CALCASIEU PARISH POLICE JURY
GOVERNING AUTHORITY OF CALCASIEU PARISH LOUISIANA

S. MARK MCMURRY
ADMINISTRATOR

OFFICE OF THE ADMINISTRATOR
PO Box 1583
Lake Charles, Louisiana 70602
337/ 721-3500
Fax 337/437-3399
Web www.cppj.net

MEMORANDUM

TO: Members of the Calcasieu Estuary Community Task Force

FROM: S. Mark McMurry, Parish Administrator SMmcMurry

DATE: December 15, 2003

Attached please find a copy of a news release relative to an agreement between PPG Industries, Inc., Citgo Petroleum Corporation, and the Louisiana Department of Environmental Quality (LDEQ) regarding the Cooperative Agreement on the performance of a corrective action study for Bayou D'Inde.

At a press conference held earlier this afternoon, Dr. Jim Brent and other officials with LDEQ, and representatives of the two companies were present to discuss the Cooperative Agreement.

I have attached a copy of said agreement for your perusal.

In speaking with Dr. Brent after the press conference, he indicated that he would like to appear before the Task Force after the drafting of the work plan by the companies. On Page Three of the Agreement under Section VI (1), it indicates that the draft of the work plan should be completed within ninety days of the effective date of this Agreement, which apparently is December 12, 2003.

It is my impression, from my conversation with Dr. Brent, that no approval by LDEQ of this work plan will be forthcoming until it is presented to the Task Force by LDEQ.

John Meyer with the Environmental Protection Agency was unable to be present today, but I am told that he had reviewed the Agreement and found it to be acceptable.

Please advise if you have any questions.

clc/s
Enclosures

NEWS RELEASE

CITGO Petroleum Corporation, P.O. Box 1562, Lake Charles, LA 70602
Patricia Prebula 337/708-6347 Shawn Trahan 337/708-7334
Facsimile 337/708-6229

PPG Industries, P.O. Box 1000, Lake Charles, LA 70602
Jim Rock 337/708-4823

FOR IMMEDIATE RELEASE:

December 15, 2003

PPG, CITGO SIGN AGREEMENT WITH LDEQ ON BAYOU D'INDE

Lake Charles, LA -- PPG Industries (PPG) and CITGO Petroleum Corporation (CITGO) announced today they have signed a Cooperative Agreement with the Louisiana Department of Environmental Quality (LDEQ) to perform a Corrective Action Study for Bayou D' Inde, a tributary of the Calcasieu Estuary.

The two companies executed the agreement with LDEQ on December 12, 2003. Within 90 days, CITGO and PPG will provide a draft workplan to the state agency, which will oversee and approve all work performed under the Corrective Action Study. Earlier this year, LDEQ was appointed by Region 6 of the U.S. Environmental Protection Agency as the lead agency for additional evaluations of Bayou D'Inde.

"We believe cooperating with LDEQ and promptly addressing any potential issues related to Bayou d'Inde is the right thing to do," said Dick Holliday, Works Manager for PPG's Lake Charles Complex. "PPG has a history of environmental stewardship and wants to assure the various regulatory agencies and the local community that we are committed to this project."

Al Prebula, Vice President, Lake Charles Manufacturing Complex, stated, "CITGO continues its commitment to be a safe and environmentally conscious corporate citizen that cares about the health and safety of its employees and the community. We are committed and have worked hard with the LDEQ and PPG to move this project forward."

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The work will be performed under the direction and supervision of a qualified professional team with expertise in environmental site investigation. Two contractors, Anchor and BBL, have been selected and approved as expert environmental consultants to carry out the specific activities of the Corrective Action Study.

Bayou D' Inde is approximately nine miles long and is located in the northern portion of the Calcasieu Estuary, west of the city of Lake Charles. Bayou D' Inde's headwaters begin in the western portion of Sulphur near the Interstate 10 Bridge.

CITGO Petroleum Corporation, based in Tulsa, Okla., is a refiner, transporter and marketer of transportation fuels, lubricants, petrochemicals, refined waxes, asphalt and other industrial products. It is owned by PDV America, Inc., an indirect wholly owned subsidiary of Petróleos de Venezuela, S.A., the national oil company of the Republic of Venezuela.

Founded in 1883, Pittsburgh-based PPG Industries is a global supplier of coatings, glass, fiber glass and chemicals, with 113 manufacturing facilities and equity affiliates in 23 countries. Sales were US $8.1 billion in 2002.

For more information on CITGO, visit www.citgo.com. For more information on PPG, visit www.ppg.com

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COOPERATIVE AGREEMENT FOR CORRECTIVE ACTION STUDY

BETWEEN
THE STATE OF LOUISIANA
DEPARTMENT OF ENVIRONMENTAL QUALITY

AND

PPG INDUSTRIES, INC.
CITGO PETROLEUM CORPORATION

IN THE MATTER OF

THE BAYOU d'INDE SITE

AI #7443

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I. PARTIES

The Louisiana Department of Environmental Quality (hereinafter "LDEQ"), and PPG INDUSTRIES, INC. (PPG) and CITGO PETROLEUM CORPORATION (Citgo) [hereinafter "Potentially Responsible Parties (PRPs)"], who by the signature of their duly authorized and empowered agents, agree to the terms and conditions of this Agreement. Other persons may be added to this Agreement pursuant to Section XXIII.

II. AUTHORITY

This enforceable Agreement is entered into pursuant to the authority vested to LDEQ under provisions of the "Louisiana Environmental Quality Act", La. R.S. 30:2001, *et seq.* The activities conducted pursuant to this Agreement are subject to acceptance by LDEQ.

III. OBJECTIVES

In entering into this Agreement, the mutual objectives of the LDEQ and the PRPs are: to establish integrated, site-specific preliminary RECAP standards for the SITE and to conduct

a Corrective Action Study to evaluate remedial alternatives for the SITE as provided in this Agreement.

IV. SITE LOCATION

Bayou d'Inde is greater than nine miles long and is located in the northern portion of the Calcasieu Estuary, west of the city of Lake Charles, Louisiana. Bayou d'Inde's headwaters originate in the western portion of Sulphur, Louisiana near the Interstate 10 Bridge. Bayou d'Inde flows primarily east-southeast and empties into the Calcasieu River Ship Channel southwest of Coon Island. For purposes of this Agreement, the SITE consists of Bayou d'Inde from the confluence of Little Bayou d'Inde to the Calcasieu River Ship Channel, including the small intermediate marshes along the banks of Bayou d'Inde near the confluence of Maple Fork Bayou and the more saline Lockport Marsh located at the confluence of Bayou d'Inde and the Calcasieu River Ship Channel (see Exhibit A). Consistent with RECAP, Areas of Investigation (AOIs) may be defined within the Site based on the work done under this Agreement.

V. SITE BACKGROUND

A Remedial Investigation (RI) was conducted for the Calcasieu Estuary in Calcasieu Parish, located in the southwestern corner of Louisiana. For the purposes of the RI, the Calcasieu Estuary study area extends from the saltwater barrier located north of Lake Charles to Moss Lake, and is situated north of the intersection of the Calcasieu River Ship Channel and the Intercoastal Waterway. The city of Lake Charles, Louisiana and several other smaller neighboring cities are located within the study area. The estuary is created by saltwater migrating north from the Gulf of Mexico via the Calcasieu River and freshwater draining toward the Gulf of Mexico from numerous inland rivers, bayous, and lakes.

The RI was conducted by the U.S. Environmental Protection Agency (EPA) Region VI addressing potential threats to human health and the environment related to releases of organic and inorganic chemicals to the estuary. The RI sampling and analysis was conducted in two phases; from December 1999 to March 2000 for Phase I, and from November 2000 to January 2001 for Phase II.

The RI report was finalized on August 29, 2003. The RI report identified portions of Bayou d'Inde as impacted from releases and discharges of hazardous substances. The LDEQ has alleged that the PRPs are potentially responsible for releases and discharges of hazardous substances or other substances that may have adversely impacted Bayou d'Inde, and that further evaluation and action is required. The PRPs have denied these allegations. With due regard for the protection of public health, welfare, and the environment, and with no admissions of fact, law, or liability, the PRPs have agreed to cooperate with the LDEQ in developing proposed remedial standards and performing a Corrective Action Study for the SITE as provided in this Agreement. This is a partial settlement and resolution of disputed claims, as set forth in Sections XXI, XXII, and XXIII of this Agreement.

VI. WORK TO BE PERFORMED

It is hereby AGREED that the PRPs shall perform the following work relating to the SITE:

1) Within ninety (90) calendar days of the effective date of this Agreement the PRPs shall submit a draft Work Plan for development of preliminary RECAP standards, identification of AOIs, and preparation of a Corrective Action study (CAS) meeting the requirements of LAC 33:VI.509 and Sections VI and IX of this Agreement.

2) Following LDEQ review and approval of the Work Plan, the PRPs shall begin implementation of the Work Plan within sixty (60) calendar days of approval of the Work Plan. The PRPs shall implement the Work Plan in accordance with the schedule in the Work Plan.

3) The Work Plan will provide for two phases of work. In the first phase, the PRPs shall develop and propose site-specific preliminary RECAP standards and identify the AOI(s) as provided in Section IX of this Agreement. LDEQ finds that the RI report prepared by EPA satisfies the requirements for a Remedial Investigation under LAC 33:VI.507, except that the draft RI report did not include preliminary RECAP standards or AOIs. The PRPs shall develop and propose preliminary RECAP standards and the SITE AOI(s) under this Agreement. Following LDEQ review and approval of the preliminary RECAP standards and AOI(s), the PRPs shall conduct a Corrective Action Study that evaluates potential remedial action alternatives (as defined in LAC 33:VI.117.A) for the SITE AOI(s) as provided in LAC 33:VI.509 and Section IX of this Agreement. The CAS shall demonstrate that one or more remedial action alternatives will meet the approved remedial standard for each AOI. Alternatively, the CAS may demonstrate that compliance with the approved remedial standard is technically impracticable or economically infeasible and may propose alternative remediation standard(s) as provided for in RECAP. The development and evaluation of alternatives shall reflect the full scope and complexity of the AOI(s) and the SITE.

VII. QUALIFIED PROFESSIONALS

All work performed pursuant to this Agreement shall be under the direction and supervision of a qualified professional with expertise in environmental site investigation, risk evaluation and/or remediation. Prior to the initiation of work under this Agreement, the PRPs shall notify LDEQ in writing regarding the name, title, and qualifications of such professionals and any contractors and/or principal subcontractors to be used in carrying out the terms of this Agreement.

VIII. DESIGNATED PROJECT MANAGERS

Within fifteen (15) calendar days after the effective date of this Agreement, LDEQ and the PRPs shall each designate a Project Manager (PM). Each party will notify the other in writing if it changes its PM. Each Project Manager shall be responsible for overseeing the implementation of this Agreement. To the maximum extent possible, communications between the PRPs and LDEQ and all documents, including work plans, reports, and correspondence, shall be directed through the Project Managers, as appropriate.

The responsibility of the LDEQ PM or his representative will be to observe and review all aspects of the work of the remediation contractor to ensure that all work is performed in accordance with the Work Plan(s), this Cooperative Agreement, the Louisiana Environmental Quality Act (La. R.S. 30:2001 *et seq.*), RECAP, and all applicable regulations.

The LDEQ Secretary or his designee shall have the authority to halt, conduct or direct any tasks required by this Agreement and/or any response actions or portions thereof when conditions present an immediate risk to public health or welfare or the environment. To the maximum extent feasible, LDEQ shall allow the PRPs to take any response action required pursuant to this clause.

The absence of the Project Managers from the SITE shall not be cause for the stoppage of work.

IX. MINIMUM REQUIREMENTS FOR WORK PLAN

A. The Work Plan required under Section VI shall require the PRPs to prepare the following for LDEQ review and approval:

1. A technical memorandum proposing site-specific preliminary RECAP standards consistent with Section 6 of RECAP (October 2003). The preliminary RECAP standards shall address the constituents of concern and pathways identified in the RI for the SITE, the findings of the human health and integrated ecological risk assessments performed as part of the RI, public comments on those assessments and agency responses to comments, and other available site-specific data as appropriate. The Work Plan shall specify which of the MO-3 submittals listed under RECAP Section 6.9 will be incorporated as requirements under this Agreement. Consistent with Section VI of this Agreement, the PRPs need not undertake tasks that were performed or items that were developed in the course of the RI, such as the Conceptual Site Model. Given the number of constituents evaluated in the RI, the PRPs may propose site-specific standards based on achievement of risk goals in lieu of individual numerical criteria for each constituent of concern.

2. A technical memorandum proposing the AOI(s) for the SITE (this may be provided as part of the technical memorandum proposing preliminary RECAP standards).

3. A Corrective Action Study (CAS) Report that identifies the approved remedial standard(s) and evaluates potential remedial alternatives for the AOI(s) in accordance with LAC 33:VI.509.

B. The CAS Report shall provide a comparison and evaluation of the potential remedial alternatives based on (1) the effectiveness in achieving the approved remedial standard(s); (2) the ability to technically and administratively implement the alternatives; (3) the relative cost of implementing the alternatives; (4) the ability to comply with all state and federal applicable, relevant, and appropriate requirements; and (5) the performance of any treatability studies. Remedial alternatives identified and evaluated in the CAS Report shall include a no further action alternative and at least one treatment-based alternative that will meet the approved remedial standard for each AOI. Alternatively, the PRPs may demonstrate that compliance with the approved remedial standard is technically impracticable or economically infeasible and may propose an alternative remedial standard for LDEQ review and approval as provided for in RECAP. The remedial alternatives may include steps to mitigate any actual or potential threats to natural resources or restoration of injured natural resources consistent with LAC 33:VI.509.C.5, to the extent known at the time of the CAS.

C. In the event that additional sampling and analysis is required, the Work Plan shall include (or be amended to include) a sampling and analysis portion that clearly states sampling objectives and their relevance to the Conceptual Site Model in the RI as applicable; necessary equipment; sample types, locations, and frequency; analyses of interest; and a schedule stating when events will take place and when deliverables will be submitted to LDEQ.

The sampling and analysis portion of the Work Plan shall also contain a discussion on quality assurance/quality control, including, at a minimum, the following:

- A project description;
- An organization chart illustrating the lines of responsibility of the personnel involved in the sampling;
- Quality assurance objectives for data such as the required precision and accuracy, completeness of data, representativeness of data, comparability of data, and the intended use of collected data;
- Sample custody procedures during sample collection, in the laboratory (as applicable), and as part of the final evidence files;
- The type and frequency of calibration procedures for field instruments and laboratory instruments (as applicable), internal quality control checks, and quality assurance performance audits and system audits;

- Preventative maintenance procedures, schedules and corrective action procedures for field instruments and laboratory instruments (as applicable);

- Data management and tracking procedures; and,

- Data validation procedures in accordance with Section XI of this Agreement.

D. If the Work Plan provides for any field work, the Work Plan shall contain a SITE health and safety portion that describes all necessary precautions for the safety of personnel involved in site activities in accordance with applicable OSHA requirements and shall provide the necessary protection to prevent damage, injury or loss to the surrounding community during the implementation of all SITE field work under the approved Work Plan. This portion must provide a SITE background discussion and describe personnel roles and responsibilities, protective equipment, health and safety procedures and protocols, decontamination procedures, personnel training, and type and extent of medical surveillance. This portion must identify problems or hazards that may be encountered and how they are to be addressed. Procedures for protecting third parties during SITE field work, such as visitors or the surrounding community, must also be provided.

X. LDEQ COMMENTING ON SUBMITTED DOCUMENTS

LDEQ shall review and provide written comments on the Work Plan, proposed remedial standards, and CAS Report prepared by the PRPs within a reasonable time. LDEQ shall notify the PRPs in writing of LDEQ's comments on these documents or any part thereof. Within sixty (60) calendar days of receipt of such comments, the PRPs shall either amend and submit to LDEQ the revised Work Plan(s)/reports or notify LDEQ in writing of the reasons for not adopting LDEQ's revisions. In the event that LDEQ is not satisfied that the revisions are responsive to the LDEQ comments, LDEQ may either elaborate on the comments or issue a notice of nonacceptance.

The time periods for action provided in this Agreement may be extended by mutual consent of the LDEQ and the PRPs .

XI. QA/QC AND DATA VALIDATION/EVALUATION

In accordance with Sections 2.4 and 2.5 of RECAP, analytical results developed or used pursuant to activities conducted under this Agreement shall not be accepted at face value. Limitations and uncertainties associated with such data shall be identified so that only data that are appropriate and reliable for use in quantitative risk assessment or other purposes under this Agreement are carried through the process. Data developed pursuant to this Agreement shall be reviewed to identify reliable, accurate, and verifiable numbers that are appropriate for their intended use considering the Data Quality Objectives ("DQO's") for such data. Specifically, the data shall be evaluated to assess the effect of Quality Control issues on data usability. **All data developed pursuant to this Agreement must be**

generated by an accredited laboratory in accordance with LAC 33: I. Chapters 45-47, Laboratory Accreditation. The laboratory shall be accredited in those parameters for the applicable test categories.

In accordance with Sections 2.4 and 2.5 of RECAP, all analytical data developed pursuant to this Agreement shall be evaluated with respect to analytical method, sample quantitation limits, data qualifiers and codes, and blank sample results. Data determined not to be acceptable for the intended use shall be identified and justification for the determination shall be given. The PRPs may use data collected during the RI or during any investigation previously approved by the LDEQ or EPA where appropriate and consistent with the DQO's for the data.

The PRPs will develop a data management system including field logs, sample management and tracking procedures, and document control and inventory procedures for both laboratory data and field measurements.

The PRPs will ensure that collected data has been validated at the appropriate field or laboratory QA/QC level to determine whether it is appropriate for its intended use. Such validation procedures shall be conducted in accordance with guidelines established by LDEQ. Validation shall include procedures to assess data precision, representativeness, comparability, accuracy, and completeness of specific measurement parameters.

One copy of a summary report of all validated analytical data shall be submitted to the LDEQ in accordance with Section XII and XVII. The summary report shall, at a minimum, meet the requirements of Exhibit B of this Agreement. If a fully supported data package is subsequently requested, the PRPS shall provide LDEQ with a fully supported data package within fifteen (15) calendar days of the request. The fully supported data package shall, at a minimum, meet the requirements of Exhibit B of this Agreement.

The LDEQ has implemented a data management system for electronic submission of analytical, geologic, lithologic and monitoring well data. The PRPs will submit one copy of such data developed under this Agreement via electronic data deliverables to the LDEQ. The electronic data format for these deliverables is as follows: analytical data in the TerraBase® "L2" EDD format; geologic data in the TerraBase® "GW" EDD format; lithologic data in the TerraBase® "SL" EDD format; and monitoring well data in the TerraBase® "MW" EDD format

XII. SAMPLING/ANALYSIS, ACCESS AND DATA AVAILABILITY

The PRPs shall make available to LDEQ under Section XVII a summary of the validated results of all sampling or other data generated or used (or reviewed and rejected) by the PRPs under this Agreement. The PRPs will notify LDEQ of the availability of all sampling or other data (validated or unvalidated) generated or used (or reviewed and rejected) by the PRPs under this Agreement in the monthly report following the PRPs' receipt of the data.

Upon written request by LDEQ, such data, including the full data package that the PRPs received from or that has been compiled by the laboratory, shall be provided to LDEQ within fifteen (15) calendar days after such request.

It is understood by LDEQ that any non-validated data submittals may contain inaccuracies or other inappropriate analytical results because such information has not been validated. Accordingly, such non-validated data will not be incorporated into any official finding of LDEQ or report provided by the PRPs hereunder until such validation has been performed. Consistent with Section XVII, the PRPs shall provide validated data to LDEQ in the monthly report that is due following the date forty-five (45) calendar days after the PRPs' receipt of the non-validated data from the laboratory. If any resampling is required, the PRPs shall notify LDEQ in writing fifteen (15) calendar days of determination that such resampling is required along with a written statement of the reason(s) that resampling is required.

LDEQ shall make available to the PRPs the results of all relevant sampling and/or tests or other data generated by LDEQ with respect to the SITE, which is not otherwise privileged. LDEQ will notify the PRPs of the availability of data within fifteen (15) calendar days after receipt by LDEQ. Upon written request by the PRPs, LDEQ shall submit data to the PRPs within ten (10) calendar days after such request.

The PRPs shall notify LDEQ not less than six (6) calendar days in advance of any planned sample collection activity under this Agreement and as soon as possible of any unplanned or emergency sample collection activity. At the request of LDEQ, the PRPs shall allow split or duplicate samples to be taken by LDEQ and/or its authorized representatives of any samples collected by the PRPs, or on the PRPs' behalf, pursuant to the implementation of this Agreement.

LDEQ shall notify the PRPs not less than six (6) calendar days in advance of any planned sample collection activity and as soon as possible of any unplanned or emergency sample collection activity. At the request of the PRPs, LDEQ shall allow split or duplicate samples to be taken by the PRPs of any samples collected by LDEQ during the performance of the work associated with this Agreement.

The PRPs may assert that certain documents, records, and other information are privileged under the attorney-client privilege or the attorney work product doctrine. Sampling or other analytical data generated pursuant to the requirements of this Agreement shall not be considered privileged information. If the PRPs assert a privilege in lieu of providing records or information or access to such records or information under this Agreement, they shall provide LDEQ with the following; (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of the author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the contents of the document, record, or information; and (6) the privilege asserted by the PRPs.

XIII. SITE ACCESS AND DOCUMENT AVAILABILITY

The PRPs shall notify LDEQ at least six (6) calendar days prior to the initiation of any field work under this Agreement. Further, to the extent that the PRPs own or control portions of the SITE, the PRPs shall grant LDEQ open access to such portions of the SITE and provide LDEQ with an opportunity to observe all field work under this Agreement.

LDEQ and/or any LDEQ authorized representative shall have the authority to enter and freely move about all property owned or controlled by the PRPs that is part of the SITE for any purpose authorized by law, which includes but is not limited to: inspecting records, operating logs, and contracts related to the SITE; reviewing the progress of the PRPs in carrying out the terms of this Agreement; conducting such tests as LDEQ or the LDEQ PM deem necessary; using camera, sound recording, or other documentary type equipment; and verifying the data submitted to LDEQ by the PRPs. When possible, LDEQ shall give the PRPs reasonable notice before entry. The PRPs shall permit such persons, at their cost, to inspect and copy all records, files, photographs, documents and other writings, including all sampling and monitoring data, that are generated, developed, or used (or reviewed and rejected) under this Agreement. Furthermore, where such records and documents are maintained in a location other than on the Site, the PRPs shall make such records and documents available for LDEQ review, inspection and copying upon request and reasonable notice.

If any third party access agreements are necessary for the implementation of this Agreement, the PRPs shall use reasonable efforts to obtain such access agreements as soon as practicable. If, despite such reasonable efforts, the PRPs are unable to obtain a necessary third party access agreement, the PRPs shall so advise LDEQ and LDEQ agrees to assist in obtaining any said third party access agreements. Such agreements shall provide for access by LDEQ and/or its authorized representatives to the land subject to the access agreements. Failure by the PRPs to obtain access agreements, after use of such reasonable efforts, does not constitute a breach of this Agreement. Failure by the PRPs to obtain a necessary third party access agreement, after use of such reasonable efforts, shall qualify as a force majeure event pursuant to Section XXXI (FORCE MAJEURE) and the affected work at the SITE will be delayed until the appropriate third party access agreement is obtained. LDEQ will assist the PRPs in obtaining whatever access is needed to lands owned by the State at the SITE for purposes of conducting work under this Agreement.

XIV. CHANGING SITE CONDITIONS

If conditions at the SITE materially change or significant new information is developed during performance of the work specified under this Agreement, LDEQ and/or the PRPs may determine that additional, different, or fewer tasks, such as further investigation work, engineering and technology evaluation, or other actions, are necessary. The party discovering such findings shall immediately notify the other party. Within thirty (30) calendar days of receipt of such notice, each party will notify the other as to whether or not the Agreement needs to be modified to accommodate changing site conditions or significant

new information. Upon written agreement of the parties hereto, this Agreement may be modified as necessary to address such changing site conditions or significant new information. If the parties do not agree to the inclusion of these tasks, the parties shall proceed in accordance with Section XX (Dispute Resolution) provisions. This section is not intended to expand the scope of Section VI (WORK TO BE PERFORMED). This section is only applicable to additional, different, or fewer tasks that are within the scope of Section VI (WORK TO BE PERFORMED). Regarding any additional or different tasks not within the Scope of Section VI (WORK TO BE PERFORMED), the parties reserve their rights and defenses under all available authorities.

XV. ACTIVITY SCHEDULE

All activities shall be implemented according to a schedule agreed upon by LDEQ and the PRPs, unless a specific time is set forth by this Agreement. The schedule shall be delineated in the Work Plan(s) and shall, as a minimum, include a time line bar chart, supplemented with text to briefly describe each task and subtask. The LDEQ and the PRPs may alter the agreed-upon schedule only by mutual consent and in writing.

XVI. STIPULATED PENALTIES

The PRPs shall be liable to the LDEQ for failure to comply with the requirements of this Agreement, including any Work Plans required by this Agreement, unless excused under Section XXXI (FORCE MAJEURE) or otherwise approved by the LDEQ. Compliance by the PRPs shall include completion of the activities specified in this Agreement and any approved Work Plans in accordance with the Agreement and/or the Work Plan and all applicable requirements of law, within the specified time schedules established pursuant to this Agreement and/or Work Plans.

The following stipulated penalties shall accrue per violation per day for noncompliance with any of the following major milestones:

Failure to submit a Work Plan in accordance with Sections VI, IX, and X of this Agreement;

Failure to submit the technical memoranda on preliminary RECAP standards and AOIs in accordance with Sections VI, IX, and X of this Agreement; or

Failure to submit a Corrective Action Study in accordance with Sections VI, IX, and X of this Agreement.

Penalty per Violation Per Day	Number of Days PRPs are in Violation
$1,000.00	first through 30th day
$2,000.00	31st through 60th day

$3,000.00	61st day and beyond

The following stipulated penalties shall accrue per violation per day for any material noncompliance under this Agreement except as identified in the above paragraph.

Penalty Per Violation Per Day	Period of Noncompliance
$500.00	1st through 30th days
$1,000.00	31st day and beyond

Following LDEQ's determination that the PRPs have failed to comply with a requirement of this Agreement, LDEQ shall give the PRPs written notification of the same and describe the noncompliance. In its discretion, the LDEQ may send the PRPs a written demand for the payment of applicable stipulated penalties. Regardless of whether a written demand is made, penalties accrue as set forth above.

All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs, and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity or resolution of the dispute in accordance with Section XX (DISPUTE RESOLUTION); provided, however, that the accrual of stipulated penalties for any noncompliance unrelated to the three major milestones listed above shall be suspended after seven (7) days unless LDEQ provides notice of such noncompliance; and provided further that the accrual of stipulated penalties shall be suspended following the twentieth (20th) day after the PRPs request a hearing pursuant to the DISPUTE RESOLUTION process under Section XX until the Secretary or his designee renders a decision following such hearing pursuant to Section XX; and provided further that the accrual of stipulated penalties shall be suspended following the sixtieth (60th) day after the date the PRPs file a petition for judicial review of such decision until the court renders its final decision or order regarding such action.
All penalties accruing under this Section shall be due and payable to the LDEQ within 30 days of the PRPs'receipt from LDEQ a demand for payment of the penalties, unless the PRPs invokes the Dispute Resolution procedures under Section XX (DISPUTE RESOLUTION). All payments to the LDEQ shall be paid to the LDEQ Fiscal officer listed in Section XXVI.

The payment of penalties shall not alter in any way the PRPs'obligation to complete the performance of the Work required under this Agreement.

If the PRPs fails to pay stipulated penalties when due, the LDEQ may institute proceedings to collect the penalties, as well as interest. The PRPs shall pay interest at the same rate as specified for interest on investments of the Hazardous Substance Superfund established under Subchapter A of Chapter 98 of United States Code Title 26 rate on the unpaid balance.

Notwithstanding any other provision of this Section, the LDEQ may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Agreement.

XVII. PROGRESS REPORTS

The PRPs shall provide monthly written progress reports to LDEQ according to the schedule contained in the Work Plan(s). At a minimum, these progress reports shall: (1) describe all significant data gathering and planning activities; (2) contain a status report on all field activities; and (3) include a summary of all validated results from sampling and analysis, and a summary of all other validated data received by the PRPs in the course of any work performed at the SITE under this Agreement. Progress reports shall be submitted to LDEQ by the tenth (10th) calendar day of each month following the effective date of this Agreement.

XVIII. RECORD PRESERVATION

LDEQ and the PRPs agree that they shall preserve for the period stated in the next paragraph, despite any document retention policy to the contrary, all records and documents in their possession or in the possession of their divisions, employees, agents, or contractors which were generated, developed, or used (or reviewed and rejected) under this Agreement. Documents previously supplied to LDEQ may be excluded. This preservation requirement shall not apply to any records or documents that are attorney work-product or privileged attorney-client communications.

One copy of these documents shall be retained during the course of implementing the work under this Agreement and for a minimum of three (3) years after the work under this Agreement has been completed. Within this three (3) year period, upon written request of the LDEQ, the PRPs shall make available to LDEQ such records or copies of such records, except those records or documents which are attorney work-product or privileged attorney-client communications.

XIX. OFFICIAL ADDRESSES OF THE PARTIES

Correspondence (including acceptance letters, nonacceptance letters, etc.) and other documents to be submitted pursuant to this Agreement (including Work Plan[s] and report[s]) shall be sent to the following addresses or to such other addresses as the PRPs or LDEQ hereafter may designate in writing:

A. On behalf of the LDEQ:

Mr. Keith Casanova, Administrator
Office of Environmental Assessment

Remediation Services Division
Department of Environmental Quality
P.O. Box 4314
Baton Rouge, Louisiana 70821-4314

* All Work Plan(s) and reports shall be submitted in triplicate to LDEQ. unless submitted in acceptable electronic format.

B. On behalf of the PRPs :

Mr. Michael K. Huber
Project Manager
Bayou d'Inde PRP Group
P.O. Box 1000
Lake Charles, Louisiana 70602-1000

XX. DISPUTE RESOLUTION

If the PRPs objects to any LDEQ written notice of nonacceptance or decision made pursuant to this Agreement, the PRPs shall notify LDEQ in writing of their objection within ten (10) calendar days of receipt of such notice or decision. LDEQ and the PRPs shall then have an additional thirty (30) calendar days from the receipt by LDEQ of the notification of objection to reach an agreement. If an agreement cannot be reached on any issue within this thirty (30) calendar day period, LDEQ shall provide a written statement of its decision by certified mail to the PRPs within ten (10) calendar days of the expiration of the period to reach agreement. If the PRPs object to LDEQ's decision, they shall notify LDEQ in writing within twenty (20) calendar days after receipt of LDEQ's written statement of its decision, exclusive of date of receipt, of their objections and request for a hearing with the LDEQ Secretary or his designee. The issues raised in the request shall be set for hearing before a hearing officer. The hearing officer will render recommendations to the Secretary or his designee. The Secretary's or his designee's final decision or order after this hearing is Final Agency Action for the purpose of judicial review. In the event the PRPs fail to object to a LDEQ written notice of nonacceptance or decision made pursuant to this Agreement, the PRPs will be bound by such written notice of nonacceptance or decision.

If Section XX (DISPUTE RESOLUTION) is invoked with respect to a particular matter, all other work not directly affected thereby shall proceed according to the agreed upon schedule.

XXI. COVENANT NOT TO SUE

In consideration of the actions that will be performed and the payments that will be made by the PRPs under the terms of this Agreement, and except as specifically provided in Section XXII (RESERVATION OF RIGHTS), the State covenants not to sue or to take administrative action against the PRPs, pursuant to La. R.S. 30:2271 et seq or other state

or federal law for work performed by the PRPs or their respective successors, assigns, officers, directors, or employees (collectively "Released Persons") pursuant to this Agreement and for recovery of oversight costs and Past Costs as defined in Section XXVI. The Released Persons are not released from liability, if any, for any response actions beyond the scope of this Agreement. These covenants not to sue are conditioned upon the satisfactory performance by the PRPs of their obligations under this Agreement. If any of the Released Persons raises this covenant as a defense to any future State action, such Released Person bears the burden of showing that this covenant applies to such action and must demonstrate that the work performed met the terms and conditions of this Agreement. These covenants not to sue extend only to the Released Persons and do not extend to any other person.

XXII. RESERVATION OF RIGHTS

Notwithstanding any other provision of this Agreement, the LDEQ reserves, and this Agreement is without prejudice to, the right to institute judicial proceedings, or to issue an administrative order seeking to compel PRPs:

1. to perform further response actions relating to the Site beyond the scope of this Agreement.

2. to reimburse LDEQ for additional costs of response incurred in connection with such further response actions.

LDEQ and each of the PRPs reserves the right to take any action or pursue any available remedy pursuant to any legal authority for any breach of law, regulations, or this Agreement.

Except as expressly provided in Section XXI (COVENANT NOT TO SUE) of this Agreement, the PRPs and LDEQ expressly reserve all rights and defenses that they may have, including LDEQ's right, for good cause shown, both to not accept work performed by the PRPs which fails to meet the terms of this Agreement and to request that the PRPs perform tasks in addition to those detailed in the Work Plan(s).

The PRPs reserve all rights that they have or may have to assert claims against any person or entity, for matters or costs arising out of the SITE, operation or ownership of a portion of the SITE, arrangement for disposal of hazardous substances at the SITE, releases into the SITE, or this Agreement, including, but not limited to, claims for breach of contract, indemnity, contribution, nuisance, and claims under federal, state, and local laws.

XXIII. NO ADMISSION OF LIABILITY

Neither anything contained herein nor participation in this process shall constitute an admission of fact, law, liability, the violation of any statute, regulation, ordinance or law or responsibility for any activities regarding this SITE. Neither this Agreement nor the fact of participation of any party in this process shall be admitted as evidence of any admission or

as a declaration against interest by the PRPs in any proceeding. This Agreement may be admitted as evidence of its terms in any proceeding instituted by the parties.

It is expressly agreed and stipulated by the parties that this Agreement is entered in settlement and compromise, in recognition of the potential risks and expense of litigation.

XXIV. SUSPENSION OF PRESCRIPTION

It is expressly agreed and stipulated by the parties that the prescriptive period set forth in R.S. 30:2276(H) is suspended while this Agreement is in effect. The time period while this Agreement is in effect shall not be included in computing the time provided by R.S. 30:2276(H) for any cause of action arising under Chapter 12 of the Environmental Quality Act concerning the SITE. The suspension of prescription provided for herein is only effective between the parties hereto.

XXV. COMMUNITY RELATIONS

The PRPs agrees to prepare and submit for LDEQ approval a community relations plan, within sixty (60) days of a request from LDEQ, designed to inform citizens of SITE plans and activities, as well as provide opportunity for citizen input. The plan shall include a time schedule for the planned community relations activities and one or more of the following: public notice advertisements, public meetings, or newsletters. The PRPs shall be responsible for all community relations costs and shall be responsible for implementation of the plan under LDEQ supervision.

XXVI. REIMBURSEMENT OF OVERSIGHT COSTS

LDEQ may employ, arrange for, or contract with a qualified person to perform oversight tasks related to the work performed under this Agreement. The PRPs shall bear reasonable and necessary costs, incurred by LDEQ in connection with this Agreement and past costs as set forth below. Such qualified person shall keep accurate books and accounts of oversight costs. Such books and accounts may be audited by the PRPs upon written request. LDEQ will provide a quarterly status report to the PRPs on the amount and nature of oversight costs incurred by LDEQ in connection with this Agreement.

Within sixty (60) days after the effective date of this Agreement, the PRPs shall pay to the LDEQ as provided below the sum of $9,434.64 to resolve the LDEQ's claims against the PRPs for past costs relating to the Calcasieu Estuary study area through June 30, 2003 ("Past Costs").

Annually from the date of this signed Agreement, or as more frequently if deemed appropriate by LDEQ, LDEQ shall submit to the PRPs an accounting of oversight costs incurred by LDEQ with respect to this Agreement. If the PRPs disagrees with this accounting on the basis that costs incurred by LDEQ are not reasonable, not necessary or

excessive, then the PRPs may invoke Section XX (DISPUTE RESOLUTION) of this Agreement. The PRPs shall, within thirty (30) calendar days of the invoice date, unless they have invoked Section XX (DISPUTE RESOLUTION) before this 30 day period has passed, remit a check for the amount of those costs made payable to the Louisiana Department of Environmental Quality. Checks shall specifically reference the SITE, invoice number, and be mailed to the following address:

Mr. Darryl Serio, Fiscal Officer
Office of Management and Finance
Fiscal Services Division
Louisiana Department of Environmental Quality
PO Box 4303
Baton Rouge, LA 70821-4303

Attn: Accounting

A copy of this transmittal shall be mailed to:

Cost Recovery Officer
Office of Environmental Assessment
Remediation Services Division
Louisiana Department of Environmental Quality
Post Office Box 4314
Baton Rouge, Louisiana 70821-4314

Attn: Cost Recovery Center

LDEQ reserves the right to bring an action against any responsible party that is not a Released Person under this Agreement pursuant to La. R.S. 30:2271 *et seq.* and CERCLA for recovery of any costs incurred by LDEQ related to this Agreement and not reimbursed by the PRPs. LDEQ reserves the right to bring an action against any responsible party pursuant to La. R.S. 30:2271 *et seq.* and CERCLA for recovery of any other past and future costs incurred by LDEQ that are not addressed by this Agreement.

The PRPs shall in good faith pursue discussions with EPA at an appropriate time regarding reimbursement of oversight costs that EPA may incur in connection with performance of the Corrective Action Study under this Agreement.

XXVII. OTHER CLAIMS

Nothing in this Agreement shall constitute or be construed as a release of or from any claim, cause of action or demand in law or equity against any person, firm, partnership or corporation not a signatory to this Agreement for any liability it may have arising out of or related in any way to the generation, storage, treatment, handling, transportation, release, or

disposal of any hazardous substances, hazardous wastes, pollutants, or contaminants found at, taken to, or taken from the SITE.

XXVIII. OTHER APPLICABLE LAWS

All actions required to be taken pursuant to this Agreement shall be undertaken in accordance with requirements of all applicable local, state, and federal laws and regulations unless an exemption from such requirements is specifically provided in this Agreement, or in LDEQ's approval of actions under this Agreement. Notwithstanding the foregoing, this Agreement shall be interpreted and construed in accordance with the laws of the State of Louisiana.

XXIX. INDEMNIFICATION OF THE STATE OF LOUISIANA

The PRPs agrees to indemnify, save and hold the State of Louisiana, its agencies, departments, agents and employees, harmless from any and all claims or causes of action arising from or on account of acts or omissions of the PRPs or their officers, employees, receivers, trustees, agents or assigns, in carrying out the activities and performing work at the SITE pursuant to this Agreement. This indemnity does not extend to the liability, if any, of the state or any agency, department, officers, employees, agents, institution or political subdivision thereof as a generator or otherwise under La. R.S. 30:2271 *et seq*. or any other federal or state law prior to the effective date of this Agreement. This indemnity does not extend to claims or causes of action arising from or on account of acts or omissions of LDEQ, its employees, or contractors, performing work at the SITE.

XXX. EFFECTIVE DATE AND SUBSEQUENT NOTIFICATION

The effective date of this Agreement shall be the date ten (10) days after the date on which LDEQ notifies the PRPs that the fully executed Agreement should remain effective in its present form, pursuant to this Section.

This Agreement may only be amended by mutual agreement of LDEQ and the PRPs. Such amendments shall be in writing and shall have as the effective date, that date on which such amendments are signed by the Secretary of LDEQ or his designee.

No informal advice, guidance, suggestions, or comments by LDEQ regarding reports, plans, specifications, schedules, and any other writing submitted by the PRPs will be construed as relieving the PRPs of its obligations to obtain such formal acceptance as may be required by this Agreement.

Any reports, plans, specifications, schedules and attachments required by this Agreement are, upon acceptance by LDEQ, incorporated into this Agreement.

XXXI. FORCE MAJEURE

The PRPs shall be excused from performing the activities called for in this Agreement or the Work Plan(s), within the time limits and in the manner specified in the schedules included in this Agreement or the Work Plan(s), if such performance is prevented or delayed by circumstances which constitute *force majeure*. For purposes of this Agreement, *force majeure* is any circumstance including weather, acts of God, and other circumstances arising from causes beyond the PRPs' reasonable control despite the PRPs' due diligence and good faith efforts. In the event of *force majeure*, the time for performance of any activity delayed by the *force majeure* shall be extended for the time period of the delay attributable to the *force majeure* event and the time for performance of any activity dependent upon the delayed activity shall be similarly extended.

The PRPs shall notify LDEQ in writing as soon as reasonably possible but not later than fifteen (15) calendar days after the PRPs becomes aware of a circumstance which may delay or prevent (or has delayed or prevented) performance of any activity under the Work Plan(s). The notice shall state the cause and anticipated length of the delay, the measures taken by the PRPs to prevent or minimize such delay, and a timetable outlining when such measures were or will be taken.

If the parties do not agree as to whether or not the event(s) constitute(s) *force majeure*, the dispute shall be resolved in accordance with the provisions of Section XX (DISPUTE RESOLUTION).

XXXII. TERMINATION AND SATISFACTION

This Agreement shall be deemed satisfied and terminated upon the PRPs' receipt of written notice from LDEQ that the PRPs have completed all of the tasks of this Agreement, including any additional tasks that the PRPs have agreed to perform under this Agreement. LDEQ shall issue an appropriate written notice of satisfaction and termination of this Agreement not later than sixty (60) calendar days after the completion of all tasks under this Agreement.

XXXIII. PARTIES BOUND

Any person's signature on the attached "Signature Page to the Cooperative Agreement" shall constitute an agreement by that person, or as agent for a principal, to be bound by the terms and conditions of this Agreement. Any person may, before or after the effective date of this Agreement, agree to be bound by this Agreement.

This Agreement shall apply to and be binding upon the PRPs and LDEQ, their agents, successors and assigns.

No change in ownership or change in corporate or partnership status will in any way alter the PRPs' responsibility under this Agreement.

IT IS SO AGREED AND ORDERED:

BY: James H. Brent

James Brent, PhD.
Assistant Secretary
Office of Environmental Assessment
Department of Environmental Quality

WITNESSES:

Carrie Waddon

SWORN TO AND SUBSCRIBED, before me in the presence of the above witnesses, the undersigned Notary Public, on the 12th day of December, 2003.

Notary Public

COOPERATIVE AGREEMENT FOR CORRECTIVE ACTION STUDY

BETWEEN
THE STATE OF LOUISIANA
DEPARTMENT OF ENVIRONMENTAL QUALITY

AND

PPG INDUSTRIES, INC.
CITGO PETROLEUM CORPORATION

IN THE MATTER OF

THE BAYOU d'INDE SITE

AI #7443

****

Signature Page
to the Cooperative Agreement AI #7443

Know all persons that the undersigned hereby consents and agrees to be bound by the terms of this Cooperative Agreement, to which this signature page is made a part.

PPG INDUSTRIES, INC.

By: Rulion L. Holliday

Title: Works Manager, Lake Charles Complex

WITNESSES:

D. T. Barrett

Therese Johnson

SWORN TO AND SUBSCRIBED, before me, the undersigned Notary Public, on the 9TH day of DECEMBER, 2003.

Ralph David Buford
Notary Public - Calcasieu Parish, Louisiana
My Commission is for Life

COOPERATIVE AGREEMENT FOR CORRECTIVE ACTION STUDY

BETWEEN
THE STATE OF LOUISIANA
DEPARTMENT OF ENVIRONMENTAL QUALITY

AND

PPG INDUSTRIES, INC.
CITGO PETROLEUM CORPORATION

IN THE MATTER OF

THE BAYOU d'INDE SITE

AI #7443

****

Signature Page
to the Cooperative Agreement AI #7443

Know all persons that the undersigned hereby consents and agrees to be bound by the terms of this Cooperative Agreement, to which this signature page is made a part.

CITGO PETROLEUM CORPORATION

By: _____

Title: Vice President, LCMC

WITNESSES:

_____

_____

SWORN TO AND SUBSCRIBED, before me, the undersigned Notary Public, on the 11th day of December, 2003.

_____
Notary Public

Exhibit A

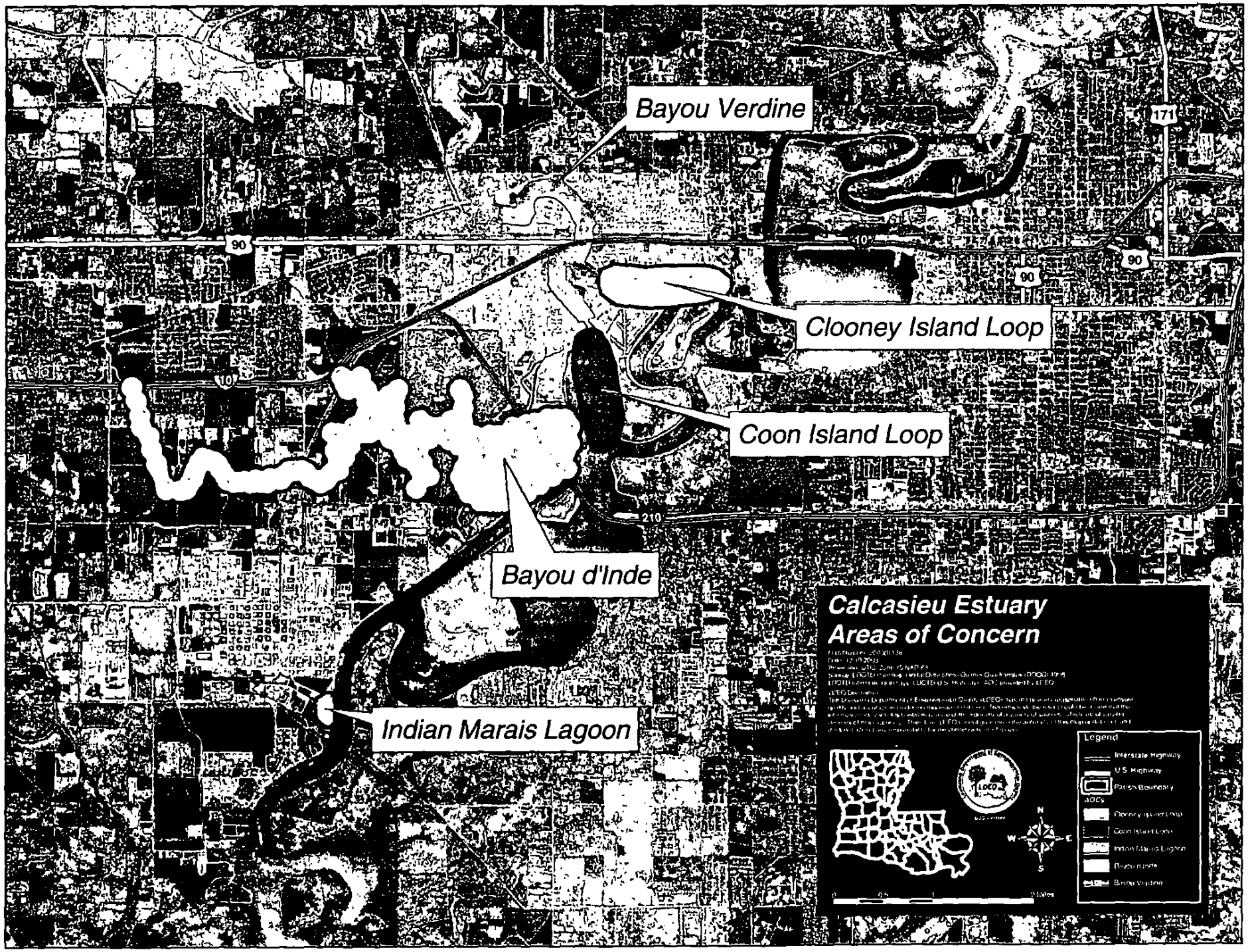
Bayou Verdine
Clooney Island Loop
Coon Island Loop
Bayou d'Inde
Indian Marais Lagoon
Calcasieu Estuary
Areas of Concern
Legend
Interstate Highway
U.S. Highway
Parish Boundary
AOCs
Clooney Island Loop
Coon Island Loop
Indian Marais Lagoon
Bayou d'Inde
Bayou Verdine
90
10
171
210

EXHIBIT "B"
REPORT REQUIREMENTS

Summary Reports:

I. General Requirements

A. Data Deliverable Quality

The data deliverable package shall be bound and paginated with reproduction quality such that all pages are legible.

B. Narrative

The report shall begin with a narrative that includes the laboratory certification number, the date of report preparation, a cross-reference between sample identifications and laboratory identifications, any and all method modifications, discussion of justification for higher than method-specified detection limits, and, if detected, the identification of the alkane TICs from the volatiles and semivolatiles analyses.

C. Chain-of-Custody Record

A completed copy of each chain-of-custody record shall be submitted. The chain-of-custody record must serve as documentation of the secure and appropriate handling of samples from the site to the laboratory. This document must legibly indicate the sample collector, all field identifications, the date and time of each sample collection, the analytical request, an indication of the appropriate chemical (where applicable) and physical preservation(s), documentation of all changes of custody (including names and affiliations of persons involved, date and time of exchange, and, if applicable, an overnight courier airbill number), the temperature of the sample cooler on receipt at the laboratory, a notation regarding the custody seal (i.e., intact, broken, not used), the condition of the samples on receipt at the laboratory (i.e., intact, breakage), and any general comments deemed necessary by anyone handling the samples (See Example in Appendix B).

D. Methodology Review

The methodology review must list the method numbers (including revision) for all analytical procedures (i.e., extraction, digestion, cleanup, and analytical finish), with a detailed discussion of any and all modifications.

E. Laboratory Chronicle

The laboratory chronicle shall detail actual sample holding times and specify the sample condition upon receipt at the laboratory (including sample temperature and pH when pH adjustment is required). Holding time begins at the time of sample collection.

F. Conformance/Non-Conformance Summary

A non-conformance summary shall be completed and signed by the laboratory. This summary must state that the laboratory has reviewed the quality assurance/quality control measures and identifies any deviations from the accepted practices or results. Problems observed during the analysis of each sample and analytical fraction must be discussed. Method or laboratory qualifiers applied to the results denoting quality control deficiencies shall be defined including the potential impact to the reported results.

II. GC/MS Requirements

A. Analytical Results Summary (i.e., CLP Form I and Form I-TIC or equivalent)

An analytical results summary form shall be submitted for each sample and for each GC/MS analytical fraction (i.e., volatiles and semivolatiles). Each form shall contain the following information: field and laboratory identifications, date sample received, date sample extracted (if applicable), SDG number, sample matrix, date sampled and analyzed, sample weight/volume, sample moisture content (if applicable), dilution factor, GC column used, list of analytes, concentration units, method detection limit, practical quantitation level, detected analyte concentrations, and laboratory qualifiers. In addition, a separate form for tentatively identified compounds (TICs) shall be submitted for each sample and for each GC/MS analytical fraction. Each TIC shall be identified by compound name or class (if it can be determined) and CAS number, where applicable, along with its retention time and estimated concentration.

B. Surrogate Compound Recovery Results Summary (i.e., CLP Form II or equivalent)

A summary form shall be submitted which contains the following information for all field samples, method blanks, and QC samples for each GC/MS analytical fraction: sample identification number, sample matrix, surrogate compound names, concentration of surrogate compounds used, surrogate compound recoveries, and QC limits for each surrogate compound.

C. Matrix Spike/Matrix Spike Duplicate Results Summary (i.e., CLP Forms I and III or equivalent)

An analytical results form shall be submitted for all matrix spike/matrix spike duplicate samples for all analytical fractions. Each form shall contain the information listed for the target compounds as provided in the Analytical Results Summary.

A summary form shall be submitted for each sample matrix and each GC/MS analytical fraction which contains the following information: sample identification number for the sample selected for spiking, list of spiked compounds, concentration of each spiked compound, original sample (unspiked sample) concentrations, matrix spike concentrations, matrix spike percent recovery, matrix spike duplicate concentrations,

matrix spike duplicate percent recovery, relative percent difference, and QC limits for percent recovery and relative percent difference.

D. Method Blank Results Summary (i.e., CLP Forms I and IV or equivalent)

An analytical results form shall be submitted for all laboratory method blanks associated with the field and quality control samples for all analytical fractions. Each form shall contain the information listed for the target compounds as provided in the Analytical Results Summary.

In addition, a separate form shall be submitted which contains the identification of the Method Blank, the information listed for the Analytical Results Summary, and a listing of all field and QC samples associated with each method blank.

E. Instrument Performance Check (Tuning) Results Summary (i.e., CLP Form V or equivalent)

Instrument performance check (tuning) results for each 12-hour period (all initial and continuing calibrations) that are associated with all samples and standards shall be submitted for each GC/MS analytical fraction. Each form shall contain the following information: laboratory file ID, instrument ID, injection date and time, the m/e (mass to ion charge) listing for the key ions, the reported ion relative abundance, the ion abundance criteria and a listing of all standards, blanks, QC samples and field samples (including date and time of analysis) associated with the tune.

F. Calibration Summary (i.e., CLP Forms VI and VII or equivalent)

A summary of all initial and continuing calibrations that are associated with all samples and blanks shall be submitted for each GC/MS analytical fraction.

The following information shall be provided for each initial calibration: instrument ID, calibration date and time, listing of standard concentrations used, laboratory file ID for each calibration standard, indication of purge type (heated or ambient, where applicable), retention times for each target analyte and surrogate compound, the RF for each target and surrogate compound, the average RRF for each target analyte and surrogate compound, and percent relative standard deviation for each target and surrogate compound.

The following information shall be provided for each continuing calibration: instrument ID, calibration date and time, date and time of the associated initial calibration, the standard concentration used, the laboratory file ID for the calibration standard, the average RRF for each target analyte and surrogate compound from the associated initial calibration, the RRF for each target analyte and surrogate compound from the continuing calibration, and the percent difference for each target analyte and surrogate compound.

G. Internal Standard Summary (i.e., CLP Form VIII or equivalent)

A summary form shall be submitted which contains the following information for all standards, field samples, method blanks, and QC samples for each analytical fraction: sample ID number, ID of laboratory calibration standard, internal standard compound names, retention times of each internal standard, area of each internal standard, and QC criteria for internal standard areas and retention times.

H. Laboratory Control Sample Results

When specified by the analytical method or performed by the laboratory as additional quality control, the results of the laboratory control (quality control) sample shall be submitted. The following information shall be reported: control sample matrix, list of all target analytes, the true concentrations for each analyte in the control sample, the reported concentration for each target analyte in the control sample, the percent recovery for each target analyte, and the QC limit for percent recovery for each target analyte.

III. GC Requirements

A. Analytical Results Summary (i.e., CLP Form I-Pest or equivalent)

An analytical results summary form shall be submitted for each sample. Each form shall contain the following information: field and laboratory sample identifications, sample matrix, SDG number, date sample received, date sample extracted, date sample analyzed, sample weight/volume, sample moisture content (if applicable), dilution factor, GC columns used, list of analytes, concentration units, method detection limit, practical quantitation level, detected analyte concentrations, and laboratory qualifiers.

B. Surrogate Compound Recovery Results Summary (i.e., CLP Form II-Pest or equivalent)

A summary form shall be submitted which contains the following information for all field samples, method blanks, and QC samples: sample identification number, sample matrix, surrogate compound names, concentration of surrogate compounds used, surrogate compound recoveries and QC limits for each surrogate compound.

C. Matrix Spike/Matrix Spike Duplicate Results Summary (i.e., CLP Forms I- and III-Pest or equivalent)

An analytical results form shall be submitted for all matrix spike/matrix spike duplicate samples for all analytical fractions. Each form shall contain the information listed for the target compounds as provided in the Analytical Results Summary.

A summary form shall be submitted for each sample matrix and each GC/MS analytical fraction which contains the following information: sample identification number for the sample selected for spiking, list of spiked compounds, concentration of each spiked compound, original sample (unspiked sample) concentrations, matrix spike concentrations, matrix spike percent recovery, matrix spike duplicate concentrations,

matrix spike duplicate percent recovery, relative percent difference, and QC limits for percent recovery and relative percent difference.

D. Method Blank Results Summary (i.e., CLP Forms I and IV-Pest or equivalent)

An analytical results form shall be submitted for all method blanks associated with all field samples. Each form shall contain the information listed for the target compounds as provided in the Analytical Results Summary.

In addition, a separate form shall be submitted which contains the identification of the Method Blank, the information listed for the Analytical Results Summary, and a listing of all field and QC samples associated with each method blank.

E. Standards Summary (i.e., CLP Forms VI Pest-1, -2 and B3 or equivalent)

A summary form containing GC standards information of all associated samples shall be submitted for both primary and confirmation analyses. This summary shall contain the following information: instrument ID, GC column used and notation if primary or confirmation analysis, date and time of standard(s) analysis, concentration of each standard, listing of all associated field, QC, and method blank samples, listing of target compounds, retention time windows of each target compound, and calibration factor for each target compound.

F. Calibration Verification Summary (i.e., CLP Forms VII Pest-1 and B2 or equivalent)

Summary forms shall be submitted containing the following information: the column identification, the date of the associated initial calibration, the date and time of analysis and identity of the associated instrument blank, the date and time of analysis and the identity of the associated standard (PEM or Individual A and Individual B), a list of the analytes included in the standard, the retention times of the analytes, the retention time windows established in the initial calibration, the calculated amount (ng), the nominal amount (ng), the relative percent difference between the calculated and nominal amounts, the percent breakdown of 4,4=-DDT, endrin, and the combined breakdown (for the PEM standards).

G. Laboratory Control Sample Results

When specified by the analytical method or performed by the laboratory as additional quality control, the results of the laboratory control (quality control) sample shall be submitted. The following information shall be reported: control sample matrix, list of all target analytes, the true concentrations for each analyte in the control sample, the reported concentration for each target analyte in the control sample, the percent recovery for each target analyte, and the QC limit for percent recovery for each target analyte.

IV. Metals Requirements

A. Analytical Results Summary (i.e., CLP Form I-IN or equivalent)

An analytical results form shall be submitted for each sample. Each form shall contain the following information: field and laboratory sample identifications, SDG number, sample matrix, date sample received, sample solids content (if applicable), list of target analytes, concentration units, detected analyte concentrations, method detection limits, and laboratory qualifiers as appropriate.

B. Calibration Summary (i.e., CLP Forms II Part 1 and Part 2-IN or equivalent)

A calibration summary form shall be submitted for all initial calibration standards and continuing calibration verification standards associated with field samples, blanks, and QC samples. Each form shall contain the following information: list of all target analytes, the true concentration for the initial and continuing calibration verification standards, the reported (or found) concentrations for the initial and continuing calibration verification standards, and the percent recovery for each initial and continuing calibration verification standard.

A summary form shall be submitted for each check standard, including the following information: the identification of the AA standard, the identification of the ICP standard, a list of the target analytes included in the standards, the true value of each analyte in the initial check standard, the reported (or found) concentration for each analyte in the initial check standard, the percent recovery of each analyte in the initial check standard, the reported (or found) concentration of the final check standard, and the percent recovery and quality control limits for each analyte in the final check standard.

C. Blank Results Summary (i.e., CLP Form III-IN or equivalent)

A blank results form shall be submitted for all instrument calibration blanks and preparation blanks associated with all field and QC samples. Each form shall contain the following information: list of all target analytes, matrix of the preparation blank, concentration units of the preparation blank, reported concentration of all target analytes found in all calibration and preparation blanks, and method detection limits.

D. ICP Interference Check Sample Results Summary (i.e., CLP Form IV-IN or equivalent)

If metals analysis is being conducted by ICP methodology, results of the interference check samples analyses shall be reported. The following information shall be reported: list of all target analytes in the interference check sample, the true concentration of analytes in the interference check sample, the reported concentrations of analytes found in the interference check sample for both the initial and final check samples analyses, the percent recovery of the target analytes found in the initial and final check samples analyses and the QC control limits for percent recovery values.

E. Spike Sample Results Summary (i.e., CLP Form V-IN or equivalent)

A summary of the spike sample analysis shall be submitted. The following information shall be reported: ID number of the sample chosen for spiking, sample matrix, the concentration of each spiked target analyte, the results of the unspiked sample analysis, the results of the spiked sample analysis, the percent recovery for each spiked analyte, and the QC limit for percent recovery for each spiked analyte.

F. Duplicate Sample Results Summary (i.e., CLP Form VI-IN or equivalent)

A summary of the duplicate sample analysis shall be submitted. The following information shall be reported: ID number of the original sample and the duplicate sample, sample matrix, results of the original sample analysis, results of the duplicate sample analysis, the relative percent difference of each target analyte for the original and duplicate sample analyses, and the QC limit for relative percent difference for each target analyte.

G. Laboratory Control Sample Results

When specified by the analytical method or performed by the laboratory as additional quality control, the results of the laboratory control (quality control) sample shall be submitted. The following information shall be reported: control sample matrix, list of all target analytes, the true concentrations for each analyte in the control sample, the reported concentration for each target analyte in the control sample, the percent recovery for each target analyte, and the QC limit for percent recovery for each target analyte.

V. Conventional Chemistry Requirements

A. Analytical Results Summary

An analytical results form shall be submitted for each sample. Each form shall contain the following information: field sample identification, SDG number, sample matrix, date sample received, date(s) of sample analysis, sample solids content (if applicable), dilution factor (if any), list of target analytes, concentration units, detected analyte concentrations, method detection limits, and laboratory qualifiers.

B. Blank Results Summary

A blank results form shall be submitted for all method blanks associated with all field and QC samples. Each form shall contain the following information: list of all target analytes, matrix of the method blank, concentration units of the method blank, reported concentration of all target analytes found in all method blanks, and method detection limits.

C. Spike Sample Results Summary

A summary of the spike sample analysis shall be submitted. The following information shall be reported: ID number of the sample chosen for spiking, sample matrix, the

concentration of each spiked target analyte, the results for the unspiked sample analysis, the results for the spiked sample analysis, the percent recovery for each spiked analyte, and the QC limit for percent recovery for each spiked analyte.

D. Duplicate Sample Results Summary

A summary of the duplicate sample analysis shall be submitted. The following information shall be reported: ID number of the original sample and the duplicate sample, sample matrix, results for the original sample analysis, results of the duplicate sample analysis, the relative percent difference of each target analyte between the original and duplicate sample analyses, and the QC limit for relative percent difference for each target analyte.

E. Laboratory Control Sample Results

When specified by the analytical method or performed by the laboratory as additional quality control, the results of the laboratory control (quality control) sample shall be submitted. The following information shall be reported: control sample matrix, list of all target analytes, the true concentrations for each analyte in the control sample, the reported concentration for each target analyte in the control sample, the percent recovery for each target analyte, and the QC limit for percent recovery for each target analyte.

VI. Petroleum Hydrocarbon Requirements

A. Analytical Results Summary

An analytical results summary form shall be submitted for each sample. Each form shall contain the following information: the field and laboratory sample identifications, the SDG number, date sample received, date sample extracted, date sample analyzed, sample weight/volume, sample moisture content (if applicable), dilution factor, identity of GC instrument used, the volume of extract injected, GC column used, concentration units used, list of analytes, method detection limit, practical quantitation level, detected analyte concentrations, and laboratory qualifiers.

B. Method Blank Results Summary

An analytical results form shall be submitted for all method blanks. Each form shall contain the information listed for the target compounds as provided in the Analytical Results Summary.

In addition, a separate form shall be submitted which contains the identification of the Method Blank, the information listed for the Analytical Results Summary, and a listing of all field and QC samples associated with each method blank.

C. Standards Summary

A summary form containing GC standards information for all associated samples shall be submitted for analyses. This summary shall contain the following information: instrument ID number, GC column used, data and time of standard(s) analysis, volume injected, listing of all associated field, QC, and method blank samples, identity of each analyte in the hydrocarbon standard and/or the identity of petroleum product standard(s), retention times of each analyte in the hydrocarbon standard (when applicable), retention times of the surrogates and internal standard (when applicable), retention times of pristine and phytane (when applicable), retention time windows for each surrogate (when applicable), response factors/relative response factors used for quantitation determinations, response factors/relative response factors of surrogates, and percent relative standard deviations/percent differences of the surrogates.

D. Surrogate Compound Recovery Results Summary

If required by the analytical method, a summary form shall be submitted containing the following information for all field samples, method blanks, and QC samples: field sample identification, sample matrix, surrogate compound names, concentration of surrogate compounds used, surrogate compound recoveries, and QC limits for each surrogate compound.

E. Matrix Spike Results Summary

If required by the analytical method, a summary form shall be submitted for each sample matrix which contains the following information: field sample identification for the sample selected for spiking, sample matrix, identification and concentration of each spiked analyte/petroleum product, original sample (unspiked sample) concentrations, matrix spike concentrations, matrix spike percent recovery, and QC limits for percent recovery for each spiked analyte/petroleum product.

F. Quality Control Check Standard Summary

If required by the analytical method, a summary form shall be submitted which contains the following information: identification of the sample, concentration of each spiked analyte/petroleum product, the results of the spiked sample analysis, the percent recovery for each spiked analyte/petroleum product, and the QC limits for percent recovery for each spiked analyte/petroleum product.

G. Duplicate Sample Results Summary

A summary of the duplicate sample results shall be submitted which contains the following information: field ID of the original sample and the duplicate sample, sample matrix, results of the original sample analysis, results of the duplicate sample analysis, the relative percent difference calculated from the original and duplicate sample results, and the QC limit for relative percent difference (when applicable).