BOBBY JINDAL
GOVERNOR

HAROLD LEGGETT, PH.D.
SECRETARY

State of Louisiana

DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL SERVICES

Certified Mail No.:

Activity No.: PER20060001
Agency Interest No.: 146070

Mr. Troy E. Valenzuela
Director Environmental, Health & Safety
P.O. Box 4648
Houston, TX 77210-4648

RE: Permit, Plains Marketing LP - Gibson Terminal, Plains Marketing LP
Gibson, Terrebonne Parish, Louisiana

Dear Mr. Valenzuela:

This is to inform you that the permit request for the above referenced facility has been approved under LAC 33:III.501. The submittal was approved on the basis of the emissions reported and the approval in no way guarantees the design scheme presented will be capable of controlling the emissions as to the types and quantities stated. A new application must be submitted if the reported emissions are exceeded after operations begin. The synopsis, data sheets, and conditions are attached herewith.

It will be considered a violation of the permit if all proposed control measures and/or equipment are not installed and properly operated and maintained as specified in the application.

Also enclosed is a document entitled "General Information." Please be advised that this document contains a summary of facility-level information contained in LDEQ's TEMPO database and is not considered a part of the permit. Please review the information contained in this document for accuracy and completeness. If any changes are required or if you have questions regarding this document, you may contact Mr. David Ferrand, Environmental Assistance Division, at (225) 219-3247 or email your changes to facupdate@la.gov.

The permit number cited below and agency interest number cited above should be referenced in future correspondence regarding this facility.

Done this _____ day of _____, 2008.

Permit No.: 2880-00373-00

Sincerely,

Cheryl Sonnier Nolan
Assistant Secretary
CSN:jdl

AIR PERMIT BRIEFING SHEET
AIR PERMITS DIVISION
LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY

Plains Marketing LP - Gibson Terminal
Agency Interest No.: 146070
Plains Marketing LP
Gibson, Terrebonne Parish, Louisiana

I. BACKGROUND

Plains Marketing LP, Plains Marketing LP - Gibson Terminal is a new storage terminal. This will be the initial operating permit for the facility.

II. ORIGIN

An initial permit application and Emission Inventory Questionnaire (EIQ) dated October 12, 2006 were received requesting an initial permit. Additional information dated February 6, 2007, April 25, 2007, August 27, 2007, and September 7, 2007 was received. An updated permit application and EIQ were submitted on November 13, 2007. Additional information for the updated application dated March 3, 2008, July 1, 2008, and September 15, 2008 were also received.

III. DESCRIPTION

Plains Marketing LP, Plains Marketing LP – Gibson Terminal is a new crude oil terminal. Crude oil will enter the facility and leave the facility by pipeline.

This initial permit will construct one 300,000 barrel external floating roof tank (EQT 01) that will be used to store crude oil. The total facility throughput respresented in the application is 100 million barrels per year.

Estimated emissions from this facility in tons per year are as follows:

Pollutant	Before	After	Change
VOC [1]	-	16.84	+ 16.84

[1] VOC speciation in tons per year:

LAC 33:III. Chapter 51 Toxic Air Pollutants TAP's	Emissions in Tons per year
Benzene	0.09
Cumene	0.01
Ethyl benzene	0.04
n-Hexane	0.08
Hydrogen Sulfide	0.01
Toluene	0.11
Xylene	0.14
Total TAPs	0.48
Other VOC's	16.36

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Plains Marketing LP - Gibson Terminal
Agency Interest No.: 146070
Plains Marketing LP
Gibson, Terrebonne Parish, Louisiana

IV. TYPE OF REVIEW

This permit was reviewed for compliance with Louisiana Air Quality Regulations. Prevention of Significant Deterioration (PSD) and National Emission Standards for Hazardous Air Pollutants (NESHAP) do not apply.

The crude oil storage tank is subject to New Source Performance Standard 40 CFR 60 Subpart Kb. This tank will be an external floating roof tank equipped with mechanical shoe seals.

This facility is a minor source of LAC 33:III.Chapter 51 Toxic Air Pollutants (TAPs).

V. PUBLIC NOTICE

The initial permit application submitted in October 2006 contained federally enforceable conditions to maintain VOC emissions from the terminal below the Part 70 operating permit major source threshold of 100 tons/year. A notice requesting public comment on the permit was published in *The Advocate* and *The Courier* on June 8, 2007. No comments were received during the comment period.

A public hearing for this facility was held on October 18, 2007. A notice for the hearing was published in *The Advocate* and *The Courier* on September 17, 2007. A total of 101 comments were received from the hearing.

Due to revised permit application information submitted to LDEQ, a notice requesting public comment on the permit was published in *The Advocate*, Baton Rouge, on **<date>**, 2008; and in the <local paper>, <local town>, on **<date>**, 2008. A copy of the public notice was mailed to concerned citizens listed in the Office of Environmental Services Public Notice Mailing List on **<date>**. All comments will be considered prior to the final permit decision.

AIR PERMIT BRIEFING SHEET
AIR PERMITS DIVISION
LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY

Plains Marketing LP - Gibson Terminal
Agency Interest No.: 146070
Plains Marketing LP
Gibson, Terrebonne Parish, Louisiana

VI. EFFECTS ON AMBIENT AIR

Emissions associated with the proposed modification were reviewed by the Air Quality Assessment Division to ensure compliance with the NAAQS and AAS. LDEQ did not require the applicant to model emissions.

Dispersion Model(s) Used: <None>

Pollutant	Time Period	Calculated Maximum Ground Level Concentration	Louisiana Ambient Air Quality Standard (NAAQS)
-	-	-	-

VII. GENERAL CONDITION XVII ACTIVITIES

None

VIII. INSIGNIFICANT ACTIVITIES

ID No.:	Description	Citation
	Emissions from lab vents	LAC 33:III.501.B.5.A.6
	Noncommercial water washing operations	LAC 33:III.501.B.5.A.7
	Portable fuel tanks (maintenance activities)	LAC 33:III.501.B.5.A.8

LOUISIANA AIR EMISSION PERMIT
GENERAL CONDITIONS

I. This permit is issued on the basis of the emissions reported in the application for approval of emissions and in no way guarantees that the design scheme presented will be capable of controlling the emissions to the type and quantities stated. Failure to install, properly operate and/or maintain all proposed control measures and/or equipment as specified in the application and supplemental information shall be considered a violation of the permit and LAC 33:III.501. If the emissions are determined to be greater than those allowed by the permit (e.g. during the shakedown period for new or modified equipment) or if proposed control measures and/or equipment are not installed or do not perform according to design efficiency, an application to modify the permit must be submitted. All terms and conditions of this permit shall remain in effect unless and until revised by the permitting authority.

II. The permittee is subject to all applicable provisions of the Louisiana Air Quality Regulations. Violation of the terms and conditions of the permit constitutes a violation of these regulations.

III. The Emission Rates for Criteria Pollutants, Emission Rates for TAP/HAP & Other Pollutants, and Specific Requirements sections or, where included, Emission Inventory Questionnaire sheets establish the emission limitations and are a part of the permit. Any operating limitations are noted in the Specific Requirements or, where included, Tables 2 and 3 of the permit. The synopsis is based on the revised application and Emission Inventory Questionnaire dated November 13, 2007. Additional information dated March 3, 2008, July 1, 2008, and September 15, 2008 were also received.

IV. This permit shall become invalid, for the sources not constructed, if:

A. Construction is not commenced, or binding agreements or contractual obligations to undertake a program of construction of the project are not entered into, within two (2) years (18 months for PSD permits) after issuance of this permit, or;

B. If construction is discontinued for a period of two (2) years (18 months for PSD permits) or more.

The administrative authority may extend this time period upon a satisfactory showing that an extension is justified.

This provision does not apply to the time period between construction of the approved phases of a phased construction project. However, each phase must commence construction within two (2) years (18 months for PSD permits) of its projected and approved commencement date.

V. The permittee shall submit semiannual reports of progress outlining the status of construction, noting any design changes, modifications or alterations in the construction schedule which have or may have an effect on the emission rates or ambient air quality levels. These reports shall continue to be submitted until such time as construction is certified as being complete. Furthermore, for any significant change in the design, prior approval shall be obtained from the Office of Environmental Services, Air Permits Division.

VI. The permittee shall notify the Department of Environmental Quality, Office of Environmental Services, Air Permits Division within ten (10) calendar days from the date that construction is

certified as complete and the estimated date of start-up of operation. The appropriate Regional Office shall also be so notified within the same time frame.

VII. Any emissions testing performed for purposes of demonstrating compliance with the limitations set forth in paragraph III shall be conducted in accordance with the methods described in the Specific Conditions and, where included, Tables 1, 2, 3, 4, and 5 of this permit. Any deviation from or modification of the methods used for testing shall have prior approval from the Office of Environmental Assessment, Air Quality Assessment Division.

VIII. The emission testing described in paragraph VII above, or established in the specific conditions of this permit, shall be conducted within sixty (60) days after achieving normal production rate or after the end of the shakedown period, but in no event later than 180 days after initial start-up (or restart-up after modification). The Office of Environmental Assessment, Air Quality Assessment Division shall be notified at least (30) days prior to testing and shall be given the opportunity to conduct a pretest meeting and observe the emission testing. The test results shall be submitted to the Air Quality Assessment Division within sixty (60) days after the complete testing. As required by LAC 33:III.913, the permittee shall provide necessary sampling ports in stacks or ducts and such other safe and proper sampling and testing facilities for proper determination of the emission limits.

IX. The permittee shall, within 180 days after start-up and shakedown of each project or unit, report to the Office of Environmental Compliance, Enforcement Division any significant difference in operating emission rates as compared to those limitations specified in paragraph III. This report shall also include, but not be limited to, malfunctions and upsets. A permit modification shall be submitted, if necessary, as required in Condition I.

X. The permittee shall retain records of all information resulting from monitoring activities and information indicating operating parameters as specified in the specific conditions of this permit for a minimum of at least five (5) years.

XI. If for any reason the permittee does not comply with, or will not be able to comply with, the emission limitations specified in this permit, the permittee shall provide the Office of Environmental Compliance, Enforcement Division with a written report as specified below.

A. A written report shall be submitted within 7 days of any emission in excess of permit requirements by an amount greater than the Reportable Quantity established for that pollutant in LAC 33.I.Chapter 39.

B. A written report shall be submitted within 7 days of the initial occurrence of any emission in excess of permit requirements, regardless of the amount, where such emission occurs over a period of seven days or longer.

C. A written report shall be submitted quarterly to address all emission limitation exceedances not included in paragraphs A or B above. The schedule for submittal of

quarterly reports shall be no later than the dates specified below for any emission limitation exceedances occurring during the corresponding specified calendar quarter:

1. Report by June 30 to cover January through March
2. Report by September 30 to cover April through June
3. Report by December 31 to cover July through September
4. Report by March 31 to cover October through December

D. Each report submitted in accordance with this condition shall contain the following information:

1. Description of noncomplying emission(s);
2. Cause of noncompliance;
3. Anticipated time the noncompliance is expected to continue, or if corrected, the duration of the period of noncompliance;
4. Steps taken by the permittee to reduce and eliminate the noncomplying emissions; and
5. Steps taken by the permittee to prevent recurrences of the noncomplying emissions.

E. Any written report submitted in advance of the timeframes specified above, in accordance with an applicable regulation, may serve to meet the reporting requirements of this condition provided all information specified above is included. For Part 70 sources, reports submitted in accordance with Part 70 General Condition R shall serve to meet the requirements of this condition provided all specified information is included. Reporting under this condition does not relieve the permittee from the reporting requirements of any applicable regulation, including LAC 33.I.Chapter 39, LAC 33.III.Chapter 9, and LAC 33.III.5107.

XII. Permittee shall allow the authorized officers and employees of the Department of Environmental Quality, at all reasonable times and upon presentation of identification, to:

A. Enter upon the permittee's premises where regulated facilities are located, regulated activities are conducted or where records required under this permit are kept;

B. Have access to and copy any records that are required to be kept under the terms and conditions of this permit, the Louisiana Air Quality Regulations, or the Act;

C. Inspect any facilities, equipment (including monitoring methods and an operation and maintenance inspection), or operations regulated under this permit; and

D. Sample or monitor, for the purpose of assuring compliance with this permit or as otherwise authorized by the Act or regulations adopted thereunder, any substances or parameters at any location.

XIII. If samples are taken under Section XII.D. above, the officer or employee obtaining such samples shall give the owner, operator or agent in charge a receipt describing the sample obtained. If requested prior to leaving the premises, a portion of each sample equal in volume or weight to the portion retained shall be given to the owner, operator or agent in charge. If an analysis is made of such samples, a copy of the analysis shall be furnished promptly to the owner, operator or agency in charge.

XIV. The permittee shall allow authorized officers and employees of the Department of Environmental Quality, upon presentation of identification, to enter upon the permittee's premises to investigate potential or alleged violations of the Act or the rules and regulations adopted thereunder. In such investigations, the permittee shall be notified at the time entrance is requested of the nature of the suspected violation. Inspections under this subsection shall be limited to the aspects of alleged violations. However, this shall not in any way preclude prosecution of all violations found.

XV. The permittee shall comply with the reporting requirements specified under LAC 33:III.919 as well as notification requirements specified under LAC 33:III.927.

XVI. In the event of any change in ownership of the source described in this permit, the permittee and the succeeding owner shall notify the Office of Environmental Services in accordance with LAC 33:I.Chapter 19.Facility Name and Ownership/Operator Changes Process.

XVII. Very small emissions to the air resulting from routine operations, that are predictable, expected, periodic, and quantifiable and that are submitted by the permitted facility and approved by the Air Permits Division are considered authorized discharges. Approved activities are noted in the General Condition XVII Activities List of this permit. To be approved as an authorized discharge, these very small releases must:

1. Generally be less than 5 TPY
2. Be less than the minimum emission rate (MER)
3. Be scheduled daily, weekly, monthly, etc., or
4. Be necessary prior to plant startup or after shutdown [line or compressor pressuring/depressuring for example]

These releases are not included in the permit totals because they are small and will have an insignificant impact on air quality. This general condition does not authorize the maintenance of a nuisance, or a danger to public health and safety. The permitted facility must comply with all applicable requirements, including release reporting under LAC 33:I.3901.

XVIII. Provisions of the permit may be appealed to the secretary in writing pursuant to La. R.S. 30:2024(A) within 30 days from notice of the permit action. A request may be made to the secretary to suspend those provisions of the permit specifically appealed. The permit remains in effect to the extent that the secretary or assistant secretary does not elect to suspend the appealed provisions as requested or, at his discretion, other permit provisions as well. Construction cannot proceed, except as specifically approved by the secretary or

assistant secretary, until a final decision has been rendered on the appeal. A request for hearing must be sent to the Office of the Secretary. A request for hearing must be sent to the following:

Attention: Office of the Secretary, Legal Services Division
La. Dept. of Environmental Quality
Post Office Box 4302
Baton Rouge, Louisiana 70821-4302

XIX. For Part 70 sources, certain Part 70 general conditions may duplicate or conflict with state general conditions. To the extent that any Part 70 conditions conflict with state general conditions, then the Part 70 general conditions control. To the extent that any Part 70 general conditions duplicate any state general conditions, then such state and Part 70 provisions will be enforced as if there is only one condition rather than two conditions.

C-K ASSOCIATES • L.L.C.
ENVIRONMENTAL & ENGINEERING CONSULTANTS

17170 PERKINS ROAD
BATON ROUGE, LA 70810
PH (225) 755-1000
FAX (225) 751-2010
http://www.c-ka.com

REGIONAL OFFICES
HOUSTON, TX
PH (281) 397-9016
FAX (281) 397-6637

NEW ORLEANS, LA
PH (504) 301-4992
FAX (504) 304-7759

SHREVEPORT, LA
PH (318) 797-8636
FAX (318) 798-0478

LAKE CHARLES, LA
PH (337) 439-8699
FAX (337) 439-3337

COPY

LDEQ RECEIPT 146070

2007 NOV 13 PM 2 14

original to IOA
copy to PETR/GS/Davies
PAAK
PER 20060001

November 13, 2007

Mrs. Cheryl Nolan
Administrator, Air Permits Division
Louisiana Department of Environmental Quality
Office of Environmental Services
P.O. Box 4313
Baton Rouge, Louisiana 70821-4313

Re: **REVISION** to Initial State Operating Air Permit Application for the Gibson Terminal
Plains Marketing, LP
Gibson, Terrebonne Parish, Louisiana

Dear Mrs. Nolan:

On behalf of Plains Marketing, LP (Plains), C-K Associates, LLC submits a revised initial air permit application in triplicate for the proposed Gibson Terminal in Terrebonne Parish, Louisiana. Plains is proposing the construction and operation of a new crude oil storage terminal in Gibson, Louisiana. Emission sources at the terminal will consist of one external floating roof storage tank for storage of crude oil and fugitive emissions associated with piping. Crude oil will enter and exit the terminal via pipeline and will not be transported by means of tank trucks, rail cars, or any other mode.

Plains would like to begin construction in early 2007 and would greatly appreciate consideration of this permit in a timely manner. If C-K Associates, LLC or Plains can help expedite the review process, please contact immediately. An Application for Approval of Emissions (AAE), Emission Inventory Questionnaires (EIQs) for all sources, and supporting calculations are included as part of this revised application.

If you have any questions or require additional information, please contact me at (225)-755-1000 or Mr. Richard Anderson, Manager of Air Programs with Plains All American Pipeline, LP at (713) 646-4286.

Sincerely,

Mark Ezell
Air Quality Manager

RECEIVED
NOV 13 2007
DEPT. OF ENVIRONMENTAL QUALITY
OFFICE OF ENVIRONMENTAL SERVICES
PERMIT DIVISION

cc: Mr. Richard Anderson, Plains All American Pipeline, LLC

PLAINS
MARKETING, L.P.

March 3, 2008

VIA EMAIL &
VIA OVERNIGHT DELIVERY

Ms. Jada Lewis
Air Permits Division
Office of Environmental Services
P.O. Box 4313
Baton Rouge, LA 70821-4313

Re: Request for Additional Information
Plains Marketing, LP—Gibson Terminal
Activity No. PER20060001
AI# 146070

Dear Ms. Lewis:

Plains Marketing, LP ("Plains") hereby submits the additional information for the Revised State Operating Permit Application for the Gibson Terminal in response to the letter dated February 12, 2008 from Mr. Dasheng Chu, LDEQ, to Mr. Richard Anderson, Plains. Each of the five items in that letter is addressed below:

1. The Tanks 4.09d Emissions Report printout indicates an Annual Net Throughput of 1,267 MM gal/yr. The calculation summary sheet indicated the total throughput of 4,200 MM gal/yr. Please correct the discrepancy and resubmit appropriate Tanks 4.09d printouts.

   Response:
   Attachment 1 to this letter contains a revised *Tanks 4.09d* Emission Report printout for the crude oil storage tank, correctly reflecting the stated annual throughput. The H_2S concentration employed is 10 ppmw. This is based on the results of a recent analysis of oil that is typical of what will be stored in the proposed tank. A copy of this analysis is included as Attachment 2. You will note that the analysis indicates a detection limit for H_2S of 10 ppm vol, and that the sample was below this value. The Tanks program's speciation profiles require concentrations in weight %. For simplicity, we have assumed that 10 ppmw is approximately equivalent to the analytical limit of 10 ppm vol. As the density of liquid H_2S is similar to that of crude oil, we feel this to be a reasonable assumption.

2. Provide a revised copy of Tanks 4.09d printouts with an updated speciation of crude oil including sulfur content (H_2S).

   Response:
   The revised Tanks 4.09d printout in Attachment 1 now includes H_2S.

3. A revised copy of Crude Oil Storage Tank PTE Calculation with the above changes.

   Response:
   A revised Crude Oil Storage Tank Potential-To-Emit summary page is included in Attachment 3 to this letter. Additionally, fugitive emission calculations are being resubmitted with H_2S added to the list of potential air toxics. These are included as Attachment 4.

4. Updated EIQ sheets for the tank to reflect changes in emissions from any calculation corrections.

   Response:
   Attachment 5 contains revised EIQ sheets for the Crude Oil Storage Tank, identifying potential emissions of H_2S. A revised EIQ for fugitive emissions is being submitted, as well, and is included in the same Attachment.

5. Applicability of LAC.33.III.2111 for pumps. Please identify the means by which the crude oil will be transported from the tank.

   Response:
   Per LAC 33:III.2111, all rotary pumps and compressors shall be equipped with mechanical seals or other equivalent equipment or means as may be approved by the LDEQ.

   The issue of how crude oil will be transported from the tank was addressed in Section 1.1 (Facility Description) of the November 2007 revised application, where we stated:

   > All crude oil will enter and exit the facility by pipeline. No crude oil will enter or exit the facility by tank truck, rail car, or any other mode other than pipeline.

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CERTIFICATION OF COMPLIANCE WITH APPLICABLE REQUIREMENTS:

I certify, under provisions in Louisiana and United States law which provide criminal penalties for false statements, that based on information and belief formed after reasonable inquiry, the statements and information attached and the compliance statement above, are true, accurate, and complete.

Troy E. Valenzuela

Date 3-3-08

Troy E. Valenzuela
Vice President – EH&S
Plains Marketing, LP

Should you need additional information, please do not hesitate to call me at (713) 646-4286.

Sincerely,

Richard S. Anderson, PE
Manager of Air Programs, EH&S Dept.

attachments

cc: Mark Ezell, C-K Associates, LLC

Meterological Data used in Emissions Calculations: New Orleans, Louisiana (Avg Atmospheric Pressure = 14.75 psia)

Mixture/Component	Month	Daily Liquid Surf Temperature (deg F) Avg	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol Weight	Basis for Vapor Pressure Calculations
Crude Oil RVP 8.6	All	69.99	64.84	75.14	68.06	7.1708	N/A	N/A	50.0000			207.00	
1,2,4-Trimethylbenzene						0.0302	N/A	N/A	120.1900	0.0033	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane (isooctane)						0.7891	N/A	N/A	114.2300	0.0010	0.0005	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.5306	N/A	N/A	78.1100	0.0060	0.0053	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.5780	N/A	N/A	84.1600	0.0070	0.0064	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1524	N/A	N/A	106.1700	0.0040	0.0004	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4687	N/A	N/A	86.1700	0.0040	0.0057	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Hydrogen Sulfide						265.5654	N/A	N/A	34.0000	0.0000	0.0015	34.00	Option 1: VP60 = 230.37 VP70 = 265.61
Isopropyl benzene						0.0693	N/A	N/A	120.2000	0.0010	0.0000	120.20	Option 2: A=6.93668, B=1460.793, C=207.78
Toluene						0.4474	N/A	N/A	92.1300	0.0100	0.0026	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						7.9321	N/A	N/A	49.5740	0.9497	0.9766	220.78	
Xylene (-m)						0.1273	N/A	N/A	106.1700	0.0140	0.0010	106.17	Option 2: A=7.009, B=1462.266, C=215.11

Annual Emission Calculations

Rim Seal Losses (lb):	2,700.3395
Seal Factor A (lb-mole/ft-yr):	0.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.4000
Average Wind Speed (mph):	8.1500
Seal-related Wind Speed Exponent:	1.0000
Value of Vapor Pressure Function:	0.1650
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	7.1708
Tank Diameter (ft):	212.0000
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	0.4000
Withdrawal Losses (lb):	18,948.9623
Annual Net Throughput (gal/yr.):	4,200,000,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0060
Average Organic Liquid Density (lb/gal):	7.1000
Tank Diameter (ft):	212.0000
Roof Fitting Losses (lb):	2,494.7888
Value of Vapor Pressure Function:	0.1650
Vapor Molecular Weight (lb/lb-mole):	50.0000
Product Factor:	0.4000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	756.0288
Average Wind Speed (mph):	8.1500

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Total Losses (lb): 24,144.0885

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	5.2798
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	167.1938
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	3	6.20	1.20	0.94	122.4263
Slotted Guide-Pole/Sample Well/Gask. Sliding Cover, w. Float, Wiper	2	21.00	7.90	1.80	1,336.4717
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1	0.47	0.02	0.97	1.9083
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed	38	2.00	0.37	0.91	477.0832
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed	77	0.82	0.53	0.14	380.1983
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1	0.71	0.10	1.00	4.2255

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Crude Oil RVP 8.6	2,700.34	18,948.96	2,494.79	0.00	24,144.09
Hexane (-n)	15.38	75.80	14.21	0.00	105.39
2,2,4-Trimethylpentane (isooctane)	1.23	18.95	1.14	0.00	21.32
Benzene	14.32	113.69	13.23	0.00	141.24
1,2,4-Trimethylbenzene	0.16	62.53	0.14	0.00	62.83
Cyclohexane	17.22	132.64	15.91	0.00	165.77
Ethylbenzene	0.95	75.80	0.88	0.00	77.62
Isopropyl benzene	0.11	18.95	0.10	0.00	19.16
Xylene (-m)	2.78	265.29	2.57	0.00	270.63
Toluene	6.97	189.49	6.44	0.00	202.91
Hydrogen Sulfide	4.14	0.19	3.83	0.00	8.15
Unidentified Components	2,637.08	17,995.64	2,436.34	0.00	23,069.06

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Attachment 3

Revised Potential-to-Emit Summary

March 3, 2008 Revision

Crude Oil Storage Tank
Potential to Emit

Gibson Terminal, Terrebonne Parish, Louisiana
Plains Marketing, LP

Facility Throughput	*100.00*	*MMbbls/yr*
	273,972	*bbls/day*
Number of Tanks	*1*	*212-ft diameter*

Total

Emission Summary

Pollutant	Total Annual Emissions (tpy)	Average Hourly Emissions (lbs/hr)
TOTAL VOCs	16.07	3.67
Benzene	0.09	0.02
Cumene (Isopropyl benzene)	0.01	0.002
Ethylbenzene	0.04	0.01
n-Hexane	0.08	0.02
Hydrogen Sulfide	0.01	0.002
Toluene	0.11	0.03
Xylenes	0.14	0.03

16.8

Emission Calculation

Pollutant	Annual Throughput (MMbbls)	Standing Losses (lb/yr)	Withdrawal Losses per MMbbl throughput (lb/yr)	Annual Operating Emissions (lbs/yr)	Landing Losses (lbs/event)	Landing Losses Events/yr	Total Annual Emissions (tpy)	Maximum Hourly Emissions (lbs/hr)
TOTAL VOCs	100.00	5,196	189.49	24,144.09	2,668.1	3	16.07	1,087.2
Benzene				141.24	15.04		0.09	6.13
Cumene (Isopropyl benzene)				19.16	0.12		0.01	0.05
Ethylbenzene				77.62	1.04		0.04	0.42
n-Hexane				105.39	15.99		0.08	6.52
Hydrogen Sulfide				8.15	4.00		0.01	1.63
Toluene				202.91	7.47		0.11	3.05
Xylenes				270.63	3.05		0.14	1.24
TOTAL TAP				825.10	46.71		0.48	

NOTES:
Maximum Hourly Emissions = Refilling Loss from Landing Loss calculations.

A= 16.32

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Loss from Emptying and Refilling EFR Tank that Drain Dry

Facility: **Gibson, LA**
Tank ID: **212'-dia tank**
Tank Capacity (bbls): **250,000**
City for Met Data: **New Orleans**
Event Start Date: **(For permitting purposes)**

M_L = Liquid Molecular Weight (lb/lb-mole)	207	[Defaults: Crude = 207; Condensate = 65]	
M_V = Vapor Molecular Weight (lb/lb-mole)	50	[Defaults: Crude = 50; Condensate = 65]	AP-42 §7.1, Table 7.1-2
RVP = Reid Vapor Pressure (psia)	8.60	[Defaults: Crude = 5; Condensate = 12; Values over 14 will cause negative K_E]	
W_L = Liquid Density (lb/gal)	7.10		
A = Constant in Vapor Pressure Equation	10.74	A = 12.82-0.9672ln(RVP)	AP-42 §7.1, Figure 7.1-16
B = Constant in Vapor Pressure Equation	4844.46	B = 7261-1216ln(RVP)	AP-42 §7.1, Figure 7.1-16
P = True Vapor Pressure (psia)	7.95	$P = \exp(A-(B/T_{LA}))$	AP-42 §7.1, Equation 1-12a
T_{AX} = Daily Maximum Ambient Temperature (°F)	90.2	Hottest month from TANKS program met data.	
T_{AN} = Daily Minimum Ambient Temperature (°F)	72.8	Hottest month from TANKS program met data.	
T_{AA} = Daily Average Ambient Temperature (°R)	541.2	$T_{AA} = (T_{AX}+T_{AN})/2$	AP-42 §7.1, Equation 1-14
α = Tank Paint Solar Absorbance	0.17	Alum. Specular = 0.39; Alum. diffuse = 0.60; Light Grey = 0.54; Medium Grey = 0.68; Primer Red = 0.89; White = 0.17	AP-42 §7.1, Table 7.1-6
I = Daily Solar Insolation Factor (BTU/ft^2-day)	1,731.03	Hottest month from TANKS program met data.	
T = Liquid Bulk Temperature (°F)	68.0	Annual Ave Temp based on Table 7.1-7. Constant as per TANKS 4.0	
T_{LA} = Daily Average Liquid Surface Temperature (°R)	536.0	$T_{LA} = 0.44T_{AA}+0.56T_B+0.0079\alpha I$	AP-42 §7.1, Equation 1-13
ΔT_V = Daily Vapor Temperature Range (°R)	20.8	$\Delta T_V = 0.72\Delta T_A + 0.028\alpha I$	AP-42 §7.1, Equation 1-17
ΔP_V = Daily Vapor Pressure Range	1.33	$\Delta P_V = (0.50BP_{VA}\Delta T_V)/T_{LA}^2$	AP-42 §7.1, Equation 1-19
D = Tank Diameter (ft)	212.00		
h_r = Roof Leg Setting (ft)	3.00		
A_F = Floor Area (ft^2)	35,299	$A_F = \pi(D/2)^2$	
V_V = Vapor Volume (ft^3)	105,897	$V_V = A_F h_r$	AP-42 §7.1, Equation 3-1 (modified)

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Loss from Emptying and Refilling EFR Tank that Drain Dry

Facility: **Gibson, LA**
Tank ID: **212'-dia tank**
Tank Capacity (bbls): **250,000**
City for Met Data: **New Orleans**
Event Start Date: **(For permitting purposes)**

L_s = Standing Idle Loss (lb)	1,578.9	lesser of 0.0063 W_l ($\pi D^2/4$) or (P V_v / R T) M_v S, using the IFRT value for S; T = T_{AA}		Table 1, API Document[c]
L_s = Standing Idle Loss (ton)	0.789			
L_F = Refilling Loss (lb)	1,087.2	(PV_v/(10.731T))M_vS, where S = 0.15 and T = T_{AA}		Equation 21, API Document[c]
L_F = Refilling Loss (ton)	0.544			
L_{RL} = Total Standing Idle and Refilling Loss (lb)	**2,666.1**			
L_{RL} = Total Standing Idle and Refilling Loss (ton)	**1.333**			
HAP SPECIATION	Liquid Mass Fraction	Vapor Mass Fraction[b]	Emissions (lb)	
Benzene	0.006	0.0056	15.04	
Cumene (isopropyl benzene)	0.001	0.0000	0.12	
Ethylbenzene	0.004	0.0004	1.04	
n-Hexane	0.004	0.0060	15.99	
Hydrogen Sulfide	0.0001	0.0015	4.00	
Toluene	0.010	0.0028	7.47	
Xylenes	0.014	0.0011	3.05	
TOTAL HAPs (lb)			46.71	

[a] Reference: AP-42 Section 7.1, Organic Liquid Storage Tanks
[b] Raoult's Law Method, *Manual of Petroleum Measurement Standards Chapter 19.4—Recommended Practice for Speciation of Evaporative Losses*, API 2nd ed. 9/2005. Antoine constants come from AP-42.
[c] Reference: *Evaporative Loss from Storage Tank Floating Roof Landings*, API Technical Report 2567, April 2005.

Attachment 4

Revised Fugitive Emission Calculations

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Fugitive Emissions for Gibson Terminal
Plains Marketing, LP
Gibson, Terrebonne Parish, Louisiana

Point Source ID Number	Component	Service	Emission Factor (kg/hr/source)[1]	Component Count	Maximum TOC Emissions[2] Hourly (lb/hr)	Maximum TOC Emissions[2] Annual (tpy)
FUG-1	Valves	Light Oil	0.00250	19	0.105	0.459
	Pump Seals	Light Oil	0.01300	1	0.029	0.126
	Others (Pressure Safety Valves)	Light Oil	0.00750	1	0.008	0.036
	Connectors	Light Oil	0.00021	14	0.006	0.027
	Flanges	Light Oil	0.00011	58	0.014	0.062
	Open-ended lines	Light Oil	0.00140	2	0.005	0.020
	TOTAL EQUIPMENT FUGITIVES				**0.167**	**0.730**

Speciation[3]	Weight %	Hourly (lb/hr)	Annual (tpy)
BENZENE	0.60	0.001	0.004 ✓
CUMENE (ISOPROPYL BENZENE)	0.10	0.0002	0.001
n-HEXANE	0.40	0.001	0.003
HYDROGEN SULFIDE	0.001	0.000002	0.00001
ETHYLBENZENE	0.40	0.001	0.003
TOLUENE	1.00	0.002	0.007
XYLENES	1.40	0.002	0.010
Total TAPs	**3.90**	**0.006**	**0.028**
Total TOCs	**100.00**	**0.167**	**0.730**

Footnotes:
1 EPA-453/R-95-017 Table 2-4 for Oil & Gas Production Operations Average Emission Factors.
2 TOC = Total Organic Compounds, including non-VOCs such as methane and ethane; Does not include Hydrogen Sulfide
3 Speciated emissions are based on the TANKS 4.0.9d speciation of crude with an RVP of 8.6;
Hydrogen Sulfide wieght % based on 10 ppm.

Attachment 5

Revised EIQ Sheets for Storage Tank and Fugitive Emissions

State of Louisiana
Emissions Inventory Questionnaire (EIQ) for Air Pollutants
GIBSON TERMINAL, PLAINS MARKETING, LP, GIBSON, LOUISIANA

Date of submittal: Mar 2008

Emission Point ID No. (Alternate ID)	Descriptive Name of the Emissions Source (Alt. Name)	Approximate Location of Stack or Vent (see instructions)
TANK-01	Crude Oil Storage Tank	Method: 28,"GPS-Unspecified" Datum: NAD83
Tempo Subject Item ID No.		UTM Zone: 15 Horizontal: 701112.51 mE Vertical: 3279237.37 mN
		Latitude: ° ' " hundredths
		Longitude: ° ' " hundredths

Stack and Discharge Physical Characteristics Change? (yes or no)	Diameter (ft) or Stack Discharge Area (ft²)	Height of Stack Above Grade (ft)	Stack Gas Exit Velocity	Stack Gas Flow at Conditions, not at Standard (ft³/min)	Stack Gas Exit Temperature (°F)	Normal Operating Time (hours per year)	Date of Construction or Modificaiton	Percent of Annual Throughput Through This Emission Point			
								Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
no	N/A ft ft²	47 ft	N/A ft/sec	N/A ft^3/min	76 °F	8,760 hr/yr	2007 proposed	25%	25%	25%	25%

Type of Fuel Used and Heat Input (see instructions)

Fuel	Type of Fuel	Heat Input (MMBTU/hr)
a	NA	
b		
c		

Notes

Operating Parameters (include units)

	Parameter	Description
Normal Operating Rate/Throughput	273,972	bbls/day
Maximum Operating Rate/Throughput	273,972	bbls/day
Design Capacity/Volume	250,000	bbls (working capacity)
Shell Height (ft)	47.58	
Tank Diameter (ft)	212	

☐ Fixed Roof Floating Roof ☑ External ☐ Internal

Air Pollutant Specific Information

Emission Point ID No. (Alternate ID): TANK-01	Control Equipment Code	Control Equipment Efficiency	HAP / TAP CAS Number	Proposed Emission Rates			Permitted Emission Rate (Current)	Add, Change, Delete, or Unchanged	Continuous Compliance Method	Concentration in Gases Exiting at Stack
Pollutant				Average (lb/hr)	Maximum (lbs/hr)	Annual (tons/yr)	Annual (tons/yr)			
Total VOC (including those listed below)				3.67	1087.18	16.07		A		gr/std ft³
Benzene			00071-43-2	3.67	1,087.18	16.07		A		ppm by vol
Cumene			00098-82-8	0.02	6.13	0.09		A		ppm by vol
Ethyl benzene			00100-41-4	0.00	0.05	0.01		A		ppm by vol
n-Hexane			00110-54-3	0.01	0.42	0.04		A		ppm by vol
Toluene			00108-88-3	0.00	1.63	0.01		A		ppm by vol
Xylene (mixed isomers)			#N/A	0.03	3.05	0.11		A		ppm by vol
										ppm by vol
Hydrogen Sulfide			07783-06-4	0.02	6.52	0.08		A		ppm by vol
										ppm by vol

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State of Louisiana
Emissions Inventory Questionnaire (EIQ) for Air Pollutants
GIBSON TERMINAL, PLAINS MARKETING, LP, GIBSON, LOUISIANA

Date of submittal: Mar 2008

Emission Point ID No. (Alternate ID)	Descriptive Name of the Emissions Source (Alt. Name)	Approximate Location of Stack or Vent (see instructions)
FUG-01	Fugitive Emissions	Method: 28,"GPS-Unspecified" Datum: NAD83
Tempo Subject Item ID No.		UTM Zone: 15 Horizontal: 701211.6 mE Vertical: 3279361.11 mN
		Latitude: ° ' " hundredths
		Longitude: ° ' " hundredths

Stack and Discharge Physical Characteristics Change? (yes or no)	Diameter (ft) or Stack Discharge Area (ft^2)	Height of Stack Above Grade (ft)	Stack Gas Exit Velocity	Stack Gas Flow at Conditions, not at Standard (ft^3/min)	Stack Gas Exit Temperature (°F)	Normal Operating Time (hours per year)	Date of Construction or Modificaiton	Percent of Annual Throughput Through This Emission Point			
								Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
no	N/A ft ft^2	N/A ft	N/A ft/sec	N/A ft^3/min	N/A °F	8,760 hr/yr	2007 proposed	25%	25%	25%	25%

Fuel — Type of Fuel Used and Heat Input (see instructions)

	Type of Fuel	Heat Input (MMBTU/hr)
a	N/A	
b		
c		

Notes

Operating Parameters (include units)

	Parameter	Description
Normal Operating Rate/Throughput	N/A	
Maximum Operating Rate/Throughput	N/A	
Design Capacity/Volume	N/A	
Shell Height (ft)		
Tank Diameter (ft)		

☐ Fixed Roof Floating Roof ☐ External ☐ Internal

Air Pollutant Specific Information

Emission Point ID No. (Alternate ID): FUG-01 Pollutant	Control Equipment Code	Control Equipment Efficiency	HAP / TAP CAS Number	Proposed Emission Rates: Average (lb/hr)	Maximum (lbs/hr)	Annual (tons/yr)	Permitted Emission Rate (Current): Annual (tons/yr)	Add, Change, Delete, or Unchanged	Continuous Compliance Method	Concentration In Gases Exiting at Stack
Total VOC (including those listed below)				0.17	0.17	0.73		A		gr/std ft^3
Benzene			00071-43-2	0.001	0.001	0.004		A		ppm by vol
Cumene			00098-82-8	0.0002	0.000	0.001		A		ppm by vol
Ethyl benzene			00100-41-4	0.001	0.001	0.003		A		ppm by vol
n-Hexane			00110-54-3	0.000002	0.000002	0.000007		A		ppm by vol
Toluene			00108-88-3	0.002	0.002	0.007		A		ppm by vol
Xylene (mixed isomers)			#N/A	0.002	0.002	0.007		A		ppm by vol
										ppm by vol
Hydrogen Sulfide			07783-06-4	1.67E-06	1.67E-06	7.30E-06		A		ppm by vol
										ppm by vol

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Richard S Anderson

From: Tracy Fazio [tracy.fazio@c-ka.com]
Sent: Sunday, March 02, 2008 10:29 PM
To: Richard S Anderson
Subject: FW: TANKS 4.0 Report - Sent Using Google Toolbar

TANKS 4.0 Report

Identification

User Identification:	1-07
City:	Gibson
State:	Louisiana
Company:	Plains Marketing, LP
Type of Tank:	External Floating Roof Tank
Description:	Crude Oil Storage Tank

Tank Dimensions

Diameter (ft):	212.00
Volume (gallons):	12,674,609.00
Turnovers:	331.37

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good

Roof Characteristics

Type:	Pontoon
Fitting Category	Detail

Tank Construction and Rim-Seal System

Construction:	Welded
Primary Seal:	Mechanical Shoe
Secondary Seal	Rim-mounted

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	3
Slotted Guide-Pole/Sample Well/Gask. Sliding Cover, w. Float, Wiper	2
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed	38
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed	77
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1

ITS Caleb Brett
149 Pintail
St. Rose, LA 70087
Ph: (504) 602 2000
Fax: (504) 602 2023

Interim Laboratory Report No.: 2008-000982-NOLA

VESSEL NAME: Plains Gibson Submission

TERMINAL:

SAMPLE	CUSTOMER PRODUCT DESCRIPTION:	SAMPLE
2/10/08 9301 (1 QT) 2/10/8	Light Louisiana Sweet	2008-000982-NOLA-001
2/10/08 2201 (106) (1 QT) 2/10/8	Light Louisiana Sweet	2008-000982-NOLA-002

RESULTS

Sample ID : 2008-000982-NOLA-001
Customer Prod. Desc. : Light Louisiana Sweet
Sample Description : 2/10/08 9301 (1 QT) 2/10/8

Date Sampled : 02/10/2008
Date Received : 02/10/2008
Submitted By : Plains Mkt.

Method	Test	Result	Units
	Temperature	32	deg F
D5191-06e1	Dry Vapor Pressure Equivalent	3.79	psi
D5002-05	Gravity, API @ 60 F	35.9	deg API
D5705-03	Hydrogen Sulfide (H2S)	<10	ppm Vol
D4294-03 Mod	Sulfur Content (Centrifuged)	0.323	Wt %
D2161-05	Viscosity, SUS @ 68 Deg F	50.0	SUS
D2161-05	VISCOSITY @104 DEG F	40.5	SUS
D4928-05	Water by Karl Fischer	0.22	Vol %
D4530-06e1	Carbon Residue, Micro (MCRT)	1.36	Wt %
D5762-05	Nitrogen Content	689	ppm Wt
D664-95 (2001)	Total Acid Number	0.52	mg KOH / g
D3230-06	Salt Content	63	lbs / 1000bbls
Dry Ashed - ICP/AES	Nickel (Ni) Content	3.0	ppm Wt
	Vanadium (V) Content	1.8	ppm Wt
	Iron (Fe) Content	4.9	ppm Wt
D4929-99	IBP - 400 Deg. F Cut	29.7	Wt %
	Chlorides on Naphtha Cut	<1.0	ppm
	Organic Chlorides	<1.0	ppm
D2887-06a (HTSD)	Distillation, Simulated (High Temp)	SEE ATTACHED>	
	20 % Boiling Point	340	deg F
	50 % Boiling Point	583	deg F
	1020 + Resid	10.5	Wt %
Light Ends	Methane	<0.01	Vol %
	Ethane	0.04	Vol %
	Propane	0.36	Vol %
	Isobutane	0.44	Vol %
	n-Butane	0.85	Vol %
	Isopentane	1.04	Vol %
	n-Pentane	1.02	Vol %
	2 , 2 DiMethyl Propane	0.01	Vol %
Total Light Ends	Total C2 thru C5	3.76	%

REPORTED BY: _____

Please note: These results are subject to confirmation on completion of the final report

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Sample ID :	2008-000982-NOLA-001	Date Sampled :	02/10/2008
Customer Prod. Desc. :	Light Louisiana Sweet	Date Received :	02/10/2008
Sample Description :	2/10/08 9301 (1 QT) 2/10/8	Submitted By :	Plains Mkt.

Method	Test	Result	Units

Sample ID :	2008-000982-NOLA-002	Date Sampled :	02/10/2008
Customer Prod. Desc. :	Light Louisiana Sweet	Date Received :	02/10/2008
Sample Description :	2/10/08 2201 (106) (1 QT) 2/10/8	Submitted By :	Plains Mkt.

Method	Test	Result	Units
	Temperature	32	deg F
D5191-06e1	Dry Vapor Pressure Equivalent	4.71	psi
D5002-05	Gravity, API @ 60 F	36.6	deg API
D5705-03	Hydrogen Sulfide (H2S)	< 10	ppm Vol
D4294-03 Mod	Sulfur Content (Centrifuged)	0.316	Wt %
D2161-05	Viscosity, SUS @ 68 Deg F	47.5	SUS
D2161-05	VISCOSITY @104 DEG F	39.2	SUS
D4928-05	Water by Karl Fischer	0.26	Vol %
D4530-06e1	Carbon Residue, Micro (MCRT)	1.34	Wt %
D5762-05	Nitrogen Content	678	ppm Wt
D664-95 (2001)	Total Acid Number	0.50	mg KOH / g
D3230-06	Salt Content	35	lbs / 1000bbls
Dry Ashed - ICP/AES	Nickel (Ni) Content	2.5	ppm Wt
	Vanadium (V) Content	2.0	ppm Wt
	Iron (Fe) Content	4.8	ppm Wt
D4929-99	IBP - 400 Deg. F Cut	30.8	Wt %
	Chlorides on Naphtha Cut	<1.0	ppm
	Organic Chlorides	<1.0	ppm
D2887-06a (HTSD)	Distillation, Simulated (High Temp)	See Attached	deg F
	20 % Boiling Point	329	deg F
	50 % Boiling Point	580	deg F
	1020 + Resid	10.8	Wt %
Light Ends	Methane	<0.01	Vol %
	Ethane	0.05	Vol %
	Propane	0.43	Vol %
	Isobutane	0.52	Vol %
	n-Butane	0.98	Vol %
	Isopentane	1.19	Vol %
	n-Pentane	1.14	Vol %
	2 , 2 DiMethyl Propane	0.01	Vol %
Total Light Ends	Total C2 thru C5	4.32	%

REPORTED BY: _____ Please note: These results are subject to confirmation on completion of the final report

ITS Caleb Brett, 149 Pintail, St. Rose, LA 70087 Ph: (504) 602 2000 Fax: (504) 602 2023

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LDEQ-EDMS Document 37946133, Page 30 of 90

State of Louisiana
Emissions Inventory Questionnaire (EIQ) for Air Pollutants
GIBSON TERMINAL, PLAINS MARKETING, LP, GIBSON, LOUISIANA

Date of submittal: Feb | 2008

Emission Point ID No. (Alternate ID)	Descriptive Name of the Emissions Source (Alt. Name)	Approximate Location of Stack or Vent (see instructions)
TANK-01	Crude Oil Storage Tank	Method: 28,"GPS-Unspecified" Datum: NAD83
Tempo Subject Item ID No.		UTM Zone: 15 Horizontal: 701112.51 mE Vertical: 3279237.37 mN
		Latitude: ° ' " hundredths
		Longitude: ° ' " hundredths

Stack and Discharge Physical Characteristics Change? (yes or no)	Diameter (ft) or Stack Discharge Area (ft^2)	Height of Stack Above Grade (ft)	Stack Gas Exit Velocity	Stack Gas Flow at Conditions, not at Standard (ft^3/min)	Stack Gas Exit Temperature (°F)	Normal Operating Time (hours per year)	Date of Construction or Modificaiton	Percent of Annual Throughput Through This Emission Point			
								Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
no	N/A ft	47 ft	N/A ft/sec	N/A ft^3/min	76 °F	8,760 hr/yr	2007	25%	25%	25%	25%
	ft^2						proposed				

Type of Fuel Used and Heat Input (see instructions)

Fuel		Type of Fuel	Heat Input (MMBTU/hr)
	a	NA	
	b		
	c		

Notes

Operating Parameters (include units)

	Parameter	Description
Normal Operating Rate/Throughput	275,000	bbls/day
Maximum Operating Rate/Throughput	275,000	bbls/day
Design Capacity/Volume	250,000	bbls (working capacity)
Shell Height (ft)	47.58	
Tank Diameter (ft)	212	

☐ Fixed Roof Floating Roof ☑ External ☐ Internal

Air Pollutant Specific Information

Emission Point ID No. (Alternate ID): TANK-01	Control Equipment Code	Control Equipment Efficiency	HAP / TAP CAS Number	Proposed Emission Rates			Permitted Emission Rate (Current)	Add, Change, Delete, or Unchanged	Continuous Compliance Method	Concentration in Gases Exiting at Stack
Pollutant				Average (lb/hr)	Maximum (lbs/hr)	Annual (tons/yr)	Annual (tons/yr)			
Total VOC (including those listed below)				3.68	1087.18	16.11		A		gr/std ft^3
Benzene			00071-43-2	0.02	6.13	0.09		A		ppm by vol
Cumene			00098-82-8	0.00	0.05	0.01		A		ppm by vol
Ethyl benzene			00100-41-4	0.01	0.42	0.04		A		ppm by vol
n-Hexane			00110-54-3	0.02	6.52	0.08		A		ppm by vol
Toluene			00108-88-3	0.03	3.05	0.11		A		ppm by vol
Xylene (mixed isomers)			#N/A	0.03	1.24	0.14		A		ppm by vol
										ppm by vol
Hydrogen Sulfide			07783-06-4	0.00	1.63	0.01		A		ppm by vol

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State of Louisiana
Emissions Inventory Questionnaire (EIQ) for Air Pollutants
GIBSON TERMINAL, PLAINS MARKETING, LP, GIBSON, LOUISIANA

Date of submittal: Feb 2008

Emission Point ID No. (Alternate ID)	Descriptive Name of the Emissions Source (Alt. Name)	Approximate Location of Stack or Vent (see instructions)
FUG-01	Fugitive Emissions	Method: 28,"GPS-Unspecified" Datum: NAD83
Tempo Subject Item ID No.		UTM Zone: 15 Horizontal: 701211.6 mE Vertical: 3279361.11 mN
		Latitude: ° ' " . hundredths
		Longitude: ° ' " hundredths

Stack and Discharge Physical Characteristics Change? (yes or no)	Diameter (ft) or Stack Discharge Area (ft²)	Height of Stack Above Grade (ft)	Stack Gas Exit Velocity	Stack Gas Flow at Conditions, not at Standard (ft³/min)	Stack Gas Exit Temperature (°F)	Normal Operating Time (hours per year)	Date of Construction or Modificaiton	Percent of Annual Throughput Through This Emission Point			
								Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
no	N/A ft ft²	N/A ft	N/A ft/sec	N/A ft^3/min	N/A °F	8,760 hr/yr	2007 proposed	25%	25%	25%	25%

Fuel — Type of Fuel Used and Heat Input (see instructions)

	Type of Fuel	Heat Input (MMBTU/hr)
a	NA	
b		
c		

Notes

Operating Parameters (include units)

	Parameter	Description
Normal Operating Rate/Throughput	N/A	
Maximum Operating Rate/Throughput	N/A	
Design Capacity/Volume	N/A	
Shell Height (ft)		
Tank Diameter (ft)		

☐ Fixed Roof Floating Roof ☐ External ☐ Internal

Air Pollutant Specific Information

Emission Point ID No. (Alternate ID): FUG-01	Control Equipment Code	Control Equipment Efficiency	HAP / TAP CAS Number	Proposed Emission Rates			Permitted Emission Rate (Current)	Add, Change, Delete, or Unchanged	Continuous Compliance Method	Concentration in Gases Exiting at Stack
Pollutant				Average (lb/hr)	Maximum (lbs/hr)	Annual (tons/yr)	Annual (tons/yr)			
Total VOC (including those listed below)				0.17	0.17	0.73		A		gr/std ft³
Benzene			00071-43-2	0.001	0.001	0.004		A		ppm by vol
Cumene			00098-82-8	0.0002	0.0002	0.001		A		ppm by vol
Ethyl benzene			00100-41-4	0.001	0.001	0.003		A		ppm by vol
n-Hexane			00110-54-3	0.001	0.001	0.003		A		ppm by vol
Toluene			00108-88-3	0.002	0.002	0.007		A		ppm by vol
Xylene (mixed isomers)			#N/A	0.002	0.002	0.010		A		ppm by vol
Hydrogen Sulfide			07783-06-4	0.000002	0.000002	0.00001		A		ppm by vol

PLAINS MARKETING, L.P.

original to COPY
copy to
Copy To Admin / B Johnston

July 1, 2008

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED
#7005 0390 0004 8248 3005

Ms. Jada Lewis
Louisiana Department of Environmental Quality
Office of Environmental Services
P.O. Box 4313
Baton Rouge, Louisiana 70821-4313

Subject: Additional Information Request, Plains Marketing, LP Gibson Terminal
Agency Interest No. 146070, Activity No. PER20060001
Proposed Permit No. 2880-00373-00
Terrebonne Parish, Louisiana

Dear Ms. Lewis:

In response to the letter dated April 22, 2008 from Mr. Bryan Johnston of the LDEQ, Plains Marketing, LP hereby submits the environmental assessment statement for the proposed Gibson Terminal. The environmental assessment statement addresses the five "IT Decision" Questions plus Sections II.A, II.C and IV of the Revised Expanded Version of the "IT Decision" Questions. Plains Marketing, LP is submitting the additional information in accordance with the approved extension granted by the LDEQ in a letter dated May 22, 2008.

Certification Statement
I certify, under provisions in Louisiana and United States law which provide criminal penalties for false statements, that based on information and belief formed after reasonable inquiry, the statements and information attached, are true, accurate, and complete.

Sincerely,
Plains Marketing, LP

Troy E. Valenzuela, Vice President–EH&S

attachment

cc: Bryan Johnston, LDEQ

2008 JUL -7 PM 1:05
DEQ - OES

ENVIRONMENTAL IMPACT ANALYSES

I. *Have the potential and real adverse environmental effects of the proposed facility been avoided to the maximum extent possible?*

Yes. The potential and real adverse environmental effects of the proposed facility have been avoided to the maximum extent possible, as discussed below. The crude oil terminal facility is not anticipated to have any adverse environmental impacts, as Plains Marketing, LP ("Plains") has designed the facility and structured operations such that environmental impacts will be minimized to the extent practicable.

Based on the field investigation, there are 2.74 acres of potential wetlands, 25.23 acres of non-wetlands and 0.41 acres of other waters located on the site of the proposed project. Although wetlands exist on the project site, the project has been designed and located to avoid wetlands to the extent practicable. The proposed project will not result in the significant loss of wetlands in the area. All wetland impacts will be mitigated as required by the regulatory agencies.

The potential impacts from air emissions from the facility are minimal and will not cause any adverse impacts. The air emissions result primarily from the one crude oil storage tank. Emissions will be controlled as required by applicable state and federal air quality regulations. The storage tank will be subject to stringent New Source Performance Standards under 40 CFR Part 60 pertaining to storage of volatile organic liquids. These rules impose emission controls reflecting the best technology currently available to new tanks. As required by the regulation, the tank will be designed with a floating roof and a dual seal system which eliminates the displacement of vapors from the tank's vapor space when filled. Emissions associated with filling the tank will be minimized by installing a submerged fill pipe. Inspections and repair will be accomplished as specified in the regulation. The facility will have insignificant emissions associated with cleaning and maintenance activities.

The facility is classified as a minor source of state toxic air pollutants (TAPs). The potential emissions from the facility will not exceed the threshold for major source status under the Louisiana Comprehensive Toxic Air Pollutant Emission Control Program.

Prevention of Significant Deterioration (PSD) regulations apply to major stationary sources. The facility is not a major source of emissions as defined in the PSD rules and therefore not subject to PSD regulations.

Scheduled or planned tank cleanings will occur infrequently, approximately once every 10 years, as required by NSPS Subpart Kb and U.S. Department of Transportation facility integrity management requirements. Any material removed will be trucked off site for disposal. Tank bottom water removed will also be trucked off site for disposal. There will be no treatment, storage, or disposal of solid or hazardous waste at the site.

The tank will be contained and isolated within a diked containment area. The containment dike will be constructed of low-permeability clay, and a Claymax liner will underlay the tank floor to protect the native soil in the unlikely event of a leak. The dike is designed to contain at least 100% of the contents of the tank plus rainwater. Storm water collection within the containment area will be visually inspected for oil prior to discharge. No oil or oily water will be discharged.

Other non-process area storm water will be collected by a system of surface drainage ditches and then discharged at the property boundary to local drainage, then to the low-lying area to the south-southwest of the facility.

Storm water management is part of a major new national initiative to ensure that industrial facilities use proper design and engineering concepts to eliminate storm water runoff pollution. Through a combination of structural controls, such as containment dikes, berms, and drainage systems, and by adherence to stringent safeguards to avoid unplanned releases of oils or chemicals to the outdoor environment, the proposed facility has been designed to minimize the quantity of storm water runoff that could realistically become contaminated due to contact with facility-related oils or chemicals. Structural controls to be used to minimize the potential for storm water runoff contamination will include containment dikes/berms around any storage areas. Grading of roads and lands will be used to direct storm water runoff to a storm water drainage ditch where appropriate. The storm water drainage system will provide a mechanism to control runoff.

No adverse impact to the low-lying area to the south-southwest of the facility will occur as a result of the discharges from the facility. No oily discharges from the facility are allowed. The facility is designed to prevent any pollutant discharges.

Best Management Practices (BMPs) will be followed to prevent and control the discharge of pollutants during/from accidental release incidents. Plains will develop comprehensive contingency plans, operating procedures, and BMPs to prevent and control the discharge of pollutants resulting from accidental release or spill events. Pursuant to LAC 33:IX.905.A, Plains will prepare and implement the required Spill Prevention and Control (SPC) Plan.

The SPC Plan, as applicable to the facility, must include a prediction of the direction, rate of flow, and total quantity of applicable substances, which could be spilled at the facility, where experience indicates a reasonable potential for equipment failure and/or human error. Appropriate containment and/or diversionary structures or equipment to prevent such substances from reaching waters of the state will be provided through use of:

- dikes, berms, or retaining walls sufficiently impervious to contain spills;
- curbing, drip pans;
- culverts, gutters, and other drainable systems;
- weirs, booms, and other barriers;
- sorbent substances; and

- sumps and collection systems.

Plains is fully committed to a strong spill contingency plan for the proposed facility, and will, as required by the regulations, provide a written statement regarding its commitment to provide necessary manpower, equipment, and materials to ensure timely and effective action to minimize damage resulting from spill events. In addition to the minimum prevention standards listed under LAC 33:IX.907.D, the facility's SPC Plan will conform to the guidelines and spill prevention and containment procedures specified under LAC 33:IX.907.F-K.

During construction, some temporary increase in suspended sediment loads and erosion is expected. An LDPES Storm Water General Permit for Construction Activities will be obtained for the construction activities, and a Storm Water Pollution Prevention Plan (SWPPP) will be prepared and implemented to minimize any such impacts. Storm water runoff will be managed so as to prevent adverse effect on storm water ditches and surrounding areas.

II. Does a cost benefit analysis of the environmental impact costs balanced against the social and economic benefits of the proposed facility demonstrate that the latter outweighs the former?

Yes. The social and economic benefits of the Plains facility greatly outweigh its environmental impact. As discussed above, the Plains facility is not anticipated to have an adverse impact on the environment. The facility will be located in Terrebonne Parish on property that is undeveloped, and will be subject to strict requirements to control air emissions. The facility layout has been designed to avoid wetlands to the extent practical.

The facility has significant social and economic benefits. The paragraphs below provide a summary of the anticipated benefits.

II.A. How was it determined that the facility was needed?

The Plains facility is a market-driven project to provide additional capacity for the collection of local crude oil production in the Gibson area for transportation to market (i.e. refineries). Crude oil from the Gibson area producers will be held in the tank until the major transporting pipelines in the area have a window available for the oil to move. Available storage in the area is essential to local producers. The future of an existing lease agreement between Plains and another storage facility operator in the area is uncertain. If this lease is terminated and Plains is unable to construct the proposed facility, the loss of tank storage would be devastating to these local producers. The proposed project would ensure uninterrupted crude oil flow from the various Gibson area producers into the local pipeline systems. Lack of tankage could curtail or shut-in production, directly affecting crude oil supply and putting stress on the local and state economy.

Currently, Plains conducts business in the Gibson area through a lease agreement with an existing storage facility. If the existing lease is not renewed and the proposed facility is rejected, it would result in a loss of jobs, as Plains would have to discontinue business in the area.

The facility will provide important economic and social benefits to the local community in which it will reside. The project directly affects the oil producing community in Gibson and surrounding parishes. The tankage is vital to the transportation of the local crude which contributes significant tax revenue and provides employment for the immediate community as well as the state.

Construction within the facility will create jobs, additional earnings of households, and increased business activity in the Gibson area economy. The Plains facility will generate sales tax and property tax revenues for the local and state economies. Annual taxes levied on the land would be paid to the Terrebonne Parish Tax Collector.

Plains currently has operations in Terrebonne Parish, and intends to continue to be a good corporate citizen in Terrebonne Parish and surrounding communities. Plains will make an effort to buy goods and services locally and hire locally. Employment opportunities will be provided to the Louisiana work force for the construction of the project. As a result, there is a net social benefit to the community in and around the proposed Plains facility.

II.C. What will be the potential negative economic effects on the local community?

II.C.1. What are the possible effects on property values?

The Plains facility will be located on property that is currently undeveloped with no zoning restrictions. The area surrounding the facility also has no zoning restrictions. The proposed facility will be located within a half mile of two other existing industrial facilities, a crude oil storage terminal and a gas plant. Both of these facilities are major sources of criteria air pollutants requiring federal Title V operating permits, whereas the Plains facility will be a minor source of air emissions. Unlike the proposed Plains facility which will transfer crude oil solely by pipeline, the existing neighboring storage terminal conducts truck and barge unloading operations and barge loading of the crude oil. It also has eight (8) storage tanks in contrast to the single tank presently being proposed by Plains.

The existing facilities are permitted to emit over eight times the quantity of volatile organic compounds as the proposed Plains facility. In addition, the gas plant is permitted to emit additional criteria pollutants in amounts greater than 3,000 tons per year.

Plains will not be creating a new industrial area but joining an already existing industrial area. Any effects on property value as a result of locating industry in the area should have already occurred.

II.C.2. ***Will the public cost rise for police protection, fire protection, medical facilities, schools, and/or roads?***

No. The level of services for police protection, fire protection, medical facilities, and schools are not affected by the facility. Plains has contracted with a local response services to provide emergency response for the facility. Crude oil will arrive at the facility and leave the facility by pipeline only. After the construction phase is complete, the only increase in traffic will be due to daily site visits by Plains personnel and occasional visits by service providers or deliveries of parts and ancillary equipment. There will be no new costs for public roadways.

II.C.3. ***Does the prospective site have the potential for precluding economic development of the area by business or industries because of risk associated with establishing such operations adjacent to the proposed facility?***

No. The proposed site is situated near other established industrial facilities of much greater magnitude and risk than the Plains facility. Economic development typically increases around existing industry as companies tend to co-habitate to support each other with their products and services.

The Plains facility will be subject to stringent emission controls, design standards, construction practices, and operating philosophy to ensure the facility will not present any adverse impacts to the environment or surrounding community.

III. ***Are there alternative projects which would offer more protection to the environment than the proposed facility without unduly curtailing non-environmental benefits?***

No. There are no alternative projects which would offer more protection to the environment than the facility without unduly curtailing non-environmental benefits.

As explained earlier, the purpose of the proposed project is to provide a collection point for local crude oil producers in the area to store their oil before it can be moved into the major transporting pipelines for sale to the area refineries. If the current lease agreement for storage in the area is not renewed and the proposed project is not approved, Plains would be forced to leave the area resulting in a loss of existing jobs in the area.

The project is proposed on a site that is located adjacent to both the Gibson area pipelines that deliver local crude oil and in the vicinity of other local industry. The site was chosen to minimize wetland losses.

The facility will obtain a Louisiana minor source air permit regulating air emissions and emission controls. The facility will be designed and operated in accordance with Louisiana and federal air quality regulations. Emission controls will include a floating roof tank with dual seals and a submerged fill pipe.

The tank will be enclosed in a containment area that is designed to contain at least 100% of the tank's contents plus rainwater. The containment diking area will be constructed of low-permeability clay, and a Claymax liner will underlay the tank floor to prevent leakage to the soils below.

IV. Are there alternative sites which would offer more protection to the environment than the proposed facility site without unduly curtailing non-environmental benefits?

No. There are no alternative sites which would offer more protection to the environment than the proposed site without unduly curtailing non-environmental benefits. An alternative site was studied east of the current location. This site was rejected due to the proximity of a local elementary school. The site was moved to its current location, which is in proximity to existing industry.

IV.A. Why was this site chosen?

The project is proposed on a site that is located adjacent to two pipelines that transport crude oil through the Gibson area. The facility is also located near an industrial area consisting of a gas plant and another crude oil storage terminal.

As previously indicated, this site was chosen in response to market demand to provide collection of local crude oil production in the Gibson area for transportation to market (i.e. refineries). Crude oil from Gibson area producers is held in the tank until the major transporting pipelines in the area have a window available for the oil to move. Available storage in the area is essential to local producers. The future of an existing lease agreement between Plains and another storage facility operator in the area is uncertain. If this lease is terminated and Plains is unable to construct the proposed facility, it would result in the loss of tank storage. The proposed project would ensure uninterrupted barrel flow from the various Gibson area producers into the local pipeline systems. Lack of tankage could curtail or shut-in production, directly affecting crude oil supply and putting stress on the local and state economy.

IV.B. Is the chosen site in or near environmentally sensitive areas?

IV.B.1. Wetlands/Estuaries

A wetland delineation was performed on the entire project site which followed *on-site routine* field procedures as outlined by the USACE (1987) and subsequent Regulatory Guidance Letters (RGL). C-K Associates, LLC (C-K) conducted a site visit on February 8, 2007 to determine the extent of potential wetlands within the project area. Data points were established randomly throughout the site according to plant community. Observation of soils, vegetation, and hydrology were recorded at each data point. The non-wet pasture areas consist of white clover (*Trifolium repens* L.), curly dock (*Rumex crispus*) and fescue (*Vulpia* spp.) in the herbaceous layer. The wet pasture areas consist of dwarf spikerush (*Eleocharis parvula*), fragrant flatsedge (*Cyperus odoratus*), ryegrass (*Lolium perenne*), Carolina foxtail (*Alopecurus carolinianus*) and low spearwort (*Ranunculus pusillus*).

The non-wet, forested areas consist of water oak (*Quercus nigra*), sweetgum (*Liquidambar styraciflua*), sugarberry (*Celtis laevigata*) and live oak (*Quercus virginiana*) in the overstory. The sapling/shrub layer is comprised of common privet (*Ligustrum vulgare*), sugarberry and water oak. The herbaceous area consists of palmetto (*Sabal minor*), blackberry (*Rubus betulifolius*), poison ivy (*Toxicodendron radicans*), roundleaf greenbrier (*Smilax rotundifolia*), horseweed (*Conyza canadensis*), longleaf woodoats (*Chasmanthium sessiliflorum*) and boxelder (*Acer negundo*).

The wet, forested areas consist of baldcypress (*Taxodium distichum*), black willow (*Salix nigra*) and Drummond red maple (*Acer rubrum* var. *drummondii*) in the overstory. The sapling/shrub layer consists of wax myrtle (*Myrica cerifera*). The herbaceous layer is comprised of iris (*Iris* spp.).

Based on the field investigation, there are 2.74 acres of potential wetlands, 25.23 acres of non-wetlands and 0.41 acres of other waters located on the site. These results are currently being verified by the U.S. Army Corps of Engineers. Although wetlands exist on the project site, the project has been designed and located to avoid wetlands to the extent practicable. The proposed project will not result in the significant loss of wetlands in the area. All wetland impacts will be mitigated as required by the regulatory agencies.

The project site does not contain estuarine habitats and therefore will not adversely affect estuaries.

IV.B.2. Sensitive Wildlife and/or Habitat

The proposed site does not contain habitat considered critical to threatened or endangered species (Federal or State) listed as known to occur in Terrebonne Parish. The proposed project will not adversely affect critical habitat.

IV.B.3. Archaeological and Historic Resources

A review of the National Register Database provided by the State Historic Preservation Office (SHPO) of the Louisiana Department of Culture, Recreation, and Tourism was conducted. No historical, culturally significant, or archeological sites were found in the nearby vicinity of the proposed terminal.

IV.C. What is the zoning and existing land use of the prospective site and nearby area?

The proposed site for the Plains Marketing Terminal facility is undeveloped with no zoning restrictions. The land surrounding the proposed facility also has no zoning restrictions and is agricultural, industrial, and rurally inhabited.

IV.D. Is the site flood prone?

IV.D.1. 100-Year Flood Plain

The site is located in a flood zone. However, the tank will be contained and isolated within an earthen berm containment area.

IV.D.2. Shoreline

The site is not located inside of the legally defined Coastal Zone Boundary. The site will exhibit no direct effect on any regulated shoreline within the Coastal Zone.

IV.E. Is the Groundwater protected?

IV.E.1. Groundwater Impacts Will Be Avoided

Groundwater conditions were evaluated during a geotechnical investigation performed by Eustis Engineering Services, LLC in February-March, 2007. An auger boring was drilled to a depth of four feet below the existing ground surface where free water was initially encountered. After 24 hours of equilibration, groundwater in the boring was located less than one foot beneath the ground surface.

A search for wells registered with LDOTD within one mile of the site resulted in one industrial well located 0.43 mile from the coordinates of the front gate of the facility.

Shallow groundwater flow is northeasterly toward Bayou Black. Large quantities of moderately saline to highly saline groundwater are available throughout Terrebonne Parish. Local occurrences of fresh groundwater (water containing less than 250 milligrams per liter) to depths of about 250

feet have been documented near Gibson, though fresh groundwater supplies may contain objectionable quantities of iron and may be hard (high dissolved solids content).

Soil borings to 150 feet below ground surface were performed at the site by Eustis in February-March 2007. Groundwater was first encountered at the site at approximately four feet below ground surface. This shallow zone is confined by a clay aquitard ranging from seven to ten feet below ground surface. Below this confining clay layer, loose to very dense gray fine sand was observed to the bottom of the 150-ft borings. Therefore, it is unlikely that the uppermost water bearing zone is in communication with deeper water bearing zones greater than ten feet below ground surface.

No land-based treatment or disposal of solid or liquid waste is permitted or allowed at this facility. Plains Marketing will design, construct, and operate the terminal in accordance with good engineering practices. These practices ensure systems to provide maximum safeguards for the protection of the groundwater and surrounding environment.

IV.E.2. Aquifer Recharge Zones

According to Map #16 of the Aquifer Recharge Atlas, "Aquifer Recharge Potential of the New Orleans Quadrangle (1988)," no aquifer is designated for the project area, and the site is located in an area that does not recharge major Louisiana freshwater aquifers.

IV.F. Does prospective site pose potential health risk as defined by proximity to:

IV.F.1.& 2 Prime Agricultural Areas, Residential Areas, Schools, Hospitals, Etc.

The area surrounding the proposed Plains facility is not subject to any zoning regulations. As such, the area surrounding the proposed Plains facility may serve any of the functions addressed by this question, as well as other commercial or industrial uses. Currently, the area surrounding the proposed site contains agricultural, industrial, and sparsely populated residential areas. The nearest school is over one mile from the proposed facility.

The proposed site does not pose potential health risks to any of these properties located nearby. The air emissions associated with the proposed Plains facility will be below the major source threshold for criteria air pollutants as defined in the Prevention of Significant Deterioration rules. The proposed facility will not be classified as either a major source of federal hazardous air pollutants, or a major source of

state toxic air pollutants. Further (although not required as the proposed facility will not be a major source of LTAPs), Plains has compared the emissions of the LTAPs from the proposed facility to the Minimum Emission Rates (MER) set forth in LAC 33:III.Chapter 51, the Louisiana Air Toxics regulations. These MERs were established by the LDEQ and represent the de minimis level for each pollutant. None of the emissions proposed for the proposed facility are close to meeting or exceeding any of these de minimis levels.

The facility will obtain a Louisiana minor source air permit regulating air emissions and emission controls. The facility will be designed and operated in accordance with Louisiana and federal air quality regulations. Emission controls will include a floating roof tank with dual seals and a submerged fill pipe.

The tank will be enclosed in a containment area that is designed to contain at least 100% of the tank's contents plus rainfall. The containment area will be constructed of low-permeability clay, and a Claymax liner will underlay the tank bottom to prevent any leakage to the soils below.

This facility will be covered by a Facility Response Plan that includes notification to Federal and State emergency response agencies in case of releases. The Plan will be implemented in the event of an emergency. Included in the plan is notification to the State "single point of contact number" for contact with the Louisiana State Police and the Department of Environmental Quality. The Plan specifies procedures for coordinating with the State Police and local Sheriff's office to implement an evacuation process should it be required.

While the facility will normally be unmanned, it will be visited daily by Plains personnel. Tank levels and pipeline pressures will be monitored continuously from a remote location.

IV.G. Is the air quality protected?

The Plains facility will meet or exceed all applicable state and federal emission standards. The facility will be permitted under a Louisiana minor source air emissions permit which will regulated air emissions and emission controls. (Refer to the response to Question I for a more detailed description of the air quality controls and procedures to be implemented by the facility.)

IV.G.1. Is the site within an ozone non-attainment area?

No. Terrebonne Parish is classified as an ozone attainment area.

IV.G.2. What contaminants are likely to be generated at the site?

The Plains facility will generate air emissions of volatile organic compounds (VOCs). The facility will be a minor source of criteria air pollutants. Criteria pollutants will be controlled as required under the LDEQ regulations and federal requirements. The facility is classified as a minor source under federal hazardous air pollutant rules. The facility is also classified as a minor source of toxic air pollutants under State rules. Typical Federal and State hazardous air pollutants associated with crude oil storage include benzene, ethylbenzene, toluene, xylenes, isooctane, and hydrogen sulfide.

IV.G.3. What protection is afforded from each contaminant generated by the site?

Air emissions from the site are stringently controlled as required by applicable state and federal air quality regulations. The tank will be constructed as an external floating roof tank with a dual seal system to minimize emissions. Design specifications will be in accordance with the New Source Performance Standards under the Code of Federal Regulations, 40 CFR 60 Subpart Kb.

IV.G.4. What plans are implemented for odor control?

As with all facilities that handle crude oil, the potential for odorous emissions exists. However, the crude oil to be handled at the proposed facility is identical to that currently handled at a nearby existing facility, and Plains is not aware of any odor concerns related to that facility. Therefore, there is no reason to expect odor problems from the proposed facility. The tank design elements that reduce emissions of VOC (floating roof, double rim seal, etc.) also serve to reduce the potential for odorous emissions.

IV.G.5. Who will be affected by emissions?

Air emissions from the Plains Marketing Terminal facility are stringently controlled by state and federal regulations. Therefore, no adverse affect is expected from the facility air emissions.

IV.G.6. Describe the control of vapors at various stages of the process?

Emissions from each point source are identified in the Application for Approval of Emissions and in the Emission Inventory Questionnaire. The crude oil storage tank will be equipped with an external floating roof and a

dual seal system to minimize emissions. Also, a submerged-fill pipe will be installed for emission reduction during filling of the tank.

IV.H. Have physical site characteristics been studied; what has been done in terms of geotechnical investigations?

The Eustis geotechnical investigation conducted in February-March 2007 included two soil test borings and eight Cone Penetration Testing (CPT) borings to determine subsurface conditions and stratification at the site.

IV.H.1. Are there studies for any of the following at the location? If so, how do the studies show that the proposed site offers more protection to the environment than alternative sites without unduly curtailing non-environmental benefits?

IV.H.1.a. Site geology

According to the Eustis geotechnical investigation, the site is characterized by Holocene deposits that overlie substratum sandy soils. The Holocene deposits consist of natural levee and undifferentiated deltaic deposits.

The natural levee deposits extend from the ground surface to approximately 7 to 10 feet below ground surface, and consist of very soft to medium stiff brown and gray clay and silty clay with roots. The underlying deltaic deposits extend to depths varying between 25 and 62 feet beneath the ground surface and consist of very soft to medium stiff gray clay or silty clay and loose to medium compact gray sandy silt. Beneath the deltaic plain, loose to very dense gray fine sand extends to the full depth of the two soil borings installed at the site (150 feet below ground surface).

IV.H.1.b. Hydrology

Surface water at the site drains by sheet flow, generally from northeast to southwest. The site is bound by Louisiana Highway 182 to the north and by Shell E and P Road to the south, which separate the property from Bayou Black to the north and marshlands to the south.

IV.H.1.c. Topography

The site is generally level, sloping slightly downgradient from northeast to southwest, at an elevation of approximately five feet NGVD (USGS 7.5-minute series quad maps "Gibson, LA" and "Bayou Cocodrie, LA"). The property is mostly cleared, with some trees and brush.

IV.H.1.d. Soil properties

Soils at the site consist of Cancienne silt loam, Cancienne silty clay loam, Gramercy silty clay loam, and Schriever clay. These poorly drained to somewhat poorly drained soils have moderately slow permeability (very slow permeability in Schriever clay) and are typically found on natural levees within Terrebonne Parish.

Per the Eustis geotechnical investigation, sand strata were encountered at the site at depths ranging from 30 to 70 feet below the existing ground surface. These strata consisted of loose to very dense gray sand and silty sand.

IV.H.1.e. Aquifer location

According to Map #16 of the Aquifer Recharge Atlas, "Aquifer Recharge Potential of the New Orleans Quadrangle (1988)," no aquifer is designated for the project area.

IV.H.1.f. Subsidence problems

The proposed facility is not expected to cause or contribute to any subsidence problems in the area. There will be no pumping or withdrawal of groundwater or any other activity that could affect subsidence.

IV.H.1.g. Climatic conditions

Terrebonne Parish has a high average rainfall and a humid subtropical climate. The average annual total precipitation is 63.7 inches. Of this, about 85% usually falls in February through November. Typically, July is the wettest month and October is the driest month.

V. Are there mitigating measures which would offer more protection to the environment than the facility as proposed without unduly curtailing non-environmental benefits?

No. There are no mitigating measures which would offer more protection to the environment than the proposed facility as it is presently designed. Specific discussions of the mitigating measures are included in the responses to the previous questions.

These mitigating measures and factors include:

- The site is suitable for industrial development.
- Transfer of crude oil will occur solely by pipelines, thereby minimizing the potential adverse impacts to the public.
- There is no treatment or disposal of solid or hazardous waste on site.
- There are no significant adverse impacts on historical, archaeological, wetland, estuarine, wildlife habitat, or prime agricultural areas as a result of locating the facility at the chosen site. Although there may be minimal wetlands impacted at the site, appropriate mitigation will be performed to offset this loss.
- The facility provides economic and social benefits to the local and regional areas.
- The facility is located in a non-urban area on undeveloped property in the vicinity of existing industrial facilities.
- Stormwater discharges from the facility will have minimal impacts to receiving waters. Only storm water runoff will be discharged to local drainage.
- Air emissions are regulated under state and federal regulations. The facility is a minor source of criteria air pollutants, toxic air pollutants, and hazardous air pollutants.

C-K
ASSOCIATES • L.L.C.
ENVIRONMENTAL & ENGINEERING CONSULTANTS

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September 15, 2008

Ms. Jada Lewis
Department of Environmental Quality
Office of Environmental Services
P.O. Box 4313
Baton Rouge, Louisiana 70821-4313

Subject: Additional Information Request, Plains Marketing, LP Gibson Terminal
Agency Interest No. 146070, Activity No. PER20060001
Proposed Permit No. 2880-00073-00
Terrebonne Parish, Louisiana

Dear Ms. Lewis:

On July 1, 2008, Plains Marketing, LP submitted the environmental assessment statement for the proposed Gibson Terminal addressing the five "IT Decision" Questions plus Sections II.A, II.C., and IV of the Revised Expanded Version of the "IT Decision" Questions. On behalf of Plains Marketing, LP, C-K Associates, LLC would like to expand on the responses to these questions by providing the following information:

Question No. I addresses measures to minimize environmental impacts of the proposed facility. Plains Marketing, LP ("Plains") has designed the facility and structured operations such that environmental impacts will be minimized to the extent practicable. The crude oil storage tank will be designed and constructed to API-650 standards. It will be constructed of welded A36 carbon steel, designed to withstand sustained winds in excess of 100 mph. Also, it will be constructed with a corrosion control system to identify and prevent corrosion of the tank.

Question No. II addresses social and economic benefits weighed against environmental impacts. Plains Marketing, LP outlined how the proposed facility will be a social and economic benefit to the local community. In addition to providing crude oil storage essential to local producers, the terminal will create approximately 10 to 15 construction jobs for a year. The project will also support new contractor jobs for maintenance of the facility.

The project directly affects the oil producing community in Gibson and surrounding parishes. The tankage is vital to the transportation of the local crude which contributes significant tax revenue and provides employment for the immediate community as well as the state. Approximately $225,000 will be generated in state and local sales taxes for the construction of the tank.

In addition to the creation of jobs and tax revenues for the local community, the proposed Plains facility will be located in an area of industrial activity. The terminal will be located within a half mile of Enterprise Gas Plant which processes natural gas liquids, and Shell Gibson Terminal and Ship Shoal Terminal which store and transport crude oil. The Williams Black Bayou Gas Plant separates liquid condensate from gas and is located within three miles of the proposed facility. Meridian Resources and Hilcorp Energy have facilities which produce and store crude oil and are located within one mile and one-fourth of a mile from the proposed facility, respectively. All of these businesses have multiple pipelines that deliver in and out of the facilities throughout the area.

C-K Associates, LLC appreciates the opportunity to provide this additional information. Should you have any questions or require further information, please contact Richard Anderson of Plains Marketing, LP at (713) 646-4286 or me at (225) 755-1000.

Sincerely,
C-K Associates, LLC

Mark Ezell
Manager, Air Quality Group

Cc: Bryan Johnston, LDEQ

Facilities surrounding AI 146070 Gibson Terminal

Within 1 **mile**

AI	Facility Name	Air Permit Type
33030	Shell Pipeline LP-Gibson Station	Title V
33190	Meridian Resources' Gibson Production Facility	SOGA
26875	Denbury Onshore's Gibson Field Site	SOGA
43217	Shell Pipeline LP-Raw Material Supply	-
20273	Enterprise Gas Processing's - North Terrebonne Gas Plant	Title V
78629	C&S Quick Stop Deli	-

Within **2 miles**

AI	Facility Name	Air Permit Type
19167	Greenwood School	-
157205	Ronald Short -WWTP	-
85048	Wilson #1	Terminated Minor Source
154738	St. Mary Land& Exploration's Gibson Field Production Facility	Minor Source
149302	EW Brown Jr Well #1	-
80736	Energy's Main Pass Block 10 Platform "A" Facility	Minor Source
94050	Denbury Onshore's Gibson Field Site #2	SOGA
134251	HH-1D Prospect	-

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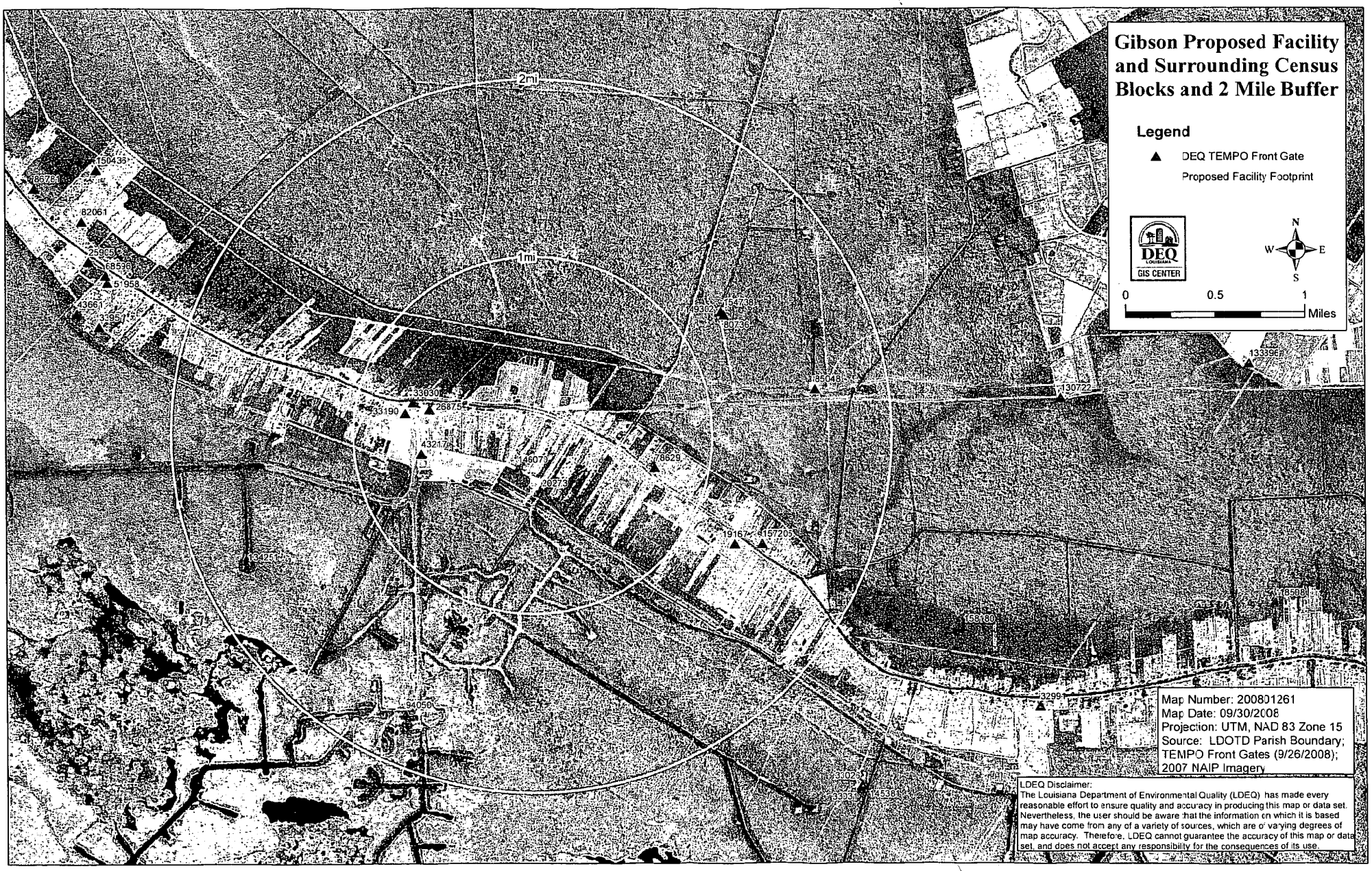
Gibson Proposed Facility and Surrounding Census Blocks and 2 Mile Buffer
Legend
DEQ TEMPO Front Gate
Proposed Facility Footprint
DEQ
GIS CENTER
N
W
E
S
0
0.5
1
Miles
2mi
1mi
150436
186781
82061
25905
68596
51958
43661
33951
149302
154738
80736
185048
133396
130722
33030
33190
26875
43217
146073
20273
78629
19167
157205
134251
158180
18508
3299
94050
33026
33031
145381
Map Number: 200801261
Map Date: 09/30/2008
Projection: UTM, NAD 83 Zone 15
Source: LDOTD Parish Boundary; TEMPO Front Gates (9/26/2008); 2007 NAIP Imagery
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