

## Texas Commission on Environmental Quality Waste Permits Division Correspondence Cover Sheet

Date: 7/30/2024	Nature of Correspondence:
Facility Name: Greenbelt Landfill	☐ Initial/New
Permit or Registration No.: <u>1586B</u>	$\boxtimes$ Response/Revision to TCEQ Tracking No.:
•	29833044 (from subject line of TCEQ letter
	regarding initial submission)
Affix this cover sheet to the front of your submission to	the Waste Permits Division. Check appropriate box
for type of correspondence. Contact WPD at (512) 239-	
Table 1 - Municipal Solid	Waste Correspondence
Applications	Reports and Notifications
☐ New Notice of Intent	☐ Alternative Daily Cover Report
☐ Notice of Intent Revision	☐ Closure Report
□ New Permit (including Subchapter T)             □	☐ Compost Report
□ New Registration (including Subchapter T)	☐ Groundwater Alternate Source Demonstration
☐ Major Amendment	☐ Groundwater Corrective Action
☐ Minor Amendment	☐ Groundwater Monitoring Report
☐ Limited Scope Major Amendment	☐ Groundwater Background Evaluation
	☐ Landfill Gas Corrective Action
☐ Non-Notice Modification	☐ Landfill Gas Monitoring
☐ Transfer/Name Change Modification	☐ Liner Evaluation Report
☐ Temporary Authorization	☐ Soil Boring Plan
☐ Voluntary Revocation	☐ Special Waste Request
☐ Subchapter T Disturbance Non-Enclosed Structure	Other:
Other:	
Table 2 - Industrial & Hazardo	ous Waste Correspondence
Applications	Reports and Responses
New	☐ Annual/Biennial Site Activity Report
Renewal	☐ CPT Plan/Result
Post-Closure Order	☐ Closure Certification/Report
☐ Major Amendment	☐ Construction Certification/Report
☐ Minor Amendment	☐ CPT Plan/Result
CCR Registration	Extension Request
CCR Registration Major Amendment	Groundwater Monitoring Report
CCR Registration Minor Amendment	☐ Interim Status Change
☐ Class 3 Modification	☐ Interim Status Closure Plan
☐ Class 2 Modification	☐ Soil Core Monitoring Report
☐ Class 1 ED Modification	☐ Treatability Study
☐ Class 1 Modification	☐ Trial Burn Plan/Result
☐ Endorsement	☐ Unsaturated Zone Monitoring Report
☐ Temporary Authorization	☐ Waste Minimization Report
☐ Voluntary Revocation	Other:

Other:

335.6 Notification



July 30, 2024

MC-124
Ms. Megan Henson, Manager
MSW Permits Section
Office of Waste, Waste Permits Division
P. O. Box 13087
Austin, TX 78711-3087

Re: Greenbelt Landfill - Harris County

Municipal Solid Waste - Permit No. 1586B

Response to July 2, 2024, Permit Modification NOD Tracking No 29833044; RN101287852/CN602528804

Dear Ms. Henson:

The following information is provided on behalf of Greenbelt Landfill and GFL Environmental in response to the above-referenced correspondence. For your convenience, each comment requiring a response from the TCEQ correspondence is presented below followed by the prepared response. To provide continuity and ease of reference, the attached permit modification application is intended to fully replace the previously submitted modification.

#### **TCEQ Comment:**

Submit electronic versions of the permit modification application, as requested in Section 5.0 of the Application Form for Municipal Solid Waste Permit or Registration Modification or Temporary Authorization (TCEQ-20650).

#### Response:

As requested, an electronic version of the permit modification application has been included in the disc attached to the back cover of this correspondence.

#### **TCEQ Comment:**

Ensure that a complete landowner's map and list is provided as described in 30 TAC §330.59(c)(3). Additionally, the list must be in electronic form or on pre-printed mailing labels. The label format should have 30 labels to a page (e.g. AVERY 5160). Each letter in the name and address must be capitalized, contain no punctuation, and the appropriate two-character abbreviation must be used for the state. Each entity listed must be blocked and spaced consecutively. The electronic version of the adjacent landowner mailing list must provide the mailing list in label format. If the list is provided on printed labels, four complete sets of labels of the landowner list are needed.

#### Response:

The landowner's map and list are provided as Attachments 5 and 6 of this document. Additionally, electronic mailing labels utilizing the AVERY 5160 format are included in the disc attached to the back cover of this document.

#### **TCEQ Comment:**

In accordance with 30 TAC §330.57(g)(3), ensure that the table of contents included in the application are dated with responsible engineer's seal and signature.

#### Response:

The table of contents has been updated to include the engineer's seal. These updated pages can be found in Attachment 3.

#### **TCEQ Comment:**

In accordance with 30 TAC §330.57(h)(4)(D), provide responsible engineer's seal and signature on all figures/drawings (see Figures 5 through 7).

#### Response:

All figures in the Landfill Gas Assessment Report and Remediation Plan have been updated to include the engineer's seal. These updated figures (Figures 1-7) can be found in the Landfill Gas Assessment Report and Remediation Plan (Appendix A) included in Attachment 3 as part of this submittal.

#### TCEQ Comment:

Include Figures 1 through 4 in Appendix A of the application, as listed in the table of contents of the application.

#### Response:

As noted in the response above, these figures (Figures 1-4) can be found in the Landfill Gas Assessment Report and Remediation Plan (Appendix A) included in Attachment 3 as part of this submittal.

#### TCEQ Comment:

Per 30 TAC §330.371(c), provide a discussion regarding removal of the trailer-mounted flare skid (e.g., timeline), as the system-vacuum for the Soil Vapor Extraction System has been provided through a temporary trailer-mounted flare skid.

#### Response:

The temporary flare was installed to quickly remediate landfill gas exceedances noted for GP-10A to prioritize human health and the environment. While operation of this temporary system achieves regulatory compliance at GP-10A, further evaluation for transition to a more permanent solution is currently underway. This evaluation includes iterative reduction in overall vacuum applied to the subsurface transmissive zone to determine the minimum vacuum necessary to maintain regulatory compliance at the permit boundary. During this evaluation, the expected time for the temporary flare to be active is 18 to 24 months from installation. As the temporary flare was installed in February 2024, flare removal is expected by February 2026. Results from GP-10A evaluation due to flare removal will be included in quarterly monitoring correspondence as necessary.

#### **TCEQ Comment:**

Clarify if the semi-monthly landfill gas monitoring will continue after removal of the trailer-mounted flare skid prior to considering the completion of the remedy. In accordance with 30 TAC §330.371(d), we recommend the facility continues the twice-monthly landfill gas monitoring for three consecutive months after removal of the temporary trailer-mounted flare skid prior to considering the completion of the remedy.

#### Response:

In accordance with TCEQ approval of the finalized Remediation Plan and Remediation Assessment Report, both submitted on April 29, 2024, and the remediation monitoring program submitted in the Remediation Plan, quarterly monitoring has been initiated. As requested, following flare removal, the facility will begin semi-monthly monitoring of GP-10A for three consecutive months to ensure the probe maintains compliance. The results of this semi-monthly monitoring will be included in regular quarterly monitoring submittals.

Should you have any questions regarding this correspondence, please feel free to contact me at (936) 568-9451 or via email at jdimezzo@hydrex-inc.com.

Sincerely,

Hydrex Environmental

TBPG Firm No. 50027

Jordan L. DiMezzo, G.I.T.

Geologist

John Q. Hargrove, P√E. Senior Project Engineer

#### **Attachments:**

Attachment 1 – TCEQ 20650

Attachment 2 – Strikeout/Underline Pages Showing Changes

Attachment 3 – Replacement New Pages Attachment 4 – Fee Payment Receipt Attachment 5 – Land Ownership Map Attachment 6 – Land Ownership List

#### **Distribution:**

(Original + 1) MC-124

Ms. Megan Henson

Manager

MSW Permits Section

Office of Waste, Waste Permits Division Texas Commission on Environmental Quality

P. O. Box 13087

Austin, TX 78711-3087

(1) Waste Section Manager

TCEQ Regional Office 12 5425 Polk Street, Ste. 12 Houston, Texas 77023-1452

(1) Mr. Chandra Yadav, P.E.

Municipal Solid Waste Permits

Texas Commission on Environmental Quality

E-Copy

(1) Mr. Steve Howard

Regional Environmental Compliance Manager

GFL Environmental

E-copy

(1) Ms. Jennifer Glowacki

Region Field Engineer GFL Environmental

E-copy

(1) Greenbelt Landfill

550 Old Genoa Red Bluff Rd

Houston, TX 77034

(E-copy) Hydrex Environmental





#### **Texas Commission on Environmental Quality**

#### Application Form for Municipal Solid Waste Permit or Registration Modification or Temporary Authorization

#### **Application Tracking Information**

Facility Name: Greenbelt Landfill		
Permittee or Registrant Name: Waste Corporation of Texas L.P.		
MSW Authorization Number: 1586B		
Initial Submission Date: 5/28/2024		
Revision Date: 7/30/2024		
Instructions for completing this form are provided in <u>form TCEQ-20650-instr</u> <sup>1</sup> . If you have questions, contact the Municipal Solid Waste Permits Section by email to or by phone at 512-239-2335.		
Application Data		
1. Submission Type		
☐ Initial Submission ☐ Notice of Deficiency (NOD) Response		
2. Authorization Type		
■ Permit Registration		
3. Application Type		
■ Modification with Public Notice		
☐ Temporary Authorization (TA) ☐ Modification for Name Change or Transfer		
4. Application Fee		
4. Application ree		
Amount		
The application fee for a modification or temporary authorization is \$150.		
Payment Method		
☐ Check		
■ Online through ePay portal <u>www3.tceq.texas.gov/epay/</u>		
If paid online, enter ePay Trace Number: 582EA000564102		

<sup>&</sup>lt;sup>1</sup> www.tceq.texas.gov/downloads/permitting/waste-permits/msw/forms/20650-instr.pdf

<ol><li>Electronic Ve</li></ol>	ersions of	Application
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For modifications that require notice (other than those for arid exempt landfills), TCEQ will publish electronic versions of the application online. Applicants must provide a clean copy of the administratively complete application and technically complete application. TCEQ will also publish electronic versions of NOD responses online.

6. Party Responsible for Mailing Notice
For modifications that require notice, indicate who will be responsible for mailing notice:  Applicant Agent in Service Consultant  Contact Name:  Title: Geologist  Email Address:
7. Confidential Documents
Does the application contain confidential documents?  Yes No  If "Yes", reference the confidential documents in the application, but submit the confidential documents as an attachment in a separate binder marked "CONFIDENTIAL."
8. Facility General Information
Facility Name: Greenbelt Landfill
Contact Name: Steven Howard Title: Regional Environmental Complianc
MSW Authorization Number (if existing): 1586B
Regulated Entity Reference Number: RN 101287852
Physical or Street Address: 550 Genoa-Red Bluff Road
City: Houston County: Harris State: TX Zip Code: 77034
Phone Number:
Latitude (Degrees, Minutes, Seconds): 29°37'35.2"
Longitude (Degrees, Minutes, Seconds): -95°11'18.1"
9. Facility Types
☐ Type I ☐ Type IV ☐ Type V
☐ Type IAE ☐ Type IVAE ☐ Type VI

#### 10. Description of the Revisions to the Facility

Provide a brief description of revisions to permit or registration conditions and supporting documents referred to by the permit or registration, and a reference to the specific provisions under which the modification or temporary authorization application is being made. Also, provide an explanation of why the modification or temporary authorization is needed:

Notice permt modification for the inclusion of the Remediation Plan for GP-10A into the facility's permit.

11. Facility Contact Info	ormation			
Site Operator (Permittee o	· ·			
Customer Reference Number: Contact Name: Steven Howard	CN 602528804	Title: Re	- gional Environr	nental Complianc
Mailing Address: 18511 Beaum	ont Hwy			
City: Houston  Phone Number:	County: Harris		State: Ix	Zip Code: 77049
Email Address:				
Texas Secretary of State (SOS	S) Filing Number:	0800108480		
Operator (if different from	Site Operator)			
Name:			_	
Customer Reference Number:	<u> </u>	<del>-</del>		
Contact Name:				
Mailing Address:				
City:	_		State:	Zip Code:
Phone Number:				
Email Address:				
Texas Secretary of State (SOS	S) Filing Number:			

Consultant (if applicable)
Firm Name: Hydrex Environmental
Consultant Name: John Q. Hargrove
Texas Board of Professional Engineers Firm Registration Number: F-13588
Contact Name: John Q. Hargrove Title: Senior Engineer
Mailing Address: 312 Old Tyler Road
City. Nacogdoches County. Nacogdoches State. TX Zin Code. 75961
Phone Number: 936-568-9451
Email Address:
Agent in Service (required for out-of-state applicants)
Name:
Mailing Address:
City: County: State: <u>TX</u> Zip Code:
Phone Number:
Email Address:
12. Ownership Status of the Facility
Is this a modification that changes the legal description, the property owner, or the Site Operator (Permittee or Registrant)?
☐ Yes ■ No
If the answer is "No", skip this section.
Does the Site Operator (Permittee or Registrant) own all the facility units and all the facility property?
☐ Yes ☐ No
If "No", provide the following information for other owners.
Owner Name:
Mailing Address:
City: State: <u>TX</u> Zip Code:
Phone Number:
Email Address:

#### **Signature Page**

#### **Site Operator or Authorized Signatory**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: Steven Howard	Title: Reg Enviro Compliance Manager
Email Address:	
Signature: 5th 9	Date: 7/30/24
Operator or Principal Executive Officer Design	nation of Authorized Signatory
To be completed by the operator if the application for the operator.	n is signed by an authorized representative
I hereby designate	any application, submit additional sion; and/or appear for me at any hearing al Quality in conjunction with this request posal Act permit. I further understand that on, for oral statements given by my cation, and for compliance with the terms
Operator or Principal Executive Officer Name:	
Email Address:	
Signature:	Date:
Notary	
On this 30 day of July , 2024  My commission expires on the 14 day of Apr	aid Steven Howard
Notary Public in and for	BRANDON MARTIN Notary Public, State of Texas Comm. Expires 04-12-2026 Notary ID 133662428

Note: Application Must Bear Signature and Seal of Notary Public

## Attachments for Permit or Registration Modification with Public Notice

Refer to instruction document **200650-instr** for professional engineer seal requirements.

#### Attachments Table 1. Required attachments.

Required Attachments	Attachment Number
Land Ownership Map	6
Landowners List	5
Marked (Redline/Strikeout) Pages	2
Unmarked Revised Pages	3

#### Attachments Table 2. Additional attachments as applicable.

Additional Attachments as Applicable (select all that apply and add others as needed)	Attachment Number
☐ TCEQ Core Data Form(s)	1
☐ Signatory Authority Delegation	
■ Fee Payment Receipt	4
☐ Confidential Documents	

## Attachments for Permit or Registration Modification without Public Notice, or Temporary Authorization

Refer to instruction document **200650-instr** for professional engineer seal requirements.

#### Attachments Table 3. Required attachments for modifications.

Required Attachments for Modification	Attachment Number
Marked (Redline/Strikeout) Pages	
Unmarked Revised Pages	

### Attachments Table 4. Additional attachments for modifications and temporary authorizations, as applicable.

Additional Attachments as Applicable (select all that apply and add others as needed)	Attachment Number
☐ TCEQ Core Data Form(s)	
☐ Signatory Authority Delegation	
☐ Fee Payment Receipt	
☐ Confidential Documents	

## Attachments for Permit or Registration Name Change or Transfer Modification

Refer to instruction document **200650-instr** for professional engineer seal requirements.

#### Attachments Table 5. Required attachments.

Required Attachments	Attachment Number
TCEQ Core Data Form(s)	
Property Legal Description	
Property Metes and Bounds Description	
Metes and Bounds Drawings	
On-Site Easements Drawing	
Land Ownership Map	
Land Ownership List	
Property Owner Affidavit	
Verification of Legal Status	
Evidence of Competency	

#### Attachments Table 6. Additional attachments as applicable.

Additional Attachments as Applicable (select all that apply and add others as needed)	Attachment Number
Signatory Authority Delegation	
☐ Fee Payment Receipt	
☐ Confidential Documents	
☐ Final Plat Record of Property	
Assumed Name Certificate	





#### PART III - ATTACHMENT 6

#### LANDFILL GAS MANAGEMENT PLAN

### MUNICIPAL SOLID WASTE PERMIT AMENDMENT APPLICATION

#### FOR:

GREENBELT LANDFILL HARRIS COUNTY, TEXAS TCEQ PERMIT NO. MSW-1586B

#### Prepared for:

Waste Corporation of Texas, L.P. 1330 Post Oak Blvd, "Jlh Floor Houston, Texas 77056

Prepared by:

#### SCS ENGINEERS

Texas Board of Professional Engineers Registration No. F-3407 12651 Briar Forest Dr., Suite 205

Houston, TX 77077 (281) 293-8494

October 2021
Revision 1 – March 2022
Revision 2 – July 2022
Revision 3 – September 2022
Revision 4 – February 2023

Revision 5 - July 2024



July 2024 Revisions Only

Hydrex Environmental

TBPELS Eng. Firm No. F-13588



	4.3.2 Stationary Combustible Gas Monitor	19
5.0	RECORD KEEPING AND REPORTIN"G	20
6.1	CONTIN'GENCY PLAN	21
	6.2 Immediate Actions to Protect Human Health	21
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#### **TABLES**

Table III-6.1 Minimum Water Levels

Table III-6.2 Gas Monitor Probe Installation Data Summary

#### **FIGURES**

Figure III-6.1 General Location Map

Figure III-6.2 Gas Probe Location Map

Figure III-6.3 Typical Gas Monitoring Probe Detail

**APPENDICIES** 

Appendix III-6A Gas Monitoring Data Form

Appendix III-6B Landfill Gas Assessment Report and Remediation Plan for GP-10A



July 2024 Revisions Only Hydrex Environmental

TBPELS Eng. Firm No. F-13588

#### 7.0 PREVIOUSLY IMPLEMENTED REMEDATION PLANS

#### 7.1 Landfill Gas Assessment and Remediation Plan for GP-10A

During the regularly scheduled 2023 first quarterly methane monitoring event, methane was detected at 58.3 percent by volume in gas monitoring probe GP-10A. Gas samples were collected from GP-10A and analyzed using EPA method TO-14. The high VOC concentrations noted in the analytical testing indicated that the landfill was a potential source of the methane in GP-10A.

As a result, four (4) temporary gas probes were installed at the western and eastern extent of the gas plume allowing for weekly monitoring during assessment and remediation activities. Evaluation of the investigation data collected during the assessment indicated the elevated concentrations in GP-10A were likely sourced from migrating landfill gas from the adjacent landfill.

To effectively cut off landfill gas migration four PVs were installed and monitored weekly. Based on weekly monitoring of the PVs, it was determined that additional remedial efforts were necessary. The existing PVs were converted to soil vapor extraction (SVE) points. The conversion of the PVs to SVEs was considered complete on February 29, 2024.

The installation of the temporary active gas extraction system is detailed in Appendix III-6B of this permit.

## APPENDIX III-6B LANDFILL GAS ASSESSMENT REPORT AND REMEDATION PLAN FOR GP-10A





#### PART III - ATTACHMENT 6

#### LANDFILL GAS MANAGEMENT PLAN

#### MUNICIPAL SOLID WASTE PERMIT AMENDMENT APPLICATION

#### FOR:

GREENBELT LANDFILL HARRIS COUNTY, TEXAS TCEQ PERMIT NO. MSW-1586B

Prepared for:

Waste Corporation of Texas, L.P. 1330 Post Oak Blvd, "Jlh Floor Houston, Texas 77056

Prepared by:

#### SCS ENGINEERS

Texas Board of Professional Engineers Registration No. F-3407

12651 Briar Forest Dr., Suite 205 Houston, TX 77077 (281) 293-8494

October 2021
Revision 1 – March 2022
Revision 2 – July 2022
Revision 3 – September 2022
Revision 4 – February 2023
Revision 5 - July 2024

July 2024 Revisions Only Hydrex Environmental TBPELS Eng. Firm No. F-13588



	4.3.2 Stationary Combustible Gas Monitor	
5.0	RECORD KEEPING AND REPORTIN"G	20
6.1	CONTIN'GENCY PLAN	21
	6.2 Immediate Actions to Protect Human Health	21
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#### **APPENDICIES**

Appendix III-6A Gas Monitoring Data Form

Appendix III-6B Landfill Gas Assessment Report and Remediation Plan for GP-10A



TBPELS Eng. Firm No. F-13588

#### 7.0 PREVIOUSLY IMPLEMENTED REMEDATION PLANS

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As a results, four (4) temporary gas probes were installed at the western and eastern extent of the gas plume allowing for weekly monitoring during assessment and remediation activities. Evaluation of the investigation data collected during the assessment indicated the elevated concentrations in GP-10A were likely sourced from migrating landfill gas from the adjacent landfill.

To effectively cut off landfill gas migration four PVs were installed and monitored weekly. Based on weekly monitoring of the PVs, it was determined that additional remedial efforts were necessary. The existing PVs were converted to soil vapor extraction (SVE) points. The conversion of the PVs to SVEs was considered complete on February 29, 2024.

The installation of the temporary active gas extraction system is detailed in Appendix III-6B of this permit.

#### APPENDIX III-6B LANDFILL GAS ASSESSMENT REPORT AND REMEDATION PLAN FOR GP-10A



April 29, 2024

MC 124
Ms. Megan Henson, Manager
MSW Permits Section
Waste Permits Division
Texas Commission on Environmental Quality (TCEQ)
P. O. Box 13087
Austin, TX 78711-3087

Re: Landfill Gas Assessment Report and

Remediation Plan Greenbelt Landfill Permit No. MSW 1586B Harris County, Texas RN101287852; CN602528804

Dear Ms. Henson:

Submitted herein is the Landfill Gas Assessment Report and Remediation Plan prepared for the above-referenced site. If you have any questions or comments concerning this submittal or the information presented, please contact us at (936) 568-9451.

Sincerely,

Hydrex Environmental TBPG Firm No. 50027 TBPELS Eng. Firm No. F-13588

Jordan L. DiMezzo, G.I.T.

Geologist

John Q. Hargrove, P.E.

Project Engineer

FAX: 936-568-9527

#### Distribution:

Original + 1 MC 124

Ms. Megan Henson, Manager

MSW Permits Section Permits Division

**TCEQ** 

P. O. Box 13087

Austin, TX 78711-3087

(1) Ms. Nichole Bealle

Regional Director

TCEQ Regional Office 12 5425 Polk Ave., Ste. H Houston, TX 77023-1452

(1) Mr. Steven Howard

Regional Environmental Compliance Manager

**GFL** Environmental

E-Copy

(1) Ms. Jennifer Glowacki

Region Field Engineer GFL Environmental

E-Copy

(1) Mr. Mark Meadows

District Manager GFL Environmental

E-Copy

(1) Greenbelt Landfill

550 Old Genoa Red Bluff Rd

Houston, TX 77034

1 copy Hydrex Environmental

# LANDFILL GAS ASSESSMENT REPORT AND REMEDIATION PLAN

GREENBELT LANDFILL
PERMIT NO. MSW 1586B
HARRIS COUNTY, TEXAS

April 29, 2024

Jordan L. DiMezzo, G.I.T.

Geologist

John Q. Hargrove, P.E.

Project Engineer

JOHN Q. HARGROVE
D. 65272
O. CENSEO

Prepared by
Hydrex Environmental
312 Old Tyler Road
Nacogdoches, Texas 75961
TBPG Firm No. 50027
TBPELS Eng. Firm No. F-13588

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Figure 2 – Gas Probe and Structures within 1,000 Feet of GP-10A

Figure 3 – Soil Boring Locations for Gas Survey

**Figure 4** – Temporary Probe Location and Plume Midline

Figure 5 – Passive Vent Installation Locations
Figure 6 – Soil Vapor Extraction Point Locations

Figure 7 – Soil Vapor Extraction Connections and Temporary Flare

APPENDIX B Tables

**Table 1** – Summary of Monitoring Data in GPs 6, 7, and 10A and Structures within 1,000 ft of GP-10A

**Table 2** – Summary of Weekly Monitoring Data in Temporary Gas Probes and Passive Vents

**Table 3** – Soil Methane Assessment March 2023

**APPENDIX C** Passive Vent Construction Details

Soil Vapor Extraction Construction Details

**APPENDIX D** Relevant Correspondence

**APPENDIX E** TO-14 Analytical Report

**INTRODUCTION** 

This report summarizes activities conducted in response to a methane gas exceedance

and in accordance with procedures outlined in Section 6.0 (Contingency Plan) of the

approved Landfill Gas Management Plan (LFGMP) for Greenbelt Landfill, MSW Permit

No. 1586B. This report includes relevant information on the initial exceedance,

evaluation activities, investigation to date, and the proposed remedy for the exceedance.

This report was prepared on behalf of GFL Environmental, Waste Corporation of Texas

of Texas L.P., and Greenbelt Landfill.

METHANE EXCEEDANCE SUMMARY

During the quarterly landfill gas event, on February 21, 2023, methane levels more than

the Lower Explosive Limit (LEL) were detected in GP-10A with a concentration of 58.3

volume percent methane. Methane was not detected in any other gas probe, facility

building, or off-site building. In accordance with the Contingency Plan, as provided in

the LFGMP, immediate actions to protect human health were implemented, including

notification requirements, additional gas monitoring, and gas migration assessment.

Notifications were provided to TCEQ personnel, local and county officials, emergency

response officials, and to the public in correspondence dated February 21, 2023. In

addition, letters of notification were sent to neighboring property owners within 1,000 feet

of the exceedance on February 22, 2023.

In correspondence dated February 28, 2023, TCEQ was again notified of the results of

the February 21, 2023, quarterly monitoring event and provided with all required

information including copies of the notification correspondence to required parties. A

copy of the February 28, 2023, correspondence letter is included in Appendix D.

**EXISTING SITE CONDTIONS** 

**Landfill Gas Monitoring System** 

Twelve perimeter Gas Probes (GPs) and three Utility Vents (UVs) comprise the landfill

gas monitoring system at Greenbelt Landfill. Gas probe GP-10A is located along the

permit boundary on the south side of the landfill. A site map of the landfill showing

1

locations of the gas probes, utility vents, and buildings is included as Figure 1 (Appendix A).

#### **Site Geology**

The site is located within the Gulf Coast sedimentary basin and within the Pleistocene age Beaumont Formation. The Beaumont Formation consists of mostly clay, silt, and sand and includes mainly stream channel, point bar, natural levee, backswamp, and to a lesser extent coastal marsh and mud flat deposits. The geology at the site as characterized by Attachment 4 of the permit includes five units. Geologic information for these units is summarized below.

- Unit I Surficial soil consisting primarily of lean clay with silt and sand,
- Unit II Primarily fine sand with silty sand, silt, and occasional clay layers,
- Unit III Highly plastic and lean clays with silt layers,
- Unit IV Fine-grained sand, silty sand, and clayey sand with medium-to course-grained sand and gravel, and
- Unit V Highly plastic clay

#### **GAS MIGRATION ASSESSMENT**

As required by Section 6.1 of the LFGMP, daily follow up readings were taken for one week following the initial exceedance at GP-10A, the two adjacent gas probes (GP-6 and GP-7), and structures within 1,000 feet of the methane exceedance location. The results of daily monitoring can be found in Table 1 (Appendix B). A map showing the location of the probes and structures that were monitored is provided as Figure 2 (Appendix A). Based on the continued methane exceedance in GP-10A, a gas migration assessment was performed during February and March 2023 in accordance with the applicable portions of 30 TAC §330.371 and the LFGMP. The following information is provided as a summary of field activities and assessment results.

#### **GP-10A Gas Sampling and TO-14 Analysis**

As required by the LFGMP Section 6.1, laboratory analysis of gas collected for GP-10A using EPA method TO-14 was conducted on February 27, 2023. The purpose

of this analysis was to establish the source of the elevated methane concentrations in GP-10A. Gas samples from GP-10A were collected by Hydrex personnel using a laboratory-provided sampling train, a 4-hour flow controller, and a 6-Liter Summa canister.

After ensuring there was no infiltration of ambient air, the valve on the Summa canister was opened to initiate the collection procedures. Collection of the sample took place over a four-hour period. Upon completion of sampling, the required vacuum remained in the Summa canister as required by the laboratory method. Following completion of field activities, the Summa canister containing the sample from GP-10A was sent to a qualified laboratory for analysis of gas and TO-14 volatile organic compounds (VOCs). A full laboratory report of the results for the analysis at GP-10A is included in Appendix E. The high VOC concentrations noted in the analytical testing indicated that the landfill was a potential source of the methane in GP-10A. However, the abnormally high methane concentrations reported for GP-10A indicated there may be an alternative/additional source. Further assessment to determine the source was initiated.

#### **Temporary Probe Installation**

As part of the investigation, delineation of the plume was initiated. Delineation consisted of advancement of six (6) soil gas survey borings spanning 100 feet west and 150 feet east of GP-10A. A map showing all borings is included as Figure 3 (Appendix A). All borings were advanced using direct push techniques employing hollow connecting rods and an expendable boring point. Each boring was advanced to twenty feet below ground surface (bgs) to coincide with the approximate average depth to water for the affected probe. Upon reaching terminal depth, the rod string was raised approximately 6 inches to allow for removal of the expendable point. Expulsion of the expendable point was ensured by inserting small diameter rods inside the hollow connecting rods and applying pressure to the expendable point. Following expulsion of the expendable point, a methane monitoring device (GEM 5000+) was attached to the connecting rods. The monitoring device was then used to evacuate ambient air within the connecting rods and surrounding soil gas while simultaneously measuring methane concentrations. The complete extent of each borehole was monitored for the presence of methane gas by

pulling up the connecting rods at approximate three-foot intervals and repeating the measurement process.

The final methane concentration measurement for each borehole was collected at approximately 2 feet bgs. This monitoring process was repeated for all survey points. Lateral expansion of the survey area continued until no methane was detected in the borehole, thereby defining the extent of gas migration. A summary table of the survey results is included as Table 3 (Appendix B) and a map showing the extent of gas migration is included as Figure 4 (Appendix A).

#### **Assessment Results**

The data collected during the assessment indicated detectable methane concentrations starting at approximately 17 feet bgs. This depth coincides with the coarser-grained materials noted in soil borings in the vicinity of GP-10A. These materials likely act as a conduit for migrating gas. The lateral extent of gas migration was determined based on non-detectable concentrations of methane in one or more boreholes.

The survey results indicated gas migration extends from approximately 150 feet east of GP-10A to approximately 50 feet west of GP-10A along the permit boundary. Four (4) temporary gas probes were installed at the western and eastern extent of the gas plume allowing for weekly monitoring during assessment and remediation activities. A map showing the temporary probe locations is included as Figure 4 (Appendix A). Following this installation, weekly monitoring was conducted at temporary probes TGP-25W, TGP-50W, TGP-125E, and TGP-150E. This monitoring was performed in conjunction with the continued weekly monitoring of gas probes GP-6, GP-7, and GP-10A, and structures within 1,000 feet of GP-10A. Results of this weekly monitoring are included in Table 1 and Table 2 (Appendix B). The results from the weekly monitoring at the temporary gas probes indicated the midline of the gas migration is approximately 47 feet east of GP-10A as shown in Figure 4 (Appendix A).

Evaluation of the investigation data collected during the assessment indicated the elevated concentrations in GP-10A are likely sourced from migrating landfill gas from the

adjacent landfill. To effectively cut off migration the following remedial measures were implemented.

#### **REMEDIATION PLAN**

A remediation plan has been developed based on the results of the landfill gas migration assessment, weekly monitoring results to date, and the Remediation Timeline submitted on February 14, 2024, (approved by TCEQ on March 4, 2024). The Remediation Plan was implemented in two steps:

- 1. Passive Vent (PV) Installation (May 15, 2023) and
- 2. Conversion of PVs to Soil Vapor Extraction Points (SVEs) (February 29, 2024).

#### **Passive Vent Installation**

Coarser-grained materials noted near GP-10A act as a conduit for migrating landfill gas. The depth of the gas migration and the coarse-grained nature of the geology near GP-10A indicated passive vents placed in native soils (outside the waste footprint) parallel to the permit boundary would be an effective initial step remedial step in addressing landfill gas migration near GP-10A. The estimated porosity of the subsurface materials was used to determine an approximate effective radius and spacing for each vent. Data from the temporary probes was used to estimate the number of PVs needed to effectively remediate the exceedance. Based on this information, four (4) PVs were installed at 50 ft spacing at a total depth of 20 ft bgs on May 17, 2024, as show in Figure 5 (Appendix A). The purpose of the passive vents was to intercept and passively vent landfill gas prior to migration outside of the permit boundary.

The PV installation consisted of four 8-inch passive vents outfitted with solar-powered turbine ventilators and other components as shown in the Passive Vent Construction Detail (Appendix C). The PVs were intentionally constructed as large bore extraction points allowing for potential future application of vacuum. Correspondence detailing the installation of the PVs was submitted in the Quarterly Metahne Monitoring Results (Q2 -2023) dated July 3, 2023, and in the Response to August 29, 2023, TCEQ Correspondence dated September 26, 2023.

To monitor the effectiveness of the passive vents, weekly monitoring was initiated for gas probes GP-6, GP-7, and GP-10A, temporary gas probes, and PVs (PV-1, -2, -3, and -4). Weekly monitoring showed an initial reduction of methane concentrations in GP-10A as shown in Table 1. However, in the following weeks, methane concentrations in GP-10A increased, indicating the passive system was being overwhelmed and modification of the system was needed. During a January 23, 2024, meeting, TCEQ agreed that enhancements to the current remediation system were necessary. Following the meeting, specific enhancements to the remediation system were recommended to TCEQ in correspondence dated January 25, 2024. The primary form of the enhancement to the passive system was the application of vacuum to the existing PVs to intercept the migrating landfill gas more effectively. TCEQ approved the recommendations in correspondence dated March 4, 2024.

#### **Soil Vapor Extraction Points Conversion**

To improve remediation effectiveness, the four existing PVs were converted to SVEs and connected to a temporary active extraction system flare. Conversion of the passive system to an active system included conversion of the PVs to SVEs and the installation of individually adjustable wellheads, piping, a mobile flare, and required system enhancements.

To facilitate the application of vacuum to each SVE, existing surface completions were modified to accept individually adjustable gas control wellheads. The wellheads installed were QED Precision Wellheads (Model Number ORP215M-R) which allow for quick orifice plate exchanges. These wellheads facilitate more accurate flow readings and precise adjustments, especially at low rates (under 10 scfm). The converted SVEs were then connected to an above-ground gas transfer network through flexible sunlight- resistant hose. The system gas transfer pipes run east to west and parallel the permit boundary as shown in Figure 7. System vacuum is provided through a temporary trailer-mounted flare skid.

Installation of the SVE system was completed on February 29, 2024. Maps detailing the location of the SVEs, lateral connections, and the temporary trailer-mounted flare skid

are provided in Appendix A as Figures 6 and 7. Additionally, SVE construction details are provided in Appendix C.

#### **Monitoring Program**

Following the conversion of the PVs to SVEs, methane concentrations have been monitored weekly in the SVEs, gas probes GP-6, GP-7, and GP-10A, temporary gas probes TGP-25W, TGP-50W, TGP-125E, and TGP-150E, and in the structures within 1,000 feet of GP-10A. As of the March 20, 2024, weekly event, GP-10A and all other gas probes and structures have not exceeded the regulatory limit of 5 percent by volume for one month. Results from the weekly monitoring are included in Tables 1 and 2. According to the approved Remediation Timeline, monitoring of GP-10A, -6, and -7, the temporary probes, structures, and SVEs has been reduced to a semi-monthly basis.

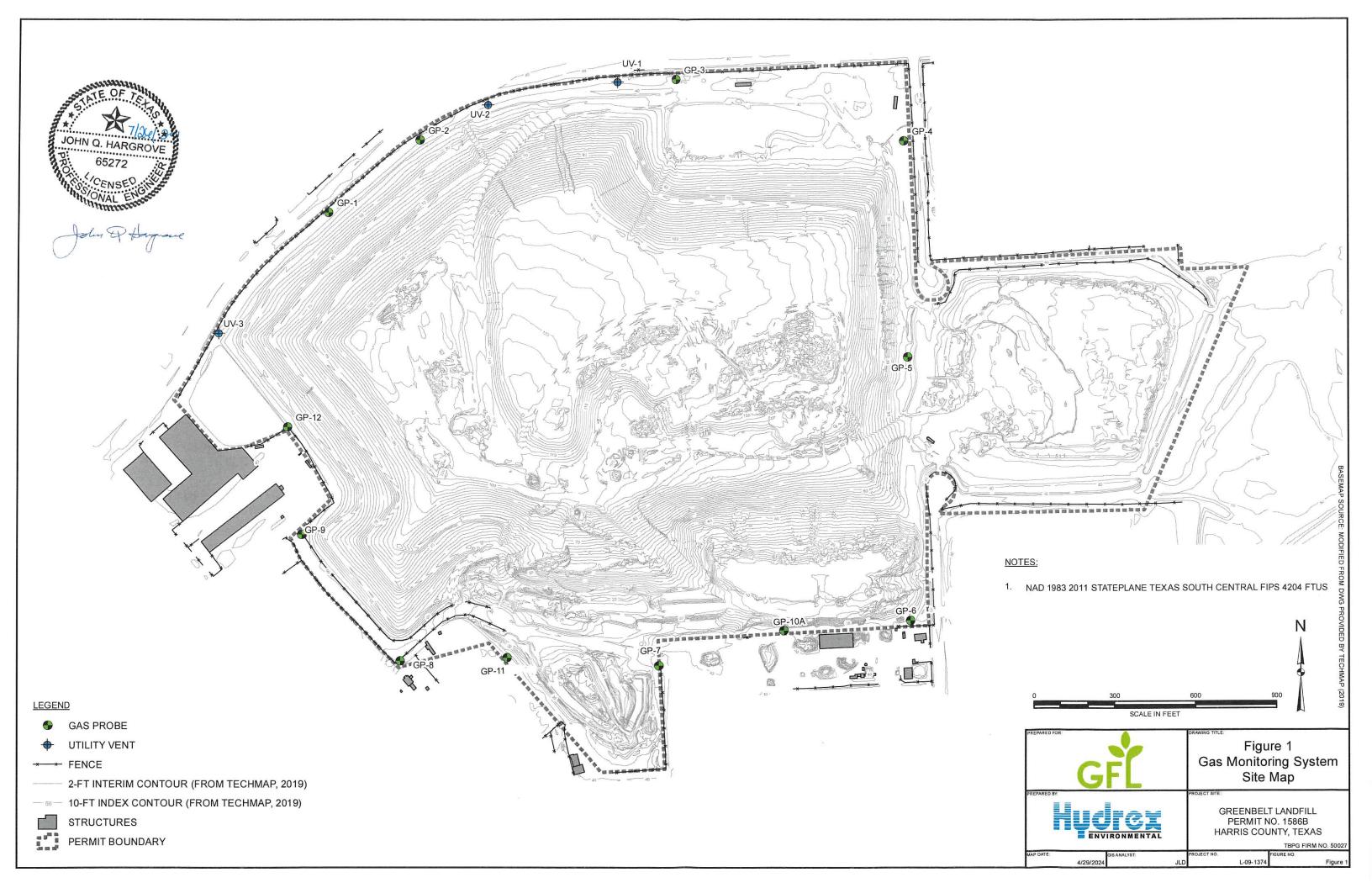
Monitoring will continue as necessary on a no less than semi-monthly basis until three consecutive months of regulatory compliance have been achieved. The remedy will be considered complete upon completion of three consecutive months of compliance in GP-10A. Evaluation of remedy progress will be submitted to TCEQ along with regular remediation effectiveness reports. The progress evaluation will include data collected during the preceding monitoring period and any necessary recommendations for continued monitoring or additional remedial activities. The following presents a generalized timeline of expected construction completion and subsequent required reporting.

#### **Remediation Timeline:**

- Day 0: Installation of enhancement and initial system adjustments (February 2024)
- Day 30: Completion of initial adjustments and report of findings to date (March 2024)
- Day 60: Submittal of finalized Remediation Plan and as-bult drawings (April 2024)
- Day 60: Submittal of first Bi-Monthly Monitoring Report (every other month) (April 2024)
- Day 90: Submittal of required Permit Modification (May 2024)
- Day 120: Submittal of second Bi-Monthly Monitoring Report (June 2024)
- Beyond 120 days: Continued Bi-Monthly reporting until completion.

After remedy completion, semi-monthly monitoring of the probes and passive vents will cease. Upon completion of the semi-monthly monitoring, the remediation for GP-10A will be considered complete. Thereafter, monitoring of the probes and passive vents will return to a quarterly schedule.

# APPENDIX A Figures







PERMIT BOUNDARY

Feet



SOIL BORING LOCATIONS FOR SOIL AS ASSESSMENT



**GREENBELT LANDFILL** PERMIT NO. 1586B HARRIS COUNTY, TEXAS

TBPG FIRM NO. 50027

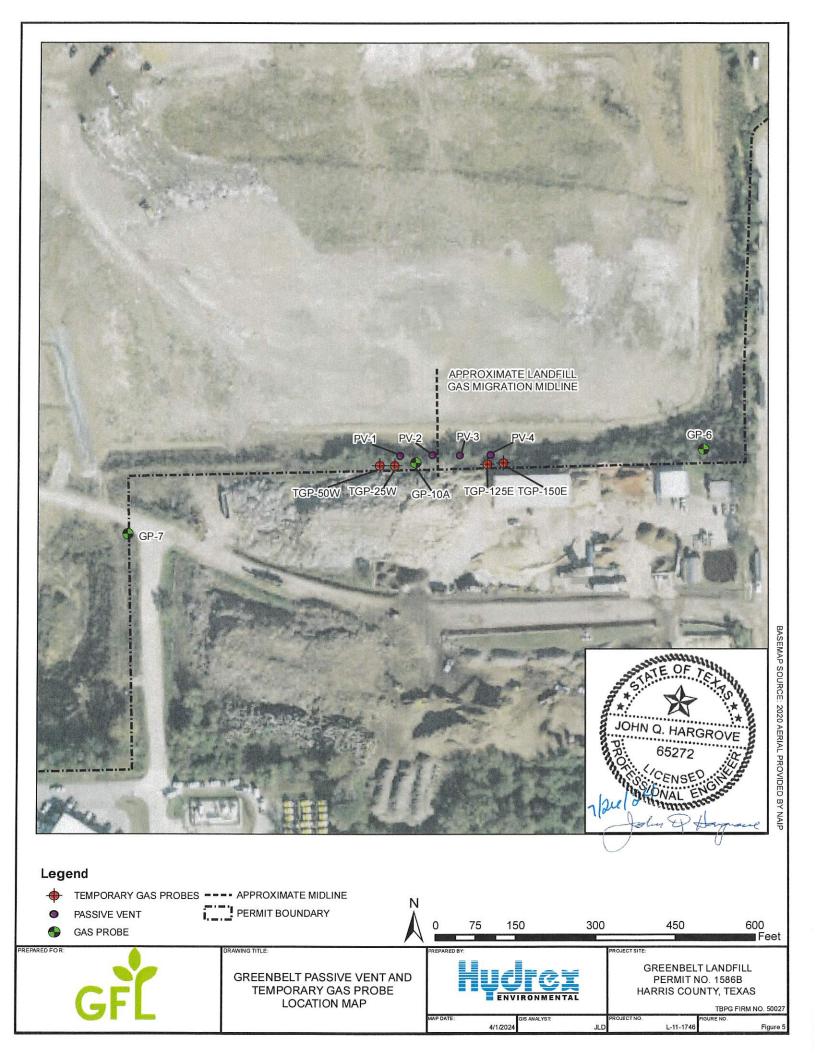


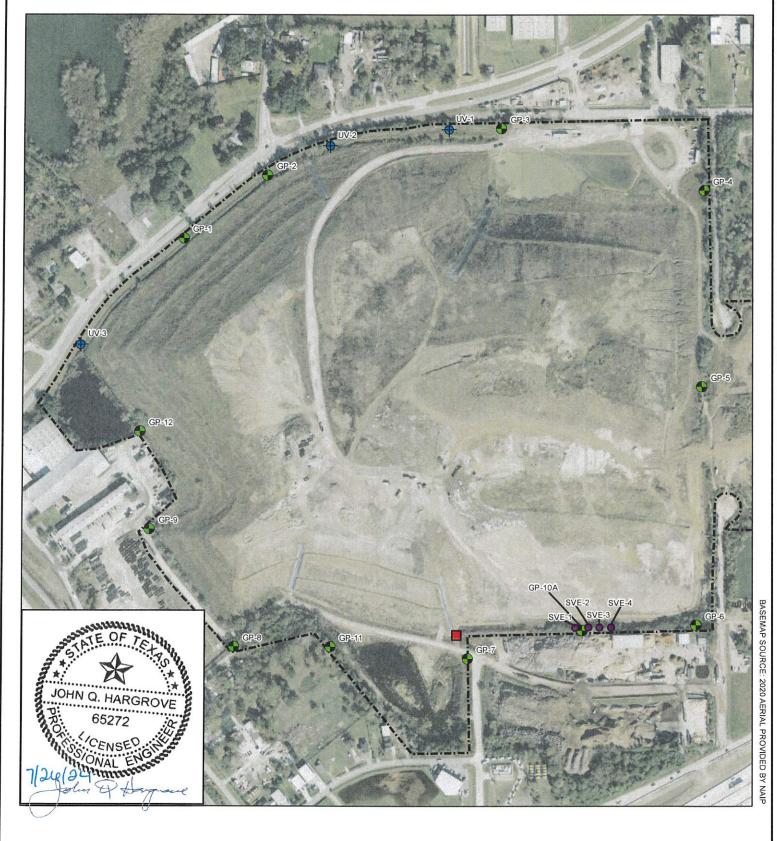
TEMPORARY GAS PROBE LOCATIONS AND APPROXIMATE LANDFILL GAS MIGRATION MIDLINE

PERMIT NO. 1586B HARRIS COUNTY, TEXAS

TBPG FIRM NO. 50027

4/1/2024 L-11-1746







TEMPORARY FLARE

UTILITY VENT SOIL VAPOR EXTRACTION POINTS PERMIT BOUNDARY

GAS PROBE



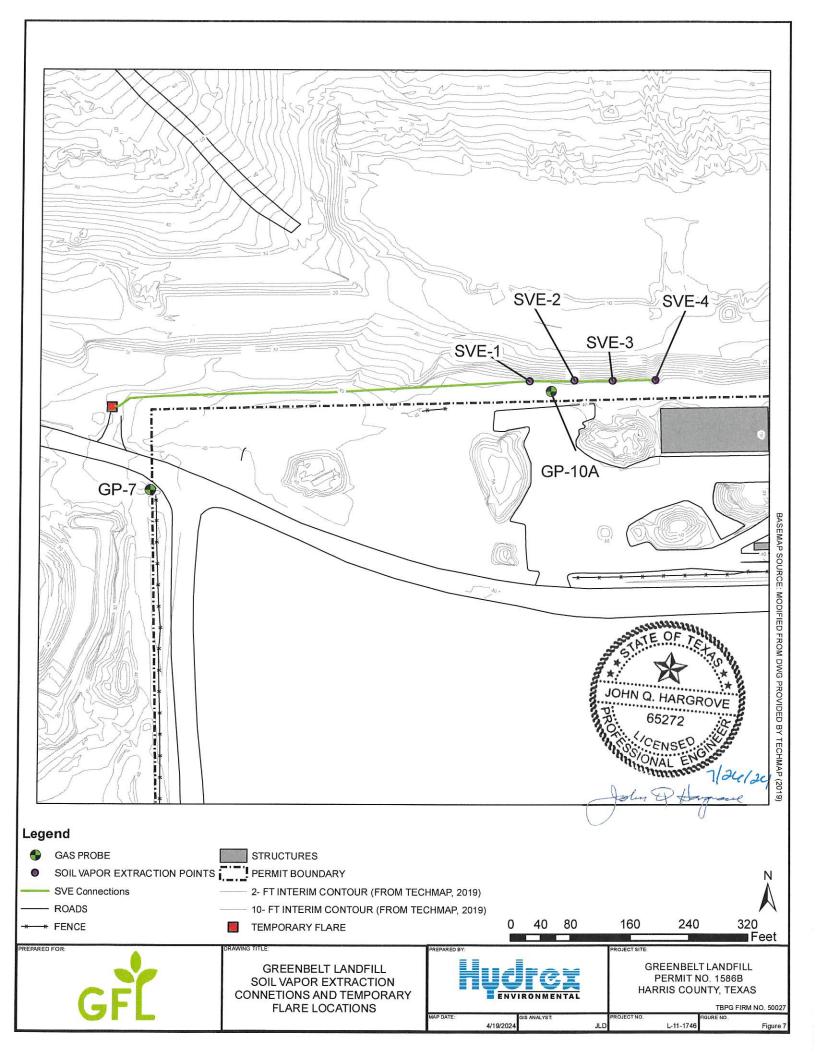
GREENBELT LANDFILL SOIL VAPOR EXTRACTION **POINT LOCATIONS** 



**GREENBELT LANDFILL** PERMIT NO. 1586B HARRIS COUNTY, TEXAS

TBPG FIRM NO. 50027

1,240



# APPENDIX B Tables

Table 1 - Summary Monitoring Data in GPs 6, 7, and 10A and Structures within 1,000 ft of GP-10A

	GP-6	GP-7	GP-10A	Structure 1	Structure 2	Structure 3	Structure 4	Structure 5
Date	% Methane	% Methane	% Methane	% Methane	% Methane	% Methane	% Methane	% Methane
2/21/2023 <sup>1</sup>	ND	ND	58.3%	NM	NM	NM	NM	NM
2/22/2023 <sup>2</sup>	ND	ND	31.70%	NM	NM	NM	NM	NM
2/23/2023 <sup>2</sup>	ND	ND	39.60%	ND	ND	NA	ND	NA
2/24/2023 <sup>2</sup>	ND	ND	24.40%	NM	NM	NM	NM	NM
2/25/2023 <sup>2</sup>	ND	ND	15.70%	NM	NM	NM	NM	NM
2/27/2023 <sup>2</sup>	ND	ND	71.30%	NM	NM	NM	NM	NM
2/28/2023 <sup>2</sup>	ND	ND	31.20%	ND	ND	NM	NM	NM
3/6/2023	ND	ND	31.50%	ND	ND	NA	ND	NA
3/14/2023	ND	ND	36.00%	ND	ND	NA	ND	NA
3/22/2023	ND	ND	43.00%	ND	ND	NA	ND	NA
3/28/2023	ND	ND	37.0%	ND	ND	NA	ND	NA
4/4/2023	ND	ND	75.5%	ND	ND	NA	ND	NA
4/10/2023	ND	ND	35.4%	ND	ND	NA	ND	NA
4/20/2023	ND	ND	42.9%	ND	ND	NA	ND	NA
4/27/2023	ND	ND	79.5%	ND	ND	NA	ND	NA
5/4/2023	ND	ND	80.1%	ND	ND	NA	ND	NA
5/11/2023	ND	ND	72.4%	ND	ND	NA	ND	NA
5/15/2023	ND	ND	41.0%	ND	ND	NA	ND	NA
			Passive Vents In	nstalled 5/17/2	023			
5/19/2023	NM	NM	0.1%	NM	NM	NM	NM	NM
5/25/2023	ND	ND	3.4%	ND	ND	NA	ND	NA
6/5/2023	ND	ND	ND	ND	ND	NA	ND	NA
6/13/2023	ND	ND	9.1%	ND	ND	NA	ND	NA
6/20/2023 <sup>1</sup>	ND	ND	20.1%	ND	ND	NA	ND	NA
6/29/2023	ND	ND	8.0%	ND	ND	ND	ND	NA
7/6/2023	ND	ND	36.2%	ND	ND	ND	ND	NA
7/13/2023	0.1%	ND	46.1%	ND	ND	ND	ND	NA
7/18/2023	ND	2.00%	2.0%	ND	ND	ND	ND	NA
7/24/2023	ND	ND	75.7%	ND	ND	ND	ND	NA
8/2/2023	ND	ND	68.0%	ND	ND	ND	ND	NA
8/9/2023	ND	ND	84.0%	ND	ND	ND	ND	NA
8/15/2023	ND	ND	85.0%	ND	ND	ND	ND	NA
8/22/2023	ND	ND	63.20%	ND	ND	ND	ND	NA
8/28/2023	ND	ND	80.0%	ND	ND	ND	ND	NA
9/5/2023	ND	ND	36.0%	ND	ND	ND	ND	NA
9/13/2023	ND	ND	62.0%	ND	ND	ND	ND	NA
9/22/2023	ND	ND	75.2%	ND	ND	ND	ND	NA
9/25/2023 <sup>1</sup>	ND	ND	70.5%	ND	ND	ND	ND	NA
10/5/2023	0.8%	ND	77.0%	ND	ND	ND	ND	NA

<sup>&</sup>lt;sup>1</sup>Quarterly Event

ND - Non Detectable

NM - Not Measured



<sup>&</sup>lt;sup>2</sup> Daily Monitoring

<sup>&</sup>lt;sup>3</sup>Quarterly and Semi-Monthly Event

<sup>&</sup>lt;sup>4</sup> Semi-Monthly Monitoring

Table 1 - Summary Monitoring Data in GPs 6, 7, and 10A and Structures within 1,000 ft of GP-10A

	GP-6	GP-7	GP-10A	Structure 1	Structure 2	Structure 3	Structure 4	Structure 5
Date	% Methane	% Methane	% Methane	% Methane	% Methane	% Methane	% Methane	% Methane
10/11/2023	ND	ND	76.7%	ND	ND	ND	ND	NA
10/19/2023	ND	ND	74.4%	ND	ND	ND	ND	NA
10/25/2023	ND	ND	73.0%	ND	ND	ND	ND	NA
10/31/2023	ND	ND	75.4%	ND	ND	ND	ND	NA
11/7/2023	ND	ND	76.1%	ND	ND	ND	ND	NA
11/14/2023	ND	ND	42.6%	ND	ND	ND	ND	NA
11/20/2023	ND	ND	76.7%	ND	ND	ND	ND	NA
11/29/2023	ND	ND	75.8%	ND	ND	ND	ND	NA
12/6/2023	ND	ND	68.5%	ND	ND	ND	ND	NA
12/13/2023 <sup>1</sup>	ND	ND	75.5%	ND	ND	ND	ND	NA
12/20/2023	ND	ND	82.0%	ND	ND	ND	ND	NA
12/28/2024	ND	ND	63.0%	ND	ND	ND	ND	NA
1/3/2024	ND	ND	46.2%	ND	ND	ND	ND	NA
1/12/2024	ND	ND	4.1%	ND	ND	ND	ND	NA
1/18/2024	ND	ND	3.9%	ND	ND	ND	ND	NA
1/25/2024	ND	ND	74.8%	ND	ND	ND	ND	NA
2/2/2024	ND	ND	76.1%	ND	ND	ND	ND	NA
2/6/2024	ND	ND	61.9%	ND	ND	ND	ND	NA
2/12/2024	ND	ND	75.8%	ND	ND	ND	ND	NA
2/19/2024	ND	ND	77.4%	ND	ND	ND	ND	NA
		Passive Vent	s Conversion to	SVEs Complete	ed on 2/29/202	24		
2/29/2024	ND	ND	ND	ND	ND	ND	ND	NA
3/6/2024	ND	ND	ND	ND	ND	ND	ND	NA
3/13/2024	ND	ND	ND	ND	ND	ND	ND	NA
3/20/2024	ND	ND	ND	ND	ND	ND	ND	NA
3/27/2024 <sup>3</sup>	ND	ND	ND	ND	ND	ND	ND	NA
4/10/2024 <sup>4</sup>	ND	ND	ND	ND	ND	ND	ND	ND

<sup>&</sup>lt;sup>1</sup>Quarterly Event

ND - Non Detectable

NM - Not Measured



<sup>&</sup>lt;sup>2</sup> Daily Monitoring

<sup>&</sup>lt;sup>3</sup>Quarterly and Semi-Monthly Event

<sup>&</sup>lt;sup>4</sup> Semi-Monthly Monitoring

Table 2: Summary of Weekly Monitoring Data in Temporary Gas Probes and Passive Vents

	TGP-	-50W	TGP-	-25W	TGP-	125E	TGP-	150E	P\	<b>V-1</b>	P\	/-2	P\	V-3	P\	V-4
Date	% Methane	Water Level	% Methane	Water Level	% Methane	Water Level	% Methane	Water Level	% Methane	Water Level	% Methane	Water Level	% Methane	Water Level	% Methane	Water Level
3/21-22/2023	0.1	Dry	50.5	Dry	12.0	Dry	ND	Dry	NA	NA	NA	NA	NA	NA	NA	NA
3/28/2023	ND	Dry	ND	Dry	47.0	Dry	ND	Dry	NA	NA	NA	NA	NA	NA	NA	NA
4/4/2023	47.3	Dry	74.6	Dry	42.2	Dry	16.3	Dry	NA	NA	NA	NA	NA	NA	NA	NA
4/10/2023	11	Dry	31.3	Dry	51.6	Dry	28.5	Dry	NA	NA	NA	NA	NA	NA	NA	NA
4/20/2023	48.80	Dry	36.10	Dry	55.50	Dry	22.00	Dry	NA	NA	NA	NA	NA	NA	NA	NA
4/27/2023	75.60	Dry	79.10	Dry	75.20	Dry	44.50	Dry	NA	NA	NA	NA	NA	NA	NA	NA
5/4/2023	18.50	Dry	79.30	Dry	79.70	Dry	76.60	Dry	NA	NA	NA	NA	NA	NA	NA	NA
5/11/2023	10.10	Dry	66.20	Dry	17.70	Dry	76.00	Dry	NA	NA	NA	NA	NA	NA	NA	NA
5/15/2023	76.00	Dry	79.10	Dry	66.20	Dry	17.70	Dry	NA	NA	NA	NA	NA	NA	NA	NA
							Passive Vents	Installed 5/17/	2023							
5/19/2023	NM	NM	NM	NM	NM	NM	NM	NM	ND	Dry	ND	Dry	ND	Dry	3.40	Dry
5/25/2023	ND	Dry	2.40	Dry	14.10	Dry	33.50	Dry	ND	Dry	ND	Dry	ND	Dry	0.20	Dry
6/5/2023	ND	16.74	ND	16.02	ND	20.45	ND	20.52	ND	19.98	ND	20.22	ND	19.74	ND	22.35
6/13/2023	ND	Dry	ND	Dry	ND	Dry	ND	Dry	ND	Dry	ND	Dry	ND	Dry	0.20	Dry
6/20/2023*	15.30	18.38	44.40	14.40	40.30	10.10	37.00	10.80	0.30	Dry	ND	Dry	5.40	Dry	37.00	Dry
6/29/2023	9.40	18.81	38.90	Dry	45.20	18.21	30.10	18.15	0.10	Dry	ND	Dry	11.00	Dry	5.40	Dry
7/6/2023	5.70	Dry	35.60	18.15	44.20	18.21	30.00	18.15	0.10	Dry	0.10	Dry	9.20	Dry	2.30	Dry
7/13/2023	4.60	NM	19.80	NM	73.00	NM	73.40	NM	2.30	NM	0.80	NM	9.00	NM	6.90	NM
7/18/2023	0.30	Dry	2.20	Dry	1.65	19.06	ND	18.28	0.65	Dry	0.45	Dry	0.45	Dry	0.50	Dry
7/24/2023	ND	Dry	33.90	Dry	34.70	Dry	71.90	Dry	0.20	Dry	ND	Dry	ND	Dry	4.60	Dry
8/2/2023	0.50	Dry	35.00	Dry	37.70	Dry	69.30	Dry	0.50	Dry	ND	Dry	8.30	Dry	47.40	Dry
8/9/2023	21.00	18.78	ND	Dry	40.00	Dry	42.00	Dry	ND	Dry	ND	Dry	14.00	20.18	12.00	Dry
8/15/2023	ND	18.81	ND	18.90	31.00	Dry	ND	Dry	ND	23.69	ND	22.98	7.00	20.17	66.00	Dry
8/22/2023	21.60	18.75	9.80	18.76	ND	Dry	ND	Dry	ND	Dry	ND	Dry	3.90	Dry	0.70	Dry
8/28/2023	36.70	Dry	46.30	Dry	nd	Dry	ND	Dry	ND	Dry	ND	Dry	4.40	Dry	2.10	Dry
9/5/2023	1.60	NM	1.40	NM	0.20	NM	ND	NM	0.40	NM	0.30	NM	2.20	NM	0.50	NM
9/13/2023	7.04	NM	20.00	NM	15.40	NM	ND	NM	25.00	NM	15.00	NM	30.00	NM	5.45	NM
9/22/2023	18.60	Dry	9.30	Dry	25.70	Dry	10.20	Dry	5.50	Dry	0.40	Dry	3.20	Dry	1.40	Dry
9/25/20231	43.00	19.86	41.00	19.50	10.00	16.50	ND	10.03	15.00	19.98	10.00	Dry	9.34	20.56	16.45	Dry
10/5/2023	67.00	Dry	56.00	19.28	1.80	16.29	ND	7.16	10.00	20.02	7.00	19.83	18.40	20.02	28.20	Dry
10/11/2023	25.80	20.00	21.80	19.79	45.30	20.00	9.60	17.89	1.60	21.09	0.60	20.25	4.30	20.17	2.90	20.10
10/19/2023	33.10	Dry	36.00	18.82	66.20	Dry	55.40	Dry	1.30	Dry	0.80	Dry	5.80	Dry	4.30	Dry
10/25/2023	19.00	Dry	ND	Dry	20.00	Dry	17.00	Dry	2.75	Dry	1.55	Dry	8.00	20.50	1.40	Dry
10/31/2023	0.00	Dry	30.00	Dry	57.10	Dry	31.00	Dry	1.50	Dry	1.20	Dry	5.90	Dry	2.90	Dry
11/7/2023	17.80	20.10	20.50	20.00	41.90	20.02	33.10	20.00	0.70	21.05	0.30	21.02	2.60	22.10	2.50	21.96
11/14/2023	65.20	Dry	65.80	19.59	68.70	Dry	8.70	12.99	4.70	23.22	2.70	Dry	6.80	21.21	6.80	Dry
11/20/2023	54.20	Dry	59.80	Dry	54.60	Dry	15.60	Dry	4.40	Dry	2.30	Dry	7.80	Dry	4.50	Dry
11/29/2023	50.20	Dry	49.70	Dry	51.30	Dry	16.24	Dry	1.20	22.54	1.00	Dry	3.40	Dry	1.50	Dry
12/6/2023	16.70	19.50	8.20	20.50	24.30	21.06	8.50	21.01	10.10	21.12	2.10	20.98	1.00	21.10	0.50	21.31
12/13/20231	43.00	20.01	44.30	20.00	64.10	20.50	34.40	20.90	2.70	21.90	0.90	21.20	5.90	21.20	4.60	21.10
12/20/2023	64.00	Dry	53.00	Dry	31.00	Dry	12.00	Dry	3.00	Dry	2.20	Dry	6.00	Dry	3.00	Dry

<sup>1</sup>Quarterly Event

<sup>2</sup>Quarterly and Semi-Monthly Event

<sup>3</sup> Semi-Monthly Monitoring

ND - Non Detectable

NM - Not Measured



### Table 2: Summary of Weekly Monitoring Data in Temporary Gas Probes and Passive Vents

Data	TGP	-50W	TGP	-25W	TGP-	-125E	TGP	-150E	P\	/-1	P۱	/-2	P\	V-3	P\	/-4
Date	% Methane	Water Level	% Methane	Water Level	% Methane	Water Level	% Methane	Water Level	% Methane	Water Level	% Methane	Water Level	% Methane	Water Level	% Methane	Water Level
12/28/2024	58.70	Dry	50.50	Dry	30.20	Dry	11.90	Dry	5.10	Dry	38.40	Dry	6.50	Dry	3.80	Dry
1/3/2024	5.10	Dry	60.30	Dry	24.80	Dry	50.30	Dry	1.20	Dry	0.10	Dry	5.20	Dry	3.00	Dry
1/12/2024	ND	9.05	0.10	19.51	ND	Dry	ND	Dry	0.30	19.33	0.40	19.34	0.80	19.40	ND	19.41
1/18/2024	ND	Dry	ND	Dry	ND	Dry	ND	Dry	0.10	Dry	0.20	Dry	0.30	Dry	ND	Dry
1/25/2024	2.00	11.15	27.30	11.10	44.60	Dry	19.30	Dry	9.30	Dry	0.90	Dry	14.30	Dry	10.20	Dry
2/2/2024	7.10	17.36	40.80	19.15	56.90	Dry	27.30	Dry	2.90	Dry	0.50	Dry	8.80	Dry	8.30	Dry
2/6/2024	37.10	20.42	57.00	Dry	0.40	17.33	10.10	11.00	1.90	NM	0.30	NM	7.70	NM	6.20	NM
2/12/2024	18.70	9.47	48.40	17.90	63.70	Dry	32.10	Dry	2.80	21.34	0.30	22.47	11.00	19.99	3.40	23.55
2/19/2024	20.40	6.72	60.10	16.94	76.10	Dry	51.50	Dry	5.20	21.60	0.70	22.55	10.20	20.06	12.10	23.2
						Passive Vent	ts Conversion t	o SVEs Comple	ted on 2/29/20	024						
									C) (		61.1			r 2	C) (	

						Passive veni	is Conversion t	o SVES Comple	tea on 2/29/20	124						
									sv	E-1	SV	E-2	SV	E-3	SV	E-4
									% Methane	Pressure ("H2O)	% Methane	Pressure ("H2O)	% Methane	Pressure ("H2O)	% Methane	Pressure ("H2O)
2/29/2024	ND	Dry	ND	Dry	ND	Dry	ND	Dry	55.80	-17.70	56.00	-17.69	68.80	-17.69	70.10	-17.71
3/6/2024	ND	Dry	ND	Dry	ND	Dry	ND	Dry	10.10	-20.38	30.30	-20.49	52.80	-20.17	41.10	-20.05
3/13/2024	ND	Dry	ND	Dry	ND	Dry	ND	Dry	9.70	-21.31	32.40	-21.14	45.10	-21.15	34.70	-21.04
3/20/2024	0.01	21.20	ND	21.30	ND	20.90	ND	21.20	57.60	-19.55	63.90	-19.94	71.00	-19.91	52.30	-19.93
3/27/2024 <sup>2</sup>	ND	Dry	ND	Dry	ND	Dry	ND	Dry	11.10	-24.51	32.10	-24.61	55.50	-24.48	40.70	-23.89
4/10/2024 <sup>3</sup>	ND	19.77	ND	14.25	ND	20.71	ND	19.92	6.80	-19.80	25.80	-25.66	52.80	-25.03	32.00	-25.44

<sup>&</sup>lt;sup>1</sup>Quarterly Event

ND - Non Detectable

NM - Not Measured



<sup>&</sup>lt;sup>2</sup>Quarterly and Semi-Monthly Event

<sup>&</sup>lt;sup>3</sup> Semi-Monthly Monitoring

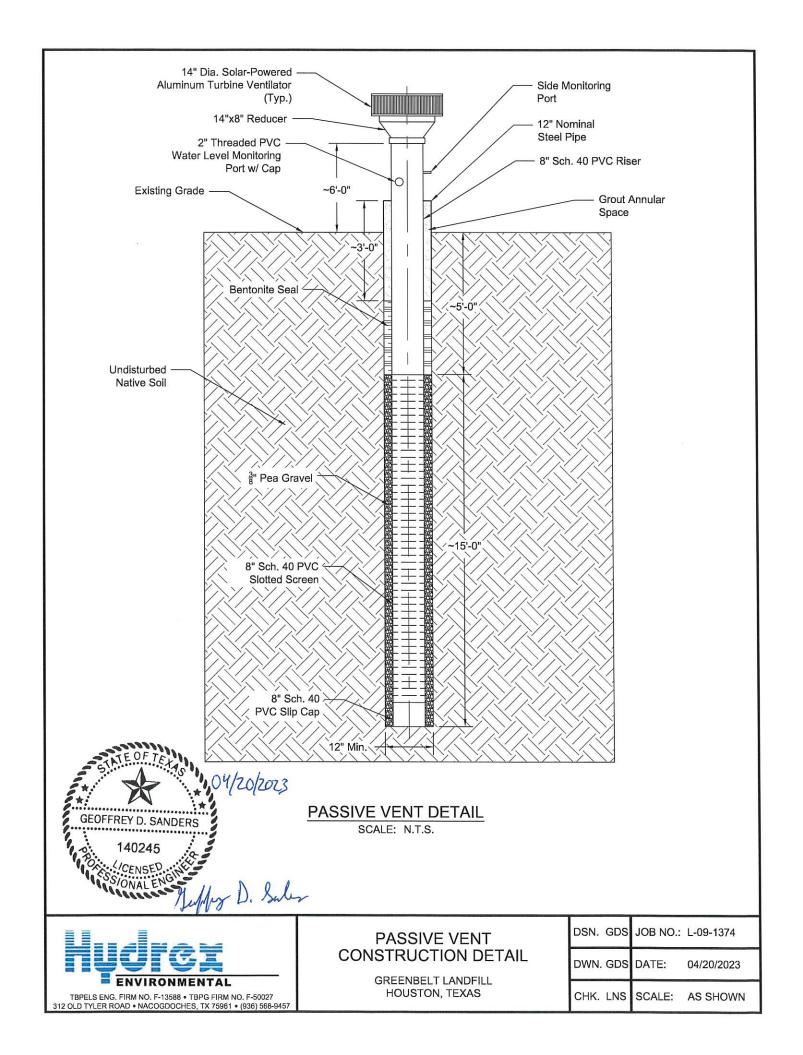
# Table 3 - Soil Methane Assessment March 2023

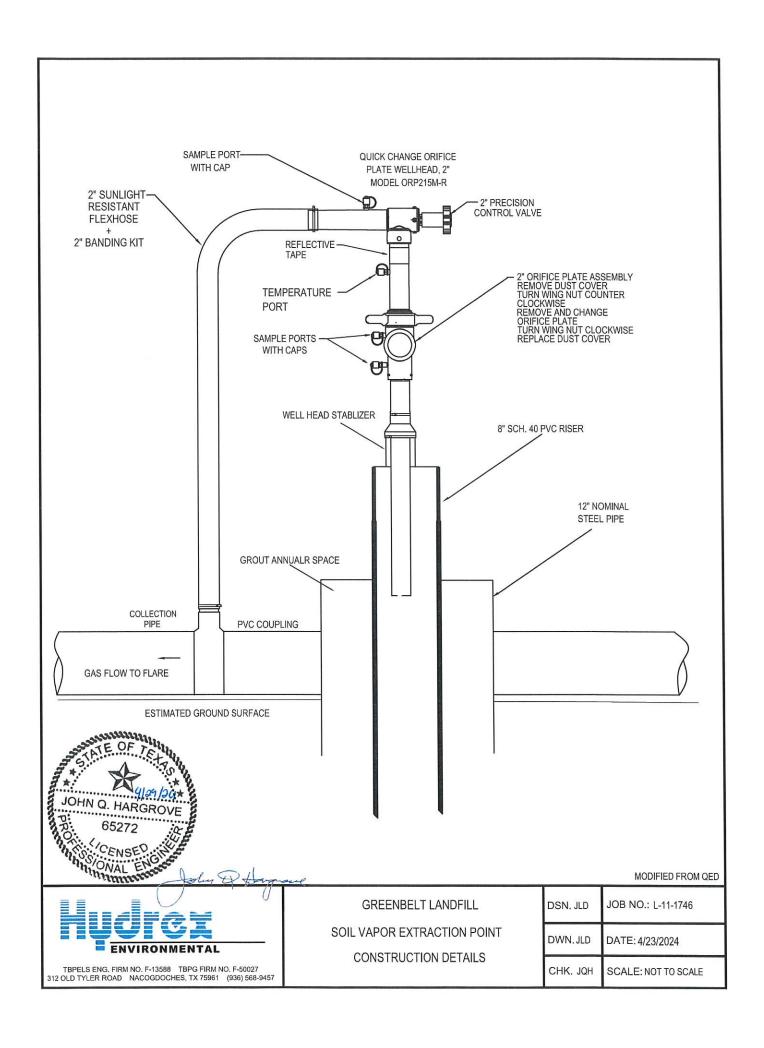
Point Data		Methane (	Concentrati	on (Volume	Percent) a	Depth bgs	
Point Data	20'	17'	14'	11'	8'	5'	2'
SB-25W	ND	50.5	47.3	47.6	47.4	20.3	20.4
SB-50W	ND	ND	0.1	ND	ND	ND	ND
SB-100W	ND	ND	ND	0.7	ND	ND	ND
SB-100E	ND	ND	68.1	59.3	57.1	45.3	20.1
SB-125E	ND	ND	12	10	4.3	2.4	ND
Sb-150E	ND	ND	ND	ND	ND	ND	ND

ND - Non Detectable









# APPENDIX D Relevant Correspondence



Ms. Megan Henson, Manager MSW Permits Section Waste Permit Division Texas Commission on Environmental Quality P.O. Box 13087

Austin, TX 78711-3087

Re: Quarterly Meth Notification of I Greenbelt Land MSW Permit No Harris County, RN101287852:

Dear Ms. Henson,

Enclosed are the resulfacility. Quarterly methorepresents the 1<sup>st</sup> quaquarterly methane molar Appendix A of this report.

### **GP-10A Exceedance and Notifications**

During the regularly scheduled 1<sup>st</sup> quarterly methane monitoring event, methane was detected at 58.3 volume percent in gas monitoring probe GP-10A. This value is in excess of the regulatory limit of five volume-percent as specified in the 30 TAC §330.371 (a)(2). No other probes at the above-referenced facility were noted to be out of compliance during the quarterly event. As required by the Landfill Gas Management Plan (LFGMP) all actions were completed to protected human health. Notifications were made verbally and via e-mail to landfill personnel, TCEQ (Allison Owen), Pasadena Chief of Police (Josh Bruegger), and attempts were made to contact the Pasadena Fire Department. In addition, letters of notification were sent to neighboring property owners within 1,000 feet of the exceedance on February 22, 2023. Copies of these correspondences are provided in Appendix B of this report.

### Follow-up Events for GP-10A

As required by the LFGMP daily follow-up readings at GP-10A were taken for one week (February 21-28, 2022). Results of these follow-up readings are included in Appendix C of this report. Follow-up readings in gas probe GP-10A indicated continued exceedance of the regulatory limit of five-volume percent. As required by the LFGMP laboratory a sample of gas from GP-10A was collected on February 27, 2023. The results of the gas analysis ( method T0-14) will be submitted under a separate cover. Additional efforts, pending results of T0-14 analysis, will be made to determine the extent of the explosive gas migration as necessary.

Furthermore, as required by the LFGMP, structures within 1,000 feet of GP-10A were monitored and will continue to be monitored on a weekly basis until explosive gas readings in the vicinity subside. A map of property owners and structures within 1,000 feet are included in Appendix C of this report. No methane was detected in any of the facility structures or in any of the off-property structures within 1,000 feet of GP-10A.

This correspondence is being made as required by TCEQ approved LFGMP Section 7.2 Actions Within Seven Days to Update the Operating Record and in accordance with 30 TAC §330.125 and 30 TAC §330.371. Additionally, in accordance with the LFGMP Section 7.3 Action Within 60 Days to Implement a Remediation Plan a remediation plan will be submitted within the prescribed time frame. If you have any questions or comments concerning this information, please contact me at (936) 568-9451.

Sincerely

Hydrex Environmental

Jordan L. DiMezzo

Geologist

# Appendices:

Appendix A

Q1 2023 Monitoring Data
Gas Monitoring Probe Locations
Instrument Calibration Documentation

Appendix B

Notification of Exceedance to TCEQ Austin

Notification of Exceedance to Pasadena Police Department

Notification of Exceedance to Property Owners within 1,000 feet of

**GP-10A** 

Results of Daily Follow-up Readings at GP-10A

Appendix C

Map of Property Owners within 1,000 feet of GP-10A Map of Structures within 1,000 feet of GP-10A

### Distribution:

1 + Original MC-124

Ms. Megan Henson, Manager

MSW Permits Section Waste Permits Division

Texas Commission on Environmental Quality

P.O. Box 13087

Austin, TX 78711-3087

E-copy Mr. Steven Howard

**GFL** Environmental

Regional Environmental Compliance Manager

18511 Beaumont Hwy Houston, TX 77049

(1) Greenbelt Landfill

550 Old Genoa Red Bluff Rd

Houston, TX 77034

E-copy Hydrex Environmental

1120 NW Stallings Drive Nacogdoches, TX 75964



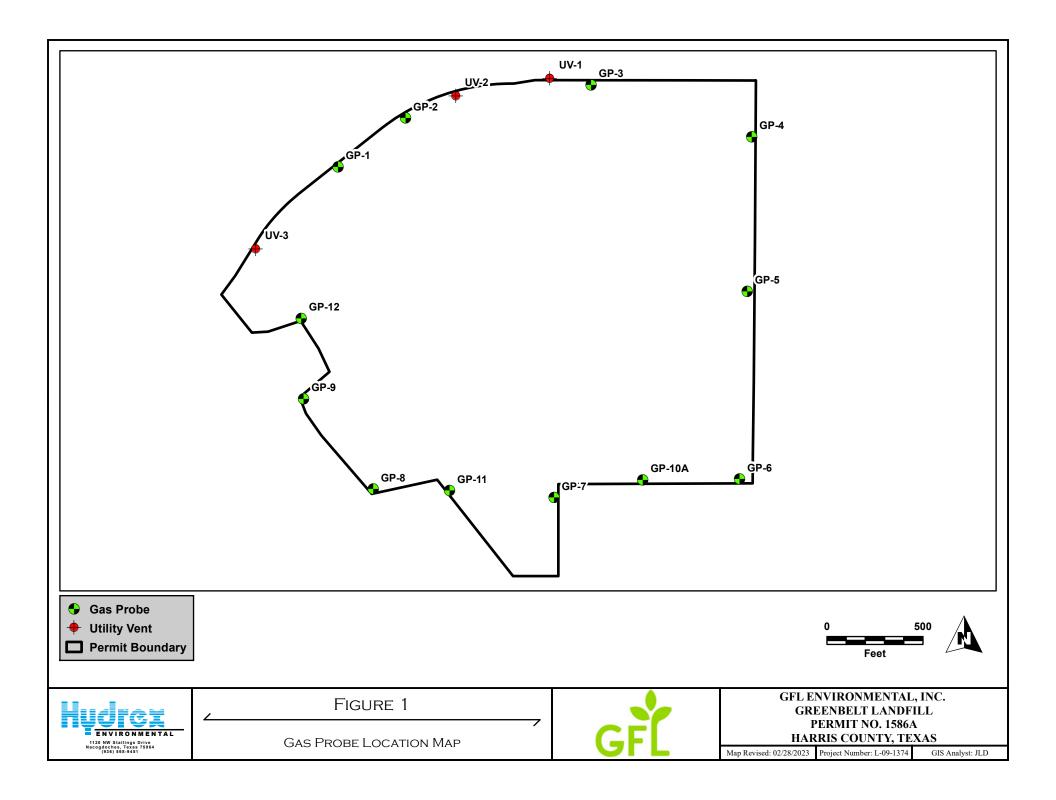
# Hydrex Environmental Greenbelt Landfill Quarterly Landfill Gas Monitoring Report

Site:	Greenbelt	Meteorologi	ical Data				
MSW Permit No.	1586A	Barometric F		Hg):	29.85	Temperature:	78°F
Personnel:	LK		•	O,		Weather:	Cloudy, Windy
Date:	. <del>-</del>						
Instrumental							
Pressure Gau	ge Model:	GEM 5000			Start Date/Time	2/2	1/23 10:35
Gas Meter M	odel:	GEM 5000					
Water Level N	Model:	Solinst 102					
Calibration Da	ate/Time:	2/21/2023					
PROBE NO.	% Volume METHANE	% Volume O2	% Volume CO2	PRESSURE in. WC	DEPTH TO GROUNDWATER (from top of casing in ft.)	PROBE INTEGRITY VERIFIED (yes/no)	Comments
GP-01	ND	18.9	4.0	0.01	14.62	Yes	
GP-02	ND	19.4	0.5	0.03	13.50	Yes	
GP-03	ND	19.6	ND	0.01	12.30	Yes	
GP-04	ND	20.2	ND	0.00	5.71	Yes	
GP-05	ND	18.4	0.5	0.00	19.22	Yes	
GP-06	ND	19.3	ND	0.00	15.95	Yes	
GP-07	ND	19.5	ND	0.02	14.56	Yes	
GP-08	ND	18.9	ND	0.01	13.00	Yes	
GP-09	ND	16.7	0.4	0.03	9.85	Yes	
GP-10A	58.3	5.0	13.2	0.03	28.10	Yes	
GP-11	ND	20.1	ND	-0.01	7.23	Yes	
GP-12	ND	20.1	0.3	0.02	5.25	Yes	
UV-1	ND	20.2	ND	0.00	NA	Yes	
UV-2	ND	20.5	ND	0.00	NA	Yes	
UV-3	ND	20.2	ND	0.00	NA	Yes	
Scale	Structure House/Gate H	ouse	% Volume		Metha	<b>Comments</b> ne monitor oper	rational

ND = Non-Detectable

NA = Not Available





# DAILY GAS METER CALIBRATION LOG

Date: 2/21/2023

Site: Greenbelt Landfill

Technician: Lucas Kahn

Gas Meter SN: G505496

Gas Meter Type: G5000

**Calibration Info** 

Time: 10:30 Temp: 78 °F

"HIGH" 50% CH4 / 35% CO2 / Balance Gas LOT # 304-401851835-1

Cainster Expiration Date: 8/4/2024

GAS METER READING AFTER CALIBRATION: CH4% 50%

"LOW" 15% CH4 / 15% CO2 / Balance Gas LOT # 304-402020793-1

Cainster Expiration Date: 1/29/2025

GAS METER READING AFTER CALIBRATION: CH4% 15%

# CERTIFICATION OF CALIBRATION





No. 66916

Date Of Calibration: 10-Feb-2023

Certificate Number: G505496\_10/45644

Issued by: QED Environmental Systems Inc.

Customer:

**Hydrex Environmental Inc** 

1120 NW Stallings Drive Nacogdoches, TX 75964-3428 USA

Description:

Landtec Gas Analyzer

Model:

GEM5000

Serial Number:

G505496

## **Accredited Results:**

Methane (CH4)

	11100110110 (0111)	
Certified Gas (%)	Instrument Reading (%)	Uncertainty (%)
5.0	4.8	0.42
15.0	14.7	0.66
50.0	49.3	1.03

	Carbon Dioxide (CO2)							
Certified Gas (%)	Instrument Reading (%)	Uncertainty (%)						
5.0	4.8	0.43						
15.1	14.7	0.71						
50.0	50.0	1.19						

	Oxygen (O2)	
Certified Gas (%)	Instrument Reading (%)	Uncertainty (%)
21.0	21.0	0.25

Gas cylinders are traceable and details can be provided if requested.

CH4, CO2 readings recorded at:

30.8 °C/87.4 °F

Barometric Pressure: 0988"Hg/29.17 "Hg

O2 readings recorded at:

21.6 °C/70.8 °F

Method of Test: The analyzer is calibrated in a temperature controlled chamber using a series of reference gases, in compliance with procedure ISP17.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with NIST requirements.

The calibration results published in this certificate were obtained using equipment capable of producing results that are traceable through NIST to the International System of Units (SI). Certification only applies to results shown. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

Calibration Instance: 114

IGC Instance: 114

Page 1 of 2 | LP015LNANIST-1.1

www.qedenv.com

(800) 624-2026

info@qedenv.com

# CERTIFICATION OF CALIBRATION





No. 66916

Date Of Calibration: 10-Feb-2023

Certificate Number: G505496\_10/45644

Issued by: QED Environmental Systems Inc.

### Non Accredited results:

Pressure Transducers (inches of water column)								
Transducer	Certified (Low)	Reading (Low)	Certified (High)	Reading (High)	Accuracy			
Static	0"	0"	40"	40.35"	2.0"			
Differential	0"	0"	4"	3.95"	0.7"			

Baromet	ter (mbar)
Reference	Instrument Reading
0988 mbar / 29.17 "Hg	0988 mbar / 29.18 "Hg

## As received gas check readings:

Methane (CH4)		
Certified Gas (%)	Instrument Reading (%)	
5.0	6.9	
15.0	23.5	
50.0	70.3	

Carbon Dioxide (CO2)	
Certified Gas (%)	Instrument Reading (%)
5.0	7.4
15.1	31.2
50.0	100.0

Oxygen (O2)	
Certified Gas (%)	Instrument Reading (%)
21.0	19.8

As received Gas readings recorded at:

30.8 °C/87.4 °F

As received Barometric Pressure recorded at:

21.6 °C/70.8 °F

As received gas check readings are only recorded if the instrument is received in a working condition.

Where the instrument is received damaged no reading can be taken.

Date of Issue: 13 Feb 2023

Approved By Signatory

Kyle Racine

Laboratory Inspection

The calibration results published in this certificate were obtained using equipment capable of producing results that are traceable through NIST to the International System of Units (SI). Certification only applies to results shown. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

Calibration Instance: 114

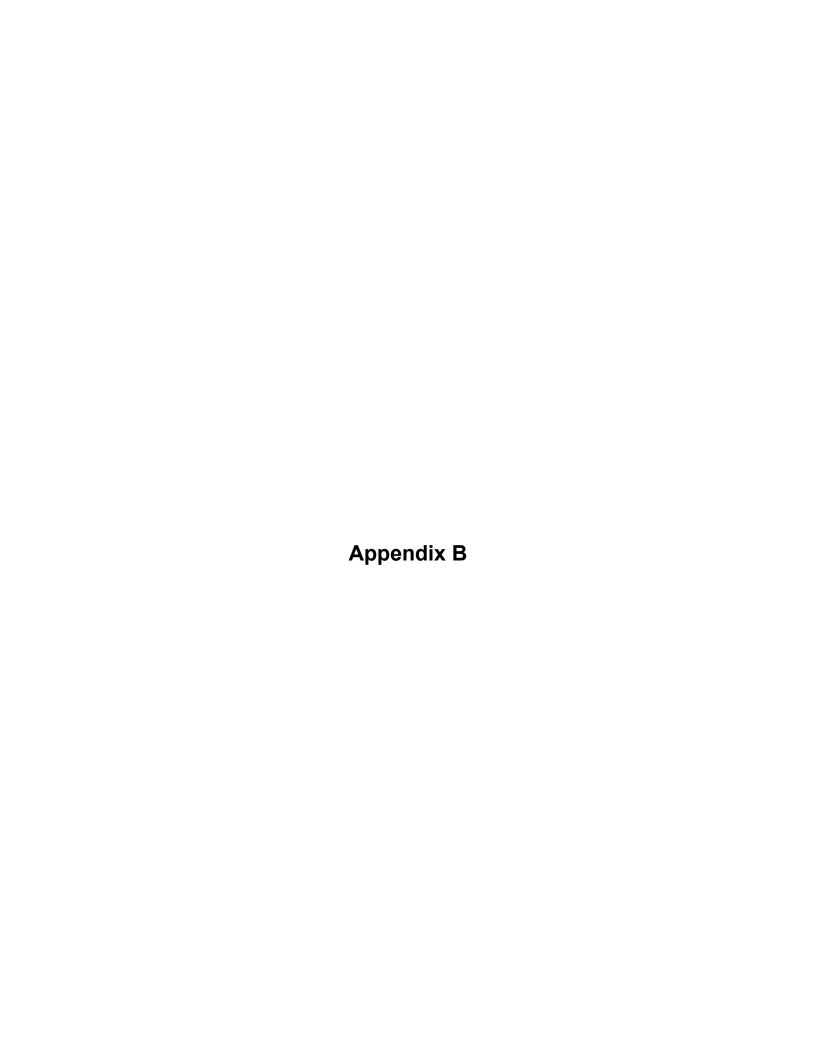
IGC Instance: 114

Page 2 of 2 | LP015LNANIST-1.1

www.qedenv.com

(800) 624-2026

info@qedenv.com



# Jordan Scarborough

From: Jordan Scarborough

Sent: Wednesday, February 22, 2023 11:02 AM

To:

Subject: ollow Up Email

Good morning Ms. Owen,

I wanted to provide a follow up email regarding GMP-10A at Greenbelt Landfill.

As, we discussed yesterday, GMP-10A at Greenbelt landfill had an exceedance of 58.3 percent volume. Immediate actions to protect human health were completed. Additionally, in accordance with applicable regulation, remediation efforts are currently underway, and a remediation plan documenting the nature and extent of the exceedance and the proposed remedy will be submitted within the prescribed timeframe.

Please let me know if you have any questions.

### Respectfully,

Jordan DiMezzo

#### Geologist

Hydrex Environmental 1120 NW Stallings Drive Nacogdoches, Texas 75964 Office: 936-568-9451

Cell: 936-552-6020 Fax: 936-568-9527





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# Jordan Scarborough

**From:** Jordan Scarborough

Sent: Wednesday, February 22, 2023 11:08 AM

To:

**Subject:** Notification of Methane Exceedance at Greenbelt Landfill

Good morning Mr. Brugger,

The following notification of methane exceedance is being provided to you in accordance with the approved Landfill Gas Management Plan (LFGMP) for Greenbelt Landfill (MSW Permit No. 1586) and as required by applicable regulation (30 TAC §330.371). **This correspondence is provided for notification purposes only and no response is required.** Specifically, you are being notified because you are a county official.

During a regularly scheduled methane monitoring event performed on February 21, 2023, methane was detected at 58.3 volume percent in gas monitoring probe GMP-10A. This value is in excess of the regulatory limit of 5 volume percent as specified in 30 TAC §330.371(a)(2). No other probes were noted to be out of compliance.

Based on the exceedance, implementation of the contingency plan in accordance with the facility's LFGMP was initiated. Additionally, in accordance with applicable regulation, remediation efforts are currently underway and a remediation plan documenting the nature and extent of the exceedance and the proposed remedy will be submitted to the Texas Commission on Environmental Quality within the prescribed timeframe.

## Again, no response by any county official is required.

If you have any questions or require any additional information, please do not hesitate to contact me at (936) 568-9451.

## Respectfully,

Jordan DiMezzo

### Geologist

Hydrex Environmental 1120 NW Stallings Drive Nacogdoches, Texas 75964 Office: 936-568-9451

Cell: 936-552-6020 Fax: 936-568-9527

www.hydrexenvironmental.com



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# Memo

To: To Whom It May Concern

From: Jordan L. DiMezzo

Date: February 21, 2023

Re: Greenbelt Landfill 1st Quarterly Methane Monitoring Event for 2023

**GMP-10A Exceedance** 

During the 1<sup>st</sup> Quarterly event for Fort Bend Regional Landfill, GMP-10A was noted as exceeding the 5% allowable limit of methane with a concentration of 58.3%. This value was measured at 11:19 am by Lucas Kahan.

Notification was made to Steve Howard on 2/21/2023.

Attempts were made to contact Pasadena Fire @ 713-475-5554 on 2/21/2023 – No one answered and I left a voice mail at 12:48.

∬ordan L. DiMezzo

Geologist



Freedom Fuel Operating LLC 6002 Debbielou Gardens Dr Houston, TX 77034-2900

Re: Reporting of Methane Exceedance

Greenbelt Land Permit No. MS\ Harris County,

To whom it may concer

The following notificatio with the approved Land as required by applica provided for notificati you are being notified I you are listed as an own

During a regularly sch 2023, methane was de

This value is in excess of the regulatory limit of 5 volume percent as specified in 30 TAC §330.371(a)(2). No other probes were noted to be out of compliance.

Implementation of the contingency plan in accordance with the facility's permit was initiated, starting with notification of necessary parties. Additionally, in accordance with applicable regulation, remediation efforts are currently underway, and a remediation plan documenting the nature and extent of the exceedance and the proposed remedy will be submitted to the Texas Commission on Environmental Quality within the prescribed timeframe.

If you have any questions or require any additional information, please do not hesitate to contact me at (936) 568-9451.

Sincerely,

**Hydrex Environmental** 

Leonell N. Scarborough, P.G. Senior Hydrogeologist



Lubrizol Corporation PO Box 158 Deer Park, TX 77536-0158

Re: Reporting of Methane Exceedance

Greenbelt Landfill Permit No. MSV Harris County,

To whom it may concer

The following notificatio with the approved Land as required by applica provided for notificati you are being notified by you are listed as an own

During a regularly sch 2023, methane was de

This value is in excess of the regulatory limit of 5 volume percent as specified in 50 TAC §330.371(a)(2). No other probes were noted to be out of compliance.

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If you have any questions or require any additional information, please do not hesitate to contact me at (936) 568-9451.

Sincerely,

**Hydrex Environmental** 

Leonell N. Scarborough, P.G.

Senior Hydrogeologist



Lubrizol Corporation PO Box 158 Deer Park, TX 77536-0158

Re: Reporting of Methane Exceedance

Greenbelt Land Permit No. MS\ Harris County,

To whom it may concer

The following notificatio with the approved Land as required by applica provided for notification you are being notified you are listed as an ow

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If you have any questions or require any additional information, please do not hesitate to contact me at (936) 568-9451.

Sincerely,

**Hydrex Environmental** 

hearell le

Leonell N. Scarborough, P.G. Senior Hydrogeologist



Novus Systems INC 5900 Haynesworth Ln Houston, TX 77034-4029

Re: Reporting of Methane Exceedance

Greenbelt Land Permit No. MS\ Harris County,

To whom it may concer

The following notificatio with the approved Land as required by applica provided for notificati you are being notified I you are listed as an own

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If you have any questions or require any additional information, please do not hesitate to contact me at (936) 568-9451.

Sincerely,

**Hydrex Environmental** 

Leonell N. Scarborough, P.G. Senior Hydrogeologist



February 22, 2023

Salvador Alvarez 4310 Blind River St Pasadena, TX 77504-3118

Re: Reporting of Methane Exceedance

Greenbelt Land Permit No. MSV Harris County,

To whom it may concert

The following notificatio with the approved Land as required by applica provided for notificati you are being notified by you are listed as an own

During a regularly sch

2023, methane was detected at 30.3 volume percent in gas monitoring probe GF-TOA. This value is in excess of the regulatory limit of 5 volume percent as specified in 30 TAC §330.371(a)(2). No other probes were noted to be out of compliance.

Implementation of the contingency plan in accordance with the facility's permit was initiated, starting with notification of necessary parties. Additionally, in accordance with applicable regulation, remediation efforts are currently underway, and a remediation plan documenting the nature and extent of the exceedance and the proposed remedy will be submitted to the Texas Commission on Environmental Quality within the prescribed timeframe.

If you have any questions or require any additional information, please do not hesitate to contact me at (936) 568-9451.

Sincerely,

**Hydrex Environmental** 

Leonell N. Scarborough, P.G. Senior Hydrogeologist



February 22, 2023

Charles Baker 6210 Sands Dr Pasadena, TX 77505-3863

Re: Reporting of Methane Exceedance

Greenbelt Land Permit No. MS\ Harris County,

To whom it may concer

The following notification with the approved Landas required by application provided for notification you are being notified by you are listed as an own

During a regularly sch

2023, methane was detected at 30.5 volume percent in gas monitoring probe GF-TOA. This value is in excess of the regulatory limit of 5 volume percent as specified in 30 TAC §330.371(a)(2). No other probes were noted to be out of compliance.

Implementation of the contingency plan in accordance with the facility's permit was initiated, starting with notification of necessary parties. Additionally, in accordance with applicable regulation, remediation efforts are currently underway, and a remediation plan documenting the nature and extent of the exceedance and the proposed remedy will be submitted to the Texas Commission on Environmental Quality within the prescribed timeframe.

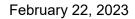
If you have any questions or require any additional information, please do not hesitate to contact me at (936) 568-9451.

Sincerely,

**Hydrex Environmental** 

Leonell N. Scarborough, P.G.

Senior Hydrogeologist





Arturo & Reyna Resendez 3304 Dartmouth Dr Pasadena, TX 77503-1441

Re:

Reporting of Methane Exceedance

Greenbelt Landfill

Permit No. MSV

Harris County,

To whom it may concern

To whom it may conceri

The following notification with the approved Land as required by applica provided for notificating you are being notified by you are listed as an own

During a regularly sch

2023, methane was detected at 58.3 volume percent in gas monitoring probe GP-10A. This value is in excess of the regulatory limit of 5 volume percent as specified in 30 TAC §330.371(a)(2). No other probes were noted to be out of compliance.

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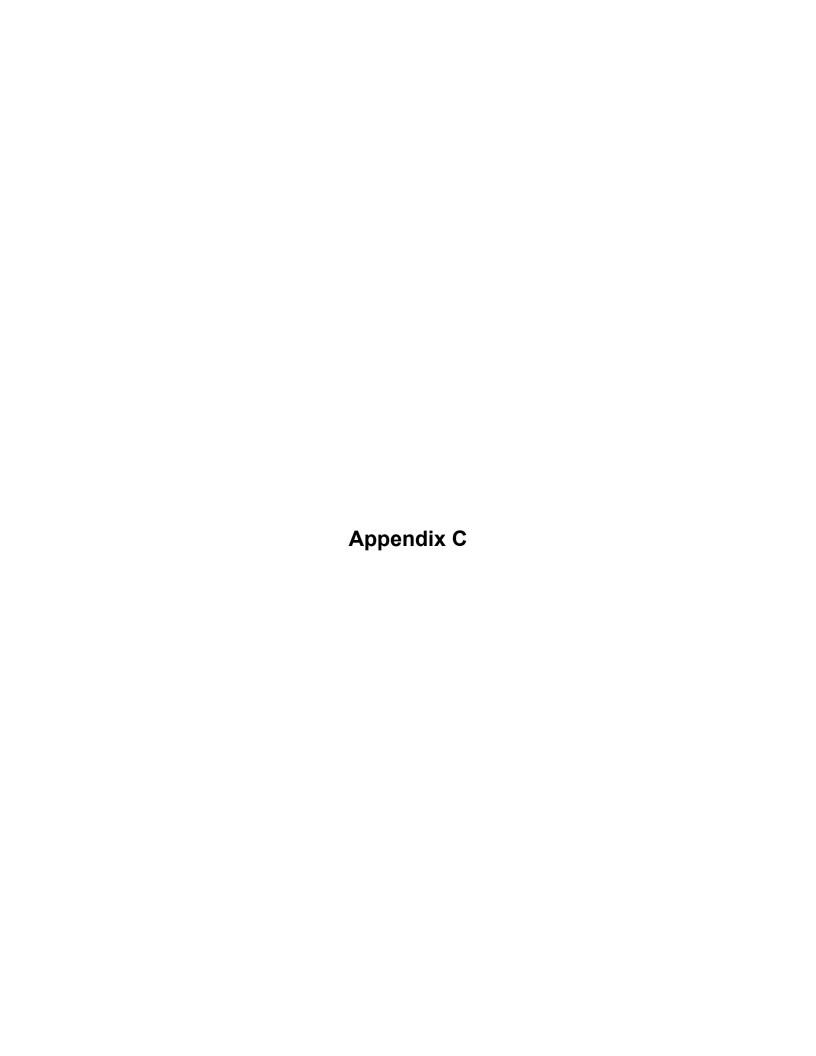
If you have any questions or require any additional information, please do not hesitate to contact me at (936) 568-9451.

Sincerely,

**Hydrex Environmental** 

Leonell N. Scarborough, P.G. Senior Hydrogeologist

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# Greenbelt Landfill Summary of Daily Monitoring Data (Volume % Methane)

#### GP-10A

Date	2/21/2023*	2/22/2023	2/23/2023	2/24/2023	2/25/2023	2/27/2023	2/28/2023
% Methane	58.3%	31.70%	39.60%	24.40%	15.70%	71.30%	31.20%
Technician	Lucas Khan	Lucas Khan	Lucas Khan	Lucas Khan	Uziel Rendon	Lucas Khan	Lucas Khan

<sup>\*</sup> Quarterly Event ND - Non-Detect

# Greenbelt Landfill STRUCTURE MONITORING

#### Structure 1

Date	2/23/2023	2/28/2023
% Methane	ND	ND
Technician	Lucas Khan	Lucas Khan

#### Structure 2

Date	2/23/2023	2/28/2023
% Methane	ND	ND
Technician	Lucas Khan	Lucas Khan

#### Structure 3

Date	2/23/2023	2/28/2023
% Methane	Not Accessible	Not Measured
Technician	Lucas Khan	Lucas Khan

#### Structure 4

Date	2/23/2023	2/28/2023
% Methane	ND	ND
Technician	Lucas Khan	Lucas Khan

#### Structure 5

Date	2/23/2023	2/28/2023
% Methane	No Answer	Not Measured
Technician	Lucas Khan	Lucas Khan





# APPENDIX E TO-14 Analytical Report

# **Hydrex Environmental**

1120 NW Stallings Drive Nacogdoches, TX 75964

Greenbelt Houston, TX

Analytical Report (0223-1016)

**TO-14A** 

Volatile Organic Compounds



# **Enthalpy Analytical, LLC**

Phone: (281) 984 - 7021 / www.enthalpy.com 931 Seaco Ct. Deer Park, TX 77536-3187 I certify that to the best of my knowledge all analytical data presented in this report:

- Have been checked for completeness
- Are accurate, error-free, and legible
- Have been conducted in accordance with approved protocol, and that all deviations and analytical problems are summarized in the appropriate narrative(s)

This analytical report was prepared in Portable Document Format (.PDF). This report shall not be reproduced except in full without approval of the laboratory. This will provide assurance that parts of a report are not taken out of context.

QA Review Performed by: James Haynes, Quality Assurance Director

Report Issued: 03/01/2023



# **Summary of Results**



Company: Hydrex Environmental Consulting, LLC Job No.: 0223-1016-2 EPA Method TO-14A Analysis Client No.: Hydrex Site: Greenbelt - Houston, TX

**Summary** 

Sample ID	GP10A C70520	
Compound	ppmv	
Methane	808,456	
Ethane	58.9	J
Ethylene	0.129	J
Propane	14.7	
Propylene	0.357	J
Isobutane	1.77	
Butane	4.94	
Acetylene	0.0782	ND
trans-2-Butene	0.0993	J
1-Butene	0.0660	ND
Isobutylene	0.158	J
cis-2-Butene	0.0660	ND
1,3-Butadiene	0.0660	ND

Company: Hydrex Environmental Consulting, LLC Job No.: 0223-1016-1 EPA Method TO-14A Analysis Client No.: Hydrex Site: Greenbelt - Houston, TX

**Summary** 

Summary			
Sample ID GP10A C70			
Compound ppbv			
Isopentane	0.141 ND		
1-Pentene	0.0344	ND	
Pentane	702		
Isoprene	2.35	J	
trans-2-Pentene	9.98		
cis-2-Pentene	0.839		
2,2-Dimethylbutane	167		
Cyclopentane	27.7		
2,3-Dimethylbutane	45.0		
2-Methylpentane	103		
3-Methylpentane	161		
1-Hexene	0.860		
Hexane	6.09		
Methylcyclopentane	45.6		
2,4-Dimethylpentane	22.5		
Benzene	8.81		
Cyclohexane	73.0		
2-Methylhexane	8.02		
2,3-Dimethylpentane	35.3		
3-Methylhexane	33.7		
2,2,4-Trimethylpentane	112		
Heptane	1.19		
Methylcyclohexane	71.5		
2,3,4-Trimethylpentane	34.3		
Toluene	43.9		
2-Methylheptane	9.94		
3-Methylheptane	3.63		
n-Octane	0.869		
Ethylbenzene	19.6		
m-Xylene	20.6		
p-Xylene	0.0248	ND	
Styrene	126		
o-Xylene	32.7		

Company: Hydrex Environmental Consulting, LLC Job No.: 0223-1016-1 EPA Method TO-14A Analysis Client No.: Hydrex Site: Greenbelt - Houston, TX

**Summary** 

- anninary	
Sample ID	GP10A C70520
Compound	ppbv
n-Nonane	23.9
Isopropylbenzene	81.5
alpha-Pinene	60.5
n-Propylbenzene	66.1
3-Ethyltoluene	49.4
4-Ethyltoluene	128
1,3,5-Trimethylbenzene	60.3
2-Ethyltoluene	63.0
1,2,4-Trimethylbenzene	167
n-Decane	141
1,2,3-Trimethylbenzene	115
1,3-Diethylbenzene	504
1,4-Diethylbenzene	90.5
n-Undecane	88.6
n-Dodecane	1.29

# Results



Company: Hydrex Environmental Consulting, LLC Job No.: 0223-1016-2 EPA Method TO-14A Analysis Client No.: Hydrex Site: Greenbelt - Houston, TX

GP10A

Methane							
Sample ID	Filename #1	MDL (ppmv)	Ret. Time (min.)	Conc 1 (ppmv)	DF	Final Conc (ppmv)	Flag
GP10A	011F1301.D	0.497	0.64	6,064	133	808,456	
Ethane							
Sample ID	Filename #1	MDL (ppmv)	Ret. Time (min.)	Conc 1 (ppmv)	DF	Final Conc (ppmv)	Flag
GP10A	011F1301.D	0.0500	0.80	0.442	133	58.9	J
Ethylene							
Sample ID	Filename #1	MDL (ppmv)	Ret. Time (min.)	Conc 1 (ppmv)	DF	Final Conc (ppmv)	Flag
GP10A	010F1201.D	0.0500	1.25	0.0978	1.32	0.129	J
Propane							
Sample ID	Filename #1	MDL (ppmv)	Ret. Time (min.)	Conc 1 (ppmv)	DF	Final Conc (ppmv)	Flag
GP10A	010F1201.D	0.0500	1.86	11.2	1.32	14.7	
Propylene							
Sample ID	Filename #1	MDL (ppmv)	Ret. Time (min.)	Conc 1 (ppmv)	DF	Final Conc (ppmv)	Flag
GP10A	010F1201.D	0.0500	4.24	0.270	1.32	0.357	J
Isobutane							
Sample ID	Filename #1	MDL (ppmv)	Ret. Time (min.)	Conc 1 (ppmv)	DF	Final Conc (ppmv)	Flag
-							

010F1201.D

0.0500

4.48

1.34

1.32

1.77

Company: Hydrex Environmental Consulting, LLC Job No.: 0223-1016-2 EPA Method TO-14A Analysis Client No.: Hydrex Site: Greenbelt - Houston, TX

#### **Butane**

Sample ID	Filename #1	MDL (ppmv)		Conc 1 (ppmv)	DF	Final Conc (ppmv)	Flag
GP10A	010F1201.D	0.0500	4.64	3.74	1.32	4.94	

# **Acetylene**

Sample ID	Filename #1	MDL (ppmv)	Conc 1 (ppmv)	DF	Final Conc (ppmv)	Flag
GP10A	010F1201.D	0.0592	0.0592	1.32	0.0782	ND

#### trans-2-Butene

Sample ID	Filename #1	MDL (ppmv)		Conc 1 (ppmv)	DF	Final Conc (ppmv)	Flag
GP10A	010F1201.D	0.0500	5.42	0.0752	1.32	0.0993	J

#### 1-Butene

Sample ID	Filename #1	MDL (ppmv)	Conc 1 (ppmv)	DF	Final Conc (ppmv)	Flag
GP10A	010F1201.D	0.0500	0.0500	1.32	0.0660	ND

# **Isobutylene**

Sample ID	Filename #1	MDL (ppmv)		Conc 1 (ppmv)		Final Conc (ppmv)	Flag
GP10A	010F1201.D	0.0500	5.59	0.120	1.32	0.158	J

#### cis-2-Butene

Sample ID	Filename #1	MDL (ppmv)	Ret. Time (min.)	Conc 1 (ppmv)	DF	Final Conc (ppmv)	Flag
GP10A	010F1201.D	0.0500		0.0500	1.32	0.0660	ND

Company: Hydrex Environmental Consulting, LLC Job No.: 0223-1016-2 EPA Method TO-14A Analysis Client No.: Hydrex Site: Greenbelt - Houston, TX

# 1,3-Butadiene

Sample ID	Filename #1	MDL (ppmv)	Conc 1 (ppmv)	DF	Final Conc (ppmv)	Flag
GP10A	010F1201.D	0.0500	0.0500	1.32	0.0660	ND

Company: Hydrex Environmental Consulting, LLC Job No.: 0223-1016-1 EPA Method TO-14A Analysis Client No.: Hydrex Site: Greenbelt - Houston, TX

#### **Isopentane**

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_012_001F1201.D	0.0268		0.0268	5.28	0.141	ND

#### 1-Pentene

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0261		0.0261	1.32	0.0344	ND

#### **Pentane**

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_013_001F1301.D	0.0270	12.07	53.2	13.2	702	

# **Isoprene**

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_013_001F1301.D	0.0256	12.16	0.178	13.2	2.35	J

#### trans-2-Pentene

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0296	12.34	7.56	1.32	9.98	

#### cis-2-Pentene

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0239	12.51	0.636	1.32	0.839	

Company: Hydrex Environmental Consulting, LLC Job No.: 0223-1016-1 EPA Method TO-14A Analysis Client No.: Hydrex Site: Greenbelt - Houston, TX

### 2,2-Dimethylbutane

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0254	13.14	127	1.32	167	

# **Cyclopentane**

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0240	13.94	21.0	1.32	27.7	

# 2,3-Dimethylbutane

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0256	14.01	34.1	1.32	45.0	_

# 2-Methylpentane

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0251	14.14	77.9	1.32	103	

### 3-Methylpentane

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0252	14.53	122	1.32	161	

### 1-Hexene

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0250	14.67	0.652	1.32	0.860	

Company: Hydrex Environmental Consulting, LLC Job No.: 0223-1016-1 EPA Method TO-14A Analysis Client No.: Hydrex Site: Greenbelt - Houston, TX

#### Hexane

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0255	15.01	4.61	1.32	6.09	

# Methylcyclopentane

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.02533	15.74	34.6	1.32	45.6	

# 2,4-Dimethylpentane

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0252	15.84	17.1	1.32	22.5	

#### **Benzene**

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0259	16.37	6.67	1.32	8.81	

### **Cyclohexane**

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0248	16.63	55.3	1.32	73.0	

# 2-Methylhexane

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0259	16.82	6.07	1.32	8.02	

Company: Hydrex Environmental Consulting, LLC Job No.: 0223-1016-1 EPA Method TO-14A Analysis Client No.: Hydrex Site: Greenbelt - Houston, TX

### 2,3-Dimethylpentane

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0247	16.88	26.8	1.32	35.3	

# 3-Methylhexane

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0251	17.04	25.5	1.32	33.7	

# 2,2,4-Trimethylpentane

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0261	17.40	84.8	1.32	112	

# Heptane

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0256	17.64	0.904	1.32	1.19	

### Methylcyclohexane

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0254	18.23	54.2	1.32	71.5	

# 2,3,4-Trimethylpentane

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0256	18.93	26.0	1.32	34.3	

Company: Hydrex Environmental Consulting, LLC Job No.: 0223-1016-1 EPA Method TO-14A Analysis Client No.: Hydrex Site: Greenbelt - Houston, TX

#### **Toluene**

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0252	19.06	33.2	1.32	43.9	

# 2-Methylheptane

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0255	19.26	7.53	1.32	9.94	

# 3-Methylheptane

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0249	19.44	2.75	1.32	3.63	

#### n-Octane

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0251	20.03	0.658	1.32	0.869	

### **Ethylbenzene**

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_012_001F1201.D	0.0244	21.24	3.72	5.28	19.6	

# m-Xylene

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0172	21.43	15.6	1.32	20.6	

Company: Hydrex Environmental Consulting, LLC Job No.: 0223-1016-1 EPA Method TO-14A Analysis Client No.: Hydrex Site: Greenbelt - Houston, TX

# p-Xylene

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0188		0.0188	1.32	0.0248	ND

### **Styrene**

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0257	21.83	95.4	1.32	126	

# o-Xylene

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0245	21.91	24.8	1.32	32.7	

#### n-Nonane

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.02495	22.17	18.1	1.32	23.9	

# Isopropylbenzene

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0248	22.47	61.7	1.32	81.5	

# alpha-Pinene

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_006_001F0601.D	0.0225	22.81	0.454	133.32	60.5	

Company: Hydrex Environmental Consulting, LLC Job No.: 0223-1016-1 EPA Method TO-14A Analysis Client No.: Hydrex Site: Greenbelt - Houston, TX

#### n-Propylbenzene

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_006_001F0601.D	0.0250	22.92	0.496	133.32	66.1	

# 3-Ethyltoluene

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_006_001F0601.D	0.0245	23.00	0.371	133.32	49.4	

# 4-Ethyltoluene

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_006_001F0601.D	0.0241	23.02	0.961	133.32	128	

# 1,3,5-Trimethylbenzene

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_006_001F0601.D	0.0243	23.10	0.452	133.32	60.3	

### 2-Ethyltoluene

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_006_001F0601.D	0.0245	23.28	0.473	133.32	63.0	

# 1,2,4-Trimethylbenzene

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_006_001F0601.D	0.0247	23.44	1.26	133.32	167	

Company: Hydrex Environmental Consulting, LLC Job No.: 0223-1016-1 EPA Method TO-14A Analysis Client No.: Hydrex Site: Greenbelt - Houston, TX

#### n-Decane

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_006_001F0601.D	0.0250	23.55	1.06	133.32	141	

# 1,2,3-Trimethylbenzene

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_006_001F0601.D	0.0236	23.73	0.862	133.32	115	

# 1,3-Diethylbenzene

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_006_001F0601.D	0.0228	24.05	3.78	133.32	504	

# 1,4-Diethylbenzene

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_006_001F0601.D	0.0249	24.11	0.679	133.32	90.5	

#### n-Undecane

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_006_001F0601.D	0.0251	24.54	0.665	133.32	88.6	

#### n-Dodecane

Sample ID	Filename #1	MDL (ppb)	Ret. Time (min.)	Conc 1 (ppb)	DF	Final Conc (ppb)	Flag
GP10A	_011_001F1101.D	0.0240	25.31	0.980	1.32	1.29	

# **Narrative Summary**



# **Enthalpy Analytical Narrative Summary**

Company	Hydrex Environmental
<b>Job</b> #	0223-1016 TO-14A
Client #	Greenbelt
Custody	Megan Burt received the sample on 02/27/23 at ambient temperature after being relinquished by Hydrex. The sample was received in good condition.  Prior to, during, and after analysis, the sample was kept under lock with access only to
Analysis	authorized personnel by Enthalpy Analytical, LLC.  The sample was analyzed for speciated volatile organic compounds (VOCs) using the analytical procedures in EPA Compendium Method TO-14A, Determination of Volatile Organic Compounds (VOCs) In Ambient Air Using Specially Prepared Canisters With Subsequent Analysis By Gas Chromatography.  The analytes were all referenced to certified gas phase standards. The calibration verification standard for dodecane was used past its expiration date.
	GCs #8 and #9 were used for these analyses.
Calibration	The calibration curve(s) used met all required acceptance criteria.
QC Notes	The analytes of interest were not identified at concentrations greater than the detection limit in the analyses of the laboratory blanks with the exception of undecane, which was present below the reporting limit.  The duplicate analyzed with each batch met the % difference criteria. The duplicate on GC #9 was analyzed on the CCV for the batch rather than a sample.  The calibration verifications and laboratory control sample for dodecane each failed high at roughly 160-190% (vs acceptance limits of 70-130%), indicating a likely high bias in the reported dodecane results.
Reporting Notes	Interferences and minor retention time shifts were observed in the chromatography, likely due to the high methane concentration present in the sample and/or due to other non-target compounds. Several targets are reported from dilution analyses where appropriate to minimize interferences.  These analyses met the requirements of the TNI Standard. Any deviations from the requirements of the reference method or TNI Standard have been stated above.  The results presented in this report are representative of the sample as provided to the laboratory.



# **General Reporting Notes**

The following are general reporting notes that are applicable to all Enthalpy Analytical, LLC data reports, unless specifically noted otherwise.

- Any analysis which refers to the method as "*Type*" represents a planned deviation from the reference method. For instance a Hydrogen Sulfide assay from a Tedlar bag would be labeled as "EPA Method 16-Type" because Tedlar bags are not mentioned as one of the collection options in EPA Method 16.
- The acronym *MDL* represents the Minimum Detection Limit. Below this value the laboratory cannot determine the presence of the analyte of interest reliably.
- The acronym *LOQ* represents the Limit of Quantification. Below this value the laboratory cannot quantitate the analyte of interest within the criteria of the method.
- The acronym **ND** following a value indicates a non-detect or analytical result below the MDL.
- The letter *J* in the Qualifier or Flag column in the results indicates that the value is between the MDL and the LOQ. The laboratory can positively identify the analyte of interest as present, but the value should be considered an estimate.
- The letter *E* in the Qualifier or Flag column indicates an analytical result exceeding 100% of the highest calibration point. The associated value should be considered as an estimate.
- Sample results are presented 'as measured' for single injection methodologies, or an average value if multiple injections are made. If all injections are below the MDL, the sample is considered non-detect and the ND value is presented. If one, but not all, are below the MDL, the MDL value is used for any injections that are below the MDL. For example, if the MDL is 0.500 and LOQ is 1.00, and the instrument measures 0.355, 0.620, and 0.442 the result reported is the average of 0.500, 0.620, and 0.500 - i.e. 0.540 with a J flag.
- When a spike recovery (Bag Spike, Collocated Spike Train, or liquid matrix spike) is being calculated, the native (unspiked) sample result is used in the calculations, as long as the value is above the MDL. If a sample is ND, then 0 is used as the native amount (not the MDL value).
- The acronym **DF** represents Dilution Factor. This number represents dilution of the sample during the preparation and/or analysis process. The analytical result taken from a laboratory instrument is multiplied by the DF to determine the final undiluted sample results.
- The addition of *MS* to the Sample ID represents a Matrix Spike. An aliquot of an actual sample is spiked with a known amount of analyte so that a percent recovery value can be determined. The MS analysis indicates what effect the sample matrix may have on the target analyte, i.e. whether or not anything in the sample matrix interferes with the analysis of the analyte(s).



# **General Reporting Notes**

(continued)

- The addition of *MSD* to the Sample ID represents a Matrix Spike Duplicate. Prepared in the same manner as a MS, the use of duplicate matrix spikes allows further confirmation of laboratory quality by showing the consistency of results gained by performing the same steps multiple times.
- The addition of *LD* to the Sample ID represents a Laboratory Duplicate. The analyst prepares an additional aliquot of sample for testing and the results of the duplicate analysis are compared to the initial result. The result should have a difference value of within 10% of the initial result (if the results of the original analysis are greater than the LOQ).
- The addition of *AD* to the Sample ID represents an Alternate Dilution. The analyst prepares an additional aliquot at a different dilution factor (usually double the initial factor). This analysis helps confirm that no additional compound is present and coeluting or sharing absorbance with the analyte of interest, as they would have a different response/absorbance than the analyte of interest.
- The Sample ID *LCS* represents a Laboratory Control Sample. Clean matrix, similar to the client sample matrix, prepared and analyzed by the laboratory using the same reagents, spiking standards and procedures used for the client samples. The LCS is used to assess the control of the laboratory's analytical system. Whenever spikes are prepared for our client projects, two spikes are retained as LCSs. The LCSs are labeled with the associated project number and kept in-house at the appropriate temperature conditions. When the project samples are received for analysis, the LCSs are analyzed to confirm that the analyte could be recovered from the media, separate from the samples which were used on the project and which may have been affected by source matrix, sample collection, and/or sample transport.
- **Significant Figures**: Where the reported value is much greater than unity (1.00) in the units expressed, the number is rounded to a whole number of units, rather than to 3 significant figures. For example, a value of 10,456.45 ug catch is rounded to 10,456 ug. There are five significant digits displayed, but no confidence should be placed on more than two significant digits. In the case of small numbers, generally 3 significant figures are presented, but still only 2 should be used with confidence. Many neat materials are only certified to 3 digits, and as the mathematically correct final result is always 1 digit less than all its pre-cursors 2 significant figures are what are most defensible.
- Manual Integration: The data systems used for processing will flag manually integrated peaks with an "M". There are several reasons a peak may be manually integrated. These reasons will be identified by the following two letter designations on sample chromatograms, if provided in the report. The peak was not integrated by the software "NI", the peak was integrated incorrectly by the software "II" or the wrong peak was integrated by the software "WP". These codes will accompany the analyst's manual integration stamp placed next to the compound name on the chromatogram.



# **Sample Custody**



0223-1016-100088 Special Handling: ☐ Standard Turn Around Time (10 business days) Chain of Custody Record □ Rush Turn Around Time - Date Needed: 2 days All TATs Subject to Approval by Enthalpy Analytical, Inc. All Bag/Can Samples Disposed of 1 Month from Receipt. All Other Samples Disposed of 4 Months from Receipt. Client Name: Project Number: For spiked or duplicate samples: please provide Project Manager: Jordan D. Mezzo Site Name: Green Delt sample volumes for recovery calculations. Telephone#: 936-569-9451 For Particulates: please provide tare weights and/or condensed water volumes. Special Instructions: Sample Containers Analyses: A=Air 1=H2SO4 2=NaOH W=Water O=Other X=XAD C=Charcoal SG=Silica Gel G=Grab C=Composite Q=Quality Control O=Other Sample Sample ID Date Time Volume Matrix Notes: 2-27-23 2:30 1750 -EBZ7723 PM 3:09 Relinquished By: Date: Received By: Date: Time: Sample Condition Upon Receipt: Lucas Kahn □ Iced □ Ambient ذC 28.2 GUKE 2127 7-27-23 □ Iced □ Ambient □ °C\_\_\_\_\_ □ Iced □ Ambient □ °C

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1 1

# **Raw Data**



# **Chromatogram Report**

Sample Name Prep1p340 #C6 ENV(1=0,4=495)
Sequence Name DPGC8-022823 ver.5

Inj Data File 015F0101.D

File Location 3 - Houston Lab/Data/GC8/2023\_Q1

Injection Date 2/28/2023 9:41 AM
File Modified 3/1/2023 9:26 AM
Instrument DP-GC08

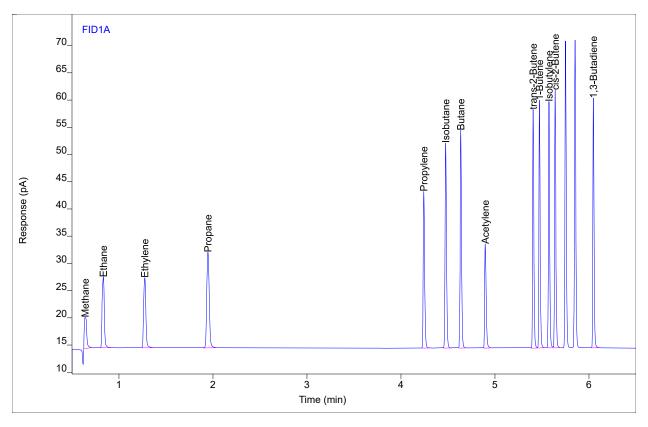
Operator Kristopher Beverly

# **Enthalpy Analytical**

Sample Type Sample
Vial Number 15
Injection Volume 250
Injection 1 of 1

Acquisition Method DPGC8-ACQ-083122.M
Analysis Method DPGC8-F\_010323\_T014A.M
Method Medified 1/23/2023 10:36 AM

Method Modified 1/23/2023 10:36 AM Printed 3/1/2023 10:41 AM



Compound	Туре	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	РВ	0.64	10.3619	5.77232	10.0632	1	10.0632	ppm
Ethane	BB	0.83	20.6070	13.0508	10.7477	1	10.7477	ppm
Ethylene	BB	1.28	20.9719	12.8842	10.6340	1	10.6340	ppm
Propane	BB	1.95	32.1410	17.5804	11.1228	1	11.1228	ppm
Propylene	BB	4.24	30.5303	28.8669	10.6512	1	10.6512	ppm
Isobutane	BB	4.48	40.9484	37.6902	10.8298	1	10.8298	ppm
Butane	BB	4.64	41.3016	40.0010	10.7265	1	10.7265	ppm
Acetylene	BB	4.90	20.8436	19.1713	10.6936	1	10.6936	ppm
trans-2-Butene	BV	5.41	39.1000	43.9997	10.5391	1	10.5391	ppm
1-Butene	VB	5.47	40.3754	45.9600	10.6516	1	10.6516	ppm
Isobutylene	BV	5.58	40.1190	45.3285	10.7515	1	10.7515	ppm
cis-2-Butene	VB	5.64	41.4855	47.4242	10.8381	1	10.8381	ppm
1,3-Butadiene	BB	6.05	39.9040	46.2272	10.7430	1	10.7430	ppm

# **Chromatogram Report**

Sample Name N2 #MB Humid
Sequence Name DPGC8-022823 ver.5

Inj Data File 001F0301.D

File Location 3 - Houston Lab/Data/GC8/2023\_Q1

Injection Date 2/28/2023 10:29 AM File Modified 3/1/2023 10:28 AM

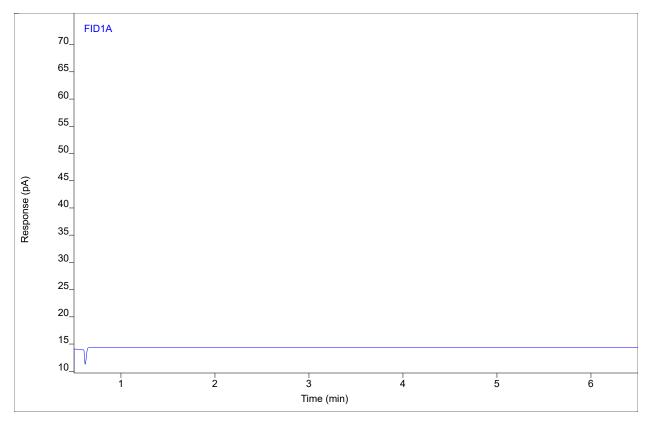
Instrument DP-GC08
Operator Emily Decker

# **Enthalpy Analytical**

Sample TypeSampleVial Number1Injection Volume250Injection1 of 1

Acquisition Method DPGC8-ACQ-083122.M Analysis Method DPGC8-F\_010323\_TO14A.M

Method Modified 1/23/2023 10:36 AM Printed 3/1/2023 10:41 AM



Compound	Туре	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane		(0.64)				1		ppm
Ethane		(0.84)				1		ppm
Ethylene		(1.29)				1		ppm
Propane		(1.98)				1		ppm
Propylene		(4.28)				1		ppm
Isobutane		(4.51)				1		ppm
Butane		(4.67)				1		ppm
Acetylene		(4.94)				1		ppm
trans-2-Butene		(5.43)				1		ppm
1-Butene		(5.50)				1		ppm
Isobutylene		(5.60)				1		ppm
cis-2-Butene		(5.66)				1		ppm
1,3-Butadiene		(6.07)				1		ppm

# **Chromatogram Report**

Sample Name Prep1p340 #C6 LCS Sequence Name DPGC8-022823 ver.5

Inj Data File 002F0401.D

File Location 3 - Houston Lab/Data/GC8/2023\_Q1

 Injection Date
 2/28/2023 10:47 AM

 File Modified
 3/1/2023 9:27 AM

 Instrument
 DP-GC08

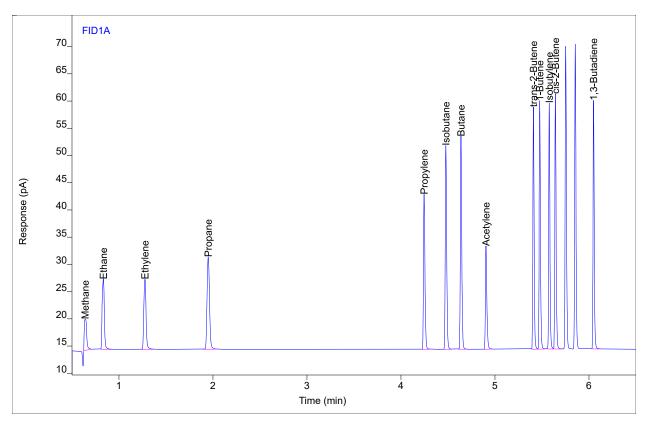
 Operator
 Emily Decker

# **Enthalpy Analytical**

Sample Type Sample
Vial Number 2
Injection Volume 250
Injection 1 of 1

Acquisition Method DPGC8-ACQ-083122.M
Analysis Method DPGC8-F\_010323\_TO14A.M

Method Modified 1/23/2023 10:36 AM Printed 3/1/2023 10:41 AM



Compound	Туре	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	РВ	0.64	10.2990	5.74781	10.0020	1	10.0020	ppm
Ethane	BB	0.83	20.6311	12.9925	10.7602	1	10.7602	ppm
Ethylene	VB	1.28	20.9901	12.8911	10.6433	1	10.6433	ppm
Propane	BB	1.95	30.8525	16.9623	10.6769	1	10.6769	ppm
Propylene	VB	4.25	30.3700	28.5122	10.5953	1	10.5953	ppm
Isobutane	BB	4.48	40.8631	37.4471	10.8073	1	10.8073	ppm
Butane	BB	4.64	40.9340	39.4182	10.6310	1	10.6310	ppm
Acetylene	BB	4.90	20.6962	18.9885	10.6180	1	10.6180	ppm
trans-2-Butene	BV	5.41	38.9352	44.5137	10.4947	1	10.4947	ppm
1-Butene	VB	5.48	40.2232	45.6851	10.6115	1	10.6115	ppm
Isobutylene	BV	5.58	39.9485	45.2091	10.7058	1	10.7058	ppm
cis-2-Butene	VB	5.64	41.3381	46.9815	10.7995	1	10.7995	ppm
1,3-Butadiene	ВВ	6.05	39.7204	45.7180	10.6936	1	10.6936	ppm

0223-1016.GP10A C70520.Bag

Sequence Name DPGC8-022823 ver.5

Inj Data File 010F1201.D

Sample Name

File Location 3 - Houston Lab/Data/GC8/2023\_Q1

Injection Date 2/28/2023 1:53 PM File Modified 3/1/2023 10:39 AM

Instrument DP-GC08

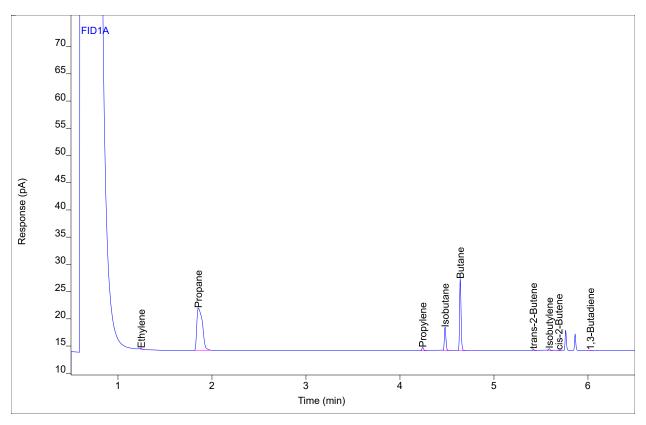
Operator Kristopher Beverly

## **Enthalpy Analytical**

Sample Type Sample
Vial Number 10
Injection Volume 250
Injection 1 of 1

Acquisition Method DPGC8-ACQ-083122.M Analysis Method DPGC8-F\_010323\_TO14A.M

Method Modified 3/1/2023 10:39 AM Printed 3/1/2023 10:41 AM



Compound	Туре	RT	Area	Height	Amount	DF	SampAmt	Unit
Ethylene	BB	1.25	0.19288	0.23793	0.09780	1.32	0.12910	ppm
Propane	BB	1.86	32.2812	7.82271	11.1713	1.32	14.7461	ppm
Propylene	BB	4.24	0.77456	0.62390	0.27022	1.32	0.35670	ppm
Isobutane	BB	4.48	5.05715	4.33805	1.33749	1.32	1.76548	ppm
Butane	BB	4.64	14.4055	13.2711	3.74126	1.32	4.93847	ppm
Acetylene		(4.94)				1.32		ppm
trans-2-Butene	BB	5.42	0.27911	0.32034	0.07523	1.32	0.09931	ppm
1-Butene		(5.50)				1.32		ppm
Isobutylene	BB	5.59	0.44736	0.39820	0.11989	1.32	0.15825	ppm
cis-2-Butene	BB	5.69	0.11730	0.13182	0.03064	1.32	0.04045	ppm
1,3-Butadiene	BB	6.03	0.07460	0.07890	0.02008	1.32	0.02651	ppm

Sample Name 0223-1016.GP10A C70520.Bag

Sequence Name DPGC8-022823 ver.5 Inj Data File 011F1301.D

File Location 3 - Houston Lab/Data/GC8/2023\_Q1

Injection Date 2/28/2023 2:18 PM
File Modified 3/1/2023 9:27 AM
Instrument DP-GC08

Operator Kristopher Beverl

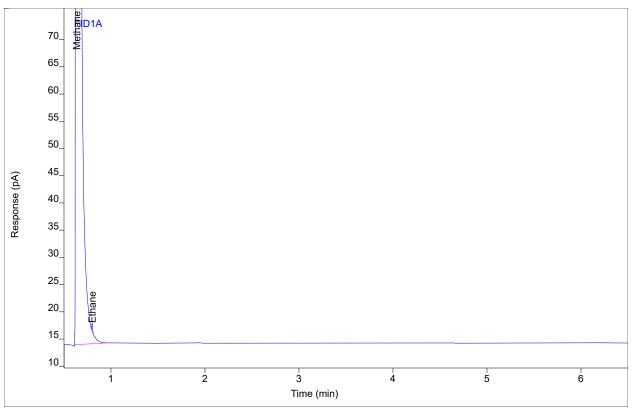
Kristopher Beverly

## **Enthalpy Analytical**

Sample TypeSampleVial Number11Injection Volume250Injection1 of 1

Acquisition Method DPGC8-ACQ-083122.M Analysis Method DPGC8-F\_010323\_TO14A.M

Method Modified 1/23/2023 10:36 AM Printed 3/1/2023 10:41 AM



Compound	Туре	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PM R	0.64	6244.05	3350.58	6064.03	133.32	808456	ppm
Ethane	MI "II" KAB MM T	0.80	0.84698	1.65148	0.44174	133.32	58.8934	ppm

Prep1p340 #C6 ENV(1=0,4=495)

Sequence Name DPGC8-022823 ver.5

Inj Data File 015F1501.D

Sample Name

File Location 3 - Houston Lab/Data/GC8/2023\_Q1

Injection Date 2/28/2023 2:56 PM File Modified 3/1/2023 9:45 AM

Instrument DP-GC08

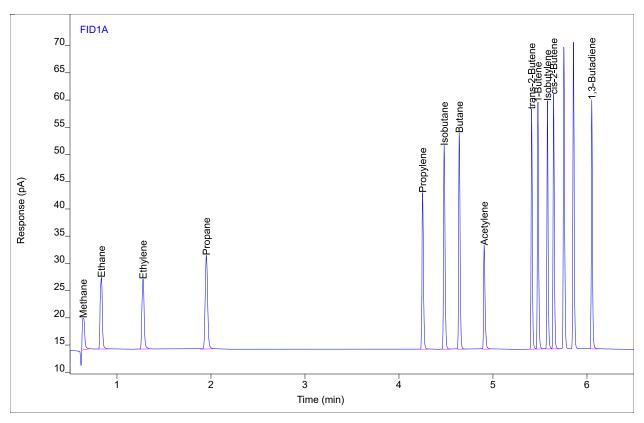
Operator Kristopher Beverly

## **Enthalpy Analytical**

Sample Type Sample
Vial Number 15
Injection Volume 250
Injection 1 of 1

Acquisition Method DPGC8-ACQ-083122.M
Analysis Method DPGC8-F\_010323\_T014A.M
Method Medified 1/23/2023 10:36 AM

Method Modified 1/23/2023 10:36 AM Printed 3/1/2023 10:41 AM



Compound	Туре	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	РВ	0.64	10.5302	5.86738	10.2266	1	10.2266	ppm
Ethane	BV	0.83	20.7883	13.1581	10.8422	1	10.8422	ppm
Ethylene	VB	1.28	20.8601	12.8506	10.5773	1	10.5773	ppm
Propane	BB	1.95	31.2046	17.2192	10.7987	1	10.7987	ppm
Propylene	BB	4.25	30.4722	28.8963	10.6310	1	10.6310	ppm
Isobutane	BB	4.48	40.9210	37.4402	10.8226	1	10.8226	ppm
Butane	BB	4.64	41.5593	40.0418	10.7934	1	10.7934	ppm
Acetylene	BB	4.91	20.6092	19.0946	10.5734	1	10.5734	ppm
trans-2-Butene	BV	5.41	39.0347	44.3028	10.5215	1	10.5215	ppm
1-Butene	VB	5.48	40.3039	45.6855	10.6327	1	10.6327	ppm
Isobutylene	BV	5.58	40.0950	45.6423	10.7451	1	10.7451	ppm
cis-2-Butene	VB	5.65	41.4802	47.0461	10.8367	1	10.8367	ppm
1,3-Butadiene	ВВ	6.05	39.7900	45.8508	10.7123	1	10.7123	ppm

 Sample Name
 Prep1p231 #P7

 Sequence Name
 DPGC9-022723 ver.2

 Inj Data File
 \_001\_015F0101.D

File Location 3 - Houston Lab/Data/GC9/2023\_Q1

Injection Date 2/27/2023 9:34 AM
File Modified 3/1/2023 10:35 AM
Instrument DR GC09

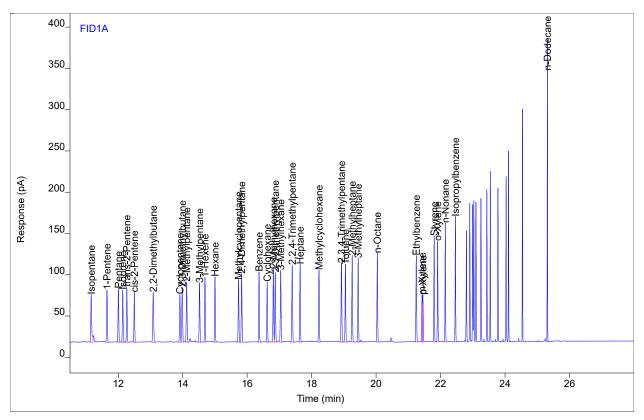
Instrument DP-GC09
Operator Katrina Krch

#### **Enthalpy Analytical**

Sample Type Sample
Vial Number Vial 15
Injection Volume NA
Injection 1 of 1

Acquisition Method DPGC9-ACQ\_122822A.M Analysis Method DPGC9-F\_122822-LIMS.M

Method Modified 3/1/2023 9:02 AM Printed 3/1/2023 2:39 PM



Compound	Туре	RT	Area	Height	Amount	DF	SampAmt	Unit
Isopentane	BV	11.16	113.458	57.8139	18.8183	1	18.8183	ppb
1-Pentene	BV	11.65	101.118	63.6374	16.9371	1	16.9371	ppb
Pentane	VB	12.00	103.626	65.2834	17.2906	1	17.2906	ppb
Isoprene	BB	12.14	99.6736	63.6335	16.7149	1	16.7149	ppb
trans-2-Pentene	BB	12.27	99.2701	67.3245	16.6860	1	16.6860	ppb
cis-2-Pentene	VB	12.50	92.0887	60.4887	15.5072	1	15.5072	ppb
2,2-Dimethylbutane	BB	13.09	115.516	60.6967	16.3619	1	16.3619	ppb
Cyclopentane	BV	13.91	92.1094	58.2199	15.5052	1	15.5052	ppb
2,3-Dimethylbutane	VB	13.99	117.504	66.9867	16.5048	1	16.5048	ppb
2-Methylpentane	VB	14.12	120.041	73.1705	16.8176	1	16.8176	ppb
3-Methylpentane	BB	14.52	115.597	71.9591	16.3170	1	16.3170	ppb
1-Hexene	BB	14.69	115.636	78.5168	16.3044	1	16.3044	ppb
Hexane	BB	15.00	117.197	79.3353	16.6266	1	16.6266	ppb
Methylcyclopentane	BV	15.73	118.391	75.5512	16.5960	1	16.5960	ppb
2,4-Dimethylpentane	VB	15.83	134.575	82.8894	16.3789	1	16.3789	ppb
Benzene	BB	16.37	122.250	85.4700	17.8299	1	17.8299	ppb
Cyclohexane	BB	16.62	115.202	73.1473	16.2406	1	16.2406	ppb
2-Methylhexane	BV	16.81	136.565	89.2920	16.9259	1	16.9259	ppb
2,3-Dimethylpentane	VB	16.87	134.384	84.6436	15.9193	1	15.9193	ppb
3-Methylhexane	BB	17.04	138.018	86.9346	16.4560	1	16.4560	ppb

Prep1p231 #P7 [DPGC9-022723/\_001\_015F0101.D ver.2] (Continued, page 2)

Compound	Туре	RT	Area	Height	Amount	DF	SampAmt	Unit
2,2,4-Trimethylpentane	VB	17.40	158.413	93.5308	16.9941	1	16.9941	ppb
Heptane	BB	17.64	136.905	94.2321	16.9374	1	16.9374	ppb
Methylcyclohexane	BB	18.23	136.926	87.3416	16.5996	1	16.5996	ppb
2,3,4-Trimethylpentane	BB	18.93	156.462	95.7408	16.8171	1	16.8171	ppb
Toluene	BB	19.05	136.266	94.3786	18.0018	1	18.0018	ppb
2-Methylheptane	BV	19.26	155.162	105.014	17.1388	1	17.1388	ppb
3-Methylheptane	BB	19.44	151.289	101.479	16.6865	1	16.6865	ppb
n-Octane	BB	20.04	153.220	107.659	17.1940	1	17.1940	ppb
Ethylbenzene	BB	21.25	151.764	104.645	18.3963	1	18.3963	ppb
m-Xylene	BV	21.43	79.1344	57.2401	9.72613	1	9.72613	ppb
p-Xylene	VB	21.45	79.9979	57.6274	9.96389	1	9.96389	ppb
Styrene	BB	21.80	166.422	128.390	21.5591	1	21.5591	ppb
o-Xylene	BB	21.91	153.730	122.350	19.3578	1	19.3578	ppb
n-Nonane	BB	22.15	173.234	143.802	18.0178	1	18.0178	ppb
Isopropylbenzene	BB	22.46	175.876	152.446	19.0691	1	19.0691	ppb
n-Dodecane	ВВ	25.32	301.433	368.019	37.8991	1	37.8991	ppb

 Sample Name
 Prep1p231 #P7 Dup

 Sequence Name
 DPGC9-022723 ver.2

 Inj Data File
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File Location 3 - Houston Lab/Data/GC9/2023\_Q1

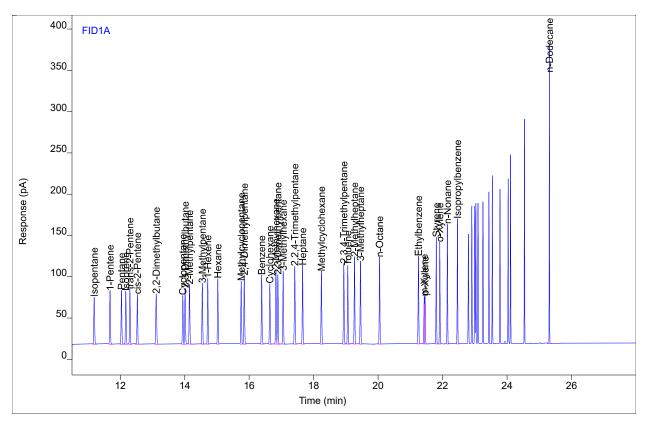
Injection Date 2/27/2023 10:16 AM
File Modified 3/1/2023 8:55 AM
Instrument DP-GC09
Operator Katrina Krch

#### **Enthalpy Analytical**

Sample Type Sample
Vial Number Vial 15
Injection Volume NA
Injection 1 of 1

Acquisition Method DPGC9-ACQ\_122822A.M Analysis Method DPGC9-F\_122822-LIMS.M

Method Modified 3/1/2023 8:55 AM Printed 3/1/2023 2:39 PM



Compound	Туре	RT	Area	Height	Amount	DF	SampAmt	Unit
Isopentane	BB	11.19	103.887	57.3867	17.2309	1	17.2309	ppb
1-Pentene	BB	11.68	101.496	64.7777	17.0004	1	17.0004	ppb
Pentane	BB	12.04	104.288	65.7454	17.4012	1	17.4012	ppb
Isoprene	BB	12.17	100.608	64.4384	16.8717	1	16.8717	ppb
trans-2-Pentene	BB	12.30	100.003	66.5118	16.8092	1	16.8092	ppb
cis-2-Pentene	BB	12.53	92.8450	60.6664	15.6346	1	15.6346	ppb
2,2-Dimethylbutane	BB	13.12	116.726	61.3043	16.5334	1	16.5334	ppb
Cyclopentane	BV	13.94	93.1471	59.4570	15.6799	1	15.6799	ppb
2,3-Dimethylbutane	VB	14.01	118.764	68.0696	16.6817	1	16.6817	ppb
2-Methylpentane	BB	14.15	116.444	72.3221	16.3137	1	16.3137	ppb
3-Methylpentane	BB	14.55	116.576	73.9693	16.4551	1	16.4551	ppb
1-Hexene	BB	14.71	116.029	79.7073	16.3598	1	16.3598	ppb
Hexane	BB	15.03	117.520	79.6289	16.6724	1	16.6724	ppb
Methylcyclopentane	BB	15.75	118.543	76.5031	16.6173	1	16.6173	ppb
2,4-Dimethylpentane	BB	15.85	135.951	83.4153	16.5462	1	16.5462	ppb
Benzene	BB	16.39	121.795	83.8384	17.7636	1	17.7636	ppb
Cyclohexane	BB	16.64	115.683	73.4378	16.3084	1	16.3084	ppb
2-Methylhexane	BV	16.83	137.382	90.7196	17.0271	1	17.0271	ppb
2,3-Dimethylpentane	VB	16.89	135.932	84.4454	16.1027	1	16.1027	ppb
3-Methylhexane	BB	17.06	135.292	88.7269	16.1310	1	16.1310	ppb

Compound	Туре	RT	Area	Height	Amount	DF	SampAmt	Unit
2,2,4-Trimethylpentane	VB	17.41	159.140	94.5749	17.0721	1	17.0721	ppb
Heptane	BB	17.66	137.742	95.2799	17.0408	1	17.0408	ppb
Methylcyclohexane	BB	18.24	138.246	88.1553	16.7596	1	16.7596	ppb
2,3,4-Trimethylpentane	BB	18.94	157.762	97.5658	16.9568	1	16.9568	ppb
Toluene	BB	19.06	137.064	94.9831	18.1072	1	18.1072	ppb
2-Methylheptane	BB	19.27	156.121	105.789	17.2447	1	17.2447	ppb
3-Methylheptane	BB	19.45	152.580	100.669	16.8289	1	16.8289	ppb
n-Octane	BB	20.05	153.746	105.362	17.2530	1	17.2530	ppb
Ethylbenzene	BB	21.25	152.906	106.467	18.5347	1	18.5347	ppb
m-Xylene	BV	21.43	78.7140	58.0191	9.67446	1	9.67446	ppb
p-Xylene	VB	21.46	81.3759	58.9183	10.1355	1	10.1355	ppb
Styrene	BB	21.81	163.383	129.156	21.1655	1	21.1655	ppb
o-Xylene	BB	21.91	155.521	123.555	19.5833	1	19.5833	ppb
n-Nonane	BB	22.15	173.590	145.478	18.0549	1	18.0549	ppb
Isopropylbenzene	BB	22.46	177.354	152.312	19.2295	1	19.2295	ppb
n-Dodecane	BB	25.32	293.824	364.046	36.9423	1	36.9423	ppb

Sample Name N2 #MB Humid
Sequence Name DPGC9-022723 ver.2
Inj Data File \_\_007\_003F0701.D

File Location 3 - Houston Lab/Data/GC9/2023\_Q1

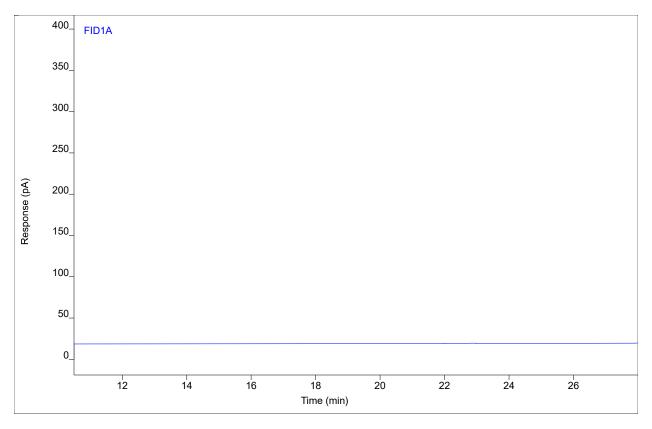
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File Modified 3/1/2023 8:55 AM
Instrument DP-GC09
Operator Katrina Krch

## **Enthalpy Analytical**

Sample Type Sample
Vial Number Vial 3
Injection Volume NA
Injection 1 of 1

Acquisition Method DPGC9-ACQ\_122822A.M Analysis Method DPGC9-F\_122822-LIMS.M

Method Modified 3/1/2023 8:55 AM Printed 3/1/2023 2:39 PM



Compound	Туре	RT	Area	Height	Amount	DF	SampAmt	Unit
Isopentane		(11.20)				1		ppb
1-Pentene		(11.60)				1		ppb
Pentane		(12.00)				1		ppb
Isoprene		(12.15)				1		ppb
trans-2-Pentene		(12.28)				1		ppb
cis-2-Pentene		(12.50)				1		ppb
2,2-Dimethylbutane		(13.13)				1		ppb
Cyclopentane		(13.88)				1		ppb
2,3-Dimethylbutane		(13.98)				1		ppb
2-Methylpentane		(14.13)				1		ppb
3-Methylpentane		(14.54)				1		ppb
1-Hexene		(14.71)				1		ppb
Hexane		(15.02)				1		ppb
Methylcyclopentane		(15.72)				1		ppb
2,4-Dimethylpentane		(15.80)				1		ppb
Benzene		(16.38)				1		ppb
Cyclohexane		(16.64)				1		ppb
2-Methylhexane		(16.83)				1		ppb
2,3-Dimethylpentane		(16.89)				1		ppb
3-Methylhexane		(17.06)				1		ppb

Compound	Туре	RT	Area	Height	Amount	DF	SampAmt	Unit
2,2,4-Trimethylpentane		(17.42)				1		ppb
Heptane		(17.67)				1		ppb
Methylcyclohexane		(18.24)				1		ppb
2,3,4-Trimethylpentane		(18.95)				1		ppb
Toluene		(19.07)				1		ppb
2-Methylheptane		(19.27)				1		ppb
3-Methylheptane		(19.45)				1		ppb
n-Octane		(20.05)				1		ppb
Ethylbenzene		(21.27)				1		ppb
m-Xylene		(21.42)				1		ppb
p-Xylene		(21.48)				1		ppb
Styrene		(21.82)				1		ppb
o-Xylene		(21.93)				1		ppb
n-Nonane		(22.17)				1		ppb
Isopropylbenzene		(22.48)				1		ppb
n-Dodecane		(25.33)				1		ppb

Sample Name 0223-1016.GP10A C70520.Bag

Sequence Name DPGC9-022723 ver.2 Inj Data File \_\_011\_001F1101.D

File Location 3 - Houston Lab/Data/GC9/2023\_Q1

Injection Date 2/27/2023 4:31 PM File Modified 3/1/2023 11:18 AM

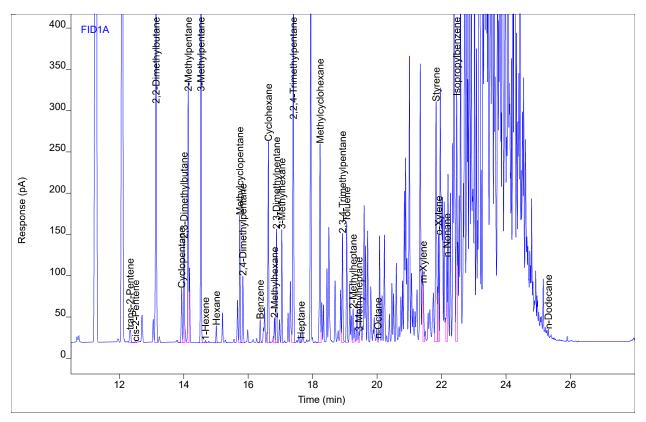
Instrument DP-GC09
Operator Katrina Krch

#### **Enthalpy Analytical**

Sample Type Sample
Vial Number Vial 1
Injection Volume NA
Injection 1 of 1

Acquisition Method DPGC9-ACQ\_122822A.M
Analysis Method DPGC9-F\_122822-LIMS.M
Method Modified 3/1/2023 11:06 AM

Method Modified 3/1/2023 11:06 AM Printed 3/1/2023 2:39 PM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
1-Pentene		(11.60)				1.32		ppb
trans-2-Pentene	VV	12.34	44.9795	15.4324	7.56046	1.32	9.97981	ppb
cis-2-Pentene	VV	12.51	3.77501	1.44237	0.63569	1.32	0.83911	ppb
2,2-Dimethylbutane	VV	13.14	895.729	398.171	126.873	1.32	167.473	ppb
Cyclopentane	VV	13.94	124.624	66.0760	20.9785	1.32	27.6917	ppb
2,3-Dimethylbutane MI "II" KMK	MF	14.01	242.815	126.149	34.1061	1.32	45.0200	ppb
2-Methylpentane	VV	14.14	555.690	315.527	77.8518	1.32	102.764	ppb
3-Methylpentane	VB	14.53	862.701	510.924	121.774	1.32	160.741	ppb
1-Hexene	BB	14.67	4.62344	2.82080	0.65189	1.32	0.86050	ppb
Hexane	BV	15.01	32.5117	21.0439	4.61240	1.32	6.08837	ppb
Methylcyclopentane	VV	15.74	246.696	154.878	34.5817	1.32	45.6478	ppb
2,4-Dimethylpentane	VB	15.84	140.338	81.1905	17.0802	1.32	22.5459	ppb
Benzene	BV	16.37	45.7464	28.5208	6.67200	1.32	8.80704	ppb
Cyclohexane	VB	16.63	392.366	244.148	55.3137	1.32	73.0140	ppb
2-Methylhexane	VV	16.82	49.0003	30.2344	6.07308	1.32	8.01647	ppb
2,3-Dimethylpentane	VV	16.88	225.858	137.915	26.7555	1.32	35.3172	ppb
3-Methylhexane	VV	17.04	214.228	137.610	25.5426	1.32	33.7162	ppb
2,2,4-Trimethylpentane	VB	17.40	790.381	435.730	84.7899	1.32	111.923	ppb
Heptane	VV	17.64	7.30932	4.72458	0.90428	1.32	1.19365	ppb
Methylcyclohexane	VV	18.23	447.035	240.777	54.1943	1.32	71.5364	ppb

Compound		Туре	RT	Area	Height	Amount	DF	SampAmt	Unit
2,3,4-Trimethylpenta	ne	VV	18.93	241.919	132.387	26.0024	1.32	34.3231	ppb
Toluene		VV	19.06	251.587	146.006	33.2366	1.32	43.8723	ppb
2-Methylheptane		VV	19.26	68.1440	41.0676	7.52701	1.32	9.93566	ppb
3-Methylheptane		VV	19.44	24.9393	13.1958	2.75070	1.32	3.63092	ppb
n-Octane		VV	20.03	5.86420	4.46831	0.65806	1.32	0.86865	ppb
m-Xylene		VV	21.43	126.809	71.2545	15.5856	1.32	20.5730	ppb
p-Xylene			(21.45)				1.32		ppb
Styrene		VV	21.83	736.637	290.749	95.4274	1.32	125.964	ppb
o-Xylene		VV	21.91	196.836	129.278	24.7858	1.32	32.7172	ppb
n-Nonane		VV	22.17	174.396	102.362	18.1387	1.32	23.9431	ppb
Isopropylbenzene		VV	22.47	569.120	301.971	61.7062	1.32	81.4522	ppb
	MI "II" KMK	MM	25.31	7.79554	8.34981	0.98013	1.32	1.29377	ppb

 Sample Name
 0223-1016.GP10A C70520.Bag

 Sequence Name
 DPGC9-022723 ver.2

 Inj Data File
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File Location 3 - Houston Lab/Data/GC9/2023\_Q1

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 3/1/2023 11:10 AM

 Instrument
 DP-GC09

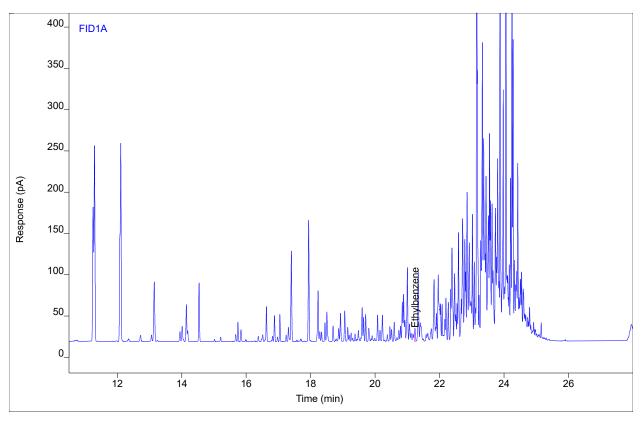
Operator Katrina Krch

## **Enthalpy Analytical**

Sample Type Sample
Vial Number Vial 1
Injection Volume NA
Injection 1 of 1

Acquisition Method DPGC9-ACQ\_122822A.M
Analysis Method DPGC9-F\_122822-LIMS.M
Method Modified 3/1/2023 11:06 AM

Printed 3/1/2023 2:39 PM



Compound		Туре	RT	Area	Height	Amount	DF	SampAmt	Unit
Isopentane Ethylbenzene	MI "II" KMK	FM	(11.20) 21.24	30.6851	16.3931	3.71953	5.28 5.28	19.6391	ppb ppb

 Sample Name
 0223-1016.GP10A C70520.Bag

 Sequence Name
 DPGC9-022723 ver.2

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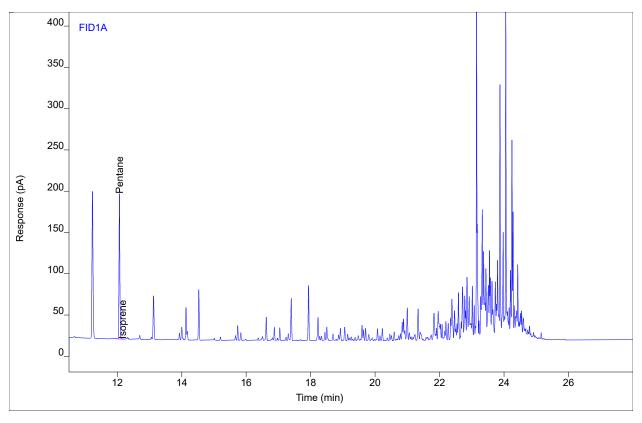
Instrument DP-GC09
Operator Katrina Krch

## **Enthalpy Analytical**

Sample Type Sample
Vial Number Vial 1
Injection Volume NA
Injection 1 of 1

Acquisition Method DPGC9-ACQ\_122822A.M
Analysis Method DPGC9-F\_122822-LIMS.M
Method Modified 3/1/2023 11:06 AM

Printed 3/1/2023 2:39 PM



Compound	Туре	RT	Area	Height	Amount	DF	SampAmt	Unit
Pentane	BV	12.07	318.798	176.248	53.1934	13.2	702.153	ppb
Isoprene	VV	12.16	1.06018	0.46039	0.17779	13.2	2.34682	ppb

 Sample Name
 Prep1p231 #P7

 Sequence Name
 DPGC9-022723 ver.2

 Inj Data File
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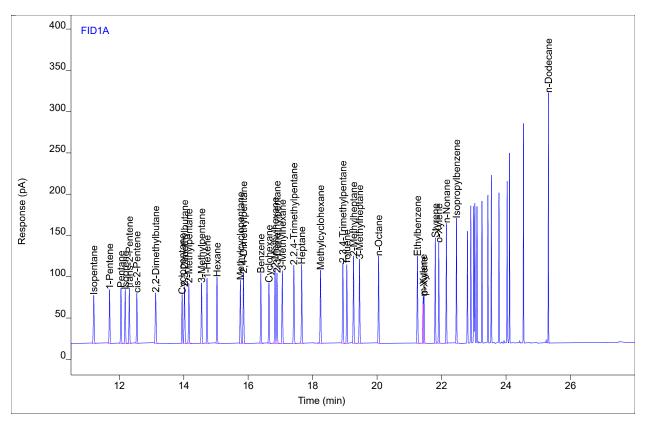
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Instrument DP-GC09
Operator Katrina Krch

#### **Enthalpy Analytical**

Sample Type Sample
Vial Number Vial 15
Injection Volume NA
Injection 1 of 1

Acquisition Method DPGC9-ACQ\_122822A.M Analysis Method DPGC9-F\_122822-LIMS.M

Method Modified 3/1/2023 9:01 AM Printed 3/1/2023 2:39 PM



Compound	Туре	RT	Area	Height	Amount	DF	SampAmt	Unit
Isopentane	BB	11.21	106.024	59.0042	17.5853	1	17.5853	ppb
1-Pentene	BB	11.70	102.181	65.3139	17.1152	1	17.1152	ppb
Pentane	BB	12.05	106.119	67.3590	17.7066	1	17.7066	ppb
Isoprene	BB	12.19	101.292	65.1867	16.9863	1	16.9863	ppb
trans-2-Pentene	BB	12.31	100.699	67.4693	16.9262	1	16.9262	ppb
cis-2-Pentene	BB	12.55	93.4315	61.2903	15.7333	1	15.7333	ppb
2,2-Dimethylbutane	BB	13.13	117.771	61.8879	16.6814	1	16.6814	ppb
Cyclopentane	BV	13.95	93.7319	59.5814	15.7784	1	15.7784	ppb
2,3-Dimethylbutane	VB	14.02	119.482	69.1634	16.7825	1	16.7825	ppb
2-Methylpentane	BB	14.16	117.401	73.1373	16.4478	1	16.4478	ppb
3-Methylpentane	BB	14.55	117.652	73.5140	16.6070	1	16.6070	ppb
1-Hexene	BB	14.72	116.619	78.8916	16.4431	1	16.4431	ppb
Hexane	BB	15.03	118.148	80.5554	16.7615	1	16.7615	ppb
Methylcyclopentane	BB	15.76	119.240	76.8023	16.7150	1	16.7150	ppb
2,4-Dimethylpentane	BB	15.85	136.668	84.9638	16.6335	1	16.6335	ppb
Benzene	BB	16.39	122.445	85.0279	17.8583	1	17.8583	ppb
Cyclohexane	BB	16.64	116.347	73.7073	16.4020	1	16.4020	ppb
2-Methylhexane	BV	16.83	137.967	91.4014	17.0996	1	17.0996	ppb
2,3-Dimethylpentane	VB	16.89	136.697	85.6234	16.1933	1	16.1933	ppb
3-Methylhexane	ВВ	17.06	135.911	88.3467	16.2047	1	16.2047	ppb

Prep1p231 #P7 [DPGC9-022723/\_015\_015F1501.D ver.2] (Continued, page 2)

Compound	Туре	RT	Area	Height	Amount	DF	SampAmt	Unit
2,2,4-Trimethylpentane	VB	17.42	160.274	94.9761	17.1938	1	17.1938	ppb
Heptane	BB	17.66	138.319	95.8595	17.1122	1	17.1122	ppb
Methylcyclohexane	BB	18.24	139.182	88.8534	16.8730	1	16.8730	ppb
2,3,4-Trimethylpentane	BB	18.94	158.380	97.3644	17.0233	1	17.0233	ppb
Toluene	BB	19.06	137.549	95.5986	18.1713	1	18.1713	ppb
2-Methylheptane	BB	19.27	156.724	106.023	17.3113	1	17.3113	ppb
3-Methylheptane	BB	19.45	153.127	101.903	16.8893	1	16.8893	ppb
n-Octane	BB	20.05	154.267	105.860	17.3115	1	17.3115	ppb
Ethylbenzene	BB	21.25	153.096	105.619	18.5577	1	18.5577	ppb
m-Xylene	BV	21.43	79.6385	57.1593	9.78809	1	9.78809	ppb
p-Xylene	VB	21.46	80.2744	57.8116	9.99833	1	9.99833	ppb
Styrene	BB	21.81	162.625	127.723	21.0672	1	21.0672	ppb
o-Xylene	BB	21.91	154.591	121.675	19.4662	1	19.4662	ppb
n-Nonane	BB	22.15	173.443	145.380	18.0396	1	18.0396	ppb
Isopropylbenzene	BB	22.46	176.957	151.957	19.1864	1	19.1864	ppb
n-Dodecane	BB	25.32	246.560	304.528	30.9999	1	30.9999	ppb

 Sample Name
 Prep1p231 #P7

 Sequence Name
 DPGC9-022823 ver.2

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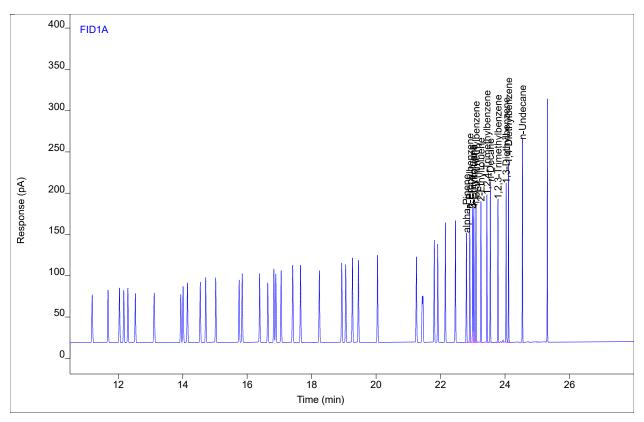
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Injection Date 2/28/2023 9:20 AM
File Modified 3/1/2023 9:11 AM
Instrument DP-GC09
Operator Katrina Krch

## **Enthalpy Analytical**

Sample Type Sample
Vial Number Vial 15
Injection Volume NA
Injection 2 of 2

Acquisition Method DPGC9-ACQ\_122822A.M
Analysis Method DPGC9-F\_122822-LIMS.M
Method Modified 1/26/2023 3:59 PM
Printed 3/1/2023 2:39 PM



Compound	Туре	RT	Area	Height	Amount	DF	SampAmt	Unit
alpha-Pinene	ВВ	22.80	155.922	133.407	16.0026	1	16.0026	ppb
n-Propylbenzene	BB	22.91	172.099	162.701	19.6577	1	19.6577	ppb
3-Ethyltoluene	BV	23.00	169.903	162.546	19.8387	1	19.8387	ppb
4-Ethyltoluene	VV	23.03	169.323	163.281	19.5211	1	19.5211	ppb
1,3,5-Trimethylbenzene	VV	23.10	170.118	166.599	19.6497	1	19.6497	ppb
2-Ethyltoluene	BB	23.25	170.535	170.751	19.8702	1	19.8702	ppb
1,2,4-Trimethylbenzene	BB	23.44	174.021	179.530	20.4306	1	20.4306	ppb
n-Decane	BB	23.55	190.308	195.403	18.9702	1	18.9702	ppb
1,2,3-Trimethylbenzene	VB	23.78	168.012	174.510	20.2868	1	20.2868	ppb
1,3-Diethylbenzene	BV	24.04	180.820	194.381	19.7916	1	19.7916	ppb
1,4-Diethylbenzene	VB	24.11	197.566	217.523	21.5695	1	21.5695	ppb
n-Undecane	BB	24.54	218.423	247.783	22.0439	1	22.0439	ppb

 Sample Name
 Prep1p231 #P7 Dup

 Sequence Name
 DPGC9-022823 ver.2

 Inj Data File
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 File Location
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Injection Date 2/28/2023 10:02 AM
File Modified 3/1/2023 9:11 AM
Instrument DP-GC09
Operator Katrina Krch

## **Enthalpy Analytical**

Sample Type
Vial Number
Injection Volume
Injection

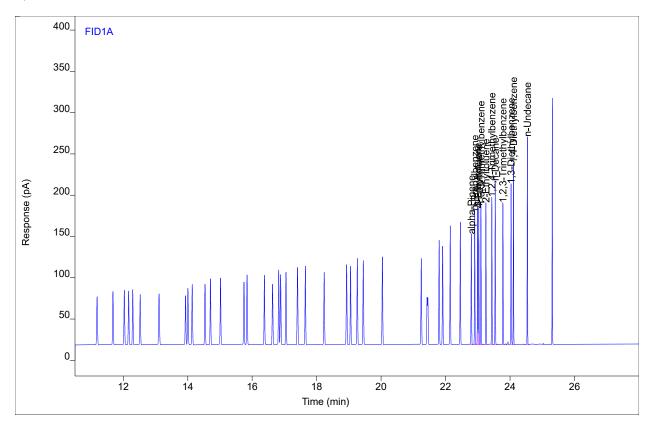
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Method Modified 1/26/2023 3:59 PM
Printed 3/1/2023 2:39 PM

Sample

Vial 15

NA

1 of 1



Compound	Туре	RT	Area	Height	Amount	DF	SampAmt	Unit
alpha-Pinene	ВВ	22.80	157.472	134.423	16.1617	1	16.1617	ppb
n-Propylbenzene	BB	22.90	173.968	163.562	19.8712	1	19.8712	ppb
3-Ethyltoluene	BV	23.00	171.987	167.057	20.0820	1	20.0820	ppb
4-Ethyltoluene	VV	23.03	171.298	166.323	19.7487	1	19.7487	ppb
1,3,5-Trimethylbenzene	VV	23.10	172.149	169.313	19.8843	1	19.8843	ppb
2-Ethyltoluene	BB	23.25	172.556	171.950	20.1057	1	20.1057	ppb
1,2,4-Trimethylbenzene	BB	23.44	176.067	179.369	20.6708	1	20.6708	ppb
n-Decane	BB	23.54	192.778	198.953	19.2165	1	19.2165	ppb
1,2,3-Trimethylbenzene	VB	23.78	170.025	172.565	20.5298	1	20.5298	ppb
1,3-Diethylbenzene	BV	24.03	183.067	195.783	20.0375	1	20.0375	ppb
1,4-Diethylbenzene	VB	24.11	199.890	220.687	21.8232	1	21.8232	ppb
n-Undecane	BB	24.54	221.524	253.247	22.3568	1	22.3568	ppb

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 Sequence Name
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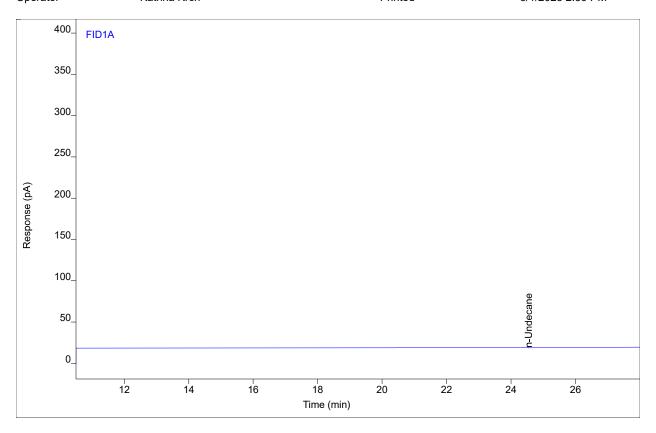
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Injection Date 2/28/2023 11:26 AM
File Modified 3/1/2023 9:11 AM
Instrument DP-GC09
Operator Katrina Krch

## **Enthalpy Analytical**

Sample Type Sample
Vial Number Vial 3
Injection Volume NA
Injection 2 of 2

Acquisition Method DPGC9-ACQ\_122822A.M
Analysis Method DPGC9-F\_122822-LIMS.M
Method Modified 1/26/2023 3:59 PM
Printed 3/1/2023 2:39 PM



Compound	Туре	RT	Area	Height	Amount	DF	SampAmt	Unit
alpha-Pinene		(22.82)				1		ppb
n-Propylbenzene		(22.92)				1		ppb
3-Ethyltoluene		(23.00)				1		ppb
4-Ethyltoluene		(23.05)				1		ppb
1,3,5-Trimethylbenzene		(23.10)				1		ppb
2-Ethyltoluene		(23.27)				1		ppb
1,2,4-Trimethylbenzene		(23.45)				1		ppb
n-Decane		(23.56)				1		ppb
1,2,3-Trimethylbenzene		(23.80)				1		ppb
1,3-Diethylbenzene		(24.04)				1		ppb
1,4-Diethylbenzene		(24.12)				1		ppb
n-Undecane	BB	24.54	0.31336	0.35193	0.03163	1	0.03163	ppb

 Sample Name
 0223-1016.GP10A C70520.Bag

 Sequence Name
 DPGC9-022823 ver.2

 Inj Data File
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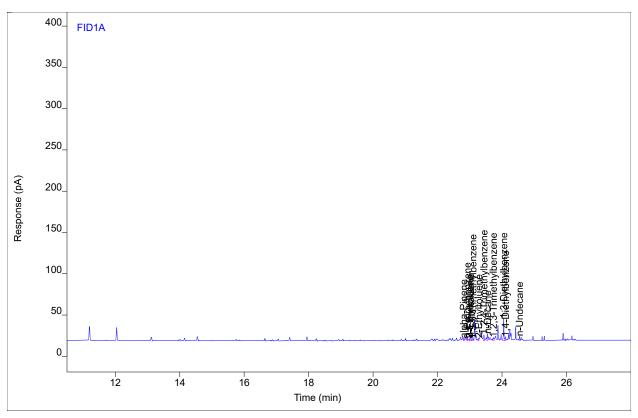
 Instrument
 DP-GC09

Instrument DP-GC09
Operator Katrina Krch

## **Enthalpy Analytical**

Sample Type Sample
Vial Number Vial 1
Injection Volume NA
Injection 1 of 1

Acquisition Method DPGC9-ACQ\_122822A.M
Analysis Method DPGC9-F\_122822-LIMS.M
Method Modified 3/1/2023 10:33 AM
Printed 3/1/2023 2:39 PM



Compound	Туре	RT	Area	Height	Amount	DF	SampAmt	Unit
alpha-Pinene	VV	22.81	4.42222	3.24377	0.45386	133.32	60.5089	ppb
n-Propylbenzene MI "II" KMK	FM	22.92	4.34241	3.56762	0.49600	133.32	66.1271	ppb
3-Ethyltoluene	VV	23.00	3.17400	2.72012	0.37061	133.32	49.4099	ppb
4-Ethyltoluene	VV	23.02	8.33681	4.60423	0.96114	133.32	128.139	ppb
1,3,5-Trimethylbenzene	VV	23.10	3.91419	2.46614	0.45211	133.32	60.2759	ppb
2-Ethyltoluene	VV	23.28	4.05569	3.37521	0.47256	133.32	63.0014	ppb
1,2,4-Trimethylbenzene	VV	23.44	10.6987	7.66442	1.25606	133.32	167.458	ppb
n-Decane	VV	23.55	10.6300	8.60954	1.05962	133.32	141.269	ppb
1,2,3-Trimethylbenzene	VV	23.73	7.14053	4.20694	0.86219	133.32	114.947	ppb
1,3-Diethylbenzene MI "II" KMK	MF	24.05	34.5094	26.8160	3.77720	133.32	503.577	ppb
1,4-Diethylbenzene MI "II" KMK	FM	24.11	6.21892	4.97886	0.67896	133.32	90.5188	ppb
n-Undecane	VV	24.54	6.58546	5.47682	0.66462	133.32	88.6076	ppb

Sample Name Prep1p231 #P7
Sequence Name DPGC9-022823 ver.2
Inj Data File \_\_011\_015F1101.D

File Location 3 - Houston Lab/Data/GC9/2023\_Q1

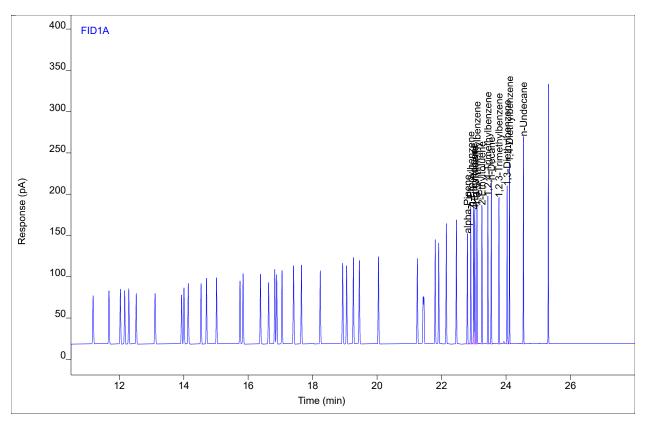
Injection Date 2/28/2023 3:51 PM
File Modified 3/1/2023 9:25 AM
Instrument DP-GC09
Operator Katrina Krch

## **Enthalpy Analytical**

Sample Type Sample
Vial Number Vial 15
Injection Volume NA
Injection 1 of 1

Acquisition Method DPGC9-ACQ\_122822A.M Analysis Method DPGC9-F\_122822-LIMS.M

Method Modified 3/1/2023 9:24 AM Printed 3/1/2023 2:39 PM



Compound	Туре	RT	Area	Height	Amount	DF	SampAmt	Unit
alpha-Pinene	BB	22.80	157.948	134.284	16.2105	1	16.2105	ppb
n-Propylbenzene	BB	22.91	174.315	166.267	19.9107	1	19.9107	ppb
3-Ethyltoluene	BV	23.00	172.587	166.598	20.1520	1	20.1520	ppb
4-Ethyltoluene	VV	23.03	171.529	163.587	19.7754	1	19.7754	ppb
1,3,5-Trimethylbenzene	VV	23.10	172.347	167.520	19.9073	1	19.9073	ppb
2-Ethyltoluene	BB	23.25	172.653	167.807	20.1170	1	20.1170	ppb
1,2,4-Trimethylbenzene	BB	23.44	176.283	180.274	20.6962	1	20.6962	ppb
n-Decane	BB	23.54	193.114	199.111	19.2500	1	19.2500	ppb
1,2,3-Trimethylbenzene	VB	23.78	169.947	178.497	20.5204	1	20.5204	ppb
1,3-Diethylbenzene	BV	24.04	182.654	192.165	19.9923	1	19.9923	ppb
1,4-Diethylbenzene	VB	24.11	199.688	220.918	21.8012	1	21.8012	ppb
n-Undecane	BB	24.54	222.267	252.299	22.4318	1	22.4318	ppb

# This Is The Last Page Of This Report.





8/11/23, 2:07 PM TCEQ ePay

Ouestions or Comments >>

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**Shopping Cart** Select Fee **Search Transactions** 

Your transaction is complete. Thank you for using TCEQ ePay.

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#### **Transaction Information**

**Trace Number:** 582EA000564102

Date: 08/11/2023 02:06 PM

Payment Method:

ePay Actor: JORDAN DIMEZZO

Actor Email:

**IP:** 66.76.63.105

**TCEQ Amount:** \$150.00 Texas.gov Price: \$153.63\*

#### **Payment Contact Information**

Name: JORDAN DIMEZZO

Company: HYDREX ENVIRONMENTAL

Address: 312 OLD TYLER ROAD, NACOGDOCHES, TX 75961

Phone: 936-568-9451

#### Cart Items

Click on the voucher number to see the voucher details.

Amount
\$100.00
\$50.00 <b>t:</b> \$150.00
1

ePay Again Exit ePay

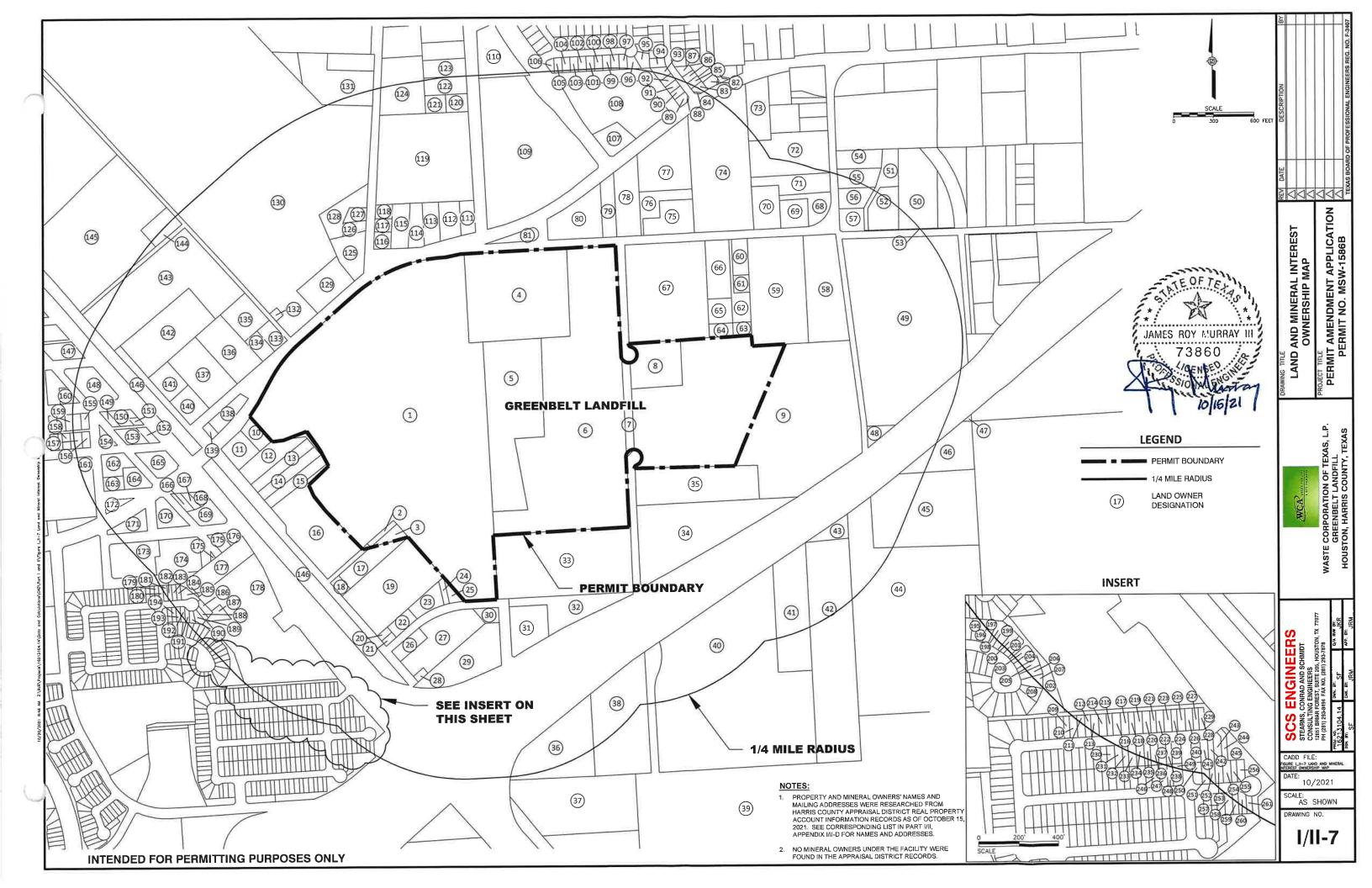
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#### LAND OWNERSHIP LIST

#### Landowners Cross-Referenced to Land and Mineral Interest Ownership Map, Figure I/II-7.

- 1. WASTE CORP TEXAS INC
  TAX DEPT
  100 NEW PARK PL STE 500
  VAUGHAN ON L4K OH9
  CANADA
- 2. WASTE CORP TEXAS INC
  TAX DEPT
  100 NEW PARK PL STE 500
  VAUGHAN ON L4K OH9
  CANADA
- 3. WASTE CORPORATION OF TEXAS LP
  TAX DEPT
  100 NEW PARK PL STE 500
  VAUGHAN ON L4K OH9
  CANADA
- 4. WASTE CORP OF TEXAS LP
  TAX DEPT
  100 NEW PARK PL STE 500
  VAUGHAN ON L4K OH9
  CANADA
- 5. WASTE CORP TEXAS INC
  TAX DEPT
  100 NEW PARK PL STE 500
  VAUGHAN ON L4K OH9
  CANADA

- 6. WASTE CORPORATION OF TEXAS
  TAX DEPT
  100 NEW PARK PL STE 500
  VAUGHAN ON L4K OH9
  CANADA
- 7. WASTE CORPORATION OF TEX LP
  TAX DEPT
  100 NEW PARK PL STE 500
  VAUGHAN ON L4K OH9
  CANADA
- 8. WASTE CORP OF TX INC
  TAX DEPT
  100 NEW PARK PL STE 500
  VAUGHAN ON L4K OH9
  CANADA
- 9. WASTE CORPORATION OF TEXAS L P
  TAX DEPT
  100 NEW PARK PL STE 500
  VAUGHAN ON L4K OH9
  CANADA
- 10. BRAZORIA COUNTY RECYCLING CENTER INCPO BOX 1450CHICAGO IL 60690-1450
- 11. BRAZORIA COUNTY RECYCLING CENTER INC
  PO BOX 1450
  CHICAGO IL 60690-1450

- 12. WASTE CORP TEXAS INC% WASTE MANAGEMENT8515 HIGHWAY 6 SHOUSTON TX 77083-5710
- 13. BRAZORIA COUNTY RECYCLING CENTER INC
  PO BOX 1450
  CHICAGO IL 60690-1450
- BRAZORIA COUNTY RECYCLING CENTER
   WASTE MANAGEMENT
   PO BOX 1450
   CHICAGO IL 60690-1450
- 15. BRAZORIA COUNTY RECYCLING CENTER
  PO BOX 1450
  CHICAGO IL 60690-1450
- 16. WASTE CORP OF TEXAS INC
  TAX DEPT
  100 NEW PARK PL STE 500
  VAUGHAN ON L4K OH9
  CANADA
- 17. MOUSSAVI SEYED

  11938 BRIAR FOREST DR

  HOUSTON TX 77077-4133
- 18. RIVERA JULIO RESENDIZ
  126 RHEA ST
  HOUSTON TX 77034-4031

- 19. J KRU LAND SERVICES LLC 10321 KOENIG ST HOUSTON TX 77034-4026
- 20. GUZMAN TARESSA

  10327 KOENIG ST

  HOUSTON TX 77034-4026
- 21. GUZMAN TARESSA 10327 KOENIG ST HOUSTON TX 77034-4026
- 22. BAKER CHARLES
  6210 SANDS DR
  PASADENA TX 77505-3863
- 23. BAKER CHARLES
  6210 SANDS DR
  PASADENA TX 77505-3863
- 24. ALVAREZ SALVADOR
  4310 BLIND RIVER ST
  PASADENA TX 77504-3118
- 25. RESENDEZ ARTURO & REYNA
  3304 DARTMOUTH DR
  PASADENA TX 77503-1441
- 26. LESPERANCE CRAIG ALAN
  10421 KOENIG ST
  HOUSTON TX 77034-4028

- 27. LUBRIZOL CORPORATION
  PO BOX 158
  DEER PARK TX 77536-0158
- 28. LUBRIZOL CORP
  PO BOX 158
  DEER PARK TX 77536-0158
- 29. LUBRIZOL CORP
  PO BOX 158
  DEER PARK TX 77536-0158
- 30. NOVUS SYSTEMS INC 5900 HAYNESWORTH LN HOUSTON TX 77034-4029
- 31. FREEDOM FUEL OPERATING LLC
  6002 DEBBIELOU GARDENS DR
  HOUSTON TX 77034-2900
- 32. FREEDOM FUEL LLC
  6002 DEBBIELOU GARDENS DR
  HOUSTON TX 77034-2900
- 33. NOVUS WOOD GROUP I LP 5900 HAYNESWORTH LN HOUSTON TX 77034-4029
- 34. NOVUS WOOD GROUP LP
  6002 DEBBIELOU GARDENS DR
  HOUSTON TX 77034-2900

- 35. NOVUS WOOD GROUP LP 6002 DEBBIELOU GARDENS DR HOUSTON TX 77034-2900
- 36. PEARL ROBERT M EST OFPEARL REVA H15 GREENWAY PLZ UNIT 4FHOUSTON TX 77046-1502
- 37. ARGOS USA LLC
  3015 WINDWARD PLAZA UNIT 300
  ALPHARETTA GA 30005-8713
- 38. ENTERPRISE CRUDE PIPELINE LLC
  PO BOX 4018
  HOUSTON TX 77210-4018
- 39. ENTERPRISE CRUDE PIPELINE
  PO BOX 4018
  HOUSTON TX 77210-4018

ENTERPRISE CRUDE PIPELINE
% PROPERTY TAX DEPT
PO BOX 4018
HOUSTON TX 77210-4018

SEAWAY CRUDE PIPELINE COMPANY LLC
PO BOX 4018
HOUSTON TX 77210-4018

ENTERPRISE CRUDE PIPELINE
% PROPERTY TAX DEPT
PO BOX 4018
HOUSTON TX 77210-4018

ENTERPRISE CRUDE PIPELINE
C/O PROPERTY TAX DEPARTMENT
PO BOX 4018
HOUSTON TX 77210-4018

SEAWAY CRUDE PIPELINE COMPANY LLC PO BOX 4018 HOUSTON TX 77210-4018

- 40. ENTERPRISE CRUDE PIPELINE LLC
  PO BOX 4018
  HOUSTON TX 77210-4018
- 41. ENTERPRISE CRUDE PIPELINE LLC
  ATTN: PROPERTY TAX DEPT
  PO BOX 4018
  HOUSTON TX 77210-4018
- 42. SANIFILL INC
  PO BOX 1450
  CHICAGO IL 60690-1450
- 43. MOON JOHN H SR% MOON & ASSOCIATES LTDPO BOX 3487PASADENA TX 77501-3487
- 44. SANIFILL INC
  PO BOX 1450
  CHICAGO IL 60690-1450
- 45. ENTERPRISE CRUDE PIPELINE LLC
  PO BOX 4108
  HOUSTON TX 77210-4108

- 46. ENTERPRISE CRUDE PIPELINE LLC
  PO BOX 4018
  HOUSTON TX 77210-4018
- 47. ENTERPRISE CRUDE PIPELINE LLC
  PO BOX 4018
  HOUSTON TX 77210-4018
- 48. FRIEDLANDER B ET AL
  % STEPHEN L BROCHSTEIN
  11845 DURRETTE DR
  HOUSTON TX 77024-7128
- 49. SANIFILL INC
  PO BOX 1450
  CHICAGO IL 60690-1450
- 50. TORRES GREGORY
  24710 GARNET SHADOW LN
  KATY TX 77494-0777
- 51. BAKER CHARLES
  6210 SANDS DR
  PASADENA TX 77505-3863
- 52. CITY OF HOUSTON
  PO BOX 1562
  HOUSTON TX 77251-1562
- 53. A&R STORAGE LLC
  923 GRAYSON RD
  HOUSTON TX 77034-4109

- 54. GARCIA RICHARD JR
  4403 SUGARVINE CT
  LEAGUE CITY TX 77573-6239
- 55. GARCIA RICHARD JR
  4403 SUGARVINE CT
  LEAGUE CITY TX 77573-6239
- 56. GARCIA RICHARD JR4403 SUGARVINE CTLEAGUE CITY TX 77573-6239
- 57. GARCIA RICHARD JR
  4403 SUGARVINE CT
  LEAGUE CITY TX 77573-6239
- 58. SANIFILL INC
  PO BOX 1450
  CHICAGO IL 60690-1450
- 59. DALE-MEL ENTERPRISES LLC828 OLD GENOA RED BLUFF RDHOUSTON TX 77034-4011
- 60. ALEXANDER STERLING H & DORIS A
  2601 COCOA LN
  PASADENA TX 77502-3229
- 61. ALEXANDER STERLING & DORIS A
  2601 COCOA LN
  PASADENA TX 77502-3229

- 62. AVILES PAULA
  810 OLD GENOA RED BLUFF RD
  HOUSTON TX 77034-4011
- 63. STOWE BOYD D 812 OLD GENOA RED BLUFF RD HOUSTON TX 77034-4011
- 64. BOULTER VIOLET C ESTATE OF
  5 WINDSONG LN
  FRIENDSWOOD TX 77546
- 65. WALLACE MYRA J
  808 GENOA RED BLUFF RD
  HOUSTON TX 77034
- 66. FLICKINGER DAVID E

  802 GENOA RED BLUFF RD

  HOUSTON TX 77034
- 67. BULLDOG TIRE RECYCLING INC 120 PEACH AVE CLEVELAND TX 77327-4228
- 68. URBINA MANUEL II

  887 OLD GENOA RED BLUFF RD

  HOUSTON TX 77034-4010
- 69. TOBON MARIBEL

  GAONA EZEQUIEL

  12001 PALMCREST ST

  HOUSTON TX 77034-3711

- 70. RODRIQUEZ DAVID T
  4422 JAMAICA LN
  PASADENA TX 77505-4124
- 71. URBINA FEBE GLORIA

  889 OLD GENOA RED BLUFF RD

  HOUSTON TX 77034-4010
- 72. C & TS PROPERTIES LLC
  901 OLD GENOA RED BLUFF RD
  HOUSTON TX 77034-4101
- 73. LIMA MODESTO & ISABEL 820 GENOA RED BLUFF RD HOUSTON TX 77034-4014
- 74. DODECAHEDRON HOLDINGS LLC335 S LEMON AVE STE NWALNUT CA 91789
- 75. HENECO ENGINEERING & COLSULTING LLC
  16350 PARK TEN PLACE STE 211
  HOUSTON TX 77084-5147
- 76. HENECO ENGINEERING & COLSULTING LLC 16350 PARK TEN PLACE STE 211 HOUSTON TX 77084-5147
- 77. DODECAHEDRON HOLDINGS LLC 335 S LEMON AVE STE N WALNUT CA 91789

- 78. PARMER CLAY R
  PARMER MARGARET A
  PO BOX 7336
  PASADENA TX 77508-7336
- 79. LOZANO ANGEL641 OLD GENOA RED BLUFF RDHOUSTON TX 77034-4006
- 80. YATES GERALD W & PAMELA J
  5859 RED BLUFF RD
  PASADENA TX 77505-2642
- 81. YATES GERALD W
  5859 RED BLUFF RD
  PASADENA TX 77505-2642
- 82. RAMIREZ MARK ANTHONY & CLAUDIA 5410 MADISON LEE LN PASADENA TX 77504-3057
- 83. TRUONG MINH &

  NGUYEN MIEN

  5415 LAURA LEE LN

  PASADENA TX 77504-2384
- 84. TRAVIS ESTATES OWNERS ASSOCIATION INC
  % AVR MANAGEMENT CONSULTANTS INC
  17049 EL CAMINO REAL STE 100
  HOUSTON TX 77058-2611

- 85. MARTIN MERLINDA
  OCARIZA MYLENE
  5411 LAURA LEE LN
  PASADENA TX 77504-2384
- 86. PRESSWALA ZOEB ALI & NAFISA ZOEB
  5407 LAURA LEE
  PASADENA TX 77504-2384
- 87. WINKLE LAURA H
  5403 LAURA LEE LN
  PASADENA TX 77504-2384
- 88. TRAVIS ESTATES OWNERS ASSOCIATION INC
  % AVR MANAGEMENT CONSULTANTS INC
  17049 EL CAMINO REAL STE 100
  HOUSTON TX 77058-2611
- 89. ESTRADA ARTURO
  ROJAS EMILIA F
  5418 LAURA LEE
  PASADENA TX 77504-2385
- 90. MONARREZ CESAR C
  5414 LAURA LEE LN
  PASADENA TX 77504-2385
- 91. HERNANDEZ MIGUEL A SR & MARIA G 5410 LAURA LEE LN PASADENA TX 77504-2385
- 92. THOMAS PRAMOD & SALLY 5406 LAURA LEE LN PASADENA TX 77504-2385

- 93. PLUNKETT THOMAS R JR & JENNIFER L 5402 LAURA LEE LN PASADENA TX 77504-2385
- 94. NIETO MARGARITA
  5326 LAURA LEE LN
  PASADENA TX 77504-2377
- 95. STACY SUE & PAUL L JR 5323 CAMAROSA DR PASADENA TX 77504-1993
- 96. NICCOLI JOSEPH
  1418 CHANDLER CV
  PASADENA TX 77504-1937
- 97. VELAZQUEZ CARMELO & NORA
  1414 CHANDLER CV
  PASADENA TX 77504-1937
- 98. ROY MARIAMMA
  1410 CHANDLER CV
  PASADENA TX 77504-1937
- 99. ANDRADE JUAN
  1406 CHANDLER CV
  PASADENA TX 77504-1937
- 100. AMH 2014 3 BORROWER LLC
  ATTN PROPERTY TAX DEPARTMENT
  23975 PARK SORRENTO STE 300
  CALABASAS CA 91302-4012

- 101. DAVIS CHASE M & JADE F 1322 CHANDLER CV PASADENA TX 77504-1700
- 102. SALAZAR SYLVIA A & RUDY
  1318 CHANDLER CV
  PASADENA TX 77504-1700
- 103. FMCM INVESTMENTS
  2507 DEEP OAK CT
  HOUSTON TX 77059-3759
- 104. DELEON ANTONIO & DIANA
  1310 CHANDLER CV
  PASADENA TX 77504-1700
- 105. HILDALGO ERIC
  1306 CHANDLER CV
  PASADENA TX 77504-1700
- 106. STRAWBERRY GLEN HOA
  C/O HCMS
  17049 EL CAMINO REAL STE 100
  HOUSTON TX 77058-2611
- 107. HIKMAT ENTERPRISE INC 4739 STRAWBERRY RD PASADENA TX 77054-3254
- 108. TX STRAWBERRY APARTMENTS LTD 310 E 96TH STE 400 INDIANAPOLIS IN 46240-3702

- 109. PASADENA ISD
  PO BOX 1318
  PASADENA TX 77501-1318
- 110. PASADENA ISD
  PO BOX 1318
  PASADENA TX 77501-1318
- 111. PAUL T & NORLEEN A MCGOWEN FAMILY TRUST
  3920 OAKWICK FOREST DR
  MISSOURI CITY TX 77459-7006
- 112. ARCHAMBAULT JOHN L & DEBRA
  501 GENOA RED BLUFF RD
  HOUSTON TX 77034-4004
- 113. ROSWELL RONALD & CATHEY
  1100 FOX MEADOW DR TRLR 70
  ALVIN TX 77511-8748
- 114. TREVINO JUAN & ALICIA 413 GENOA RED BLUFF RD HOUSTON TX 77034-4002
- 115. GUERRA ALICIA413 GENOA RED BLUFF RDHOUSTON TX 77034-4002
- 116. BURNETT MARY LOUISE 5529 ALLEN GENOA RD HOUSTON TX 77034-3905

- 117. BURNETT MARY L
  5529 ALLEN GENOA RD
  HOUSTON TX 77034-3905
- 118. GRANT BETTY JO
  5521 ALLEN GENOA RD
  HOUSTON TX 77034-3905
- 119. WINSTON & JERRY DAVIS FAMILY
  LIMITED PARTNERSHIP
  WINSTON DAVIS
  1112 CRENSHAW RD
  PASADENA TX 77504-2911
- 120. HERNANDEZ MARIO & ANTONIA 5361 ALLEN GENOA RD HOUSTON TX 77034-3901
- 121. ENRIQUEZ JAVIER & ALBERTA
  5359 ALLEN GENOA RD
  HOUSTON TX 77034-3901
- 122. HERNANDEZ CRYSTAL
  ESPINOZA JERSON HERNANDEZ
  11200 FUGUA ST SUITE 100
  HOUSTON TX 77089-2581
- 123. GARZA ELIUD

  16118 DARRIAN LN

  HOUSTON TX 77049-1587
- 124. DAVIS WINSTON & JERRY ANN
  1112 CRENSHAW RD
  PASADENA TX 77504-2911

- 125. NATION BESSIE F
  114 BYRON
  LEAGUE CITY TX 77573-2204
- 126. TEXAS COMMERCIAL INTERIORS LLC
  309 WELDON RD
  SOUTH HOUSTON TX 77587-3558
- 127. TEXAS COMMERCIAL INTERIORS LLC
  309 WELDON RD
  SOUTH HOUSTON TX 77587-3558
- 128. CLOUD STORAGE PORTFOLIO LLC
  448 W 19TH ST # 916
  HOUSTON TX 77008-3914
- 129. NATION BESSIE F
  114 BYRON ST
  LEAGUE CITY TX 77573-2204
- 130. WASTE CORP OF TEXAS LP
  TAX DEPT
  100 NEW PARK PL STE 500
  VAUGHAN ON L4K OH9
  CANADA
- 131. BRANDL DEBBIE A
  LEATHERS RONALD R
  6352 BONANZA DR
  MONTGOMERY TX 77316-4199
- 132. AYALA REBECCA C 4903 1ST ST PASADENA TX 77504

- 133. MG GULF COAST PROPERTIES LLC613 FOREST BEND LNFRIENDSWOOD TX 77546-4794
- 134. GRANT GEORJEAN
  227 GENOA RED BLUFF RD
  HOUSTON TX 77034-3910
- 135. WALIA ESTATES LLC
  2921 N ISLAND DR
  SEABROOK TX 77586-1637
- 136. WALIA ESTATES LLC
  2921 N ISLAND DR
  SEABROOK TX 77586-1637
- 137. WALIA BRIJ
  PO BOX 34856
  HOUSTON TX 77234-4856
- 138. WALIA ESTATES LLC
  2921 N ISLAND DR
  SEABROOK TX 77586-1637
- 139. CITY OF HOUSTON

  PARCEL C97-007

  PO BOX 1562

  HOUSTON TX 77251-1562
- 140. WALIA ESTATES LLC
  2921 N ISLAND DR
  SEABROOK TX 77586-1637

- 141. WALIA ESTATE LLC
  2921 N ISLAND DR
  SEABROOK TX 77586-1637
- 142. WALIA ESTATES LLC
  2921 N ISLAND DR
  SEABROOK TX 77586-1637
- 143. I J W INVESTMENTS LLC
  4808 FAIRMONT PKWY STE 437
  PASADENA TX 77505-3722
- 144. I J W INVESTMENTS LLC 4808 FAIRMONT PKWY STE 437 PASADENA TX 77505-3722
- 145. MARTIN MARIETTA MATERIALS SOUTHWEST LTD
  C/O BADEN TAX MANAGEMENT
  PO BOX 8040
  FORT WAYNE IN 46898-8040
- 146. MISSOURI PACIFIC RAILROAD COMPANY
  UNION PACIFIC RAILROAD CO
  1400 DOUGLAS ST STOP 1640
  OMAHA NE 68179-1001
- 147. CANNON MELVIN E ET AL
  PO BOX 34014
  HOUSTON TX 77234-4014
- 148. A HAK INDUSTRIAL SERVICES INC9702 GALVESTON RDHOUSTON TX 77034-3916

- 149. ALJAMMALI ABDALKARIM
  9801 PALMFIELD ST
  HOUSTON TX 77034-3831
- 150. ALJAMMALI ABDALKARIM 9801 PALMFIELD ST HOUSTON TX 77034-3831
- 151. ALJAMMALI ABDALKARIM 9801 PALMFIELD ST HOUSTON TX 77034-3831
- 152. MUSA A ADI
  9816 GALVESTON RD
  HOUSTON TX 77034-3918
- 153. ADI MUSA A
  9802 GULF FWY
  HOUSTON TX 77034-1041
- 154. ADI MUSA A
  306 TALL TIMBERS WAY
  FRIENDSWOOD TX 77546-7857
- 155. GARZA MARIA O
  12616 PALMSPRINGS DR
  HOUSTON TX 77034-3859
- 156, MARTINEZ JOSE
  15814 CRAIGHURST DR
  HOUSTON TX 77059-6445

- 157. GARZA MARIA O
  12616 PALMSPRINGS DR
  HOUSTON TX 77034-3859
- 158. GARZA MARIN O
  12913 ALMEDA GENOA RD
  HOUSTON TX 77034-4635
- 159. ROMO MARIA O
  12913 ALMEDA GENOA RD
  HOUSTON TX 77034-4635
- 160. WHITFIELD DWIGHT

  1601 HICKORY BEND LN

  PEARLAND TX 77581-1625
- PASADENA ISD
  PO BOX 1318
  PASADENA TX 77501-1318
- 162. ROBINSON EDGAR S JR & CHLOE C
  13002 ALMEDA GENOA RD
  HOUSTON TX 77034-4634
- 163. INIGUEZ MERCEDES G
  9913 PALMHILL ST
  HOUSTON TX 77034-4613
- 164. INIGUEZ FELIPE L
  9914 PALMFIELD ST
  HOUSTON TX 77034-4612

- 165. JACK & SAM INC
  9900 GALVESTON RD
  HOUSTON TX 77034-3920
- 166. HUJMUHAMMAD BADR
  10002 GALVESTON RD
  HOUSTON TX 77234-4616
- 167. HUJMUHAMMAD BADR 10002 GALVESTON RD HOUSTON TX 77234-4616
- 168. HUJMUHAMMAD BADR 10002 GALVESTON RD HOUSTON TX 77234-4616
- 169. CLEAR LAKE KOREAN
  CHRISTIAN CHURCH
  819 ISLAND MEADOW CT
  HOUSTON TX 77062-2134
- 170. ALJAMMALI ABDALKARIM KHALIL
  ELKHATIB MUSTAFA FAWZY
  5326 MADISON LEE LN
  PASADENA, TX 77054-3059
- 171. BACHIR PROPERTIES INC 11361 BEECHNUT ST HOUSTON TX 77072-4211
- 172. CHRIST CHURCH (APOSTOLIC)
  OF HOUSTON TX
  PO BOX 34551
  HOUSTON TX 77234-4551

- 173. VELASQUEZ NELSON
  11319 WAXWOOD DR
  HOUSTON TX 77089-5311
- 174. VELASQUEZ MARIO
  11315 WAXWOOD DR
  HOUSTON TX 77089-5311
- 175. SPRINT MANGMNT SERV LP
  2141 PRESTON ST
  RICHMOND TX 77469-1418
- 176. SCHULTZ & ACKER TRUSTS
  ADDRESS UNKNOWN
- 177. SPRINT MANGMNT SERV LP
  2141 PRESTON ST
  RICHMOND TX 77469-1418
- 178. SPRINT MANAGEMENT SERVICES LP
  2141 PRESTON ST
  RICHMOND TX 77469-1418
- 179. 13035 GARLENDA TRUST5724 LEBANON RD STE 144-310FRISCO TX 75034
- 180. CANALES MARIA
  TURCIOS DOUGLAS
  13103 GARLENDA LN
  HOUSTON TX 77034-3786

- 181. SINGH SARA
  13107 GARLENDA LN
  HOUSTON TX 77034-3786
- 182. GARCIA ALBERTO
  13111 GARLENDA LN
  HOUSTON TX 77034-3786
- 183. CORTEZ ISMAEL & ERICA
  13115 GARLENDA LN
  HOUSTON TX 77034-3786
- 184. RODRIGUEZ RAFAEL R
  ROJAS PAOLA D
  13119 GARLENDA LN
  HOUSTON TX 77034-3786
- 185. SOUTHWAY HOMEOWNERS ASSOCIATION INC 2002 W GRAND PKWY N STE 100 KATY TX 77449-1964
- 186. RODRIGUEZ SONIA
  13138 GARLENDA LN
  HOUSTON TX 77034-3786
- 187. KENDRICK JAMES B ET AL 8577 S SIX SHOOTER CIR SANDY UT 84093-1043

SMS MANAGEMENT LLP 1041 CONRAD SAUER DR HOUSTON TX 77043-5201 PASADENA ISD
CAUSE #2008-35299
PO BOX 1318
PASADENA TX 77501-1318

- 188. GUERRERO AMADO C 13134 GARLENDA LN HOUSTON TX 77034-3786
- 189. YBANEZ JUANITA R
  13130 GARLENDA LN
  HOUSTON TX 77034-3786
- 190. ELIE GILBERT

  13126 GARLENDA LN

  HOUSTON TX 77034-3786
- 191. GOMEZ ANDREW
  ZADJURA STEPAHANIE
  13122 GARLENDA LN
  HOUSTON TX 77034-3786
- 192. JULES KARIM

  13118 GARLENDA LN

  HOUSTON TX 77034-3786
- 193. RAMIREZ NELLY MARIA 13114 GARLENDA LN HOUSTON TX 77034-3786
- 194. CASTILLO SANTIAGO &
  VILLARREAL OFELIA
  13110 GARLENDA LN
  HOUSTON TX 77034-3786

- 195. OLVERA BLENCH M
  13119 KODY RIDGE CT
  HOUSTON TX 77034-3792
- 196. DEJEAN SHELLY
  13123 KODY RIDGE CT
  HOUSTON TX 77034-3792
- 197. GARCIA MANUEL JAIME
  CABELLO MOISES
  13127 KODY RIDGE CT
  HOUSTON TX 77034-3792
- 198. CASTRO JOEL

  13131 KODY RIDGE CT

  HOUSTON TX 77034-3792
- 199. GARCIA BERENICE 12303 GULF FWY APT 2105 HOUSTON TX 77034-4581
- 200. GONZALEZ LUIS & CHARLMANE
  13139 KODY RIDGE CT
  HOUSTON TX 77034-3792
- 201. MORALES PATRICK & NANCY L
  13143 KODY RIDGE CT
  HOUSTON TX 77034-3792
- 202. SOUTHWAY HOMEOWNERS ASSOCIATION INC 2002 W GRAND PKWY N STE 100 KATY TX 77449-1964

- 203. BONILLA EMMANUEL A
  BONILLA JOAQUIN A
  13147 KODY RIDGE CT
  HOUSTON TX 77034-3792
- 204. MARTINEZ CARMELO & ELIZABETH
  13151 KODY RIDGE CT
  HOUSTON TX 77034-3792
- 205. VERA KRISTY M
  13155 KODY RIDGE CT
  HOUSTON TX 77034-3792
- 206. OLVERA JOEL
  13159 KODY RIDGE CT
  HOUSTON TX 77034-3792
- 207. ALMENDARES ANTONIO JR 13163 KODY RIDGE CT HOUSTON TX 77034-3792
- 208. JIMINEZ VILMA &
  CHANO JOFRE
  13167 KODY RIDGE CT
  HOUSTON TX 77034-3792
- 209. SHAHEED AHMAD & SALIMAH A
  13235 SOUTHPOINT LN
  HOUSTON TX 77034-2165
- 210. TRAN BINH T

  13239 SOUTHPOINT LN

  HOUSTON TX 77034-2165

- 211. VARGAS MIRNA A
  13243 SOUTHPOINT LN
  HOUSTON TX 77034-2165
- 212. RIVAS WILFREDO
  RIVAS DOLORES
  13247 SOUTHPOINT LN
  HOUSTON TX 77034-2165
- 213. ADAME MIGUEL

  MARTINEZ OBDULIO J & NEREIDA

  13251 SOUTHPOINT LN

  HOUSTON TX 77034-2165
- 214. MAI PHUONG X
  13303 SOUTHPOINT LN
  HOUSTON TX 77034-2167
- 215. SANCHEZ DANIEL
  13307 SOUTHPOINT LN
  HOUSTON TX 77034-2167
- 216. FERRAO MELKY M
  13311 SOUTHPOINT LN
  HOUSTON TX 77034-2167
- 217. TAYE NASIF

  13315 SOUTHPOINT LN

  HOUSTON TX 77034-2167
- 218. NOUEIRY AZIZA
  13319 SOUTHPOINT LN
  HOUSTON TX 77034-2167

- 219. ARZAGA DENISE & ABRAHAM 13323 SOUTHPOINT LN HOUSTON TX 77034-2167
- 220. OPENDOOR PROPERTY TRUST I410 N SCOTTSDALE RD STE 1600TEMPE AZ 85281-0976
- 221. MOHAMMED ABDUL H
  13331 SOUTHPOINT LN
  HOUSTON TX 77034-2167
- 222, MAI TAI
  13335 SOUTHPOINT LN
  HOUSTON TX 77034-2167
- 223. QUINTANILLA LEONIDAS & AZUCENA 13339 SOUTHPOINT LN HOUSTON TX 77034-2167
- 224. GARCIA GAVINO R III
  13343 SOUTHPOINT LN
  HOUSTON TX 77034-2167
- 225. ALEMAN NOHELIA
  13347 SOUTHPOINT LN
  HOUSTON TX 77034-2167
- 226. LE HAI THAI

  NGUYEN UYEN THIKIM

  13403 SOUTHPOINT LN

  HOUSTON TX 77034-2169

- 227. TAYLOR FRANK & IESHA
  13407 SOUTHPOINT LN
  HOUSTON TX 77034-2169
- 228. ANDREWS RANDELL LANDONA & KEANNA
  13411 SOUTHPOINT LN
  HOUSTON TX 77034
- 229. SOUTHWAY HOMEOWNERS ASSOCIATION INC 2002 W GRAND PKWY N STE 100 KATY TX 77449-1964
- 230. TA CUONG T
  13306 SOUTHPOINT LN
  HOUSTON TX 77034-2166
- 231. NGO PHAT

  13310 SOUTHPOINT LN

  HOUSTON TX 77034-2166
- 232. VEGA EDUARDO

  13314 SOUTHPOINT LN

  HOUSTON TX 77034-2166
- 233. BAILEY NATALEE
  13318 SOUTHPOINT LN
  HOUSTON TX 77034-2166
- 234. NGUYEN NAM

  13322 SOUTHPOINT LN

  HOUSTON TX 77034-2166

- 235. LOUVIERE SUSAN J 13326 SOUTHPOINT LN HOUSTON TX 77034-2166
- 236. MYERS HOWARD L & CAROL A
  13330 SOUTHPOINT LN
  HOUSTON TX 77034-2166
- 237. LUU BRUCE
  13334 SOUTHPOINT LN
  HOUSTON TX 77034-2166
- 238. DOUGHERTY AMY & THOMAS M
  13338 SOUTHPOINT LN
  HOUSTON TX 77034-2166
- 239. KLAIR AMINA N
  RAZA MUHAMMAD A
  13342 SOUTHPOINT LN
  HOUSTON TX 77034
- 240. RODRIGUEZ SAUL & OTILIA 13406 SOUTHPOINT LN HOUSTON TX 77034-2168
- 241. FERMAN LAURA
  13410 SOUTHPOINT LN
  HOUSTON TX 77034-2168
- 242. PROGRESS RESIDENTIAL BARROWER 17 LLC
  PO BOX 4090
  SCOTTSDALE AZ 85261-4090

- 243. ALCALA RITA SERNA
  13418 SOUTHPOINT LN
  HOUSTON TX 77034-2168
- 244. TA VINH
  DUONG MUI
  11126 LINDEN GATE DR
  HOUSTON TX 77075-2425
- 245. SOUTHWAY HOMEOWNERS ASSOCIATION INC 2002 W GRAND PKWY N STE 100 KATY TX 77449-1964
- 246. JUAREZ JOSE PABLO CASTILLO
  CASTILLO JOSE PABLO JR
  7803 ST CLAIR DR
  PASADENA TX 77505-1437
- 247. TRAN QUANG KIM
  13335 BABBITT ST
  HOUSTON TX 77034-2173
- 248. ELIZALDE SHARON
  13339 BABBITT ST
  HOUSTON TX 77034-2173
- 249. RAMOS PEDRO
  13343 BABBITT ST
  HOUSTON TX 77034-2173
- 250. AVILES ALVARO S & VIRGINIA 13403 BABBITT CT HOUSTON TX 77034-2174

- 251. CURRENT OWNER
  PO BOX 841661
  PEARLAND TX 77584-0020
- 252. RUEDA MARIBEL
  13411 BABBITT CT
  HOUSTON TX 77034-2174
- 253. DANG QUANG
  DO KIM C
  13415 BABBITT CT
  HOUSTON TX 77034-2174
- 254. MCNEIL PATRICIA & MARK
  13419 BABBITT CT
  HOUSTON TX 77034-2174
- 255. DELEON MARIA T N
  13423 BABBITT CT
  HOUSTON TX 77034-2174
- 256. BENAVIDES HORACIO
  13427 BABBITT CT
  HOUSTON TX 77034-2174
- 257. RAMIREZ FRANCISCO
  13414 BABBITT CT
  HOUSTON TX 77034-2174
- 258. NASIR NADEEM
  15402 BAY COVE CT
  HOUSTON TX 77059-5820

- 259. HOOBLER SCOTT S
  13422 BABBITT CT
  HOUSTON TX 77034-2174
- 260. SAMANIEGO VICTORIA
  ANTUNEZ ALDO
  13426 BABBITT CT
  HOUSTON TX 77034-2174
- 261. RODRIGUEZ RUSSELL & VALERIE
  13430 BABBITT CT
  HOUSTON TX 77034-2174