-01
MUNICIPAL MOORING BASIN
S. CARFERRY
CLASSIFICATION YARD
S. HARBOR
S. LINCOLN


NE1SE 4-7-22
ATLAS P. 464 & 465
463
PART'N. LOTS
464-01
SCALE 1"=200'
JUN 20 1990
N
W
E
S
KEY No. CON'T. 430-05
SHELL OIL CO.
S. SLIP NO. 3
DR.
DR.
DR.
LOT
YARD
FILLED LAND
WEST SHORE PIPE LINE CO.
MICHIGAN
MUNICIPAL MOORING BASIN
PITTSBURGH SS. CO.
ADVANCE BOILER & TANK CO.
1009 SHORE LINE
CLASSIFICATION
CITIES SERVICE OIL CO.
463-9987-118-7
LOT 2
S. PIER NO. 5
ED. E. BILLEN
S. CARFERRY
S. HARBOR
S. LINCOLN MEMORIAL
LAKE
NE 4-7-22
SE 4-7-22
SALT CO.
TEXACO INC.
INTERNATIONAL
KEY No. CON'T. 465-01
LOT 3
7


SE 4-6-22
ATLAS P. 465
465
PART'N. LOTS
465-01
SCALE 1"=200'
JUN 20 1990
LAKE MICHIGAN
S. LINCOLN MEMORIAL DR.
FILLED LAND
TEXACO INC.
WISC. PETRO. TERM. CORP
465-9997-118-7
S. HARBOR DR.
CLASSIFICATION YARD
RUAN TRANSPORT CORP
BAY
S. CARFERRY DR.
INTERNATIONAL SALT CO.
LOT 3
MUNICIPAL MOORING BASIN
MILLER COMPRESSING
C. & NW. R.R. R.O.W.
465-9994
FOR THIS AREA SEE PAGES 465-02 & 06
S. ALDRICH
E. BAY ST.

STATEMENT BY RESPONSIBLE PARTY

Jacobus Energy, Inc., the responsible party for the petroleum hydrocarbon impacts identified at 1726 S. Harbor Drive (which is part of the larger 1225 S. Carferry Drive property owned by the Port Authority of the City of Milwaukee), Milwaukee, Wisconsin, believes that the information within this GIS Registry packet for BRRTS #03-41-270187 is complete and accurate to the best of my knowledge. The 1726 S. Harbor Drive property does not have a deed; a copy of the lease agreement between Jacobus Energy, Inc. and the Board of Harbor Commissioners is included with this packet for reference. Jacobus Energy, Inc. has only leased the property and has not owned the parcel.

Signature of Representative for Responsible Party

10.7.09
Date

NE ¼ of Sec. 4, T6N, R22E Adapted from U.S.G.S. 7.5 minute series, Milwaukee, Wisconsin, quadrangle dated 1958 (photorevised 1971).

SCALE 1:24 000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 10 FEET
DOTTED LINES REPRESENT 5-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL

N

Figure 1. Site Location Map
Jacobus Energy Jones Island Bulk Facility
1726 S. Harbor Drive, Milwaukee, WI

11734 Fig 1 Site Loc Map.ppt

THE SIGMA GROUP
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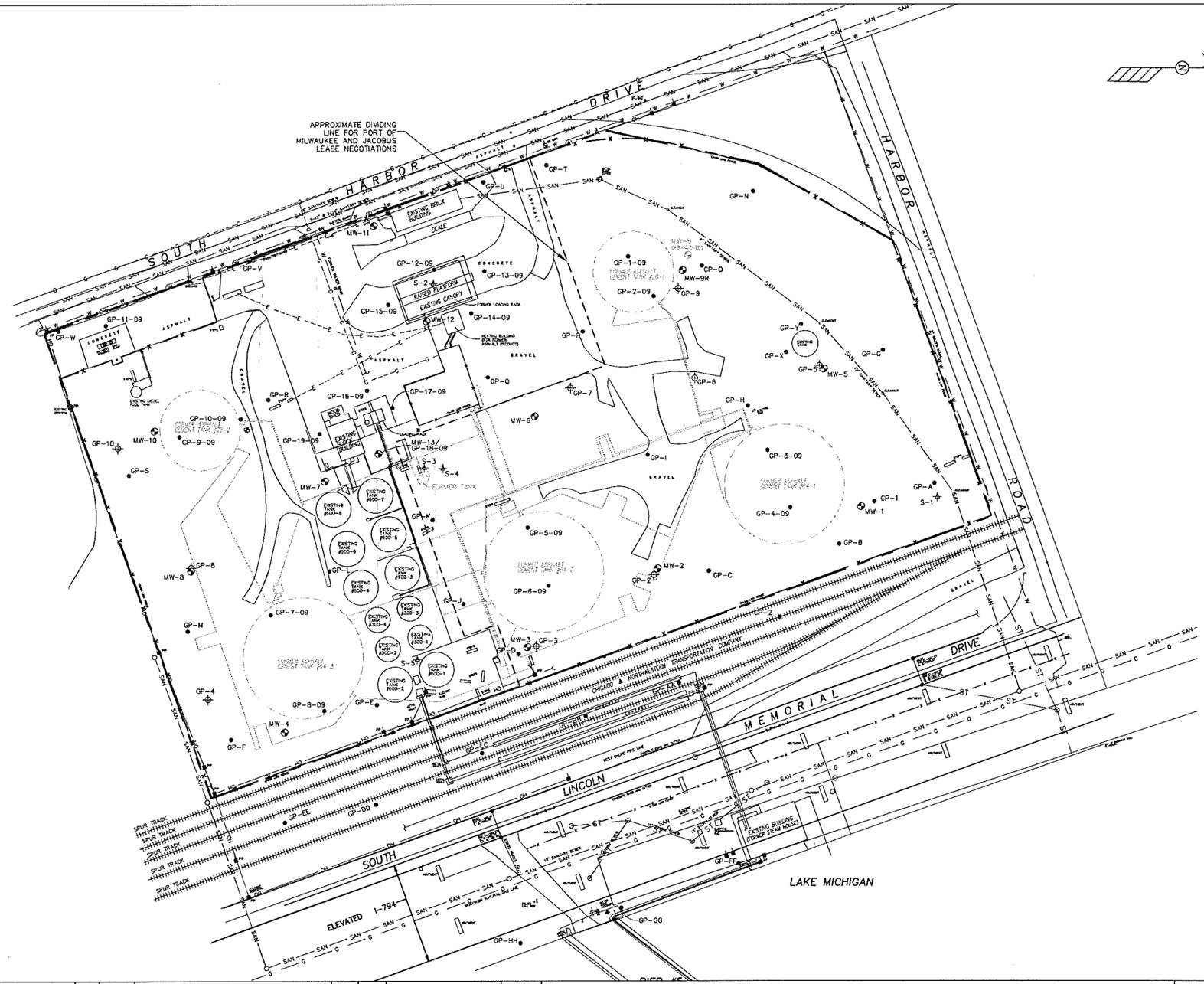
AERIAL IMAGE MAP

JACOBUS ENERGY, INC. BULK TERMINAL
1726 SOUTH HARBOR DRIVE, MILWAUKEE, WISCONSIN

EXHIBIT

1

Project: 11734 / 6660 | Directory: CAD & GRAPHICS | Filename: 6660 Jacobus Jones Ist Aerial Feb 10.ai | Created By: AJR | Date: Feb 2010



LEGEND

- MONITORING WELL
- GEOPROBE SOIL BORING
- GEOPROBE SOIL BORING (PREVIOUS SITE INVESTIGATION WORK)
- HAND AUGER SOIL BORING (PREVIOUS SITE INVESTIGATION WORK)
- PP POWER POLE
- CHAIN LINK FENCE
- MANHOLE
- CATCH BASIN / MANHOLE
- FIRE HYDRANT
- SEWER CLEANOUT
- G — UNDERGROUND NATURAL GAS LINE
- SAN — UNDERGROUND SANITARY SEWER LINE
- W — UNDERGROUND WATER LINE
- OH — OVERHEAD ELECTRIC LINES
- ST — UNDERGROUND STORM SEWER LINES
- E — UNDERGROUND ELECTRIC LINES
- PROPERTY LINE

NOTES:

1. BASE MAP ADAPTED FROM SURVEY COMPLETED BY JAHNKE & JAHNKE ASSOCIATES, INC. IN AUGUST 2000.
2. LOCATIONS OF HAND AUGER AND GEOPROBE SOIL BORINGS FROM PREVIOUS SITE INVESTIGATION WORK WERE MEASURED BY SIGMA RELATIVE TO SITE FEATURES AT THE TIME OF THEIR INSTALLATION.
3. SOIL BORING GP-A THROUGH GP-Z, GP-AA THROUGH GP-EE, GP-1-09 THROUGH GP-11-09, AND GP-13-09 THROUGH GP-19-09 AND MONITORING WELLS MW-1 THROUGH MW-13 WERE SURVEYED BY SIGMA ON JULY 31, 2009 WITH A TRIMBLE R8 GPS RECEIVER. LOCATIONS OF SOIL BORINGS GP-FF THROUGH GP-HH AND GP-12-09 WERE MEASURED BY SIGMA RELATIVE TO SITE FEATURES ON JULY 31, 2009.
4. UTILITY LOCATIONS BASED ON JAHNKE & JAHNKE SURVEY INFORMATION AND FIELD MARKINGS PROVIDED BY UTILITY LOCATORS IN JULY 2009. SIGMA DOES NOT GUARANTEE UTILITY LOCATIONS AS ACCURATE.

THE SIGMA GROUP
Single Source. Sound Solutions.
www.thesigmagroup.com
1300 West Canal Street
Milwaukee, WI 53233
Phone: 414-643-4200
Fax: 414-643-4210

SCALE: 1" = 50'- 0"

0' 25' 50' 75' 100'

NO	DATE	REVISIONS	BY	APVD

	NAME:	DATE:
DRAWN BY:	SJGJ	08/03/09
DESIGNED BY:		
CHECKED BY:		
APPROVED BY:		

JACOBUS ENERGY, INC. BULK TERMINAL

1726 SOUTH HARBOUR DRIVE, MILWAUKEE, WISCONSIN

SITE PLAN MAP

DRAWING NUMBER

11734-C001-B

FIGURE 2

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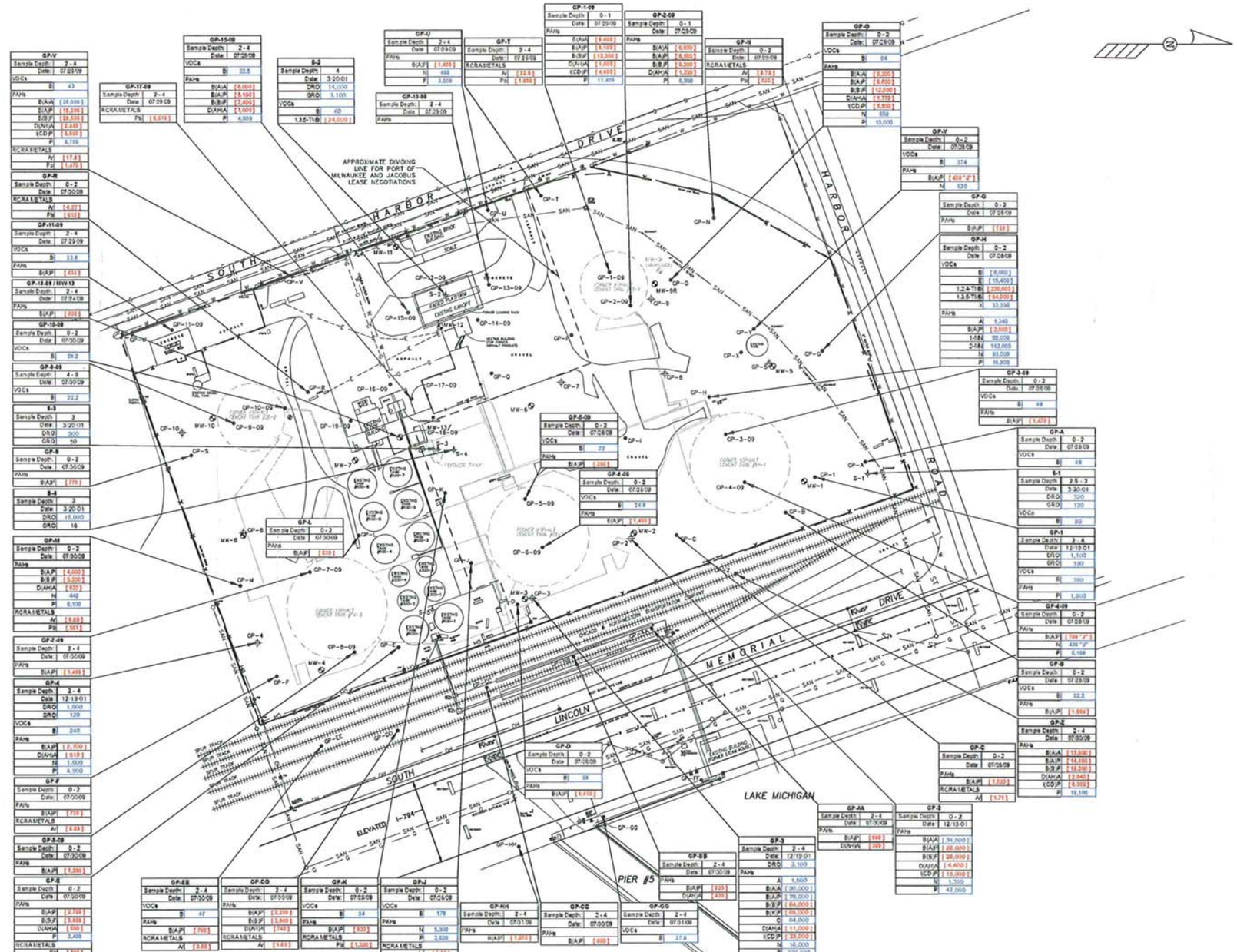

ANALYTICAL KEY (EXCEEDANCES ONLY)

DRO = DIESEL RANGE ORGANICS
GRO = GASOLINE RANGE ORGANICS
B = BENZENE
E = ETHYLBENZENE
1,2,4-TMB = 1,2,4-TRIMETHYLBENZENE
1,3,5-TMB = 1,3,5-TRIMETHYLBENZENE
X = XYLENES
A = ACENAPHTHALENE
B(a)A = BENZO(A)ANTHRACENE
B(a)P = BENZO(A)PYRENE
B(b)F = BENZO(B)FLUORANTHENE
B(k)F = BENZO(K)FLUORANTHENE
C = CHRYSENE
D(ah)A = DIBENZO(AH)ANTHRACENE
I(cd)P = INDENO(1,2,3-CD)PYRENE
1-MN = 1-METHYLNAPHTHALENE
2-MN = 2-METHYLNAPHTHALENE
N = NAPHTHALENE
P = PHENANTHRENE
As = ARSENIC
Pb = LEAD

[bold] = CONCENTRATION REPORTED ABOVE PROTECTION OF GROUNDWATER RCL
[italicbold] = CONCENTRATION REPORTED ABOVE DIRECT CONTACT RCL FOR NON-INDUSTRIAL SITE

ALL CONCENTRATIONS REPORTED IN MICROGRAMS PER KILOGRAM (µg/kg), EXCEPT FOR METALS WHICH ARE REPORTED IN MILLIGRAMS PER KILOGRAM (mg/kg)

LEGEND

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0' 30' 60' 90' 120'

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	NAME:	DATE:
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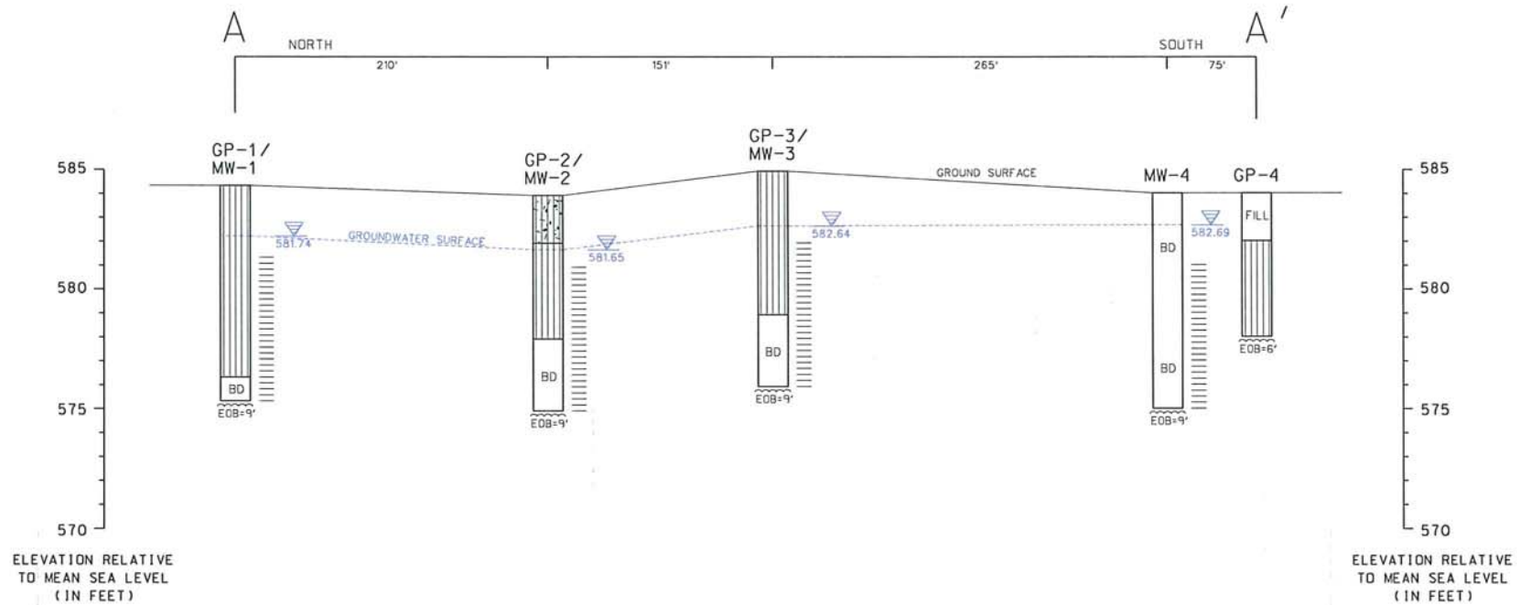
DESIGNED BY:		
CHECKED BY:		
APPROVED BY:		

JACOBUS ENERGY, INC. BULK TERMINAL
1726 SOUTH HARBOUR DRIVE, MILWAUKEE, WISCONSIN
SOIL QUALITY MAP

DRAWING NUMBER
11734-C001-B

FIGURE 4

I:\milw\11734 - Port Authority - Jones Island\060 CAD & Graphics\001 CAD\11734-C001-B.dwg, F4-SQMP, 9/28/2009 8:16:33 AM, ANSI full bleed D (34.00 x 22.00 Inches), 1:1



USCS SYMBOLS

ML - INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY.

SM - SILTY - SANDS, SAND - SILT MIXTURES.

LEGEND

= WELL SCREEN INTERVAL

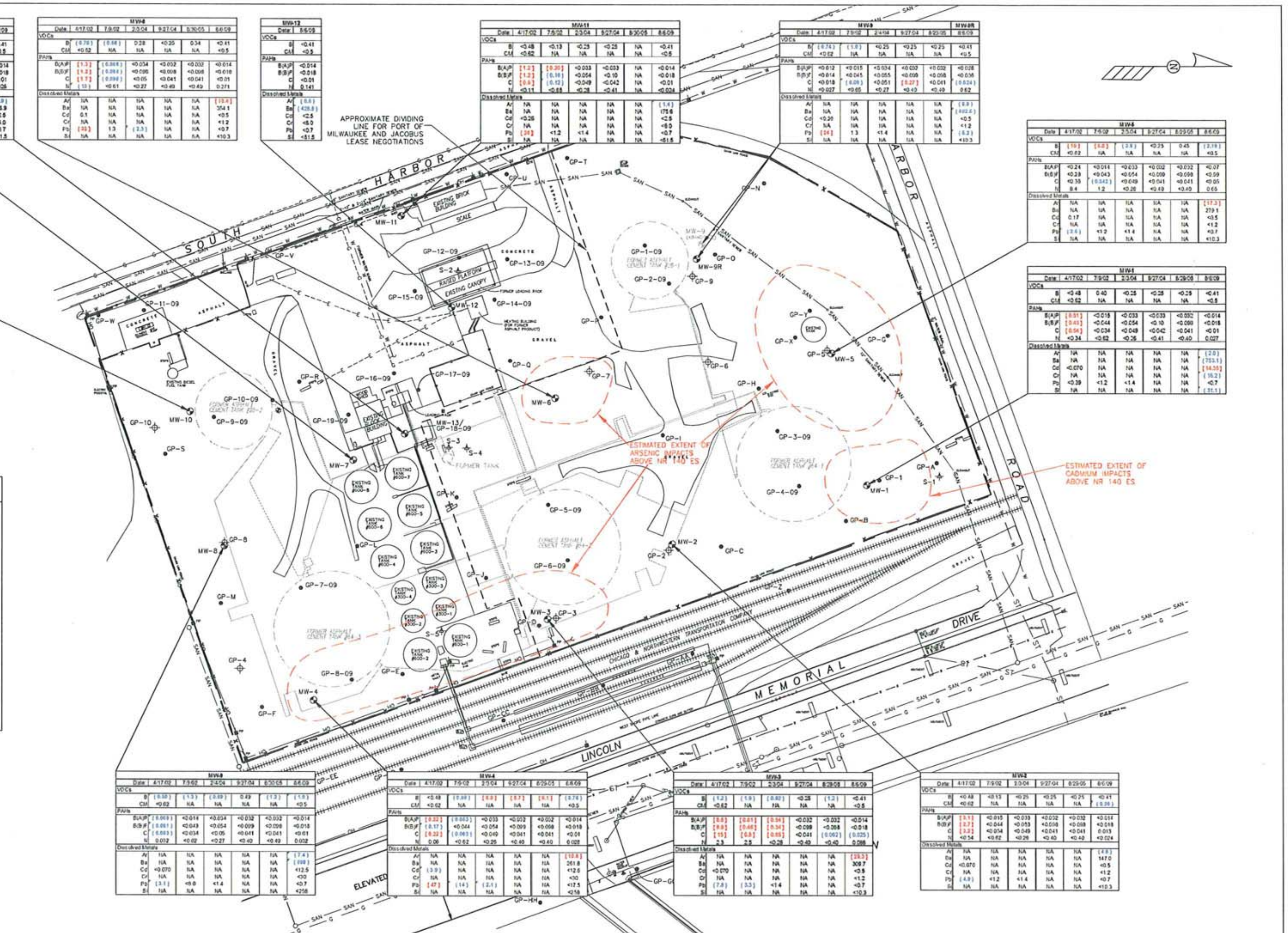
= STATIC WATER LEVEL (MEASURED 10-27-04)

FILL = FILL MATERIAL

BD = BLIND DRILLED

NOTES:
HORIZONTAL SCALE 1" = 80'
VERTICAL SCALE 1" = 5'

JACOBUS ENERGY - JONES ISLAND 1726 S. HARBOR DRIVE, MILWAUKEE, WI			SIGMA ENVIRONMENTAL SERVICES INC.
DATE: 2-3-05	DR. BY: BEB	DR.# 6660-012	SCALE: SEE NOTES
GEOLOGIC CROSS SECTION A - A'			FIGURE 3



MW-7						
Date	4/17/02	7/9/02	2/4/04	9/27/04	8/30/05	8/6/09
VOCs						
B	FP	(1.7)	<0.25	<0.25	<0.25	<0.41
CM	FP	NA	NA	NA	NA	<0.5
PAHs						
B(A)P	NA	[0.30]	<0.033	<0.032	<0.032	<0.014
B(B)F	NA	[0.24]	<0.053	<0.099	<0.098	<0.018
C	NA	[0.70]	<0.049	<0.041	<0.041	<0.01
N	NA	<0.67	<0.26	<0.40	0.54	0.070
Dissolved Metals						
Ar	NA	NA	NA	NA	NA	(6.7)
Ba	NA	NA	NA	NA	NA	(128.1)
Cd	NA	NA	NA	NA	NA	<2.5
Cr	NA	NA	NA	NA	NA	<6.0
Pb	NA	<1.2	<1.4	NA	NA	<0.7
Si	NA	NA	NA	NA	NA	<51.5

MW-13	
Date	8/6/09
VOCs	
B	<0.41
CM	<0.5
PAHs	
B(A)P	<0.014
B(B)F	<0.018
C	<0.01
N	0.026
Dissolved Metals	
Ar	(3.9)
Ba	316.9
Cd	<2.5
Cr	<6.0
Pb	<0.7
Si	<51.5

MW-8						
Date	4/17/02	7/9/02	2/3/04	9/27/04	8/30/05	8/6/09
VOCs						
B	(0.78)	(0.68)	0.28	<0.25	0.34	<0.41
CM	<0.62	NA	NA	NA	NA	<0.5
PAHs						
B(A)P	[1.3]	(0.068)	<0.034	<0.032	<0.032	<0.014
B(B)F	[1.2]	(0.084)	<0.096	<0.098	<0.098	<0.018
C	[1.7]	(0.098)	<0.05	<0.041	<0.041	<0.01
N	(10)	<0.61	<0.27	<0.49	<0.49	0.271
Dissolved Metals						
Ar	NA	NA	NA	NA	NA	[10.4]
Ba	NA	NA	NA	NA	NA	354.1
Cd	0.1	NA	NA	NA	NA	<0.5
Cr	NA	NA	NA	NA	NA	<1.2
Pb	[33]	1.3	(2.3)	NA	NA	<0.7
Si	NA	NA	NA	NA	NA	<10.3

MW-12	
Date	8/6/09
VOCs	
B	<0.41
CM	<0.5
PAHs	
B(A)P	<0.014
B(B)F	<0.018
C	<0.01
N	0.141
Dissolved Metals	
Ar	(8.8)
Ba	(428.8)
Cd	<2.5
Cr	<6.0
Pb	<0.7
Si	<51.5

MW-11						
Date	4/17/02	7/9/02	2/3/04	9/27/04	8/30/05	8/6/09
VOCs						
B	<0.48	<0.13	<0.25	<0.25	NA	<0.41
CM	<0.62	NA	NA	NA	NA	<0.5
PAHs						
B(A)P	[1.2]	[0.30]	<0.033	<0.033	NA	<0.014
B(B)F	[1.2]	(0.16)	<0.054	<0.10	NA	<0.018
C	[0.9]	(0.12)	<0.049	<0.042	NA	<0.01
N	<0.11	<0.68	<0.28	<0.41	NA	<0.024
Dissolved Metals						
Ar	NA	NA	NA	NA	NA	(1.4)
Ba	NA	NA	NA	NA	NA	175.6
Cd	<0.26	NA	NA	NA	NA	<2.5
Cr	NA	NA	NA	NA	NA	<6.0
Pb	[36]	<1.2	<1.4	NA	NA	<0.7
Si	NA	NA	NA	NA	NA	<51.5

	MW-9					MW-9R
Date	4/17/02	7/9/02	2/4/04	9/27/04	8/29/05	8/6/09
VOCs						
B	(0.74)	(1.8)	<0.25	<0.25	<0.25	<0.41
CM	<0.62	NA	NA	NA	NA	<0.5
PAHs						
B(A)P	<0.012	<0.015	<0.034	<0.032	<0.032	<0.028
B(B)F	<0.014	<0.045	<0.055	<0.098	<0.098	<0.036
C	<0.018	(0.09)	<0.051	[0.27]	<0.041	(0.024)
N	<0.027	<0.65	<0.27	<0.40	<0.40	0.62
Dissolved Metals						
Ar	NA	NA	NA	NA	NA	(8.8)
Ba	NA	NA	NA	NA	NA	(802.6)
Cd	<0.26	NA	NA	NA	NA	<0.5
Cr	NA	NA	NA	NA	NA	<1.2
Pb	[24]	1.3	<1.4	NA	NA	(8.2)
Si	NA	NA	NA	NA	NA	<10.3

	MW-10					TW-10
Date	4/17/02	7/9/02	2/4/04	9/27/04	8/30/05	8/6/09
VOCs						
B	<0.48	(0.68)	(3.5)	(1.3)	(2.8)	<0.41
CM	<0.62	NA	NA	NA	NA	<0.5
PAHs						
B(A)P	[0.34]	<0.015	<0.033	<0.080	<0.032	<0.014
B(B)F	[0.25]	<0.045	<0.054	<0.24	<0.098	<0.018
C	[0.3]	<0.035	<0.049	<0.10	<0.041	<0.01
N	0.029	<0.64	<0.26	<1.0	<0.40	<0.024
Dissolved Metals						
Ar	NA	NA	NA	NA	NA	(4.3)
Ba	NA	NA	NA	NA	NA	109.1
Cd	<0.070	NA	NA	NA	NA	<2.5
Cr	NA	NA	NA	NA	NA	<6.0
Pb	(1.5)	<1.2	(1.6)	NA	NA	<0.7
Si	NA	NA	NA	NA	NA	<51.5

MW-5						
Date	4/17/02	7/9/02	2/3/04	9/27/04	8/29/05	8/6/09
VOCs						
B	[19]	[4.8]	(2.9)	<0.25	0.45	(2.19)
CM	<0.62	NA	NA	NA	NA	<0.5
PAHs						
B(A)P	<0.24	<0.014	<0.033	<0.032	<0.032	<0.07
B(B)F	<0.28	<0.043	<0.054	<0.099	<0.098	<0.09
C	<0.35	(0.042)	<0.049	<0.041	<0.041	<0.05
N	8.4	1.2	<0.26	<0.49	<0.40	0.65
Dissolved Metals						
Ar	NA	NA	NA	NA	NA	[17.3]
Ba	NA	NA	NA	NA	NA	279.1
Cd	0.17	NA	NA	NA	NA	<0.5
Cr	NA	NA	NA	NA	NA	<1.2
Pb	(2.6)	<1.2	<1.4	NA	NA	<0.7
Si	NA	NA	NA	NA	NA	<10.3

MW-1						
Date	4/17/02	7/9/02	2/3/04	9/27/04	8/29/05	8/6/09
VOCs						
B	<0.48	0.40	<0.25	<0.25	<0.25	<0.41
CM	<0.62	NA	NA	NA	NA	<0.5
PAHs						
B(A)P	[0.51]	<0.015	<0.033	<0.033	<0.032	<0.014
B(B)F	[0.43]	<0.044	<0.054	<0.10	<0.099	<0.018
C	[0.56]	<0.034	<0.049	<0.042	<0.041	<0.01
N	<0.34	<0.62	<0.26	<0.41	<0.40	0.027
Dissolved Metals						
Ar	NA	NA	NA	NA	NA	(2.0)
Ba	NA	NA	NA	NA	NA	(753.1)
Cd	<0.070	NA	NA	NA	NA	[14.35]
Cr	NA	NA	NA	NA	NA	(15.2)
Pb	<0.39	<1.2	<1.4	NA	NA	<0.7
Si	NA	NA	NA	NA	NA	(31.1)

MW-8						
Date	4/17/02	7/9/02	2/4/04	9/27/04	8/30/05	8/6/09
VOCs						
B	(0.60)	(1.3)	(0.89)	0.49	(1.3)	(1.9)
CM	<0.62	NA	NA	NA	NA	<0.5
PAHs						
B(A)P	(0.069)	<0.014	<0.034	<0.032	<0.032	<0.014
B(B)F	(0.061)	<0.043	<0.054	<0.099	<0.098	<0.018
C	(0.083)	<0.034	<0.05	<0.041	<0.041	<0.01
N	0.032	<0.62	<0.27	<0.40	<0.49	0.032
Dissolved Metals						
Ar	NA	NA	NA	NA	NA	(7.4)
Ba	NA	NA	NA	NA	NA	(988)
Cd	<0.070	NA	NA	NA	NA	<12.5
Cr	NA	NA	NA	NA	NA	<30
Pb	(3.1)	<6.0	<1.4	NA	NA	<0.7
Si	NA	NA	NA	NA	NA	<258

MW-4						
Date	4/17/02	7/9/02	2/3/04	9/27/04	8/29/05	8/6/09
VOCs						
B	<0.48	(0.60)	[8.0]	[8.7]	[6.1]	(0.76)
CM	<0.62	NA	NA	NA	NA	<0.5
PAHs						
B(A)P	[0.22]	(0.063)	<0.033	<0.032	<0.032	<0.014
B(B)F	(0.17)	<0.044	<0.054	<0.099	<0.098	<0.018
C	[0.22]	(0.063)	<0.049	<0.041	<0.041	<0.01
N	0.06	<0.62	<0.26	<0.40	<0.40	0.028
Dissolved Metals						
Ar	NA	NA	NA	NA	NA	[10.8]
Ba	NA	NA	NA	NA	NA	261.8
Cd	(3.9)	NA	NA	NA	NA	<12.5
Cr	NA	NA	NA	NA	NA	<30
Pb	[47]	(14)	(2.1)	NA	NA	<17.5
Si	NA	NA	NA	NA	NA	<258

MW-3						
Date	4/17/02	7/9/02	2/3/04	9/27/04	8/29/05	8/6/09
VOCs						
B	(1.2)	(1.9)	(0.82)	<0.25	(1.2)	<0.41
CM	<0.62	NA	NA	NA	NA	<0.5
PAHs						
B(A)P	[8.8]	[0.61]	[0.94]	<0.032	<0.032	<0.014
B(B)F	[8.8]	[0.48]	[0.34]	<0.099	<0.098	<0.018
C	[15]	[0.8]	[0.85]	<0.041	(0.062)	(0.025)
N	2.5	2.5	<0.26	<0.40	<0.40	0.088
Dissolved Metals						
Ar	NA	NA	NA	NA	NA	[28.3]
Ba	NA	NA	NA	NA	NA	308.7
Cd	<0.070	NA	NA	NA	NA	<0.5
Cr	NA	NA	NA	NA	NA	<1.2
Pb	(7.8)	(3.3)	<1.4	NA	NA	<0.7
Si	NA	NA	NA	NA	NA	<10.3

MW-2						
Date	4/17/02	7/9/02	2/3/04	9/27/04	8/29/05	8/6/09
VOCs						
B	<0.48	<0.13	<0.25	<0.25	<0.25	<0.41
CM	<0.62	NA	NA	NA	NA	(0.39)
PAHs						
B(A)P	[3.1]	<0.015	<0.033	<0.032	<0.032	<0.014
B(B)F	[2.7]	<0.044	<0.053	<0.098	<0.098	<0.018
C	[3.3]	<0.034	<0.049	<0.041	<0.041	0.013
N	<0.54	<0.62	<0.26	<0.40	<0.40	<0.024
Dissolved Metals						
Ar	NA	NA	NA	NA	NA	(4.9)
Ba	NA	NA	NA	NA	NA	147.0
Cd	<0.070	NA	NA	NA	NA	<0.5
Cr	NA	NA	NA	NA	NA	<1.2
Pb	(4.9)	<1.2	<1.4	NA	NA	<0.7
Si	NA	NA	NA	NA	NA	<10.3

ANALYTICAL KEY

B = BENZENE
CM = CHLOROMETHANE
B(A)P = BENZO(A)PYRENE
B(B)F = BENZO(B)FLUORANTHENE
C = CHRYSENE
N = NAPTHALENE
Ar = ARSENIC
Ba = BARIUM
Cd = CADMIUM
Cr = CHROMIUM
Pb = LEAD
Si = SILVER
NA = NOT ANALYZED

( ) = CONCENTRATION REPORTED ABOVE NR 140 PREVENTIVE ACTION LIMIT
[ ] = CONCENTRATION REPORTED ABOVE NR 140 ENFORCEMENT STANDARD

ALL CONCENTRATIONS REPORTED IN MICROGRAMS PER LITER (µg/L)

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4. UTILITY LOCATIONS BASED ON JAHNKE & JAHNKE SURVEY INFORMATION AND FIELD MARKINGS PROVIDED BY UTILITY LOCATORS IN JULY 2009. SIGMA DOES NOT GUARANTEE UTILITY LOCATIONS AS ACCURATE.

THE SIGMA GROUP
Single Source. Sound Solutions.
www.thesigmagroup.com
1300 West Canal Street
Milwaukee, WI 53233
Phone: 414-643-4200
Fax: 414-643-4210

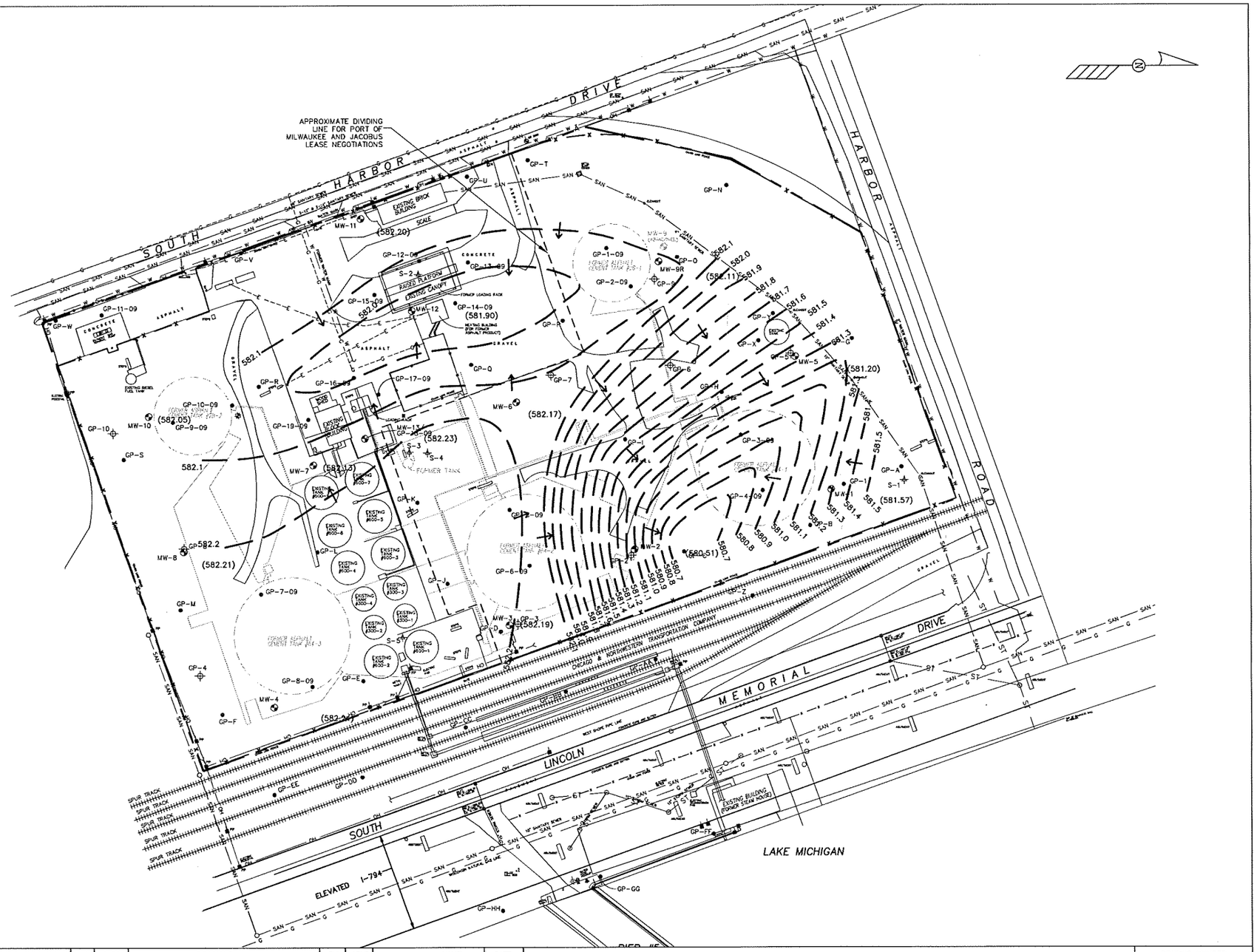
SCALE: 1" = 50'- 0"
0' 25' 50' 75' 100'

NO	DATE	REVISIONS	BY	APVD

	NAME:	DATE:
DRAWN BY:	SJGJ	08/03/09
DESIGNED BY:		
CHECKED BY:		
APPROVED BY:		

JACOBUS ENERGY, INC. BULK TERMINAL
1726 SOUTH HARBOUR DRIVE, MILWAUKEE, WISCONSIN
GROUNDWATER QUALITY MAP

DRAWING NUMBER
11734-C001-C
FIGURE 5



LEGEND

- MONITORING WELL
- GEOPROBE SOIL BORING
- GEOPROBE SOIL BORING (PREVIOUS SITE INVESTIGATION WORK)
- HAND AUGER SOIL BORING (PREVIOUS SITE INVESTIGATION WORK)
- PP POWER POLE
- CHAIN LINK FENCE
- MANHOLE
- CATCH BASIN / MANHOLE
- FIRE HYDRANT
- SEWER CLEANOUT
- G UNDERGROUND NATURAL GAS LINE
- SAN UNDERGROUND SANITARY SEWER LINE
- W UNDERGROUND WATER LINE
- OH OVERHEAD ELECTRIC LINES
- ST UNDERGROUND STORM SEWER LINES
- E UNDERGROUND ELECTRIC LINES
- PROPERTY LINE
- GROUNDWATER CONTOUR LINE; CONTOUR INTERVAL = 0.1'
- (XXX.XX) STATIC GROUNDWATER LEVEL (08-06-09)
- GROUNDWATER FLOW DIRECTION

NOTES:

1. BASE MAP ADAPTED FROM SURVEY COMPLETED BY JAHNKE & JAHNKE ASSOCIATES, INC. IN AUGUST 2000.
2. LOCATIONS OF HAND AUGER AND GEOPROBE SOIL BORINGS FROM PREVIOUS SITE INVESTIGATION WORK WERE MEASURED BY SIGMA RELATIVE TO SITE FEATURES AT THE TIME OF THEIR INSTALLATION.
3. SOIL BORING GP-A THROUGH GP-Z, GP-AA THROUGH GP-EE, GP-1-09 THROUGH GP-11-09, AND GP-13-09 THROUGH GP-19-09 AND MONITORING WELLS MW-1 THROUGH MW-13 WERE SURVEYED BY SIGMA ON JULY 31, 2009 WITH A TRIMBLE R8 GPS RECEIVER. LOCATIONS OF SOIL BORINGS GP-FF THROUGH GP-HH AND GP-12-09 WERE MEASURED BY SIGMA RELATIVE TO SITE FEATURES ON JULY 31, 2009.
4. UTILITY LOCATIONS BASED ON JAHNKE & JAHNKE SURVEY INFORMATION AND FIELD MARKINGS PROVIDED BY UTILITY LOCATORS IN JULY 2009. SIGMA DOES NOT GUARANTEE UTILITY LOCATIONS AS ACCURATE.

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SCALE: 1' = 50'- 0"
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	NAME:	DATE:
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DESIGNED BY:		
CHECKED BY:		
APPROVED BY:		

JACOBUS ENERGY, INC. BULK TERMINAL
1726 SOUTH HARBOUR DRIVE, MILWAUKEE, WISCONSIN
GROUNDWATER CONTOUR MAP (8-6-09)

DRAWING NUMBER
11734-C001-B

FIGURE 3

E:\milwd\11734 - Port Authority - Jones Island\060 CAD & Graphics\001 CAD\11734-C001-B.dwg, F3-GWCM, 9/28/2009 8:16:05 AM, ANSI full bleed D (34.00 x 22.00 Inches), 1:1

Table 2
Soil Quality Results
Jacobus Jones Island Bulk facility - 1726 South Harbor Drive, Milwaukee, Wisconsin
Sigma Project No. 11734

Soil Sample Location:		GP-A	GP-B	GP-C	GP-D	GP-E	GP-F	GP-G	GP-H	GP-I	GP-J	GP-K	GP-L	GP-M	GP-N	GP-O	GP-P	GP-Q	GP-R	GP-S	GW RCLs [3]	DC RCLs for Industrial Soil [4]	PRG for Industrial Soil [5]	SSL [6]
Sample Depth (feet bgs):		0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	2 - 4	2 - 4	0 - 2	0 - 2				
Date:		07/28/09	07/28/09	07/28/09	07/28/09	07/30/09	07/30/09	07/28/09	07/28/09	07/28/09	07/28/09	07/28/09	07/30/09	07/30/09	07/29/09	07/29/09	07/29/09	07/29/09	07/30/09	07/30/09				
Organic Vapor Monitor	ppm																				NS	NS	NS	NS
PVOCs & Detected VOCs																								
Benzene	µg/kg	68	22.2 "J"	<20	58 "J"	<20	<20	<20	[6,000]	<20	178	34 "J"	<20	<20	<20	64	<20	<20	<20	<20	5.5	8,500 / 1,100	1,400	30
Ethylbenzene	µg/kg	61	24 "J"	<16	23.9 "J"	<16	<16	<16	[15,400]	<16	128	24 "J"	<16	58	<16	51 "J"	<16	<16	<16	<16	2,900	4,600 / NS	400,000	13,000
Methyl-tert-butyl-ether	µg/kg	<23	<23	<23	<23	<23	<23	<23	<230	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	NS	NS	70,000	NS
Toluene	µg/kg	236	53 "J"	<23	141	<23	28 "J"	<23	280 "J"	<23	192	166	<23	46 "J"	<23	390	<23	<23	<23	<23	1,500	38,000 / NS	520,000	12,000
1,2,4-Trimethylbenzene	µg/kg	239	75	<20	42 "J"	<20	<20	<20	[238,000]	<20	150	62 "J"	<20	229	<20	161	24.9 "J"	23.1 "J"	<20	<20	NS	83,000 / NS	170,000	NS
1,3,5-Trimethylbenzene	µg/kg	104	<24	<24	<24	<24	<24	<24	[84,000]	<24	69 "J"	51 "J"	<24	85	<24	57 "J"	<24	<24	<24	<24	NS	11,000 / NS	70,000	NS
Xylenes (total)	µg/kg	702	107.6 "J"	<48	120 "J"	<48	<48	<48	33,390	<48	459	263	<48	211	<48	730	<48	<48	<48	<48	4,100	42,000 / NS	420,000	210,000
tert-Butylbezene	µg/kg	<23	<23	<23	<23	<23	<23	<23	<230	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	NS	NS	390,000	NS
sec-Butylbenzene	µg/kg	<25	<25	<25	<25	<25	<25	<25	4,700	<25	155	<25	<25	<25	<25	<25	<25	<25	41 "J"	<25	NS	NS	220,000	NS
n-Butylbenzene	µg/kg	<35	<35	<35	<35	<35	<35	<35	25,600	<35	290	<35	<35	<35	<35	127	<35	<35	80 "J"	<35	NS	NS	240,000	NS
Isopropylbenzene	µg/kg	<30	<30	<30	<30	<30	<30	<30	4,000	<30	85 "J"	<30	<30	<30	<30	<30	<30	<30	<30	<30	NS	NS	NS	NS
p-Isopropyltoluene	µg/kg	<30	<30	<30	<30	<30	<30	<30	3,600	<30	47 "J"	<30	<30	<30	<30	<30	<30	<30	<30	<30	NS	NS	NS	NS
Naphthalene	µg/kg	<117	142 "J"	<117	<117	<117	<117	<117	[49,000]	<117	760	<117	<117	1,680	<117	<117	<117	<117	<117	<117	NS	2,700 / NS	190,000	84,000
n-Propylbenzene	µg/kg	<29	<29	<29	<29	<29	<29	<29	13,400	<29	320	<29	<29	<29	<29	<29	<29	<29	<29	<29	NS	NS	240,000	NS
Tetrachloroethene (PCE)	µg/kg	<18	<18	<18	<18	<18	<18	<18	<180	<18	<18	<18	<18	<18	<18	<18	<18	<18	<18	<18	NS	NS	1,300	60
1,1,1-Trichloroethane	µg/kg	<27	<27	<27	<27	<27	<27	<27	<270	<27	<27	<27	<27	<27	<27	<27	<27	<27	<27	<27	NS	NS	1,200,000	2,000
Trichloroethene (TCE)	µg/kg	<20	<20	<20	<20	<20	<20	<20	<200	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	NS	NS	110	60
PAHs																								
Acenaphthene	µg/kg	<19	63	38 "J"	86	275	32 "J"	30.9 "J"	3,900	19.1 "J"	1,840	<19	<19	800	<19	1,850	<19	<19	<19	30.8 "J"	38,000	60,000,000	---	---
Acenaphthylene	µg/kg	<11	36 "J"	59	32 "J"	68	21.5 "J"	29.7 "J"	1,240 "J"	<11	380	19.9 "J"	19.9 "J"	76	<11	500	<11	<11	<11	44	700	360,000	---	---
Anthracene	µg/kg	<19	224	264	370	1,210	117	120	1,860 "J"	38 "J"	350 "J"	96	96	1,850	37 "J"	3,200	<19	<19	35 "J"	102	3,000,000	300,000,000	---	---
Benzo(a)anthracene	µg/kg	64	930	990	1,280	3,090	640	610	2,740	68	290 "J"	640	470	3,120	83	[8,200]	16 "J"	<16	102	610	17,000	3,900	---	---
Benzo(a)pyrene	µg/kg	90	[1,090]	[1,020]	[1,410]	[2,790]	[730]	[720]	[2,880 "J"]	69 "J"	<250	[830]	[530]	[4,000]	86	[8,600]	<25	<25	127	[770]	48,000	390	---	---
Benzo(b)fluoranthene	µg/kg	197	1,860	1,420	1,910	[3,900]	1,090	1,040	2,650 "J"	87	187 "J"	1,180	880	[5,200]	111	[12,000]	18.4 "J"	<18	199	1,170	360,000	3,900	---	---
Benzo(ghi)perylene	µg/kg	83	880	690	990	1,740	560	520	2,110 "J"	42 "J"	<190	640	490	2,460	59 "J"	6,400	<19	<19	120	570	6,800,000	39,000	---	---
Benzo(k)fluoranthene	µg/kg	47 "J"	570	470	650	1,170	340	370	940 "J"	37 "J"	<160	420	279	1,630	49 "J"	4,700	<16	<16	59	390	870,000	39,000	---	---
Chrysene	µg/kg	118	1,150	1,130	1,450	3,150	770	780	3,900	82	390 "J"	810	530	3,400	97	9,100	23 "J"	<18	142	790	37,000	390,000	---	---
Dibenzo(a,h)anthracene	µg/kg	27.8 "J"	285	199	285	[590]	170	145	<1,100	<22	<220	159	154	[820]	<22	[1,770]	<22	<22	34 "J"	156	38,000	390	---	---
Fluoranthene	µg/kg	75	1,510	2,120	2,840	6,100	1,370	1,470	3,300	145	1,260	1,180	740	7,000	179	17,500	23.1 "J"	<13	237	1,490	500,000	40,000,000	---	---
Fluorene	µg/kg	<8.3	75	51	85	380	37	27.1	6,700	11.5 "J"	1,350	10.3 "J"	18.5 "J"	1,090	10 "J"	2,970	<8.3	<8.3	8.5 "J"	34	100,000	40,000,000	---	---
Indeno(1,2,3-cd)pyrene	µg/kg	72	780	640	890	1,620	500	460	1,170 "J"	35 "J"	<120	560	400	2,240	48	[5,800]	<12	<12	102	510	680,000	3,900	---	---
1-Methylnaphthalene	µg/kg	44 "J"	94	<15	24.6 "J"	38 "J"	18.3 "J"	19.4 "J"	88,000	<15	22,000	17.2 "J"	17 "J"	268	<15	4,100	<15	<15	32 "J"	21.5 "J"	23,000	70,000,000	---	---
2-Methylnaphthalene	µg/kg	56	132	<17	23.9 "J"	40 "J"	22.8 "J"	<17	162,000	<17	9,900	<17	22.7 "J"	390	<17	1,530	<17	<17	33 "J"	27.8 "J"	20,000	40,000,000	---	---
Naphthalene	µg/kg	73	119	19.4 "J"	35 "J"	51	28.3 "J"	17.7 "J"	93,000	<13	5,300	17.2 "J"	29.5 "J"	440	18.1 "J"	650	24.7 "J"	<13	21.5 "J"	25.4 "J"	400	110,000	---	---
Phenanthrene	µg/kg	56	770	800	1,180	3,400	530	480	16,900	95	2,820	251	260	6,100	99	15,000	<14	<14	89	540	1,800	390,000	---	---
Pyrene	µg/kg	59	1,230	1,620	2,140	4,700	1,050	1,140	7,000	130	1,020	940	610	5,100	154	13,700	27.8 "J"	<15	194	1,210	8,700,000	30,000,000	---	---
RCRA Metals																								
Arsenic	mg/kg	1.27 "J"	NA	[1.71 "J"]	NA	NA	[5.03]	NA	<0.72	NA	[5.57]	NA	NA	[9.69]	[5.78]	NA	1.05 "J"	NA	[4.37]	NA	---	1.6	1.6	29
Barium	mg/kg	20.7	NA	37.5	NA	NA	108	NA	52.3	NA	362	NA	NA	311	334	NA	45.3	NA	258	NA	---	NS	67,000	1,600
Cadmium	mg/kg	<0.4	NA	<0.4	NA	<0.8	<0.4	NA	<0.4	NA	<0.4	1.27 "J"	<0.8	0.48 "J"	<0.4	NA	<0.4	NA	<0.4	NA	---	510	450	8
Chromium	mg/kg	42.9	NA	36.6	NA	NA	23.4	NA	20.7	NA	16.1	NA	NA	313	25.4	NA	18.9	NA	23.5	NA	---	200 / Not Applicable	450	38
Lead	mg/kg	253	NA	64.4	NA	[502]	205	NA	31.6	NA	372	[1,320]	114	[551]	[523]	NA	11.9	NA	[615]	NA	---	500	800	NS
Mercury	mg/kg	0.015	NA	0.108	NA	NA	0.117	NA	0.047	NA	0.060	NA	NA	0.229	0.070	NA	0.022	NA	0.080	NA	---	NS	310	NS
Selenium	mg/kg	<0.7	NA	<0.7	NA	NA	<0.7	NA	<0.7	NA	<0.7	NA	NA	<0.7	<0.7	NA	<0.7	NA	<0.7	NA	---	NS	5,100	5
Silver	mg/kg	<0.34	NA	<0.34	NA	NA	<0.34	NA	<0.34	NA	<0.34	NA	NA	<0.34	<0.34	NA	<0.34	NA	<0.34	NA	---	NS	5,100	34
PCBs																								
PCB-1016	µg/kg	NA	NA	NA	NA	<2	NA	NA	NA	NA	NA	<2	<2	NA	NA	NA	NA	NA	NA	NA	---	---	21,000	---
PCB-1221	µg/kg	NA	NA	NA	NA	<4.9	NA	NA	NA	NA	NA	<4.9	<4.9	NA	NA	NA	NA	NA	NA	NA	---	---	---	---
PCB-1232	µg/kg	NA	NA	NA	NA	<7.2	NA	NA	NA	NA	NA	<7.2	<7.2	NA	NA	NA	NA	NA	NA	NA	---	---	---	---
PCB-1242	µg/kg	NA	NA	NA	NA	<4.9	NA	NA	NA	NA	NA	<4.9	<4.9	NA	NA	NA	NA	NA	NA	NA	---	---	---	---
PCB-1248	µg/kg	NA	NA	NA	NA	<2.7	NA	NA	NA	NA	NA	<2.7	<2.7	NA	NA	NA	NA	NA	NA	NA	---	---	---	---
PCB-1254	µg/kg	NA	NA	NA	NA	<5	NA	NA	NA	NA	NA	<5	<5	NA	NA	NA	NA	NA	NA	NA	---	---	740	---
PCB-1260	µg/kg	NA	NA	NA	NA	17 "J"	NA	NA	NA	NA	NA	<2.8	<2.8	NA	NA	NA	NA	NA	NA	NA	---	---	---	---

Notes:
1. Analytical units: µg/kg = micrograms per kilogram (equivalent to parts per billion, ppb)
   mg/kg = milligrams per kilogram (equivalent to parts per million, ppm)
2. NA = not analyzed
3. GW RCLs = Groundwater Residual Contaminant Levels based on the following:
   For petroleum hydrocarbons, GW RCLs based on Wisconsin Administrative Code, Chapter NR 720.09 generic Residual Contaminant Level for protection of groundwater.
   For PAHs, GW RCLs based on interim guidance RCL for protection of groundwater pathway from PAH compounds, from WDNR publication RR-519-97 *"Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance"* (April 1997)
4. DC RCLs for Industrial Soil = Direct Contact Residual Contaminant Levels based on the following:
   For petroleum hydrocarbons, DC RCLs based on Wisconsin Administrative Code, Chapter NR 746.06 Table 1 ("Indicators of Residual Petroleum Product in Soil Pores") soil screening levels / Table 2 ("Protection of Human Health from Direct Contact with Contaminated Soil") concentrations.
   For PAHs, DC RCLs based on interim guidance RCL for protection of direct contact with PAH compounds for industrial land use, from WDNR publication RR-519-97 *"Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance"* (April 1997)
   For metals, DC RCLs based on Wisconsin Administrative Code, Chapter NR 720.11 generic Residual Contaminant Level for protection of direct contact for industrial land use. RCLs shown for chromium are for hexavalent chromium (200 mg/kg) and trivalent chromium (Not Applicable).
5. PRG for Industrial Soil = US EPA Region IX Preliminary Remediation Goal for industrial soil (Otober 2004) to use as a guideline to evaluate the direct contact exposure pathway
6. SSL = US EPA Region IX Soil Screening Level for protection of groundwater with a dilution-attenuation factor of 20 (October 2004) - provided as a guideline to evaluate soil
7. --- = PRG and SSL not provided for PAHs because complete list of WDNR interim guidance standards exists for the PAH compounds
8. NS = no standard established
9. Laboratory flag: "J" = Analyte detected between Limit of Detection and Limit of Quantitation
10. Exceedances: box = Concentration exceeds GW RCL
    [brackets] = Concentration exceeds DC RCL for Industrial Soil (note that soil is located within 4 feet of the ground surface)
    underline = Concentration exceeds DC RCL for Industrial Soil (note that soil is located deeper than 4 feet of the ground surface)
    bold = Concentrations exceeds PRGs and/or SSLs (for reference only as a preliminary screening tool)

Table 2
Soil Quality Results
Jacobus Jones Island Bulk facility - 1726 South Harbor Drive, Milwaukee, Wisconsin
Sigma Project No. 11734

Soil Sample Location:		GP-T	GP-U	GP-V	GP-W	GP-X	GP-Y	GP-Z	GP-AA	GP-BB	GP-CC	GP-DD	GP-EE	GP-FF	GP-GG	GP-HH	GW RCLs [3]	DC RCLs for Industrial Soil [4]	PRG for Industrial Soil [5]	SSL [6]
Sample Depth (feet bgs):		2 - 4	2 - 4	2 - 4	2 - 4	0 - 2	0 - 2	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4				
	Date:	07/29/09	07/29/09	07/29/09	07/29/09	07/28/09	07/28/09	07/30/09	07/30/09	07/30/09	07/30/09	07/30/09	07/30/09	07/31/09	07/31/09	07/31/09				
Organic Vapor Monitor	ppm																NS	NS	NS	NS
PVOCs & Detected VOCs																				
Benzene	µg/kg	<20	<20	43 "J"	<20	<100	374	<20	<20	<20	<20	<20	47 "J"	<20	27.8 "J"	<20	5.5	8,500 / 1,100	1,400	30
Ethylbenzene	µg/kg	<16	<16	<16	<16	113 "J"	442	<16	<16	<16	<16	<16	<16	<16	51 "J"	<16	2,900	4,600 / NS	400,000	13,000
Methyl-tert-butyl-ether	µg/kg	<23	<23	<23	<23	<115	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	NS	NS	70,000	NS
Toluene	µg/kg	<23	27.2 "J"	116	<23	<115	322	72 "J"	41 "J"	<23	<23	33 "J"	45 "J"	<23	89	<23	1,500	38,000 / NS	520,000	12,000
1,2,4-Trimethylbenzene	µg/kg	<20	23.7 "J"	32 "J"	<20	480	590	26 "J"	33 "J"	<20	<20	20.8 "J"	25.2 "J"	<20	138	<20	NS	83,000 / NS	170,000	NS
1,3,5-Trimethylbenzene	µg/kg	<24	<24	<24	<24	<120	107	<24	<24	<24	<24	53.7 "J"	<24	<24	54 "J"	<24	NS	11,000 / NS	70,000	NS
Xylenes (total)	µg/kg	<48	65.1 "J"	89 "J"	<48	270 "J"	1,058	70 "J"	98 "J"	17.3 "J"	<48	<48	64.4 "J"	<48	182.6	<48	4,100	42,000 / NS	420,000	210,000
tert-Butylbezene	µg/kg	<23	<23	<23	<23	<115	193	<23	<23	<23	<23	<23	<23	<23	<23	<23	NS	NS	390,000	NS
sec-Butylbenzene	µg/kg	<25	<25	<25	<25	970	4,800	<25	<25	<25	<25	<25	<25	<25	<25	<25	NS	NS	220,000	NS
n-Butylbenzene	µg/kg	<35	<35	<35	<35	1,580	8,200	<35	<35	<35	<35	<35	<35	<35	<35	<35	NS	NS	240,000	NS
Isopropylbenzene	µg/kg	<30	<30	<30	<30	<150	2,800	<30	<30	<30	<30	<30	<30	<30	<30	<30	NS	NS	NS	NS
p-Isopropyltoluene	µg/kg	<30	<30	32 "J"	<30	<150	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	NS	NS	NS	NS
Naphthalene	µg/kg	<117	<117	<117	<117	590 "J"	543	186 "J"	<117	<117	<117	<117	<117	<117	<117	<117	NS	2,700 / NS	190,000	84,000
n-Propylbenzene	µg/kg	<29	<29	<29	<29	370 "J"	8,100	<29	<29	<29	<29	<29	<29	<29	<29	<29	NS	NS	240,000	NS
Tetrachloroethene (PCE)	µg/kg	<18	125	<18	<18	<90	<18	<18	<18	<18	<18	<18	<18	<18	<18	<18	NS	NS	1,300	60
1,1,1-Trichloroethane	µg/kg	40 "J"	39 "J"	67 "J"	<27	<135	<27	<27	<27	<27	<27	<27	<27	<27	<27	<27	NS	NS	1,200,000	2,000
Trichloroethene (TCE)	µg/kg	<20	<20	<20	<20	<100	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	NS	NS	110	60
PAHs																				
Acenaphthene	µg/kg	<19	360	<190	<19	<190	490 "J"	1,110	<19	<19	<19	42 "J"	19.1 "J"	<19	<19	85	38,000	60,000,000	---	---
Acenaphthylene	µg/kg	<11	55	<110	<11	122 "J"	212 "J"	231 "J"	<11	<11	<11	19 "J"	16.9 "J"	<11	25.5 "J"	34 "J"	700	360,000	---	---
Anthracene	µg/kg	<19	680	3,600	24.4 "J"	<190	<190	6,300	39 "J"	27.2 "J"	23.8 "J"	150	84	<19	<19	460	3,000,000	300,000,000	---	---
Benzo(a)anthracene	µg/kg	37 "J"	1,420	[35,000]	194	<160	430 "J"	[13,900]	660	590	400	1,330	570	63	51 "J"	1,160	17,000	3,900	---	---
Benzo(a)pyrene	µg/kg	37 "J"	[1,400]	[15,300]	227	<250	[400 "J"]	[14,100]	[990]	[820]	[660]	[2,250]	[790]	85	73 "J"	[1,070]	48,000	390	---	---
Benzo(b)fluoranthene	µg/kg	59	1,850	[29,500]	370	<180	720	[19,200]	1,930	2,160	1,410	[3,900]	1,610	162	162	1,410	360,000	3,900	---	---
Benzo(ghi)perylene	µg/kg	34 "J"	880	5,300	166	<190	390 "J"	9,100	980	1,000	730	1,880	760	93	105	730	6,800,000	39,000	---	---
Benzo(k)fluoranthene	µg/kg	19.8 "J"	670	9,000	107	<160	297 "J"	6,200	600	560	380	1,030	430	48 "J"	58	500	870,000	39,000	---	---
Chrysene	µg/kg	56 "J"	1,560	29,400	214	<180	550 "J"	14,700	930	960	640	1,780	810	93	91	1,110	37,000	390,000	---	---
Dibenzo(a,h)anthracene	µg/kg	<22	221	[2,440]	58 "J"	<220	<220	[2,840]	[390]	[420]	294	[740]	300	30.9 "J"	36 "J"	182	38,000	390	---	---
Fluoranthene	µg/kg	70	3,900	46,000	236	164 "J"	1,060	33,000	460	510	261	1,160	660	83	60	2,650	500,000	40,000,000	---	---
Fluorene	µg/kg	<8.3	276	237 "J"	<8.3	182 "J"	1,080	1,530	13.1 "J"	<8.3	<8.3	51	23.1 "J"	<8.3	<8.3	105	100,000	40,000,000	---	---
Indeno(1,2,3-cd)pyrene	µg/kg	26.3 "J"	790	[5,500]	166	<120	350 "J"	[8,300]	830	850	600	1,610	640	78	91	640	680,000	3,900	---	---
1-Methylnaphthalene	µg/kg	<15	145	<150	<15	1,870	15,300	305 "J"	123	42 "J"	60	113	95	<15	35 "J"	<15	23,000	70,000,000	---	---
2-Methylnaphthalene	µg/kg	<17	161	<170	<17	<170	2,020	237 "J"	166	47 "J"	71	159	110	<17	58	<17	20,000	40,000,000	---	---
Naphthalene	µg/kg	<13	480	136 "J"	<13	340 "J"	630	370 "J"	150	49	69	168	128	<13	60	19.2 "J"	400	110,000	---	---
Phenanthrene	µg/kg	48	3,500	5,700	104	410 "J"	1,500	19,100	255	155	164	560	380	38 "J"	28.4 "J"	1,220	1,800	390,000	---	---
Pyrene	µg/kg	60	3,300	39,000	226	<150	840	23,900	420	410	241	1,030	560	68	62	2,140	8,700,000	30,000,000	---	---
RCRA Metals																				
Arsenic	mg/kg	[22.9]	NA	[17.5]	NA	NA	NA	NA	NA	NA	NA	[1.63 "J"]	[3.60]	NA	NA	NA	---	1.6	1.6	29
Barium	mg/kg	451	NA	559	NA	NA	NA	NA	NA	NA	NA	207	63.1	NA	NA	NA	---	NS	67,000	1,600
Cadmium	mg/kg	4.71	NA	1.94	NA	NA	NA	NA	<0.8	<0.8	<0.8	<0.4	0.68 "J"	NA	NA	NA	---	510	450	8
Chromium	mg/kg	44.2	NA	40.4	NA	NA	NA	NA	NA	NA	NA	44.2	45.5	NA	NA	NA	---	200 / Not Applicable	450	38
Lead	mg/kg	[1,800]	NA	[1,470]	NA	NA	NA	NA	41.4	101	152	148	120	NA	NA	NA	---	500	800	NS
Mercury	mg/kg	0.206	NA	0.511	NA	NA	NA	NA	NA	NA	NA	1.78	0.056	NA	NA	NA	---	NS	310	NS
Selenium	mg/kg	<0.7	NA	<0.7	NA	NA	NA	NA	NA	NA	NA	<0.7	<0.7	NA	NA	NA	---	NS	5,100	5
Silver	mg/kg	<0.34	NA	<0.34	NA	NA	NA	NA	NA	NA	NA	<0.34	<0.34	NA	NA	NA	---	NS	5,100	34
PCBs																				
PCB-1016	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	---	---	21,000	---
PCB-1221	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	---	---	---	---
PCB-1232	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	---	---	---	---
PCB-1242	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	---	---	---	---
PCB-1248	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	---	---	---	---
PCB-1254	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	---	---	740	---
PCB-1260	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	---	---	---	---

Notes:

1. Analytical units: µg/kg = micrograms per kilogram (equivalent to parts per billion, ppb)
   mg/kg = milligrams per kilogram (equivalent to parts per million, ppm)
2. NA = not analyzed
3. GW RCLs = Groundwater Residual Contaminant Levels based on the following:
   For petroleum hydrocarbons, GW RCLs based on Wisconsin Administrative Code, Chapter NR 720.09 generic Residual Contaminant Level for protection of groundwater.
   For PAHs, GW RCLs based on interim guidance RCL for protection of groundwater pathway from PAH compounds, from WDNR publication RR-519-97 *"Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance"* (April 1997)
4. DC RCLs for Industrial Soil = Direct Contact Residual Contaminant Levels based on the following:
   For petroleum hydrocarbons, DC RCLs based on Wisconsin Administrative Code, Chapter NR 746.06 Table 1 ("Indicators of Residual Petroleum Product in Soil Pores") soil screening levels / Table 2 ("Protection of Human Health from Direct Contact with
   For PAHs, DC RCLs based on interim guidance RCL for protection of direct contact with PAH compounds for industrial land use, from WDNR publication RR-519-97 *"Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance"* (A
   For metals, DC RCLs based on Wisconsin Administrative Code, Chapter NR 720.11 generic Residual Contaminant Level for protection of direct contact for industrial land use. RCLs shown for chromium are for hexavalent chromium (200 mg/kg) and trive
5. PRG for Industrial Soil = US EPA Region IX Preliminary Remediation Goal for industrial soil (Otober 2004) to use as a guideline to evaluate the direct contact exposure pathway
6. SSL = US EPA Region IX Soil Screening Level for protection of groundwater with a dilution-attenuation factor of 20 (October 2004) - provided as a guideline to evaluate soil
7. --- = PRG and SSL not provided for PAHs because complete list of WDNR interim guidance standards exists for the PAH compounds
8. NS = no standard established
9. Laboratory flag: "J" = Analyte detected between Limit of Detection and Limit of Quantitation
10. Exceedances:
    box = Concentration exceeds GW RCL
    [brackets] = Concentration exceeds DC RCL for Industrial Soil (note that soil is located within 4 feet of the ground surface)
    underline = Concentration exceeds DC RCL for Industrial Soil (note that soil is located deeper than 4 feet of the ground surface)
    bold = Concentrations exceeds PRGs and/or SSLs (for reference only as a preliminary screening tool)

Table 2
Soil Quality Results
Jacobus Jones Island Bulk facility - 1726 South Harbor Drive, Milwaukee, Wisconsin
Sigma Project No. 11734

Soil Sample Location:		GP-1-09	GP-2-09	GP-3-09	GP-4-09	GP-5-09	GP-6-09	GP-7-09	GP-8-09	GP-9-09	GP-10-09	GP-11-09	GP-12-09	GP-13-09	GP-14-09	GP-15-09	GP-16-09	GP-17-09	GP-18-09 / MW-13	GP-19-09	MW-9R	MW-12	GW RCLs [3]	DC RCLs for Industrial Soil [4]	PRG for Industrial Soil [5]	SSL [6]
Sample Depth (feet bgs):		0 - 1	0 - 1	0 - 2	0 - 2	0 - 2	0 - 2	2 - 4	0 - 2	4 - 8	0 - 2	2 - 4	0 - 2	2 - 4	0 - 2	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4	---	---				
	Date:	07/29/09	07/29/09	07/28/09	07/28/09	07/28/09	07/28/09	07/30/09	07/30/09	07/30/09	07/30/09	07/29/09	07/29/09	07/29/09	07/29/09	07/29/09	07/29/09	07/29/09	07/24/09	07/29/09	07/24/09	07/24/09				
Organic Vapor Monitor	ppm																				---	---	NS	NS	NS	NS
PVOCs & Detected VOCs																										
Benzene	µg/kg	<20	<20	68	<20	22 "J"	24.6 "J"	<20	<20	22.2 "J"	29.2 "J"	23.6 "J"	<20	<20	<20	22.5 "J"	<20	<20	<20	<20	NA	NA	5.5	8,500 / 1,100	1,400	30
Ethylbenzene	µg/kg	<16	<16	78	<16	<16	<16	<16	<16	<16	<16	20.3 "J"	<16	<16	<16	21.3 "J"	<16	<16	<16	<16	NA	NA	2,900	4,600 / NS	400,000	13,000
Methyl-tert-butyl-ether	µg/kg	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	NA	NA	NS	NS	70,000	NS
Toluene	µg/kg	76	68 "J"	94	<23	60 "J"	51 "J"	<23	<23	<23	<23	50 "J"	<23	<23	<23	154	<23	<23	<23	<23	NA	NA	1,500	38,000 / NS	520,000	12,000
1,2,4-Trimethylbenzene	µg/kg	70	44 "J"	660	54 "J"	56 "J"	<20	<20	<20	24.9 "J"	<20	30.1 "J"	<20	<20	<20	33 "J"	<20	<20	24.9 "J"	<20	NA	NA	NS	83,000 / NS	170,000	NS
1,3,5-Trimethylbenzene	µg/kg	28.6 "J"	<24	178	<24	<24	<24	<24	<24	<24	<24	<24	<24	<24	<24	<24	<24	<24	<24	<24	NA	NA	NS	11,000 / NS	70,000	NS
Xylenes (total)	µg/kg	111 "J"	83.7 "J"	271	<48	87.2 "J"	42 "J"	<48	<48	<48	<48	87.8 "J"	<48	<48	15.4 "J"	100 "J"	<48	<48	<48	<48	NA	NA	4,100	42,000 / NS	420,000	210,000
tert-Butylbezene	µg/kg	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	<23	NA	NA	NS	NS	390,000	NS
sec-Butylbenzene	µg/kg	<25	<25	<25	28 "J"	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	NA	NA	NS	NS	220,000	NS
n-Butylbenzene	µg/kg	<35	<35	75 "J"	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	NA	NA	NS	NS	240,000	NS
Isopropylbenzene	µg/kg	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	NA	NA	NS	NS	NS	NS
p-Isopropyltoluene	µg/kg	<30	<30	<30	36 "J"	<30	<30	<30	<30	52 "J"	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	NA	NA	NS	NS	NS	NS
Naphthalene	µg/kg	149 "J"	117 "J"	520	<117	<117	<117	<117	<117	<117	<117	<117	<117	<117	<117	145 "J"	<117	<117	<117	<117	NA	NA	NS	2,700 / NS	190,000	84,000
n-Propylbenzene	µg/kg	<29	<29	42 "J"	<29	<29	<29	<29	<29	<29	<29	<29	<29	<29	<29	<29	<29	<29	<29	<29	NA	NA	NS	NS	240,000	NS
Tetrachloroethene (PCE)	µg/kg	<18	<18	<18	<18	<18	<18	<18	<18	<18	<18	<18	<18	<18	<18	<18	<18	<18	<18	<18	NA	NA	NS	NS	1,300	60
1,1,1-Trichloroethane	µg/kg	<27	<27	<27	<27	<27	<27	<27	<27	<27	<27	<27	<27	<27	<27	<27	<27	<27	<27	<27	NA	NA	NS	NS	1,200,000	2,000
Trichloroethene (TCE)	µg/kg	<20	<20	25.5 "J"	<20	<20	<20	<20	<20	<20	<20	<20	45 "J"	<20	<20	<20	<20	<20	<20	<20	NA	NA	NS	NS	110	60
PAHs																										
Acenaphthene	µg/kg	740	360 "J"	<190	530 "J"	<19	96	<950	<950	<19	<19	<19	<19	<19	<19	410	59	26.8 "J"	23.4 "J"	<19	NA	NA	38,000	60,000,000	---	---
Acenaphthylene	µg/kg	158 "J"	166 "J"	360 "J"	230 "J"	117	82	<550	<550	<11	18 "J"	<11	<11	24.1 "J"	<11	85	<11	<11	17.5 "J"	<11	NA	NA	700	360,000	---	---
Anthracene	µg/kg	2,960	1,880	229 "J"	780 "J"	92	410	<950	<950	<19	<19	44 "J"	<19	97	21.2 "J"	2,040	196	89	111	<19	NA	NA	3,000,000	300,000,000	---	---
Benzo(a)anthracene	µg/kg	[9,400]	[6,600]	970	610 "J"	290	1,350	1,000 "J"	910 "J"	<16	<16	300	<16	410	88	[6,000]	380	211	450	27.9 "J"	NA	NA	17,000	3,900	---	---
Benzo(a)pyrene	µg/kg	[8,100]	[6,500]	[1,470]	[700 "J"]	[380]	[1,400]	[1,490 "J"]	[1,390 "J"]	<25	<25	[430]	<25	[450]	148	[5,100]	320	226	[500]	27.6 "J"	NA	NA	48,000	390	---	---
Benzo(b)fluoranthene	µg/kg	[12,300]	[9,200]	1,900	690 "J"	500	1,920	1,320 "J"	1,090 "J"	<18	<18	790	25.2 "J"	620	197	[7,400]	410	350	710	46 "J"	NA	NA	360,000	3,900	---	---
Benzo(ghi)perylene	µg/kg	5,100	3,900	1,480	920 "J"	380	980	1,810 "J"	1,730 "J"	<19	<19	360	21.2 "J"	330	136	3,300	179	154	309	21.5 "J"	NA	NA	6,800,000	39,000	---	---
Benzo(k)fluoranthene	µg/kg	5,200	3,500	690	<320	189	600	<800	<800	<16	<16	223	<16	236	72	2,330	193	109	247	<16	NA	NA	870,000	39,000	---	---
Chrysene	µg/kg	10,400	7,700	1,380	940 "J"	390	1,490	2,240 "J"	2,220 "J"	<18	<18	420	21.9 "J"	470	116	6,100	410	277	570	28.1 "J"	NA	NA	37,000	390,000	---	---
Dibenzo(a,h)anthracene	µg/kg	[1,500]	[1,230]	380 "J"	<440	100	282	<1,100	<1,100	<22	<22	139	<22	91	32 "J"	[1,000]	47 "J"	45 "J"	89	<22	NA	NA	38,000	390	---	---
Fluoranthene	µg/kg	23,100	15,500	1,320	1,180	490	2,930	<650	<650	<13	<13	400	<13	810	133	12,100	1,210	530	1,030	<13	NA	NA	500,000	40,000,000	---	---
Fluorene	µg/kg	800	360	110 "J"	650	18.9 "J"	112	<415	<415	<8.3	<8.3	11.8 "J"	<8.3	17.9 "J"	<8.3	410	35	23.7 "J"	19.2 "J"	<8.3	NA	NA	100,000	40,000,000	---	---
Indeno(1,2,3-cd)pyrene	µg/kg	[4,600]	3,700	1,030	312 "J"	272	870	<600	<600	<12	<12	340	13.3 "J"	289	109	2,950	160	138	280	25.8 "J"	NA	NA	680,000	3,900	---	---
1-Methylnaphthalene	µg/kg	<150	<150	400 "J"	890 "J"	40 "J"	26.9 "J"	<750	<750	<15	20 "J"	56	<15	<15	<15	92 "J"	<15	<15	<15	<15	NA	NA	23,000	70,000,000	---	---
2-Methylnaphthalene	µg/kg	<170	<170	340 "J"	510 "J"	64	28.5 "J"	<850	<850	<17	<17	65	<17	<17	<17	104 "J"	<17	<17	<17	<17	NA	NA	20,000	40,000,000	---	---
Naphthalene	µg/kg	144 "J"	<130	201 "J"	430 "J"	61	38 "J"	<650	<650	17.1 "J"	<13	60	<13	<13	<13	125	<13	<13	<13	<13	NA	NA	400	110,000	---	---
Phenanthrene	µg/kg	11,400	6,500	700	5,100	196	1,390	1,710 "J"	1,390 "J"	<14	<14	232	<14	253	49	4,800	440	309	380	<14	NA	NA	1,800	390,000	---	---
Pyrene	µg/kg	17,600	11,400	1,770	1,140	490	2,190	1,390 "J"	1,420 "J"	<15	<15	350	<15	670	183	9,200	880	400	830	<15	NA	NA	8,700,000	30,000,000	---	---
RCRA Metals																										
Arsenic	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	---	1.6	1.6	29
Barium	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	---	NS	67,000	1,600
Cadmium	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.8	<0.8	<0.8	<0.8	NA	NA	---	510	450	8
Chromium	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	---	200 / Not Applicable	450	38
Lead	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.89	[6,510]	67.3	12.8	NA	NA	---	500	800	NS
Mercury	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	---	NS	310	NS
Selenium	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	---	NS	5,100	5
Silver	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	---	NS	5,100	34
PCBs																										
PCB-1016	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2	<2	<2	<2	NA	NA	---	---	21,000	---
PCB-1221	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4.9	<4.9	<4.9	<4.9	NA	NA	---	---	---	---
PCB-1232	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<7.2	<7.2	<7.2	<7.2	NA	NA	---	---	---	---
PCB-1242	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4.9	<4.9	<4.9	<4.9	NA	NA	---	---	---	---
PCB-1248	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2.7	<2.7	<2.7	<2.7	NA	NA	---	---	---	---
PCB-1254	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	<5	<5	<5	NA	NA	---	---	740	---
PCB-1260	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2.8	<2.8	<2.8	<2.8	NA	NA	---	---	---	---

Notes:
1. Analytical units: µg/kg = micrograms per kilogram (equivalent to parts per billion, ppb)
mg/kg = milligrams per kilogram (equivalent to parts per million, ppm)
2. NA = not analyzed
3. GW RCLs = Groundwater Residual Contaminant Levels based on the following:
For petroleum hydrocarbons, GW RCLs based on Wisconsin Administrative Code, Chapter NR 720.09 generic Residual Contaminant Level for protection of groundwater.
For PAHs, GW RCLs based on interim guidance RCL for protection of groundwater pathway from PAH compounds, from WDNR publication RR-519-97 *"Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance"* (April 1997)
4. DC RCLs for Industrial Soil = Direct Contact Residual Contaminant Levels based on the following:
Contaminated Soil") concentra For petroleum hydrocarbons, DC RCLs based on Wisconsin Administrative Code, Chapter NR 746.06 Table 1 ("Indicators of Residual Petroleum Product in Soil Pores") soil screening levels / Table 2 ("Protection of Human Health from Direct Contact with Contaminated Soil") concentrations.
April 1997) For PAHs, DC RCLs based on interim guidance RCL for protection of direct contact with PAH compounds for industrial land use, from WDNR publication RR-519-97 *"Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance"* (April 1997)
alent chromium (Not Applicable For metals, DC RCLs based on Wisconsin Administrative Code, Chapter NR 720.11 generic Residual Contaminant Level for protection of direct contact for industrial land use. RCLs shown for chromium are for hexavalent chromium (200 mg/kg) and trivalent chromium (Not Applicable).
5. PRG for Industrial Soil = US EPA Region IX Preliminary Remediation Goal for industrial soil (Otober 2004) to use as a guideline to evaluate the direct contact exposure pathway
6. SSL = US EPA Region IX Soil Screening Level for protection of groundwater with a dilution-attenuation factor of 20 (October 2004) - provided as a guideline to evaluate soil
7. --- = PRG and SSL not provided for PAHs because complete list of WDNR interim guidance standards exists for the PAH compounds
8. NS = no standard established
9. Laboratory flag: "J" = Analyte detected between Limit of Detection and Limit of Quantitation
10. Exceedances:
box = Concentration exceeds GW RCL
[brackets] = Concentration exceeds DC RCL for Industrial Soil (note that soil is located within 4 feet of the ground surface)
underline = Concentration exceeds DC RCL for Industrial Soil (note that soil is located deeper than 4 feet of the ground surface)
bold = Concentrations exceeds PRGs and/or SSLs (for reference only as a preliminary screening tool)

Table 3
Soil Quality Results (S-1 through S-5)
Jacobus Jones Island Bulk facility - 1726 S. Harbor Drive, Milwaukee, Wisconsin
Sigma Project No. 6660

	Soil Sample:	**S-1**	**S-2**	**S-3**	**S-4**	**S-5**	NR 720 RCL [3]	NR 746 Table 1 / Table 2 [4]
	Sample Depth (ft):	2.5 - 3	4	3	3	3		
	Date Sample Collected:	3/20/01	3/20/01	3/20/01	3/20/01	3/20/01		
Parameter	**Units**							
Diesel Range Organics	mg/kg	320	14,000	900	15,000	<10	100	NS / NS
Gasoline Range Organics	mg/kg	130	1,100	50	16	<10	100	NS / NS
PVOCs								
Benzene	µg/kg	88	60	<25	<25	<25	5.5	8,500 / 1,100
Ethylbenzene	µg/kg	140	460	<25	<25	<25	2,900	4,600 / NS
Methyl-tert-butyl-ether	µg/kg	<25	<25	<25	<25	<25	NS	NS / NS
Toluene	µg/kg	250	1,300	<25	<25	<25	1,500	38,000 / NS
1,2,4-Trimethylbenzene	µg/kg	710	18,000	350	100	30	NS	83,000 / NS
1,3,5-Trimethylbenzene	µg/kg	440	[24,000]	220	75	27 "J"	NS	11,000 / NS
Xylenes (Total)	µg/kg	420	5,800	<75	100	<75	4,100	42,000 / NS

Notes:

1. mg/kg = milligrams per kilgram (equivalent to parts per million, ppm)
2. µg/kg = micrograms per kilogram (equivalent to parts per billion, ppb)
3. NR 720 RCL = Wisconsin Administrative Code, Chapter NR 720 generic Residual Contaminant Level
4. NR 746 Table 1 / Table 2 = Wisconsin Administrative Code, Chapter NR 746 Table 1 ("Indicators of Residual Petroleum Hydrocarbon Product in Soil Pores") soil screening levels and Table 2 ("Protection of Human Health from Direct Contact with Contaminated Soil") values
5. NS = no standard established
6. "J" = analyte detected between Limit of Detection and Limit of Quantitation (flagged by laboratory)
7. Exceedances: box = Concentration exceeds NR 720 RCL
   [brackets] = Concentration exceeds NR 746 Table 1 value

Table 4
Soil Quality Results (GP-1 through GP-10)
Jacobus Jones Island Bulk facility - 1726 S. Harbor Drive, Milwaukee, Wisconsin
Sigma Project No. 6660

	Soil Sample:	GP-1	GP-2	GP-3	GP-4	GP-5	GP-6	GP-7	GP-8	GP-9	GP-10	NR 720 RCL[3]	NR 746 Table 1[4]	NR 746 Table 2[5]
	Sample Depth (ft):	2-4	0-2	2 - 4	2-4	4-6	2-4	4-6	2-4	2-4	4-6			
	Date Sample Collected:	12/19/2001	12/19/2001	12/19/2001	12/19/2001	12/19/2001	12/19/2001	12/19/2001	12/19/2001	12/19/2001	12/19/2001			
Parameter	**Units**													
Diesel Range Organics	mg/kg	1,100	95	3,100	1,900	82	17	38	NA	62	13	100	NS	NS
Gasoline Range Organics	mg/kg	190	<3.0	12	120	14	11	<3.6	<3.2	<3.0	<3.3	100	NS	NS
PVOCs														
Benzene	µg/kg	360	<25	<25	240	<25	<25	<25	<25	<25	<25	5.5	8,500	1,100
Ethylbenzene	µg/kg	1,000	<25	<25	550	<25	<25	<25	<25	<25	<25	2,900	4,600	NS
Methyl-tert-butyl-ether	µg/kg	<130	<25	<25	<50	56	<25	<25	<25	<25	<25	NS	NS	NS
Toluene	µg/kg	170	<25	94	670	<25	<25	<25	<25	<25	<25	1,500	38,000	NS
1,2,4-Trimethylbenzene	µg/kg	2,900	<25	75	1,800	150	<25	<25	<25	<25	<25	NS	83,000	NS
1,3,5-Trimethylbenzene	µg/kg	<130	<25	<25	1,100	100	<25	<25	<25	<25	<25	NS	11,000	NS
Xylenes (Total)	µg/kg	550	<50	87	2,550	56	40	<25	<25	<25	<25	4,100	42,000	NS
PAHs													Generic RCL Groundwater Pathway[6]	Generic RCL Industrial Direct Contact Pathway[7]
Acenaphthene	µg/kg	220	3,000	30,000	510	NA	NA	99	NA	<20	NA	NS	38,000	60,000,000
Acenaphthylene	µg/kg	120	<750	1,500	<70	NA	NA	<18	NA	<15	NA	NS	700	360,000
Anthracene	µg/kg	180	9,600	54,000	870	NA	NA	120	NA	42	NA	NS	3,000,000	300,000,000
Benzo(a)anthracene	µg/kg	290	[34,000]	[90,000]	3,200	NA	NA	260	NA	220	NA	NS	17,000	3,900
Benzo(a)pyrene	µg/kg	300	[28,000]	[79,000]	[2,700]	NA	NA	170	NA	220	NA	NS	48,000	390
Benzo(b)fluoranthene	µg/kg	320	[28,000]	[84,000]	3,700	NA	NA	170	NA	250	NA	NS	360,000	3,900
Benzo(ghi)perylene	µg/kg	190	12,000	32,000	1,100	NA	NA	85	NA	150	NA	NS	6,800,000	39,000
Benzo(k)fluoranthene	µg/kg	230	23,000	[65,000]	2,600	NA	NA	140	NA	180	NA	NS	870,000	39,000
Chrysene	µg/kg	280	30,000	84,000	3,300	NA	NA	210	NA	220	NA	NS	37,000	390,000
Dibenzo(a,h)anthracene	µg/kg	56	[4,400]	[11,000]	[510]	NA	NA	28	NA	43	NA	NS	38,000	390
Fluoranthene	µg/kg	490	75,000	290,000	5,100	NA	NA	710	NA	470	NA	NS	500,000	40,000,000
Fluorene	µg/kg	420	6,000	52,000	740	NA	NA	100	NA	17	NA	NS	100,000	40,000,000
Indeno(1,2,3-cd)pyrene	µg/kg	170	[13,000]	[33,000]	1,000	NA	NA	75	NA	130	NA	NS	680,000	3,900
1-Methylnaphthalene	µg/kg	1,400	<840	11,000	780	NA	NA	26	NA	26	NA	NS	23,000	70,000,000
2-Methylnaphthalene	µg/kg	500	780	11,000	1,400	NA	NA	23	NA	70	NA	NS	20,000	40,000,000
Naphthalene	µg/kg	340	1,700	16,000	1,600	NA	NA	52	NA	<20	NA	NS	400	110,000
Phenanthrene	µg/kg	1,800	47,000	330,000	4,900	NA	NA	630	NA	220	NA	NS	1,800	390,000
Pyrene	µg/kg	430	59,000	200,000	2,800	NA	NA	570	NA	360	NA	NS	8,700,000	30,000,000

Notes:
1. mg/kg = milligrams per kilgram (equivalent to parts per million, ppm)
2. µg/kg = micrograms per kilogram (equivalent to parts per billion, ppb)
3. NR 720 RCL = Wisconsin Administrative Code, Chapter NR 720 generic Residual Contaminant Level
4. NR 746 Table 1 = Wisconsin Administrative Code, Chapter NR 746 Table 1 ("Indicators of Residual Petroleum Hydrocarbon Product in Soil Pores") soil screening levels
5. NR 746 Table 2 = Wisconsin Administrative Code, Chapter NR 746 Table 2 ("Protection of Human Health from Direct Contact with Contaminated Soil") values
6. Generic RCL Groundwater Pathway = Soil RCL for protection of groundwater based on WDNR interim guidance document RR-519-97
7. Generic RCL Industrial Direct Contact Pathway = Soil RCL for protection of human health via direct contact at an industrial site based on WDNR interim guidance document RR-519-97
8. NA = not analyzed
9. NS = no standard established
10. Exceedances: box = concentration exceeds NR 720 RCL or interim guidance RCL for groundwater pathway
[brackets] = concentration exceeds interim guidance RCL for direct contact pathway

Table 5
Groundwater Quality Results
Jacobus Jones Island Bulk Facility - 1726 South Harbor Drive, Milwaukee, Wisconsin
Sigma Project No. 11734

	Units	MW-1						NR 140	NR 140
		4/17/02	7/9/02	2/3/04	9/27/04	8/29/05	8/6/09	ES	PAL
PVOCs and Detected VOCs									
Benzene	µg/l	<0.48	0.40	<0.25	<0.25	<0.25	<0.41	5	0.5
sec-Butylbenzene	µg/l	<0.49	NA	NA	NA	NA	<0.43	NS	NS
tert-Butylbenzene	µg/l	<0.50	NA	NA	NA	NA	<0.46	NS	NS
n-Butylbenzene	µg/l	<0.61	NA	NA	NA	NA	<1.5	NS	NS
Chloromethane	µg/l	<0.62	NA	NA	NA	NA	<0.5	3	0.3
1,1-Dichloroethane	µg/l	<0.48	NA	NA	NA	NA	<0.44	850	85
Ethylbenzene	µg/l	<0.43	<0.22	0.60	<0.22	0.51 "J"	<0.87	700	140
Isopropylbenzene	µg/l	<0.43	NA	NA	NA	NA	<0.39	NS	NS
Methyl tert Butyl Ether	µg/l	<0.67	<0.16	<0.23	<0.23	<0.23	<0.5	60	12
Naphthalene	µg/l	<0.59	NA	NA	<0.41	NA	<1.7	100	10
n-Propylbenzene	µg/l	<0.64	NA	NA	NA	NA	<0.33	NS	NS
Toluene	µg/l	<0.47	<0.20	<0.11	0.47	<0.11	<0.51	1,000	200
1,2,4-Trimethylbenzene	µg/l	<0.51	1.4	0.98	<0.25	0.87	<1.1	NS	NS
1,3,5-Trimethylbenzene	µg/l	<0.52	<0.29	<0.19	<0.19	<0.19	<1.5	NS	NS
Total Trimethylbenzenes	µg/l	<1.03	1.4	0.98	<0.44	0.87	<2.6	480	96
Total Xylenes	µg/l	<1.94	0.96	<0.39	0.39	<0.39	<2.13	10,000	1,000
PAHs									
Acenaphthene	µg/l	1.0	1.4	<0.59	0.56	<0.33	0.32	NS	NS
Acenaphthylene	µg/l	<0.29	<0.22	<0.25	<0.70	<0.69	0.019 "J"	NS	NS
Anthracene	µg/l	<0.25	0.29	0.06	<0.039	<0.038	0.018 "J"	NS	NS
Benzo (a) anthracene	µg/l	0.48 "J"	<0.15	<0.057	<0.045	<0.044	<0.017	NS	NS
Benzo (a) pyrene	µg/l	[0.51]	<0.015	<0.033	<0.033	<0.032	<0.014	0.2	0.02
Benzo (b) fluoranthene	µg/l	[0.43 "J"]	<0.044	<0.054	<0.10	<0.098	<0.018	0.2	0.02
Benzo (g,h,i) perylene	µg/l	0.43 "J"	<0.17	<0.097	<0.12	<0.12	<0.018	NS	NS
Benzo (k) fluoranthene	µg/l	0.45 "J"	<0.027	<0.045	<0.050	<0.049	<0.029	NS	NS
Chrysene	µg/l	[0.54 "J"]	<0.034	<0.049	<0.042	<0.041	<0.01	0.2	0.02
Dibenzo (a,h) anthracene	µg/l	<0.21	<0.082	<0.065	<0.13	<0.13	<0.019	NS	NS
Fluoranthene	µg/l	1.3	0.45	0.21	<0.083	<0.081	0.033 "J"	400	80
Fluorene	µg/l	0.34 "J"	1.1	<0.065	<0.063	<0.062	0.014 "J"	400	80
Indeno (1,2,3-cd) pyrene	µg/l	0.37 "J"	<0.033	<0.031	<0.063	<0.062	<0.019	NS	NS
1-Methylnaphthalene	µg/l	3.90	3.8	0.44	2.0	<0.32	0.023 "J"	NS	NS
2-Methylnaphthalene	µg/l	<0.35	1.6	<0.30	<0.32	<0.31	<0.019	NS	NS
Naphthalene	µg/l	<0.34	<0.62	<0.26	<0.41	<0.40	0.027 "J"	100	10
Phenanthrene	µg/l	0.46 "J"	0.081	0.04	<0.031	<0.030	<0.015	NS	NS
Pyrene	µg/l	1.0	0.52	0.12	<0.045	<0.044	<0.024 "J"	250	50
Dissolved RCRA Metals									
Arsenic	µg/l	NA	NA	NA	NA	NA	(2.0)	10	1
Barium	µg/l	NA	NA	NA	NA	NA	(753.1)	2,000	400
Cadmium	µg/l	<0.070	NA	NA	NA	NA	[14.35]	5	0.5
Chromium	µg/l	NA	NA	NA	NA	NA	(16.2)	100	10
Lead	µg/l	<0.39	<1.2	<1.4	NA	NA	<0.7	15	1.5
Mercury	µg/l	NA	NA	NA	NA	NA	<0.04	2	0.2
Selenium	µg/l	NA	NA	NA	NA	NA	<0.9	50	10
Silver	µg/l	NA	NA	NA	NA	NA	(31.1)	50	10
PCBs									
Arochlor 1016	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1221	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1232	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1242	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1248	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1254	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1260	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Natural Attenuation Parameters									
Dissolved Manganese	µg/l	310	NA	NA	NA	NA	NA	50	25
Field Parameters									
Dissolved Oxygen	mg/l	3.3	0.29	0.15	NA	0.17	0.47	NS	NS
Redox Potential	mV	-13.9	73.2	-227.8	NA	-116	-39	NS	NS
Ferrous Iron (Fe +2)	mg/l	2.8	1.6	3.2	NA	6.2	4	NS	NS
Temperature	℃	6.8	14.7	9.8	13.2	14.6	17.5	NS	NS
pH	---	7	7	7.0	7.0	7	7.4	NS	NS

Notes:
1. µg/l = micrograms per liter (equivalent to parts per billion, ppb)
2. mg/l = milligrams per liter (equivalent to parts per million, ppm)
3. mV = millivolts
4. ℃ = degrees Celcius
5. NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
6. NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
7. NA = not analyzed
8. NS = no standard established
9. Laboratory flags: "J" = analyte is reported between the Limit of Detection and Limit of Quantitation
   "B" = analyte was detected in the associated Method Blank
   "M" = matrix interference
10. Trip blank results: 4/17/02: All VOCs reported below laboratory detection limits
    7/9/02: All PVOCs reported below laboratory detection limits
    2/3/04: All PVOCs reported below laboratory detection limits
    9/27/04: All PVOCs reported below laboratory detection limits, except toluene (0.13 "J" µg/L)
    8/29/05: All PVOCs reported below laboratory detection limits
    8/6/09: All VOCs reported below laboratory detection limits
11. Equipment blank result: 4/17/02: All VOCs reported below laboratory detection limits
    7/9/02: All PVOCs reported below laboratory detection limits
    2/3/04: Not used (disposalbe sampling equipment used)
    9/27/04: Not used (disposalbe sampling equipment used)
    8/29/05: All PVOCs reported below laboratory detection limits, except toluene (0.52 µg/L)
    8/6/09: All VOCs reported below laboratory detection limits
12. Exceedances [###] = concentration exceeds NR 140 ES
    (###) = concentration exceeds NR 140 PAL

Table 5
Groundwater Quality Results
Jacobus Jones Island Bulk Facility - 1726 South Harbor Drive, Milwaukee, Wisconsin
Sigma Project No. 11734

	Units	MW-2						NR 140	NR 140
		4/17/02	7/9/02	2/3/04	9/27/04	8/29/05	8/6/09	ES	PAL
PVOCs and Detected VOCs									
Benzene	µg/l	<0.48	<0.13	<0.25	<0.25	<0.25	<0.41	5	0.5
sec-Butylbenzene	µg/l	<0.49	NA	NA	NA	NA	<0.43	NS	NS
tert-Butylbenzene	µg/l	<0.50	NA	NA	NA	NA	<0.46	NS	NS
n-Butylbenzene	µg/l	<0.61	NA	NA	NA	NA	<1.5	NS	NS
Chloromethane	µg/l	<0.62	NA	NA	NA	NA	(0.59 "J")	3	0.3
1,1-Dichloroethane	µg/l	<0.48	NA	NA	NA	NA	<0.44	850	85
Ethylbenzene	µg/l	<0.43	<0.22	<0.22	<0.22	<0.22	<0.87	700	140
Isopropylbenzene	µg/l	<0.43	NA	NA	NA	NA	<0.39	NS	NS
Methyl tert Butyl Ether	µg/l	<0.67	<0.16	<0.23	<0.23	<0.23	<0.5	60	12
Naphthalene	µg/l	<0.59	NA	NA	<0.40	NA	<1.7	100	10
n-Propylbenzene	µg/l	<0.64	NA	NA	NA	NA	<0.33	NS	NS
Toluene	µg/l	<0.47	<0.20	<0.11	0.34	<0.11	<0.51	1,000	200
1,2,4-Trimethylbenzene	µg/l	<0.51	<0.22	<0.44	<0.25	<0.25	<1.1	NS	NS
1,3,5-Trimethylbenzene	µg/l	<0.52	<0.29	<0.19	<0.19	<0.19	<1.5	NS	NS
Total Trimethylbenzenes	µg/l	<1.03	<0.51	<0.63	<0.44	<0.44	<2.6	480	96
Total Xylenes	µg/l	<1.94	<0.23	<0.39	<0.39	<0.39	<2.13	10,000	1,000
PAHs									
Acenaphthene	µg/l	2.1	<0.48	<0.58	<0.33	<0.33	0.45	NS	NS
Acenaphthylene	µg/l	<0.46	<0.22	<0.25	<0.69	<0.69	<0.011	NS	NS
Anthracene	µg/l	1.8	0.24	<0.034	<0.038	<0.038	0.024 "J"	NS	NS
Benzo (a) anthracene	µg/l	3.1	<0.15	<0.056	<0.044	<0.044	0.018 "J"	NS	NS
Benzo (a) pyrene	µg/l	[3.1]	<0.015	<0.033	<0.032	<0.032	<0.014	0.2	0.02
Benzo (b) fluoranthene	µg/l	[2.7]	<0.044	<0.053	<0.098	<0.098	<0.018	0.2	0.02
Benzo (g,h,i) perylene	µg/l	1.8	<0.17	<0.096	<0.12	<0.12	<0.018	NS	NS
Benzo (k) fluoranthene	µg/l	2.4	<0.027	<0.045	<0.049	<0.049	<0.029	NS	NS
Chrysene	µg/l	[3.2]	<0.034	<0.049	<0.041	<0.041	0.013 "J"	0.2	0.02
Dibenzo (a,h) anthracene	µg/l	0.72 "J"	<0.082	<0.064	<0.13	<0.13	<0.019	NS	NS
Fluoranthene	µg/l	9.0	0.31	0.16	<0.081	<0.081	0.129	400	80
Fluorene	µg/l	1.2 "J"	0.44	0.17	<0.062	<0.062	0.069	400	80
Indeno (1,2,3-cd) pyrene	µg/l	1.7	<0.033	<0.031	<0.062	<0.062	<0.019	NS	NS
1-Methylnaphthalene	µg/l	<0.54	<0.56	<0.44	<0.32	<0.32	<0.013	NS	NS
2-Methylnaphthalene	µg/l	<0.56	<0.53	<0.3	<0.31	<0.31	<0.019	NS	NS
Naphthalene	µg/l	<0.54	<0.62	<0.26	<0.40	<0.40	<0.024	100	10
Phenanthrene	µg/l	4.0	0.50	0.14	<0.030	<0.030	0.033 "J"	NS	NS
Pyrene	µg/l	5.9	0.38	0.16	<0.044	<0.044	0.086	250	50
Dissolved RCRA Metals									
Arsenic	µg/l	NA	NA	NA	NA	NA	(4.6)	10	1
Barium	µg/l	NA	NA	NA	NA	NA	147.0	2,000	400
Cadmium	µg/l	<0.070	NA	NA	NA	NA	<0.5	5	0.5
Chromium	µg/l	NA	NA	NA	NA	NA	<1.2	100	10
Lead	µg/l	(4.9)	<1.2	<1.4	NA	NA	<0.7	15	1.5
Mercury	µg/l	NA	NA	NA	NA	NA	<0.04	2	0.2
Selenium	µg/l	NA	NA	NA	NA	NA	<0.9	50	10
Silver	µg/l	NA	NA	NA	NA	NA	<10.3	50	10
PCBs									
Arochlor 1016	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1221	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1232	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1242	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1248	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1254	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1260	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Natural Attenuation Parameters									
Dissolved Manganese	µg/l	NA	NA	NA	NA	NA	NA	50	25
Field Parameters									
Dissolved Oxygen	mg/l	1.45	0.18	0.19	NA	0.18	0.48	NS	NS
Redox Potential	mV	33.4	-127.6	-186.5	NA	-108	-35	NS	NS
Ferrous Iron (Fe +2)	mg/l	1	4	2.4	NA	6.0	5	NS	NS
Temperature	℃	6.5	19.8	9.4	13.4	17.9	16.7	NS	NS
pH	---	7	7	7	7	7	7.8	NS	NS

Notes:
1. µg/l = micrograms per liter (equivalent to parts per billion, ppb)
2. mg/l = milligrams per liter (equivalent to parts per million, ppm)
3. mV = millivolts
4. ℃ = degrees Celcius
5. NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
6. NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
7. NA = not analyzed
8. NS = no standard established
9. Laboratory flags: "J" = analyte is reported between the Limit of Detection and Limit of Quantitation
   "B" = analyte was detected in the associated Method Blank
   "M" = matrix interference
10. Trip blank results: 4/17/02: All VOCs reported below laboratory detection limits
    7/9/02: All PVOCs reported below laboratory detection limits
    2/3/04: All PVOCs reported below laboratory detection limits
    9/27/04: All PVOCs reported below laboratory detection limits, except toluene (0.13 "J" µg/L)
    8/29/05: All PVOCs reported below laboratory detection limits
    8/6/09: All VOCs reported below laboratory detection limits
11. Equipment blank results: 4/17/02: All VOCs reported below laboratory detection limits
    7/9/02: All PVOCs reported below laboratory detection limits
    2/3/04: Not used (disposalbe sampling equipment used)
    9/27/04: Not used (disposalbe sampling equipment used)
    8/29/05: All PVOCs reported below laboratory detection limits, except toluene (0.52 µg/L)
    8/6/09: All VOCs reported below laboratory detection limits
12. Exceedances [###] = concentration exceeds NR 140 ES
    (###) = concentration exceeds NR 140 PAL

Table 5
Groundwater Quality Results
Jacobus Jones Island Bulk Facility - 1726 South Harbor Drive, Milwaukee, Wisconsin
Sigma Project No. 11734

	Units	MW-3						NR 140	NR 140
		4/17/02	7/9/02	2/3/04	9/27/04	8/29/05	8/6/09	ES	PAL
PVOCs and Detected VOCs									
Benzene	µg/l	(1.2 "J")	(1.9)	(0.92)	<0.25	(1.2)	<0.41	5	0.5
sec-Butylbenzene	µg/l	<0.49	NA	NA	NA	NA	<0.43	NS	NS
tert-Butylbenzene	µg/l	<0.50	NA	NA	NA	NA	<0.46	NS	NS
n-Butylbenzene	µg/l	<0.61	NA	NA	NA	NA	<1.5	NS	NS
Chloromethane	µg/l	<0.62	NA	NA	NA	NA	<0.5	3	0.3
1,1-Dichloroethane	µg/l	<0.48	NA	NA	NA	NA	<0.44	850	85
Ethylbenzene	µg/l	<0.43	0.34	<0.22	<0.22	<0.22	<0.87	700	140
Isopropylbenzene	µg/l	<0.43	NA	NA	NA	NA	<0.39	NS	NS
Methyl tert Butyl Ether	µg/l	<0.67	<0.16	<0.23	<0.23	<0.23	<0.5	60	12
Naphthalene	µg/l	2.4	NA	NA	NA	NA	<1.7	100	10
n-Propylbenzene	µg/l	<0.64	NA	NA	NA	NA	<0.33	NS	NS
Toluene	µg/l	0.79 "J"	1.1	0.22	0.34	0.59	<0.51	1,000	200
1,2,4-Trimethylbenzene	µg/l	<0.51	0.35	0.27	<0.25	0.28 "J"	<1.1	NS	NS
1,3,5-Trimethylbenzene	µg/l	<0.52	<0.29	<0.19	<0.19	<0.19	<1.5	NS	NS
Total Trimethylbenzenes	µg/l	<1.03	0.35	0.27	<0.44	0.28	<2.6	480	96
Total Xylenes	µg/l	<1.94	1.2	1.2	<0.39	1.0 "J"	<2.13	10,000	1,000
PAHs									
Acenaphthene	µg/l	13 "J"	1.8	1.1	<0.33	0.76 "J"	0.235	NS	NS
Acenaphthylene	µg/l	<0.46	<0.23	<0.25	<0.7	<0.69	<0.011	NS	NS
Anthracene	µg/l	20	2.1	1.0	<0.038	0.40	0.128	NS	NS
Benzo (a) anthracene	µg/l	15 "J"	0.95	0.72	<0.044	0.094 "J, B"	0.033 "J"	NS	NS
Benzo (a) pyrene	µg/l	[8.6 "J"]	[0.61]	[0.54]	<0.032	<0.032	<0.014	0.2	0.02
Benzo (b) fluoranthene	µg/l	[9.8]	[0.46]	[0.34]	<0.099	<0.098	<0.018	0.2	0.02
Benzo (g,h,i) perylene	µg/l	5.4	0.44	0.65	<0.12	0.37 "J"	<0.018	NS	NS
Benzo (k) fluoranthene	µg/l	7.4	0.30	0.33	<0.049	<0.049	<0.029	NS	NS
Chrysene	µg/l	[15 "J"]	[0.8]	[0.65]	<0.041	(0.062 "J, B")	(0.025 "J")	0.2	0.02
Dibenzo (a,h) anthracene	µg/l	2.3	<0.086	0.10	<0.13	<0.13	<0.019	NS	NS
Fluoranthene	µg/l	77	6.3	2.9	<0.082	1.0 "B"	0.302	400	80
Fluorene	µg/l	19 "J"	3.0	1.4	<0.063	1.2	0.224	400	80
Indeno (1,2,3-cd) pyrene	µg/l	5.3	0.47	0.44	<0.063	<0.062	<0.019	NS	NS
1-Methylnaphthalene	µg/l	4.9	1.2	0.59	<0.32	<0.32	0.084	NS	NS
2-Methylnaphthalene	µg/l	2.5	2.6	2.7	<0.31	2.3	<0.019	NS	NS
Naphthalene	µg/l	2.3	2.5	<0.26	<0.40	<0.40	0.066 "J"	100	10
Phenanthrene	µg/l	70	8.0	1.8	<0.030	0.73 "B"	0.094	NS	NS
Pyrene	µg/l	49	3.9	2.6	<0.044	0.74 "B"	0.245	250	50
Dissolved RCRA Metals									
Arsenic	µg/l	NA	NA	NA	NA	NA	[29.3]	10	1
Barium	µg/l	NA	NA	NA	NA	NA	309.7	2,000	400
Cadmium	µg/l	<0.070	NA	NA	NA	NA	<0.5	5	0.5
Chromium	µg/l	NA	NA	NA	NA	NA	<1.2	100	10
Lead	µg/l	(7.8)	(3.3)	<1.4	NA	NA	<0.7	15	1.5
Mercury	µg/l	NA	NA	NA	NA	NA	<0.04	2	0.2
Selenium	µg/l	NA	NA	NA	NA	NA	<0.9	50	10
Silver	µg/l	NA	NA	NA	NA	NA	<10.3	50	10
PCBs									
Arochlor 1016	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1221	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1232	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1242	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1248	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1254	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1260	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Natural Attenuation Parameters									
Dissolved Manganese	µg/l	76	NA	NA	NA	NA	NA	50	25
Field Parameters									
Dissolved Oxygen	mg/l	0.4	0.21	0.14	NA	0.16	0.35	NS	NS
Redox Potential	mV	-122.8	-121.7	-206.6	NA	-137	-70	NS	NS
Ferrous Iron (Fe +2)	mg/l	3	0	2.8	NA	5.8	3	NS	NS
Temperature	℃	7.2	4.6	9.9	13.8	35.7	20.2	NS	NS
pH	---	7	7	7	7	7	8.0	NS	NS

Notes:
1. µg/l = micrograms per liter (equivalent to parts per billion, ppb)
2. mg/l = milligrams per liter (equivalent to parts per million, ppm)
3. mV = millivolts
4. ℃ = degrees Celcius
5. NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
6. NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
7. NA = not analyzed
8. NS = no standard established
9. Laboratory flags: "J" = analyte is reported between the Limit of Detection and Limit of Quantitation
   "B" = analyte was detected in the associated Method Blank
   "M" = matrix interference
10. Trip blank results: 4/17/02: All VOCs reported below laboratory detection limits
    7/9/02: All PVOCs reported below laboratory detection limits
    2/3/04: All PVOCs reported below laboratory detection limits
    9/27/04: All PVOCs reported below laboratory detection limits, except toluene (0.13 "J" µg/L)
    8/29/05: All PVOCs reported below laboratory detection limits
    8/6/09: All VOCs reported below laboratory detection limits
11. Equipment blank result 4/17/02: All VOCs reported below laboratory detection limits
    7/9/02: All PVOCs reported below laboratory detection limits
    2/3/04: Not used (disposalbe sampling equipment used)
    9/27/04: Not used (disposalbe sampling equipment used)
    8/29/05: All PVOCs reported below laboratory detection limits, except toluene (0.52 µg/L)
    8/6/09: All VOCs reported below laboratory detection limits
12. Exceedances [###] = concentration exceeds NR 140 ES
    (###) = concentration exceeds NR 140 PAL

Table 5
Groundwater Quality Results
Jacobus Jones Island Bulk Facility - 1726 South Harbor Drive, Milwaukee, Wisconsin
Sigma Project No. 11734

	Units	MW-4								NR 140 ES	NR 140 PAL
		4/17/02	4/02 Dup	7/9/02	7/02 Dup	2/3/04	9/27/04	8/29/05	8/6/09		
PVOCs and Detected VOCs											
Benzene	µg/l	<0.48	<0.48	(0.89)	0.83	[6.0]	[5.7]	[9.1]	(0.76 "J")	5	0.5
sec-Butylbenzene	µg/l	<0.49	<0.49	NA	NA	NA	NA	NA	<0.43	NS	NS
tert-Butylbenzene	µg/l	<0.50	<0.50	NA	NA	NA	NA	NA	<0.46	NS	NS
n-Butylbenzene	µg/l	<0.61	<0.61	NA	NA	NA	NA	NA	<1.5	NS	NS
Chloromethane	µg/l	<0.62	<0.62	NA	NA	NA	NA	NA	<0.5	3	0.3
1,1-Dichloroethane	µg/l	<0.48	<0.48	NA	NA	NA	NA	NA	<0.44	850	85
Ethylbenzene	µg/l	<0.43	<0.43	<0.22	<0.22	0.32	0.48	1.0	<0.87	700	140
Isopropylbenzene	µg/l	<0.43	<0.43	NA	NA	NA	NA	NA	<0.39	NS	NS
Methyl tert Butyl Ether	µg/l	<0.67	<0.67	<0.16	<0.16	<0.23	<0.23	<0.23	<0.5	60	12
Naphthalene	µg/l	<0.59	<0.59	NA	NA	NA	NA	NA	<1.7	100	10
n-Propylbenzene	µg/l	<0.64	<0.64	NA	NA	NA	NA	NA	<0.33	NS	NS
Toluene	µg/l	<0.47	<0.47	<0.20	<0.20	0.39	0.59	0.60	<0.51	1,000	200
1,2,4-Trimethylbenzene	µg/l	<0.51	<0.51	<0.22	<0.22	<0.25	<0.25	0.55 "J"	<1.1	NS	NS
1,3,5-Trimethylbenzene	µg/l	<0.52	<0.52	<0.29	<0.29	<0.19	<0.19	0.30 "J"	<1.5	NS	NS
Total Trimethylbenzenes	µg/l	<1.03	<1.03	<0.51	<0.51	<0.44	<0.44	0.85	<2.6	480	96
Total Xylenes	µg/l	<1.94	<1.94	0.28	<0.23	1.3	1.4	2.5	<2.13	10,000	1,000
PAHs											
Acenaphthene	µg/l	0.07	NA	<0.48	NA	<0.59	<0.33	<0.33	<0.009	NS	NS
Acenaphthylene	µg/l	<0.023	NA	<0.22	NA	<0.25	<0.70	<0.69	<0.011	NS	NS
Anthracene	µg/l	0.1	NA	<0.086	NA	<0.034	<0.038	<0.038	0.027 "J"	NS	NS
Benzo (a) anthracene	µg/l	0.27	NA	<0.15	NA	<0.057	<0.044	<0.044	<0.017	NS	NS
Benzo (a) pyrene	µg/l	[0.22]	NA	(0.053)	NA	<0.033	<0.032	<0.032	<0.014	0.2	0.02
Benzo (b) fluoranthene	µg/l	(0.17)	NA	<0.044	NA	<0.054	<0.099	<0.098	<0.018	0.2	0.02
Benzo (g,h,i) perylene	µg/l	0.12	NA	<0.17	NA	<0.097	<0.12	<0.12	<0.018	NS	NS
Benzo (k) fluoranthene	µg/l	0.15	NA	0.048	NA	<0.045	<0.049	<0.049	<0.029	NS	NS
Chrysene	µg/l	[0.22]	NA	(0.063)	NA	<0.049	<0.041	<0.041	<0.01	0.2	0.02
Dibenzo (a,h) anthracene	µg/l	0.055	NA	<0.082	NA	<0.065	<0.13	<0.13	<0.019	NS	NS
Fluoranthene	µg/l	0.45	NA	<0.12	NA	<0.024	<0.082	<0.081	<0.013	400	80
Fluorene	µg/l	0.051 "J"	NA	<0.16	NA	<0.065	<0.063	<0.062	<0.013	400	80
Indeno (1,2,3-cd) pyrene	µg/l	0.12	NA	<0.033	NA	<0.031	<0.063	<0.062	<0.019	NS	NS
1-Methylnaphthalene	µg/l	0.029 "J"	NA	<0.56	NA	<0.44	<0.32	<0.32	0.024 "J"	NS	NS
2-Methylnaphthalene	µg/l	0.034 "J"	NA	<0.53	NA	<0.30	<0.31	<0.31	<0.019	NS	NS
Naphthalene	µg/l	0.060 "J"	NA	<0.62	NA	<0.26	<0.40	<0.40	0.028 "J"	100	10
Phenanthrene	µg/l	0.23	NA	0.17	NA	<0.02	<0.030	<0.030	0.023 "J"	NS	NS
Pyrene	µg/l	0.38	NA	0.17	NA	<0.04	<0.044	<0.044	<0.012	250	50
Dissolved RCRA Metals											
Arsenic	µg/l	NA	NA	NA	NA	NA	NA	NA	[10.8]	10	1
Barium	µg/l	NA	NA	NA	NA	NA	NA	NA	261.8	2,000	400
Cadmium	µg/l	(3.9)	NA	NA	NA	NA	NA	NA	<12.5	5	0.5
Chromium	µg/l	NA	NA	NA	NA	NA	NA	NA	<30	100	10
Lead	µg/l	[47]	NA	(14 "M")	NA	(2.1)	NA	NA	<17.5	15	1.5
Mercury	µg/l	NA	NA	NA	NA	NA	NA	NA	<0.04	2	0.2
Selenium	µg/l	NA	NA	NA	NA	NA	NA	NA	<0.9	50	10
Silver	µg/l	NA	NA	NA	NA	NA	NA	NA	<258	50	10
PCBs											
Arochlor 1016	µg/l	<0.38	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1221	µg/l	<0.38	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1232	µg/l	<0.38	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1242	µg/l	<0.38	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1248	µg/l	<0.38	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1254	µg/l	<0.38	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1260	µg/l	<0.38	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Natural Attenuation Parameters											
Dissolved Manganese	µg/l	NA	NA	NA	NA	NA	NA	NA	NA	50	25
Field Parameters											
Dissolved Oxygen	mg/l	1.08	NA	0.21	NA	0.16	NA	0.20	0.52	NS	NS
Redox Potential	mV	44.6	NA	115.1	NA	-175.8	NA	75	-34	NS	NS
Ferrous Iron (Fe +2)	mg/l	3.2	NA	6	NA	3.2	NA	10.0	5	NS	NS
Temperature	℃	10.8	NA	19.3	NA	9.2	13	20.7	20.5	NS	NS
pH	---	7	NA	7	NA	7	7	7	6.6	NS	NS

Notes:
1. µg/l = micrograms per liter (equivalent to parts per billion, ppb)
2. mg/l = milligrams per liter (equivalent to parts per million, ppm)
3. mV = millivolts
4. ℃ = degrees Celcius
5. NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
6. NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
7. NA = not analyzed
8. NS = no standard established
9. Laboratory flags: "J" = analyte is reported between the Limit of Detection and Limit of Quantitation
   "B" = analyte was detected in the associated Method Blank
   "M" = matrix interference
10. Trip blank results: 4/17/02: All VOCs reported below laboratory detection limits
    7/9/02: All PVOCs reported below laboratory detection limits
    2/3/04: All PVOCs reported below laboratory detection limits
    9/27/04: All PVOCs reported below laboratory detection limits, except toluene (0.13 "J" µg/L)
    8/29/05: All PVOCs reported below laboratory detection limits
    8/6/09: All VOCs reported below laboratory detection limits
11. Equipment blank result: 4/17/02: All VOCs reported below laboratory detection limits
    7/9/02: All PVOCs reported below laboratory detection limits
    2/3/04: Not used (disposalbe sampling equipment used)
    9/27/04: Not used (disposalbe sampling equipment used)
    8/29/05: All PVOCs reported below laboratory detection limits, except toluene (0.52 µg/L)
    8/6/09: All VOCs reported below laboratory detection limits
12. Exceedances [###] = concentration exceeds NR 140 ES
    (###) = concentration exceeds NR 140 PAL

Table 5
Groundwater Quality Results
Jacobus Jones Island Bulk Facility - 1726 South Harbor Drive, Milwaukee, Wisconsin
Sigma Project No. 11734

	Units	MW-5							NR 140	NR 140
		4/17/02	7/9/02	2/3/04	2/04 Dup	9/27/04	8/29/05	8/6/09	ES	PAL
PVOCs and Detected VOCs										
Benzene	µg/l	[10]	[5.0]	(3.8)	3.8	<0.25	0.45 "J"	(2.19)	5	0.5
sec-Butylbenzene	µg/l	16	NA	NA	NA	NA	NA	11.8	NS	NS
tert-Butylbenzene	µg/l	1.0 "J"	NA	NA	NA	NA	NA	0.62 "J"	NS	NS
n-Butylbenzene	µg/l	24	NA	NA	NA	NA	NA	15	NS	NS
Chloromethane	µg/l	<0.62	NA	NA	NA	NA	NA	<0.5	3	0.3
1,1-Dichloroethane	µg/l	<0.48	NA	NA	NA	NA	NA	<0.44	850	85
Ethylbenzene	µg/l	2.9	2.4	0.36	0.41	<0.22	<0.22	<0.87	700	140
Isopropylbenzene	µg/l	25	NA	NA	NA	NA	NA	12.7	NS	NS
Methyl tert Butyl Ether	µg/l	<0.67	<0.80	<0.23	<0.23	<0.23	<0.23	<0.5	60	12
Naphthalene	µg/l	(14)	NA	NA	NA	NA	NA	<1.7	100	10
n-Propylbenzene	µg/l	87	NA	NA	NA	NA	NA	45	NS	NS
Toluene	µg/l	1.7	1.2	0.23	0.26	0.40	0.28 "J"	<0.51	1,000	200
1,2,4-Trimethylbenzene	µg/l	2.0	2.6	<0.25	<0.25	<0.25	<0.25	<1.1	NS	NS
1,3,5-Trimethylbenzene	µg/l	<0.52	<1.4	<0.19	<0.19	<0.19	<0.19	<1.5	NS	NS
Total Trimethylbenzenes	µg/l	2.0	2.6	<0.44	<0.44	<0.44	<0.44	<2.6	480	96
Total Xylenes	µg/l	2.1 "J"	3.2	0.81	0.73	<0.39	<0.39	<2.13	10,000	1,000
PAHs										
Acenaphthene	µg/l	2.7	2.1	<0.59	NA	0.79	1.9	1.36	NS	NS
Acenaphthylene	µg/l	0.59 "J"	<0.22	<0.25	NA	<0.70	<0.69	0.34	NS	NS
Anthracene	µg/l	0.64 "J"	0.58	<0.034	NA	<0.038	0.75	0.302	NS	NS
Benzo (a) anthracene	µg/l	<0.38	0.15	<0.057	NA	<0.044	0.064 "J, B"	<0.085	NS	NS
Benzo (a) pyrene	µg/l	<0.24	<0.014	<0.033	NA	<0.032	<0.032	<0.07	0.2	0.02
Benzo (b) fluoranthene	µg/l	<0.28	<0.043	<0.054	NA	<0.099	<0.098	<0.09	0.2	0.02
Benzo (g,h,i) perylene	µg/l	<0.30	<0.16	<0.097	NA	<0.12	<0.12	<0.09	NS	NS
Benzo (k) fluoranthene	µg/l	<0.26	<0.027	<0.045	NA	<0.049	<0.049	<0.145	NS	NS
Chrysene	µg/l	<0.36	(0.042)	<0.049	NA	<0.041	<0.041	<0.05	0.2	0.02
Dibenzo (a,h) anthracene	µg/l	<0.34	<0.081	<0.065	NA	<0.13	<0.13	<0.095	NS	NS
Fluoranthene	µg/l	1.0 "J"	0.39	0.081	NA	<0.082	1.4 "B"	0.283	400	80
Fluorene	µg/l	3.5	3.6	<0.065	NA	1.1	4.1	1.69	400	80
Indeno (1,2,3-cd) pyrene	µg/l	<0.28	<0.033	<0.031	NA	<0.063	<0.062	<0.095	NS	NS
1-Methylnaphthalene	µg/l	95	44	<0.44	NA	24	46	37	NS	NS
2-Methylnaphthalene	µg/l	7.6	8.5	<0.30	NA	2.8	9.0	<0.095	NS	NS
Naphthalene	µg/l	8.4	1.2	<0.26	NA	<0.40	<0.40	0.65	100	10
Phenanthrene	µg/l	3.0	0.087	<0.02	NA	0.36	1.4 "B"	1.06	NS	NS
Pyrene	µg/l	0.82 "J"	0.65	0.19	NA	<0.044	0.29 "B"	0.169 "J"	250	50
Dissolved RCRA Metals										
Arsenic	µg/l	NA	NA	NA	NA	NA	NA	[17.3]	10	1
Barium	µg/l	NA	NA	NA	NA	NA	NA	279.1	2,000	400
Cadmium	µg/l	0.17 "J"	NA	NA	NA	NA	NA	<0.5	5	0.5
Chromium	µg/l	NA	NA	NA	NA	NA	NA	<1.2	100	10
Lead	µg/l	(2.5)	<1.2	<1.4	NA	NA	NA	<0.7	15	1.5
Mercury	µg/l	NA	NA	NA	NA	NA	NA	<0.04	2	0.2
Selenium	µg/l	NA	NA	NA	NA	NA	NA	<0.9	50	10
Silver	µg/l	NA	NA	NA	NA	NA	NA	<10.3	50	10
PCBs										
Arochlor 1016	µg/l	<0.38	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1221	µg/l	<0.38	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1232	µg/l	<0.38	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1242	µg/l	<0.38	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1248	µg/l	<0.38	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1254	µg/l	<0.38	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1260	µg/l	<0.38	NA	NA	NA	NA	NA	NA	0.03	0.003
Natural Attenuation Parameters										
Dissolved Manganese	µg/l	NA	NA	NA	NA	NA	NA	NA	50	25
Field Parameters										
Dissolved Oxygen	mg/l	0.64	0.16	0.17	NA	NA	0.17	0.32	NS	NS
Redox Potential	mV	-101	-90	-167.8	NA	NA	-75	-40	NS	NS
Ferrous Iron (Fe +2)	mg/l	4	4	3.4	NA	NA	5.6	4.0	NS	NS
Temperature	℃	7.1	14.6	9.6	NA	13.2	14.2	14.6	NS	NS
pH	---	7	7	7	NA	7	7	7	NS	NS

Notes:
1. µg/l = micrograms per liter (equivalent to parts per billion, ppb)
2. mg/l = milligrams per liter (equivalent to parts per million, ppm)
3. mV = millivolts
4. ℃ = degrees Celcius
5. NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
6. NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
7. NA = not analyzed
8. NS = no standard established
9. Laboratory flags: "J" = analyte is reported between the Limit of Detection and Limit of Quantitation
   "B" = analyte was detected in the associated Method Blank
   "M" = matrix interference
10. Trip blank results: 4/17/02: All VOCs reported below laboratory detection limits
    7/9/02: All PVOCs reported below laboratory detection limits
    2/3/04: All PVOCs reported below laboratory detection limits
    9/27/04: All PVOCs reported below laboratory detection limits, except toluene (0.13 "J" µg/L)
    8/29/05: All PVOCs reported below laboratory detection limits
    8/6/09: All VOCs reported below laboratory detection limits
11. Equipment blank result 4/17/02: All VOCs reported below laboratory detection limits
    7/9/02: All PVOCs reported below laboratory detection limits
    2/3/04: Not used (disposalbe sampling equipment used)
    9/27/04: Not used (disposalbe sampling equipment used)
    8/29/05: All PVOCs reported below laboratory detection limits, except toluene (0.52 µg/L)
    8/6/09: All VOCs reported below laboratory detection limits
12. Exceedances [###] = concentration exceeds NR 140 ES
    (###) = concentration exceeds NR 140 PAL

Table 5
Groundwater Quality Results
Jacobus Jones Island Bulk Facility - 1726 South Harbor Drive, Milwaukee, Wisconsin
Sigma Project No. 11734

	Units	MW-6						NR 140	NR 140
		4/17/02	7/9/02	2/3/04	9/27/04	8/30/05	8/6/09	ES	PAL
PVOCs and Detected VOCs									
Benzene	µg/l	(0.70 "J")	(0.66)	0.28	<0.25	0.34 "J"	<0.41	5	0.5
sec-Butylbenzene	µg/l	1.1 "J"	NA	NA	<0.22	NA	0.48 "J"	NS	NS
tert-Butylbenzene	µg/l	<0.50	NA	NA	NA	NA	<0.46	NS	NS
n-Butylbenzene	µg/l	4.9	NA	NA	NA	NA	<1.5	NS	NS
Chloromethane	µg/l	<0.62	NA	NA	NA	NA	<0.5	3	0.3
1,1-Dichloroethane	µg/l	<0.48	NA	NA	NA	NA	<0.44	850	85
Ethylbenzene	µg/l	<0.43	<0.44	<0.22	<0.22	<0.22	<0.87	700	140
Isopropylbenzene	µg/l	<0.43	NA	NA	NA	NA	<0.39	NS	NS
Methyl tert Butyl Ether	µg/l	1.4 "J"	<0.32	1.8	<0.23	1.5	<0.5	60	12
Naphthalene	µg/l	3.1	NA	NA	NA	NA	<1.7	100	10
n-Propylbenzene	µg/l	<0.64	NA	NA	NA	NA	<0.33	NS	NS
Toluene	µg/l	0.71 "J"	<0.40	<0.11	0.37	0.11 "J"	<0.51	1,000	200
1,2,4-Trimethylbenzene	µg/l	1.4 "J"	<0.44	<0.25	<0.25	<0.25	<1.1	NS	NS
1,3,5-Trimethylbenzene	µg/l	<0.52	<0.58	<0.19	<0.19	<0.19	<1.5	NS	NS
Total Trimethylbenzenes	µg/l	1.4	<1.02	<0.44	<0.44	<0.44	<2.6	480	96
Total Xylenes	µg/l	<1.94	0.70	0.42	<0.39	0.45 "J"	<2.13	10,000	1,000
PAHs									
Acenaphthene	µg/l	10	1.3	0.61	<0.33	<0.33	0.55	NS	NS
Acenaphthylene	µg/l	5.8	<0.21	<0.26	<0.69	<0.69	0.089	NS	NS
Anthracene	µg/l	5.9	1.6	0.29	<0.038	<0.038	0.052	NS	NS
Benzo (a) anthracene	µg/l	1.9 "J"	1.6	0.069	<0.044	<0.044	<0.017	NS	NS
Benzo (a) pyrene	µg/l	[1.3 "J"]	(0.068)	<0.034	<0.032	<0.032	<0.014	0.2	0.02
Benzo (b) fluoranthene	µg/l	[1.2 "J"]	(0.084)	<0.098	<0.098	<0.098	<0.018	0.2	0.02
Benzo (g,h,i) perylene	µg/l	1.0 "J"	<0.16	<0.098	<0.12	<0.12	<0.018	NS	NS
Benzo (k) fluoranthene	µg/l	0.89 "J"	<0.027	<0.046	<0.049	<0.049	<0.029	NS	NS
Chrysene	µg/l	[1.7 "J"]	(0.096)	<0.05	<0.041	<0.041	<0.01	0.2	0.02
Dibenzo (a,h) anthracene	µg/l	<1.0	<0.081	<0.065	<0.13	<0.13	<0.019	NS	NS
Fluoranthene	µg/l	5.7	0.19	1.3	<0.081	<0.081	0.069	400	80
Fluorene	µg/l	23	2.7	1.2	<0.062	<0.062	0.222	400	80
Indeno (1,2,3-cd) pyrene	µg/l	<0.84	0.044	<0.032	<0.062	<0.062	<0.019	NS	NS
1-Methylnaphthalene	µg/l	27	2.8	<0.45	<0.32	0.37 "J"	0.221	NS	NS
2-Methylnaphthalene	µg/l	5.8	1.4	<0.31	<0.31	<0.31	0.033 "J"	NS	NS
Naphthalene	µg/l	(10)	<0.61	<0.27	<0.40	<0.40	0.271	100	10
Phenanthrene	µg/l	11	0.47	0.041	<0.030	<0.030	<0.015	NS	NS
Pyrene	µg/l	6.1	1.1	0.77	<0.044	<0.044	0.053	250	50
Dissolved RCRA Metals									
Arsenic	µg/l	NA	NA	NA	NA	NA	[10.4]	10	1
Barium	µg/l	NA	NA	NA	NA	NA	354.1	2,000	400
Cadmium	µg/l	0.10 "J"	NA	NA	NA	NA	<0.5	5	0.5
Chromium	µg/l	NA	NA	NA	NA	NA	<1.2	100	10
Lead	µg/l	[32]	1.3	(2.3)	NA	NA	<0.7	15	1.5
Mercury	µg/l	NA	NA	NA	NA	NA	<0.04	2	0.2
Selenium	µg/l	NA	NA	NA	NA	NA	<0.9	50	10
Silver	µg/l	NA	NA	NA	NA	NA	<10.3	50	10
PCBs									
Arochlor 1016	µg/l	<0.44	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1221	µg/l	<0.44	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1232	µg/l	<0.44	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1242	µg/l	<0.44	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1248	µg/l	<0.44	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1254	µg/l	<0.44	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1260	µg/l	<0.44	NA	NA	NA	NA	NA	0.03	0.003
Natural Attenuation Parameters									
Dissolved Manganese	µg/l	390	NA	NA	NA	NA	NA	50	25
Field Parameters									
Dissolved Oxygen	mg/l	0.47	0.15	0.16	NA	0.15	0.24	NS	NS
Redox Potential	mV	-159.2	-200	-210.3	NA	-164	-83	NS	NS
Ferrous Iron (Fe +2)	mg/l	4.6	7	3.6	NA	7.0	4.4	NS	NS
Temperature	℃	8.6	14	9.5	13.5	14.4	14.0	NS	NS
pH	---	7	7	7	7	7	7	NS	NS

Notes:
1. µg/l = micrograms per liter (equivalent to parts per billion, ppb)
2. mg/l = milligrams per liter (equivalent to parts per million, ppm)
3. mV = millivolts
4. ℃ = degrees Celcius
5. NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
6. NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
7. NA = not analyzed
8. NS = no standard established
9. Laboratory flags: "J" = analyte is reported between the Limit of Detection and Limit of Quantitation
   "B" = analyte was detected in the associated Method Blank
   "M" = matrix interference
10. Trip blank results: 4/17/02: All VOCs reported below laboratory detection limits
    7/9/02: All PVOCs reported below laboratory detection limits
    2/3/04: All PVOCs reported below laboratory detection limits
    9/27/04: All PVOCs reported below laboratory detection limits, except toluene (0.13 "J" µg/L)
    8/29/05: All PVOCs reported below laboratory detection limits
    8/6/09: All VOCs reported below laboratory detection limits
11. Equipment blank results: 4/17/02: All VOCs reported below laboratory detection limits
    7/9/02: All PVOCs reported below laboratory detection limits
    2/3/04: Not used (disposalbe sampling equipment used)
    9/27/04: Not used (disposalbe sampling equipment used)
    8/29/05: All PVOCs reported below laboratory detection limits, except toluene (0.52 µg/L)
    8/6/09: All VOCs reported below laboratory detection limits
12. Exceedances [###] = concentration exceeds NR 140 ES
    (###) = concentration exceeds NR 140 PAL

Table 5
Groundwater Quality Results
Jacobus Jones Island Bulk Facility - 1726 South Harbor Drive, Milwaukee, Wisconsin
Sigma Project No. 11734

	Units	MW-7							NR 140	NR 140
		4/17/02	7/9/02	2/4/04	9/27/04	9/04 Dup	8/30/05	8/6/09	ES	PAL
PVOCs and Detected VOCs										
Benzene	µg/l	FP	(1.7)	<0.25	<0.25	<0.25	<0.25	<0.41	5	0.5
sec-Butylbenzene	µg/l	FP	NA	NA	NA	NA	NA	<0.43	NS	NS
tert-Butylbenzene	µg/l	FP	NA	NA	NA	NA	NA	<0.46	NS	NS
n-Butylbenzene	µg/l	FP	NA	NA	NA	NA	NA	<1.5	NS	NS
Chloromethane	µg/l	FP	NA	NA	NA	NA	NA	<0.5	3	0.3
1,1-Dichloroethane	µg/l	FP	NA	NA	NA	NA	NA	<0.44	850	85
Ethylbenzene	µg/l	FP	<2.2	<0.22	<0.22	<0.22	<0.22	<0.87	700	140
Isopropylbenzene	µg/l	FP	NA	NA	NA	NA	NA	<0.39	NS	NS
Methyl tert Butyl Ether	µg/l	FP	<1.6	<0.23	<0.23	<0.23	<0.23	<0.5	60	12
Naphthalene	µg/l	FP	NA	NA	NA	NA	NA	<1.7	100	10
n-Propylbenzene	µg/l	FP	NA	NA	NA	NA	NA	<0.33	NS	NS
Toluene	µg/l	FP	<2.0	0.11	0.36	0.34	<0.11	<0.51	1,000	200
1,2,4-Trimethylbenzene	µg/l	FP	<2.2	0.31	<0.25	<0.25	<0.25	<1.1	NS	NS
1,3,5-Trimethylbenzene	µg/l	FP	<2.9	<0.19	<0.19	<0.19	<0.19	<1.5	NS	NS
Total Trimethylbenzenes	µg/l	FP	<5.1	0.31	<0.44	<0.44	<0.44	<2.6	480	96
Total Xylenes	µg/l	FP	3.1	0.48	0.41	0.41	<0.39	<2.13	10,000	1,000
PAHs										
Acenaphthene	µg/l	NA	1.9	1.1	<0.33	NA	1.0 "J"	0.86	NS	NS
Acenaphthylene	µg/l	NA	<0.23	<0.25	<0.70	NA	0.83 "J"	0.192	NS	NS
Anthracene	µg/l	NA	3.3	0.67	<0.038	NA	0.83	0.259	NS	NS
Benzo (a) anthracene	µg/l	NA	13	0.28	<0.044	NA	0.28 "B"	<0.017	NS	NS
Benzo (a) pyrene	µg/l	NA	[0.35]	<0.033	<0.032	NA	<0.032	<0.014	0.2	0.02
Benzo (b) fluoranthene	µg/l	NA	[0.24]	<0.053	<0.099	NA	<0.098	<0.018	0.2	0.02
Benzo (g,h,i) perylene	µg/l	NA	<0.18	<0.096	<0.12	NA	<0.12	<0.018	NS	NS
Benzo (k) fluoranthene	µg/l	NA	0.12	<0.045	<0.049	NA	<0.049	<0.029	NS	NS
Chrysene	µg/l	NA	[0.70]	<0.049	<0.041	NA	<0.041	<0.01	0.2	0.02
Dibenzo (a,h) anthracene	µg/l	NA	<0.088	<0.064	<0.13	NA	<0.13	<0.019	NS	NS
Fluoranthene	µg/l	NA	6.7	0.48	<0.081	NA	0.84 "B"	0.098	400	80
Fluorene	µg/l	NA	4.6	1.9	<0.063	NA	1.7	0.104	400	80
Indeno (1,2,3-cd) pyrene	µg/l	NA	0.11	<0.031	<0.063	NA	<0.062	<0.019	NS	NS
1-Methylnaphthalene	µg/l	NA	1.2	<0.44	1.6	NA	<0.32	0.098	NS	NS
2-Methylnaphthalene	µg/l	NA	2.6	1.2	<0.31	NA	0.94 "J"	0.029 "J"	NS	NS
Naphthalene	µg/l	NA	<0.67	<0.26	<0.40	NA	0.54 "J"	0.070 "J"	100	10
Phenanthrene	µg/l	NA	0.87	0.14	0.13	NA	0.66 "B"	0.025 "J"	NS	NS
Pyrene	µg/l	NA	6.0	1.3	<0.044	NA	0.41 "B"	0.079	250	50
Dissolved RCRA Metals										
Arsenic	µg/l	NA	NA	NA	NA	NA	NA	(6.7)	10	1
Barium	µg/l	NA	NA	NA	NA	NA	NA	(529.1)	2,000	400
Cadmium	µg/l	NA	NA	NA	NA	NA	NA	<2.5	5	0.5
Chromium	µg/l	NA	NA	NA	NA	NA	NA	<6.0	100	10
Lead	µg/l	NA	<1.2	<1.4	NA	NA	NA	<0.7	15	1.5
Mercury	µg/l	NA	NA	NA	NA	NA	NA	<0.04	2	0.2
Selenium	µg/l	NA	NA	NA	NA	NA	NA	<0.9	50	10
Silver	µg/l	NA	NA	NA	NA	NA	NA	<51.5	50	10
PCBs										
Arochlor 1016	µg/l	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1221	µg/l	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1232	µg/l	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1242	µg/l	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1248	µg/l	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1254	µg/l	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1260	µg/l	NA	NA	NA	NA	NA	NA	NA	0.03	0.003
Natural Attenuation Parameters										
Dissolved Manganese	µg/l	NA	NA	NA	NA	NA	NA	NA	50	25
Field Parameters										
Dissolved Oxygen	mg/l	NA	0.1	0.11	NA	NA	0.18	0.24	NS	NS
Redox Potential	mV	NA	-198	-267.7	NA	NA	-153	-71	NS	NS
Ferrous Iron (Fe +2)	mg/l	NA	4	4.4	NA	NA	6.0	4.2	NS	NS
Temperature	℃	NA	17	9.8	13.6	NA	14.8	12.0	NS	NS
pH	---	NA	7	7	7	NA	7	7	NS	NS

Notes:
1. µg/l = micrograms per liter (equivalent to parts per billion, ppb)
2. mg/l = milligrams per liter (equivalent to parts per million, ppm)
3. mV = millivolts
4. ℃ = degrees Celcius
5. NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
6. NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
7. NA = not analyzed
8. NS = no standard established
9. Laboratory flags: "J" = analyte is reported between the Limit of Detection and Limit of Quantitation
   "B" = analyte was detected in the associated Method Blank
   "M" = matrix interference
10. Trip blank results: 4/17/02: All VOCs reported below laboratory detection limits
    7/9/02: All PVOCs reported below laboratory detection limits
    2/3/04: All PVOCs reported below laboratory detection limits
    9/27/04: All PVOCs reported below laboratory detection limits, except toluene (0.13 "J" µg/L)
    8/29/05: All PVOCs reported below laboratory detection limits
    8/6/09: All VOCs reported below laboratory detection limits
11. Equipment blank result: 4/17/02: All VOCs reported below laboratory detection limits
    7/9/02: All PVOCs reported below laboratory detection limits
    2/3/04: Not used (disposalbe sampling equipment used)
    9/27/04: Not used (disposalbe sampling equipment used)
    8/29/05: All PVOCs reported below laboratory detection limits, except toluene (0.52 µg/L)
    8/6/09: All VOCs reported below laboratory detection limits
12. Exceedances [###] = concentration exceeds NR 140 ES
    (###) = concentration exceeds NR 140 PAL

Table 5
Groundwater Quality Results
Jacobus Jones Island Bulk Facility - 1726 South Harbor Drive, Milwaukee, Wisconsin
Sigma Project No. 11734

	Units	MW-8							NR 140	NR 140
		4/17/02	7/9/02	2/4/04	9/27/04	8/30/05	8/6/09	8/09 Dup	ES	PAL
PVOCs and Detected VOCs										
Benzene	µg/l	(0.50 "J")	(1.3)	(0.69)	0.49	(1.2)	(1.0 "J")	0.96 "J"	5	0.5
sec-Butylbenzene	µg/l	<0.49	NA	NA	NA	NA	<0.43	<0.43	NS	NS
tert-Butylbenzene	µg/l	<0.50	NA	NA	NA	NA	<0.46	<0.46	NS	NS
n-Butylbenzene	µg/l	<0.61	NA	NA	NA	NA	<1.5	<1.5	NS	NS
Chloromethane	µg/l	<0.62	NA	NA	NA	NA	<0.5	<0.5	3	0.3
1,1-Dichloroethane	µg/l	<0.48	NA	NA	NA	NA	<0.44	<0.44	850	85
Ethylbenzene	µg/l	<0.43	<0.22	<0.22	<0.22	<0.22	<0.87	<0.87	700	140
Isopropylbenzene	µg/l	<0.43	NA	NA	NA	NA	<0.39	<0.39	NS	NS
Methyl tert Butyl Ether	µg/l	<0.67	<0.16	<0.23	<0.23	0.36 "J'	<0.5	<0.5	60	12
Naphthalene	µg/l	<0.59	NA	NA	NA	NA	<1.7	<1.7	100	10
n-Propylbenzene	µg/l	<0.64	NA	NA	NA	NA	<0.33	<0.33	NS	NS
Toluene	µg/l	<0.47	0.3	<0.11	0.27	0.17 "J"	<0.51	<0.51	1,000	200
1,2,4-Trimethylbenzene	µg/l	<0.51	<0.22	<0.25	<0.25	<0.25	<1.1	<1.1	NS	NS
1,3,5-Trimethylbenzene	µg/l	<0.52	<0.29	<0.19	<0.19	<0.19	<1.5	<1.5	NS	NS
Total Trimethylbenzenes	µg/l	<1.03	<0.51	<0.44	<0.44	<0.44	<2.6	<2.6	480	96
Total Xylenes	µg/l	<1.94	0.42	<0.39	<0.39	<0.39	<2.13	<2.13	10,000	1,000
PAHs										
Acenaphthene	µg/l	0.069	<0.47	<0.59	<0.33	<0.33	0.010 "J"	NA	NS	NS
Acenaphthylene	µg/l	<0.023	<0.22	<0.26	<0.70	<0.69	<0.011	NA	NS	NS
Anthracene	µg/l	0.058 "J"	<0.085	<0.035	<0.038	<0.038	<0.01	NA	NS	NS
Benzo (a) anthracene	µg/l	0.098	<0.14	<0.057	<0.044	<0.044	<0.017	NA	NS	NS
Benzo (a) pyrene	µg/l	(0.069)	<0.014	<0.034	<0.032	<0.032	<0.014	NA	0.2	0.02
Benzo (b) fluoranthene	µg/l	(0.051)	<0.043	<0.054	<0.099	<0.098	<0.018	NA	0.2	0.02
Benzo (g,h,i) perylene	µg/l	0.040 "J"	<0.16	<0.098	<0.12	<0.12	<0.018	NA	NS	NS
Benzo (k) fluoranthene	µg/l	0.047	<0.027	<0.046	<0.049	<0.049	<0.029	NA	NS	NS
Chrysene	µg/l	(0.083)	<0.034	<0.05	<0.041	<0.041	<0.01	NA	0.2	0.02
Dibenzo (a,h) anthracene	µg/l	<0.017	<0.081	<0.065	<0.13	<0.13	<0.019	NA	NS	NS
Fluoranthene	µg/l	0.25	<0.12	<0.024	<0.082	<0.081	<0.013	NA	400	80
Fluorene	µg/l	0.027 "J"	<0.15	<0.065	<0.063	<0.062	<0.013	NA	400	80
Indeno (1,2,3-cd) pyrene	µg/l	0.034 "J"	<0.033	<0.032	<0.063	<0.062	<0.019	NA	NS	NS
1-Methylnaphthalene	µg/l	0.050 "J"	<0.56	<0.45	<0.32	<0.32	<0.013	NA	NS	NS
2-Methylnaphthalene	µg/l	0.033 "J"	<0.53	<0.31	<0.31	<0.31	<0.019	NA	NS	NS
Naphthalene	µg/l	0.032 "J"	<0.62	<0.27	<0.40	<0.40	0.032 "J"	NA	100	10
Phenanthrene	µg/l	0.099	<0.022	<0.02	<0.030	<0.030	<0.015	NA	NS	NS
Pyrene	µg/l	0.22	<0.013	<0.041	<0.044	<0.044	<0.012	NA	250	50
Dissolved RCRA Metals										
Arsenic	µg/l	NA	NA	NA	NA	NA	(7.4)	NA	10	1
Barium	µg/l	NA	NA	NA	NA	NA	(599)	NA	2,000	400
Cadmium	µg/l	<0.070	NA	NA	NA	NA	<12.5	NA	5	0.5
Chromium	µg/l	NA	NA	NA	NA	NA	<30	NA	100	10
Lead	µg/l	(3.1)	<6.0 "M"	<1.4	NA	NA	<0.7	NA	15	1.5
Mercury	µg/l	NA	NA	NA	NA	NA	<0.04	NA	2	0.2
Selenium	µg/l	NA	NA	NA	NA	NA	<0.9	NA	50	10
Silver	µg/l	NA	NA	NA	NA	NA	<258	NA	50	10
PCBs										
Arochlor 1016	µg/l	<0.38	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1221	µg/l	<0.38	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1232	µg/l	<0.38	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1242	µg/l	<0.38	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1248	µg/l	<0.38	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1254	µg/l	<0.38	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1260	µg/l	<0.38	NA	NA	NA	NA	NA	NA	0.03	0.003
Natural Attenuation Parameters										
Dissolved Manganese	µg/l	170	NA	NA	NA	NA	NA	NA	50	25
Field Parameters										
Dissolved Oxygen	mg/l	0.63	0.24	0.18	NA	0.22	0.26	NA	NS	NS
Redox Potential	mV	14.9	5.3	-169.9	NA	-153	-95	NA	NS	NS
Ferrous Iron (Fe +2)	mg/l	0	1.2	3	NA	1.0	2.2	NA	NS	NS
Temperature	℃	7.5	14.1	9.4	13.8	14.6	15.4	NA	NS	NS
pH	---	7	7	7	7	7	7	NA	NS	NS

Notes:
1. µg/l = micrograms per liter (equivalent to parts per billion, ppb)
2. mg/l = milligrams per liter (equivalent to parts per million, ppm)
3. mV = millivolts
4. ℃ = degrees Celcius
5. NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
6. NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
7. NA = not analyzed
8. NS = no standard established
9. Laboratory flags: "J" = analyte is reported between the Limit of Detection and Limit of Quantitation
   "B" = analyte was detected in the associated Method Blank
   "M" = matrix interference
10. Trip blank results: 4/17/02: All VOCs reported below laboratory detection limits
    7/9/02: All PVOCs reported below laboratory detection limits
    2/3/04: All PVOCs reported below laboratory detection limits
    9/27/04: All PVOCs reported below laboratory detection limits, except toluene (0.13 "J" µg/L)
    8/29/05: All PVOCs reported below laboratory detection limits
    8/6/09: All VOCs reported below laboratory detection limits
11. Equipment blank result 4/17/02: All VOCs reported below laboratory detection limits
    7/9/02: All PVOCs reported below laboratory detection limits
    2/3/04: Not used (disposalbe sampling equipment used)
    9/27/04: Not used (disposalbe sampling equipment used)
    8/29/05: All PVOCs reported below laboratory detection limits, except toluene (0.52 µg/L)
    8/6/09: All VOCs reported below laboratory detection limits
12. Exceedances [###] = concentration exceeds NR 140 ES
    (###) = concentration exceeds NR 140 PAL

Table 5
Groundwater Quality Results
Jacobus Jones Island Bulk Facility - 1726 South Harbor Drive, Milwaukee, Wisconsin
Sigma Project No. 11734

	Units	MW-9					MW-9R	NR 140	NR 140
		4/17/02	7/9/02	2/4/04	9/27/04	8/29/05	8/6/09	ES	PAL
PVOCs and Detected VOCs									
Benzene	µg/l	(0.74 "J")	(1.0)	<0.25	<0.25	<0.25	<0.41	5	0.5
sec-Butylbenzene	µg/l	0.70 "J"	NA	NA	NA	NA	0.56 "J"	NS	NS
tert-Butylbenzene	µg/l	<0.50	NA	NA	NA	NA	<0.46	NS	NS
n-Butylbenzene	µg/l	0.92 "J"	NA	NA	NA	NA	<1.5	NS	NS
Chloromethane	µg/l	<0.62	NA	NA	NA	NA	<0.5	3	0.3
1,1-Dichloroethane	µg/l	<0.48	NA	NA	NA	NA	<0.44	850	85
Ethylbenzene	µg/l	<0.43	<0.88	<0.22	<0.22	<0.22	<0.87	700	140
Isopropylbenzene	µg/l	0.54 "J"	NA	NA	NA	NA	1.24	NS	NS
Methyl tert Butyl Ether	µg/l	<0.57	<0.64	<0.23	0.25	<0.23	0.72 "J"	60	12
Naphthalene	µg/l	<0.59	NA	NA	NA	NA	<1.7	100	10
n-Propylbenzene	µg/l	<0.64	NA	NA	NA	NA	0.68 "J"	NS	NS
Toluene	µg/l	<0.47	<0.80	<0.11	0.47	<0.11	<0.51	1,000	200
1,2,4-Trimethylbenzene	µg/l	<0.51	<0.88	<0.25	<0.25	<0.25	<1.1	NS	NS
1,3,5-Trimethylbenzene	µg/l	<0.52	<1.2	<0.19	<0.19	<0.19	<1.5	NS	NS
Total Trimethylbenzenes	µg/l	<1.03	<2.08	<0.44	<0.44	<0.44	<2.6	480	96
Total Xylenes	µg/l	<1.94	2.2	0.48	0.40	0.67 "J"	<2.13	10,000	1,000
PAHs									
Acenaphthene	µg/l	0.29	4.0	3.3	2.1	4.4	4.6	NS	NS
Acenaphthylene	µg/l	0.071 "j"	<0.23	<0.26	<0.70	<0.69	0.74	NS	NS
Anthracene	µg/l	0.084	1.3	0.74	0.78	0.88	0.57	NS	NS
Benzo (a) anthracene	µg/l	<0.019	2.4	0.20	0.45	0.37 "B"	0.096 "J"	NS	NS
Benzo (a) pyrene	µg/l	<0.012	<0.015	<0.034	<0.032	<0.032	<0.028	0.2	0.02
Benzo (b) fluoranthene	µg/l	<0.014	<0.045	<0.055	<0.099	<0.098	<0.036	0.2	0.02
Benzo (g,h,i) perylene	µg/l	<0.015	<0.17	<0.1	<0.12	<0.12	<0.036	NS	NS
Benzo (k) fluoranthene	µg/l	<0.013	<0.028	<0.047	<0.049	<0.049	<0.058	NS	NS
Chrysene	µg/l	<0.018	(0.09)	<0.051	[0.27]	<0.041	(0.024 "J")	0.2	0.02
Dibenzo (a,h) anthracene	µg/l	<0.017	<0.085	<0.067	<0.13	<0.13	<0.038	NS	NS
Fluoranthene	µg/l	<0.028	2.0	0.78	5.8	1.2 "B"	0.60	400	80
Fluorene	µg/l	0.28	6.2	5.9	3.2	6.8	4.2	400	80
Indeno (1,2,3-cd) pyrene	µg/l	<0.014	<0.035	<0.032	<0.063	<0.062	<0.038	NS	NS
1-Methylnaphthalene	µg/l	0.091	1.6	<0.46	2.0	0.61 "J"	17.9	NS	NS
2-Methylnaphthalene	µg/l	<0.028	2.5	1.6	1.2	1.1	0.217	NS	NS
Naphthalene	µg/l	<0.027	<0.65	<0.27	<0.40	<0.40	0.62	100	10
Phenanthrene	µg/l	0.12	0.23	0.19	3.2	0.45 "B"	2.41	NS	NS
Pyrene	µg/l	0.026 "J"	6.3	1.4	4.3	1.9 "B"	0.38	250	50
Dissolved RCRA Metals									
Arsenic	µg/l	NA	NA	NA	NA	NA	(8.9)	10	1
Barium	µg/l	NA	NA	NA	NA	NA	(502.5)	2,000	400
Cadmium	µg/l	<0.26	NA	NA	NA	NA	<0.5	5	0.5
Chromium	µg/l	NA	NA	NA	NA	NA	<1.2	100	10
Lead	µg/l	[24]	1.3	<1.4	NA	NA	(5.2)	15	1.5
Mercury	µg/l	NA	NA	NA	NA	NA	<0.04	2	0.2
Selenium	µg/l	NA	NA	NA	NA	NA	<0.9	50	10
Silver	µg/l	NA	NA	NA	NA	NA	<10.3	50	10
PCBs									
Arochlor 1016	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1221	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1232	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1242	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1248	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1254	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1260	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Natural Attenuation Parameters									
Dissolved Manganese	µg/l	NA	NA	NA	NA	NA	NA	50	25
Field Parameters									
Dissolved Oxygen	mg/l	0.54	0.15	0.19	NA	0.16	0.44	NS	NS
Redox Potential	mV	-136.6	179.8	-87.6	NA	-141	-112	NS	NS
Ferrous Iron (Fe +2)	mg/l	8.9	3.8	2.8	NA	6.0	4	NS	NS
Temperature	℃	8.9	14.2	9.7	13.3	14.7	17.8	NS	NS
pH	---	7	7	7	7	7	7.7	NS	NS

Notes:
1. µg/l = micrograms per liter (equivalent to parts per billion, ppb)
2. mg/l = milligrams per liter (equivalent to parts per million, ppm)
3. mV = millivolts
4. ℃ = degrees Celcius
5. NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
6. NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
7. NA = not analyzed
8. NS = no standard established
9. Laboratory flags: "J" = analyte is reported between the Limit of Detection and Limit of Quantitation
   "B" = analyte was detected in the associated Method Blank
   "M" = matrix interference
10. Trip blank results: 4/17/02: All VOCs reported below laboratory detection limits
    7/9/02: All PVOCs reported below laboratory detection limits
    2/3/04: All PVOCs reported below laboratory detection limits
    9/27/04: All PVOCs reported below laboratory detection limits, except toluene (0.13 "J" µg/L)
    8/29/05: All PVOCs reported below laboratory detection limits
    8/6/09: All VOCs reported below laboratory detection limits
11. Equipment blank result 4/17/02: All VOCs reported below laboratory detection limits
    7/9/02: All PVOCs reported below laboratory detection limits
    2/3/04: Not used (disposalbe sampling equipment used)
    9/27/04: Not used (disposalbe sampling equipment used)
    8/29/05: All PVOCs reported below laboratory detection limits, except toluene (0.52 µg/L)
    8/6/09: All VOCs reported below laboratory detection limits
12. Exceedances [###] = concentration exceeds NR 140 ES
    (###) = concentration exceeds NR 140 PAL

Table 5
Groundwater Quality Results
Jacobus Jones Island Bulk Facility - 1726 South Harbor Drive, Milwaukee, Wisconsin
Sigma Project No. 11734

		MW-10						TW-10 *	NR 140	NR 140
	Units	4/17/02	7/9/02	2/4/04	9/27/04	8/30/05	8/05 Dup	8/6/09 *	ES	PAL
PVOCs and Detected VOCs										
Benzene	µg/l	<0.48	(0.68)	(3.5)	(1.3)	(2.8)	2.7	<0.41	5	0.5
sec-Butylbenzene	µg/l	<0.49	NA	NA	NA	NA	NA	<0.43	NS	NS
tert-Butylbenzene	µg/l	<0.50	NA	NA	NA	NA	NA	<0.46	NS	NS
n-Butylbenzene	µg/l	<0.61	NA	NA	NA	NA	NA	<1.5	NS	NS
Chloromethane	µg/l	<0.62	NA	NA	NA	NA	NA	<0.5	3	0.3
1,1-Dichloroethane	µg/l	<0.48	NA	NA	NA	NA	NA	<0.44	850	85
Ethylbenzene	µg/l	<0.43	<0.22	<0.25	<0.22	<0.22	<0.22	<0.87	700	140
Isopropylbenzene	µg/l	<0.43	NA	NA	NA	NA	NA	<0.39	NS	NS
Methyl tert Butyl Ether	µg/l	<0.67	<0.16	<0.23	<0.23	<0.23	<0.23	<0.5	60	12
Naphthalene	µg/l	<0.59	NA	NA	NA	NA	NA	<1.7	100	10
n-Propylbenzene	µg/l	<0.64	NA	NA	NA	NA	NA	<0.33	NS	NS
Toluene	µg/l	<0.47	<0.20	<0.11	0.44	<0.11	<0.11	<0.51	1,000	200
1,2,4-Trimethylbenzene	µg/l	<0.51	<0.22	<0.25	<0.25	<0.25	<0.25	<1.1	NS	NS
1,3,5-Trimethylbenzene	µg/l	<0.52	<0.29	<0.19	<0.19	<0.19	<0.19	<1.5	NS	NS
Total Trimethylbenzenes	µg/l	<1.03	<0.51	<0.44	<0.44	<0.44	<0.44	<2.6	480	96
Total Xylenes	µg/l	<1.94	<0.23	<0.39	<0.39	<0.39	<0.39	<2.13	10,000	1,000
PAHs										
Acenaphthene	µg/l	0.057	<0.49	<0.59	<0.82	<0.33	NA	0.036	NS	NS
Acenaphthylene	µg/l	0.032 "J"	<0.22	<0.25	<1.7	<0.69	NA	<0.011	NS	NS
Anthracene	µg/l	0.12	<0.088	<0.034	<0.095	<0.038	NA	<0.01	NS	NS
Benzo (a) anthracene	µg/l	0.37	<0.15	<0.057	<0.11	<0.044	NA	<0.017	NS	NS
Benzo (a) pyrene	µg/l	[0.34]	<0.015	<0.033	<0.080	<0.032	NA	<0.014	0.2	0.02
Benzo (b) fluoranthene	µg/l	[0.25]	<0.045	<0.054	<0.24	<0.098	NA	<0.018	0.2	0.02
Benzo (g,h,i) perylene	µg/l	0.18	<0.17	<0.097	<0.30	<0.12	NA	<0.018	NS	NS
Benzo (k) fluoranthene	µg/l	0.26	<0.028	<0.045	<0.12	<0.049	NA	<0.029	NS	NS
Chrysene	µg/l	[0.3]	<0.035	<0.049	<0.10	<0.041	NA	<0.01	0.2	0.02
Dibenzo (a,h) anthracene	µg/l	0.079	<0.084	<0.065	<0.32	<0.13	NA	<0.019	NS	NS
Fluoranthene	µg/l	0.61	<0.13	<0.024	<0.20	<0.081	NA	<0.013	400	80
Fluorene	µg/l	0.028 "J"	<0.16	<0.065	<0.16	<0.062	NA	0.013 "J"	400	80
Indeno (1,2,3-cd) pyrene	µg/l	0.19	<0.034	<0.031	<0.16	<0.062	NA	<0.019	NS	NS
1-Methylnaphthalene	µg/l	<0.027	<0.57	<0.44	<0.80	<0.32	NA	0.038 "J"	NS	NS
2-Methylnaphthalene	µg/l	<0.028	<0.54	<0.30	<0.78	<0.31	NA	<0.019	NS	NS
Naphthalene	µg/l	0.029 "J"	<0.64	<0.26	<1.0	<0.40	NA	<0.024	100	10
Phenanthrene	µg/l	0.27	0.08	<0.02	<0.075	<0.030	NA	<0.015	NS	NS
Pyrene	µg/l	0.49	<0.014	<0.04	<0.11	<0.044	NA	<0.012	250	50
Dissolved RCRA Metals										
Arsenic	µg/l	NA	NA	NA	NA	NA	NA	(4.3)	10	1
Barium	µg/l	NA	NA	NA	NA	NA	NA	199.1	2,000	400
Cadmium	µg/l	<0.070	NA	NA	NA	NA	NA	<2.5	5	0.5
Chromium	µg/l	NA	NA	NA	NA	NA	NA	<6.0	100	10
Lead	µg/l	(1.5)	<1.2	(1.6)	NA	NA	NA	<0.7	15	1.5
Mercury	µg/l	NA	NA	NA	NA	NA	NA	<0.04	2	0.2
Selenium	µg/l	NA	NA	NA	NA	NA	NA	<0.9	50	10
Silver	µg/l	NA	NA	NA	NA	NA	NA	<51.5	50	10
PCBs										
Arochlor 1016	µg/l	<0.38	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1221	µg/l	<0.38	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1232	µg/l	<0.38	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1242	µg/l	<0.38	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1248	µg/l	<0.38	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1254	µg/l	<0.38	NA	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1260	µg/l	<0.38	NA	NA	NA	NA	NA	NA	0.03	0.003
Natural Attenuation Parameters										
Dissolved Manganese	µg/l	NA	NA	NA	NA	NA	NA	NA	50	25
Field Parameters										
Dissolved Oxygen	mg/l	0.57	0.29	0.18	NA	0.24	NA	1.4	NS	NS
Redox Potential	mV	37.8	67.4	-156.2	NA	121	NA	30	NS	NS
Ferrous Iron (Fe +2)	mg/l	0	0	2.2	NA	0.8	NA	1	NS	NS
Temperature	℃	9.3	15	9.5	13.7	14.7	NA	18.3	NS	NS
pH	---	7	7	7	7	7.5	NA	7.8	NS	NS

Notes:
1. µg/l = micrograms per liter (equivalent to parts per billion, ppb)
2. mg/l = milligrams per liter (equivalent to parts per million, ppm)
3. mV = millivolts
4. ℃ = degrees Celcius
5. NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
6. NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
7. NA = not analyzed
8. NS = no standard established
9. Laboratory flags: "J" = analyte is reported between the Limit of Detection and Limit of Quantitation
   "B" = analyte was detected in the associated Method Blank
   "M" = matrix interference
10. Trip blank results: 4/17/02: All VOCs reported below laboratory detection limits
    7/9/02: All PVOCs reported below laboratory detection limits
    2/3/04: All PVOCs reported below laboratory detection limits
    9/27/04: All PVOCs reported below laboratory detection limits, except toluene (0.13 "J" µg/L)
    8/29/05: All PVOCs reported below laboratory detection limits
    8/6/09: All VOCs reported below laboratory detection limits
11. Equipment blank result 4/17/02: All VOCs reported below laboratory detection limits
    7/9/02: All PVOCs reported below laboratory detection limits
    2/3/04: Not used (disposalbe sampling equipment used)
    9/27/04: Not used (disposalbe sampling equipment used)
    8/29/05: All PVOCs reported below laboratory detection limits, except toluene (0.52 µg/L)
    8/6/09: All VOCs reported below laboratory detection limits
12. Exceedances [###] = concentration exceeds NR 140 ES
    (###) = concentration exceeds NR 140 PAL

* Groundwater sample collected from GP-10/TW-10 due to obstruction in well casing at 6.3 feet below top of casing in well MW-10.

Table 5
Groundwater Quality Results
Jacobus Jones Island Bulk Facility - 1726 South Harbor Drive, Milwaukee, Wisconsin
Sigma Project No. 11734

	Units	MW-11						NR 140	NR 140
		4/17/02	7/9/02	2/3/04	9/27/04	8/30/05	8/6/09	ES	PAL
PVOCs and Detected VOCs									
Benzene	µg/l	<0.48	<0.13	<0.25	<0.25	NA	<0.41	5	0.5
sec-Butylbenzene	µg/l	<0.49	NA	NA	NA	NA	<0.43	NS	NS
tert-Butylbenzene	µg/l	<0.50	NA	NA	NA	NA	<0.46	NS	NS
n-Butylbenzene	µg/l	<0.61	NA	NA	NA	NA	<1.5	NS	NS
Chloromethane	µg/l	<0.62	NA	NA	NA	NA	<0.5	3	0.3
1,1-Dichloroethane	µg/l	<0.48	NA	NA	NA	NA	0.53 "J"	850	85
Ethylbenzene	µg/l	<0.43	<0.22	<0.22	<0.22	NA	<0.87	700	140
Isopropylbenzene	µg/l	<0.43	NA	NA	NA	NA	<0.39	NS	NS
Methyl tert Butyl Ether	µg/l	<0.67	<0.16	<0.23	<0.23	NA	<0.5	60	12
Naphthalene	µg/l	<0.59	NA	NA	NA	NA	<1.7	100	10
n-Propylbenzene	µg/l	<0.64	NA	NA	NA	NA	<0.33	NS	NS
Toluene	µg/l	<0.47	<0.20	<0.11	0.28	NA	<0.51	1,000	200
1,2,4-Trimethylbenzene	µg/l	<0.51	<0.22	<0.25	<0.25	NA	<1.1	NS	NS
1,3,5-Trimethylbenzene	µg/l	<0.52	<0.29	<0.19	<0.19	NA	<1.5	NS	NS
Total Trimethylbenzenes	µg/l	<1.03	<0.51	<0.44	<0.44	NA	<2.6	480	96
Total Xylenes	µg/l	<1.94	<0.23	<0.39	<0.39	NA	<2.13	10,000	1,000
PAHs									
Acenaphthene	µg/l	<0.072	<0.50	<0.59	<0.34	NA	<0.009	NS	NS
Acenaphthylene	µg/l	<0.092	<0.23	<0.25	<0.7	NA	<0.011	NS	NS
Anthracene	µg/l	<0.080	0.11	<0.034	<0.039	NA	<0.01	NS	NS
Benzo (a) anthracene	µg/l	0.75	<0.15	<0.057	<0.045	NA	<0.017	NS	NS
Benzo (a) pyrene	µg/l	[1.2]	[0.20]	<0.033	<0.033	NA	<0.014	0.2	0.02
Benzo (b) fluoranthene	µg/l	[1.2]	(0.16)	<0.054	<0.10	NA	<0.018	0.2	0.02
Benzo (g,h,i) perylene	µg/l	0.83	0.29	<0.097	<0.12	NA	<0.018	NS	NS
Benzo (k) fluoranthene	µg/l	0.93	0.064	<0.045	<0.050	NA	<0.029	NS	NS
Chrysene	µg/l	[0.9]	(0.12)	<0.049	<0.042	NA	<0.01	0.2	0.02
Dibenzo (a,h) anthracene	µg/l	0.35	<0.085	<0.065	<0.13	NA	<0.019	NS	NS
Fluoranthene	µg/l	0.49	0.14	<0.024	<0.083	NA	<0.013	400	80
Fluorene	µg/l	<0.084	<0.16	<0.065	<0.063	NA	<0.013	400	80
Indeno (1,2,3-cd) pyrene	µg/l	0.73	0.20	<0.031	<0.063	NA	<0.019	NS	NS
1-Methylnaphthalene	µg/l	<0.11	<0.58	<0.44	<0.33	NA	<0.013	NS	NS
2-Methylnaphthalene	µg/l	<0.11	<0.55	<0.30	<0.32	NA	<0.019	NS	NS
Naphthalene	µg/l	<0.11	<0.65	<0.26	<0.41	NA	<0.024	100	10
Phenanthrene	µg/l	0.15 "J"	0.14	<0.02	<0.031	NA	<0.015	NS	NS
Pyrene	µg/l	0.46	<0.014	<0.04	<0.045	NA	<0.012	250	50
Dissolved RCRA Metals									
Arsenic	µg/l	NA	NA	NA	NA	NA	(1.4)	10	1
Barium	µg/l	NA	NA	NA	NA	NA	175.6	2,000	400
Cadmium	µg/l	<0.26	NA	NA	NA	NA	<2.5	5	0.5
Chromium	µg/l	NA	NA	NA	NA	NA	<6.0	100	10
Lead	µg/l	[24]	<1.2	<1.4	NA	NA	<0.7	15	1.5
Mercury	µg/l	NA	NA	NA	NA	NA	<0.04	2	0.2
Selenium	µg/l	NA	NA	NA	NA	NA	<0.9	50	10
Silver	µg/l	NA	NA	NA	NA	NA	<51.5	50	10
PCBs									
Arochlor 1016	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1221	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1232	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1242	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1248	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1254	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Arochlor 1260	µg/l	<0.38	NA	NA	NA	NA	NA	0.03	0.003
Natural Attenuation Parameters									
Dissolved Manganese	µg/l	2,500	NA	NA	NA	NA	NA	50	25
Field Parameters									
Dissolved Oxygen	mg/l	1.74	0.25	0.2	NA	NA	0.24	NS	NS
Redox Potential	mV	98.3	52.1	-132.6	NA	NA	NA	NS	NS
Ferrous Iron (Fe +2)	mg/l	0	1.2	2	NA	NA	0.8	NS	NS
Temperature	℃	8.9	14.1	9.3	13.5	NA	17.4	NS	NS
pH	---	7	7	7	7	NA	7	NS	NS

Notes:
1. µg/l = micrograms per liter (equivalent to parts per billion, ppb)
2. mg/l = milligrams per liter (equivalent to parts per million, ppm)
3. mV = millivolts
4. ℃ = degrees Celcius
5. NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
6. NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
7. NA = not analyzed
8. NS = no standard established
9. Laboratory flags: "J" = analyte is reported between the Limit of Detection and Limit of Quantitation
   "B" = analyte was detected in the associated Method Blank
   "M" = matrix interference
10. Trip blank results: 4/17/02: All VOCs reported below laboratory detection limits
    7/9/02: All PVOCs reported below laboratory detection limits
    2/3/04: All PVOCs reported below laboratory detection limits
    9/27/04: All PVOCs reported below laboratory detection limits, except toluene (0.13 "J" µg/L)
    8/29/05: All PVOCs reported below laboratory detection limits
    8/6/09: All VOCs reported below laboratory detection limits
11. Equipment blank result: 4/17/02: All VOCs reported below laboratory detection limits
    7/9/02: All PVOCs reported below laboratory detection limits
    2/3/04: Not used (disposalbe sampling equipment used)
    9/27/04: Not used (disposalbe sampling equipment used)
    8/29/05: All PVOCs reported below laboratory detection limits, except toluene (0.52 µg/L)
    8/6/09: All VOCs reported below laboratory detection limits
12. Exceedances [###] = concentration exceeds NR 140 ES
    (###) = concentration exceeds NR 140 PAL

Table 5
Groundwater Quality Results
Jacobus Jones Island Bulk Facility - 1726 South Harbor Drive, Milwaukee, Wisconsin
Sigma Project No. 11734

	Units	MW-12 8/6/09	MW-13 8/6/09	NR 140 ES	NR 140 PAL
PVOCs and Detected VOCs					
Benzene	µg/l	<0.41	<0.41	5	0.5
sec-Butylbenzene	µg/l	<0.43	<0.43	NS	NS
tert-Butylbenzene	µg/l	<0.46	<0.46	NS	NS
n-Butylbenzene	µg/l	<1.5	<1.5	NS	NS
Chloromethane	µg/l	<0.5	<0.5	3	0.3
1,1-Dichloroethane	µg/l	<0.44	<0.44	850	85
Ethylbenzene	µg/l	<0.87	<0.87	700	140
Isopropylbenzene	µg/l	<0.39	<0.39	NS	NS
Methyl tert Butyl Ether	µg/l	<0.5	<0.5	60	12
Naphthalene	µg/l	<1.7	<1.7	100	10
n-Propylbenzene	µg/l	<0.33	<0.33	NS	NS
Toluene	µg/l	<0.51	<0.51	1,000	200
1,2,4-Trimethylbenzene	µg/l	<1.1	<1.1	NS	NS
1,3,5-Trimethylbenzene	µg/l	<1.5	<1.5	NS	NS
Total Trimethylbenzenes	µg/l	<2.6	<2.6	480	96
Total Xylenes	µg/l	<2.13	<2.13	10,000	1,000
PAHs					
Acenaphthene	µg/l	1.24	0.025 "J"	NS	NS
Acenaphthylene	µg/l	0.215	<0.11	NS	NS
Anthracene	µg/l	0.193	<0.01	NS	NS
Benzo (a) anthracene	µg/l	<0.017	<0.017	NS	NS
Benzo (a) pyrene	µg/l	<0.014	<0.014	0.2	0.02
Benzo (b) fluoranthene	µg/l	<0.018	<0.018	0.2	0.02
Benzo (g,h,i) perylene	µg/l	<0.018	<0.018	NS	NS
Benzo (k) fluoranthene	µg/l	<0.029	<0.029	NS	NS
Chrysene	µg/l	<0.01	<0.01	0.2	0.02
Dibenzo (a,h) anthracene	µg/l	<0.019	<0.019	NS	NS
Fluoranthene	µg/l	0.093	<0.013	400	80
Fluorene	µg/l	0.95	<0.013	400	80
Indeno (1,2,3-cd) pyrene	µg/l	<0.019	<0.019	NS	NS
1-Methylnaphthalene	µg/l	3.12	<0.013	NS	NS
2-Methylnaphthalene	µg/l	0.091	<0.019	NS	NS
Naphthalene	µg/l	0.141	0.026 "J"	100	10
Phenanthrene	µg/l	0.19	<0.015	NS	NS
Pyrene	µg/l	0.104	<0.012	250	50
Dissolved RCRA Metals					
Arsenic	µg/l	(8.6)	(3.9)	10	1
Barium	µg/l	(428.8)	316.9	2,000	400
Cadmium	µg/l	<2.5	<2.5	5	0.5
Chromium	µg/l	<6.0	<6.0	100	10
Lead	µg/l	<0.7	<0.7	15	1.5
Mercury	µg/l	<0.04	<0.04	2	0.2
Selenium	µg/l	<0.9	<0.9	50	10
Silver	µg/l	<51.5	<51.5	50	10
PCBs					
Arochlor 1016	µg/l	NA	NA	0.03	0.003
Arochlor 1221	µg/l	NA	NA	0.03	0.003
Arochlor 1232	µg/l	NA	NA	0.03	0.003
Arochlor 1242	µg/l	NA	NA	0.03	0.003
Arochlor 1248	µg/l	NA	NA	0.03	0.003
Arochlor 1254	µg/l	NA	NA	0.03	0.003
Arochlor 1260	µg/l	NA	NA	0.03	0.003
Natural Attenuation Parameters					
Dissolved Manganese	µg/l	NA	NA	50	25
Field Parameters					
Dissolved Oxygen	mg/l	0.51	0.26	NS	NS
Redox Potential	mV	-71	-58	NS	NS
Ferrous Iron (Fe +2)	mg/l	4	5.0	NS	NS
Temperature	℃	17.9	11.7	NS	NS
pH	---	7.6	7	NS	NS

Notes:
1. µg/l = micrograms per liter (equivalent to parts per billion, ppb)
2. mg/l = milligrams per liter (equivalent to parts per million, ppm)
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    8/6/09: All VOCs reported below laboratory detection limits
12. Exceedances [###] = concentration exceeds NR 140 ES
    (###) = concentration exceeds NR 140 PAL

Table 1
Groundwater Elevation Data
Jacobus Jones Island Bulk Facility - 1726 S. Harbor Drive, Milwaukee, Wisconsin
Sigma Project No. 11734

Well Identification	Ground Surface Elevation (feet MSL)	Top of Casing Elevation (feet MSL)	Depth to Water (feet TOC)	Water Table Elevation (feet MSL)	Depth to Groundwater (feet bgs)	Well Screen Interval (feet bgs)	Date	Coments
MW-1	584.3	586.97	3.79	583.18	1.2	2 to 8	04/17/2002	
			3.60	583.37	1.0		07/09/2002	
			5.39	581.58	2.8		02/03/2004	
			5.23	581.74	2.6		09/27/2004	
			5.42	581.55	2.8		08/29/2005	
	583.8	586.71	5.14	581.57	2.2	1.7 to 7.7	08/06/2009	
MW-2	583.9	586.30	3.42	582.88	1.0	2 to 8	04/17/2002	
			3.04	583.26	0.7		07/09/2002	
			5.01	581.29	2.6		02/03/2004	
			4.69	581.61	2.3		09/27/2004	
			4.94	581.36	2.6		08/29/2005	
	583.6	586.46	5.95	580.51	3.0	2.2 to 8.2	08/06/2009	
MW-3	584.9	587.84	5.29	582.55	2.4	2 to 8	04/17/2002	
			4.81	583.03	1.9		07/09/2002	
			6.21	581.63	3.3		02/03/2004	
			5.67	582.17	2.8		09/27/2004	
			6.11	581.73	3.2		08/29/2005	
	584.7	587.58	5.39	582.19	2.6	1.7 to 7.7	08/06/2009	
MW-4	584.0	586.54	3.83	582.71	1.3	2 to 8	04/17/2002	
			3.45	583.09	0.9		07/09/2002	
			4.91	581.63	2.4		02/03/2004	
			4.26	582.28	1.8		09/27/2004	
			4.81	581.73	2.3		08/29/2005	
	583.7	586.79	4.55	582.24	1.5	2.2 to 8.2	08/06/2009	
MW-5	584.4	587.17	3.13	584.04	0.4	2 to 8	04/17/2002	
			3.05	584.12	0.3		07/09/2002	
			5.69	581.48	2.9		02/03/2004	
			5.59	581.58	2.8		09/27/2004	
			6.03	581.14	3.3		08/29/2005	
	583.9	587.54	6.34	581.20	2.7	2.4 to 8.4	08/06/2009	
MW-6	586.0	588.70	6.10	582.60	3.4	2 to 8	04/17/2002	
			5.76	582.94	3.0		07/09/2002	
			6.98	581.72	4.2		02/03/2004	
			6.42	582.28	3.7		09/27/2004	
			6.99	581.71	4.2		08/30/2005	
	585.4	588.48	6.31	582.17	3.2	1.8 to 7.8	08/06/2009	
MW-7	586.2	588.99	6.60	582.39	3.8	2 to 8	04/17/2002	0.11 feet FP
			6.79	582.20	4.0		04/26/2002	0.27 feet FP
			6.00	582.99	3.2		07/09/2002	0.00 feet FP
			7.55	581.44	4.7		02/04/2004	0.00 feet FP
			6.82	582.17	4.0		09/27/2004	0.00 feet FP
			7.49	581.50	4.7		08/30/2005	0.00 feet FP
	586.0	588.81	6.68	582.13	3.9	1.8 to 7.8	08/06/2009	0.00 feet FP
MW-8	584.0	586.65	4.23	582.42	1.6	1.5 to 7.5	04/17/2002	
			3.82	582.83	1.2		07/09/2002	
			5.26	581.39	2.6		02/04/2004	
			4.53	582.12	1.9		09/27/2004	
			5.20	581.45	2.5		08/30/2005	
	583.9	586.57	4.36	582.21	1.7	1.4 to 7.4	08/06/2009	

Table 1
Groundwater Elevation Data
Jacobus Jones Island Bulk Facility - 1726 S. Harbor Drive, Milwaukee, Wisconsin
Sigma Project No. 11734

Well Identification	Ground Surface Elevation (feet MSL)	Top of Casing Elevation (feet MSL)	Depth to Water (feet TOC)	Water Table Elevation (feet MSL)	Depth to Groundwater (feet bgs)	Well Screen Interval (feet bgs)	Date	Coments
MW-9	583.7	586.64	4.10	582.54	1.2	2 to 8	04/17/2002	
			3.90	582.74	1.0		07/09/2002	
			4.99	581.65	2.0		02/04/2004	
			4.52	582.12	1.6		09/27/2004	
			5.11	581.53	2.2		08/29/2005	
MW-9R	583.0	586.04	3.93	582.11	0.9	3 to 8	08/06/2009	
MW-10	584.7	587.54	5.09	582.45	2.3	2 to 8	04/17/2002	
			4.70	582.84	1.9		07/09/2002	
			6.07	581.47	3.3		02/04/2004	
			5.37	582.17	2.6		09/27/2004	
			6.03	581.51	3.2		08/30/2005	
	584.1	587.19	5.14	582.05	2.1	1.7 to 7.7	08/06/2009	
MW-11	588.5	588.11	5.53	582.58	5.9	2 to 8	04/17/2002	
			5.31	582.80	5.7		07/09/2002	
			6.65	581.46	7.1		02/04/2004	
			5.62	582.49	6.0		09/27/2004	
			NM	---	---		08/30/2005	
	588.2	587.90	5.70	582.20	6.0	1.8 to 7.8	08/06/2009	
MW-12	587.6	590.82	8.92	581.90	5.7	2 to 12	08/06/2009	
MW-13	589.0	592.39	10.16	582.23	6.7	2 to 12	08/06/2009	

Notes:
1. Monitoring well and ground surface elevations were surveyed by Surveying Associates, Inc. as reported on survey map dated May 1, 2002.
2. Top of casing and ground surface elevations of existing and new monitoring wells surveyed on July 31, 2009 by Sigma Environmental Services, Inc. with Trimble R8 GPS receiver.
3. feet MSL = feet above Mean Sea Level
4. feet TOC = feet below top of casing
5. feet bgs = feet below ground surface
6. NM = no measurement

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3/30

March 30, 2009

Project Reference #6660

Mr. Larry Sullivan
Port Authority of the City of Milwaukee
2323 S. Lincoln Memorial Drive
Milwaukee, WI 53207

Certified Mail

Subject: Notice of Residual Petroleum Hydrocarbon Impacts
Jacobus Jones Island Bulk Terminal
1726 S. Harbor Drive (Portion of 1225 S. Carferry Drive), Milwaukee, Wisconsin

Dear Mr. Sullivan:

On behalf of Jacobus Energy, Inc. (Jacobus), Sigma Environmental Services, Inc. (Sigma) is notifying the Port Authority of the City of Milwaukee that residual petroleum hydrocarbon impacts to soil and groundwater currently remain at the above-referenced property (hereinafter the "site"), which you currently own. Sigma will be submitting a case closure request to the Wisconsin Department of Natural Resources (WDNR) within the next week.

Copies of recent soil and groundwater quality data tables, as well as soil and groundwater quality maps, are included with this letter for your reference. Residual soil impacts above Wisconsin Administrative Code [WAC], Chapter NR 720 Residual Contaminant Levels exist at limited portions of the site. The most recent (August 2005) groundwater samples collected from the monitoring well network and analyzed at a licensed laboratory indicate that dissolved petroleum hydrocarbon impacts above WAC, Chapter NR 140 Enforcement Standards remain in on-site monitoring well MW-4. However, the groundwater contaminant plume is stable or receding and will naturally degrade over time. Sigma believes that allowing natural attenuation to complete the cleanup at this site will meet the requirements for case closure that are found in WAC, Chapter NR 726. Sigma will be requesting the WDNR to accept natural attenuation as the final remedy for this site and grant case closure. Case closure means that the WDNR will not be requiring any further investigation or cleanup actions to be taken, other than reliance on natural attenuation.

Because of residual soil and groundwater impacts above the referenced WDNR standards that exist at this time, the site will be listed in the WDNR's Geographic Information System (GIS) Registry. The information on the GIS Registry includes maps showing the location of properties in Wisconsin where soil and groundwater contamination above WDNR standards was found at the time that the case was closed. The GIS Registry is available to the general public on the WDNR's internet web site. Additionally, the GIS Registry will include a copy of the WDNR's case closure letter. This information was previously provided to you by Jacobus.

You are not responsible for the petroleum hydrocarbon release at the site. Therefore, neither you nor any subsequent owner of your property will be held responsible for investigation or cleanup of this contamination, as long as you and any subsequent owners comply with the requirements of Wisconsin Statutes, Section 292.13, including access to your property for environmental investigation or cleanup if access is required. For further information on the requirements of

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Section 292.13, Wisconsin Statutes, you may obtain a copy of the WDNR's publication #RR-589, "Fact Sheet #10: Guidance for Dealing with Properties Affected by Off-Site Contamination" by accessing the following web address: http://dnr.wi.gov/org/aw/rr/archives/pubs/RR589.pdf. You would be responsible for any release which occurred at the site subsequent to your purchase of the site.

The WDNR will not review the case closure request for this site for at least 30 days after the date of this letter. As an affected property owner, you have a right to contact the WDNR to provide any technical information that you may have that indicates that closure should not be granted for the site. If you would like to submit any information to the WDNR that is relevant to this closure request, you should mail that information to: Wisconsin Department of Natural Resources, Southeast Service Center, 2300 N. Dr. Martin Luther King Jr. Drive, Milwaukee, WI 53212.

Should you or any subsequent property owner wish to construct a well on your property, special well construction standards may be necessary to protect the well from the residual groundwater contamination. Any well driller who proposes to construct a well on your property in the future will first need to call Diggers Hotline (1-800-242-8511) if your property is located outside the service area of a municipally-owned water system, or contact the Drinking Water program within the WDNR if your property is located within the designated service area of a municipally-owned water system, to determine if there is a need for special well construction standards.

Once the WDNR makes a decision on the case closure request for this site, it will be documented in a letter. If the WDNR grants closure, you may obtain a copy of this letter by requesting a copy from Sigma, by writing to the WDNR at the address given above, or by accessing the WDNR GIS Registry of Closed Remediation Sites on the internet at www.dnr.wi.gov/org/aw/rr/gis/index.htm.

If you need more information, you may contact Sigma at (414) 643-4200, Mr. Mike Helgesen of Jacobus at (414) 577-0217, or the WDNR at (262) 263-8639.

Sincerely,

SIGMA ENVIRONMENTAL SERVICES, INC.

Adam J. Roder

Adam J. Roder, P.E.
Project Engineer

Enclosures: Soil and Groundwater Quality Tables
Soil and Groundwater Quality Maps

cc: Mr. Mike Helgesen – Jacobus Energy, Inc.