AIR PERMIT WAIVER
QUARTERLY MONITORING REPORT
THIRD QUARTER 2015

FORMER GENERAL MOTORS PLANT
801 BOXWOOD ROAD, WILMINGTON, DELAWARE

UST Facility ID: 3-000541

LUST Project#: N8708035

DE-1149 Operable Unit 4

Prepared For:

Air Quality Management Section
Division of Air and Waste Management
Department of Natural Resources &
Environmental Control
391 Lukens Drive
New Castle, Delaware 19720

Submitted and Prepared By:

BrightFields, Inc.
Environmental Services

801 Industrial Street
Wilmington, DE 19801
(302) 656-9600

File # 2734.04.51

BrightFields, Inc.

INTERNAL QUALITY CONTROL SHEET

This Quarterly Monitoring Report has been prepared by BrightFields, Inc. (BrightFields). This Report represents BrightFields' knowledge of conditions on the subject site at the time of preparation.

This Quarterly Monitoring Report was prepared and reviewed by the following BrightFields personnel:

Prepared By:

Kelly E. Power
Environmental Analyst

Reviewed and Approved By:

Reviewed By:

Craig Olsen
Project Manager

Reviewed and Approved By:

Kenneth Hannon, P.E.
Engineering Program Manager

BrightFields, Inc.

TABLE OF CONTENTS

BrightFields, Inc.

LIST OF TABLES

LIST OF FIGURES

LIST OF CHARTS

LIST OF APPENDICES

QUARTERLY MONITORING REPORT

1.0 INTRODUCTION

BrightFields, Inc. (BrightFields) has been retained by the Revitalizing Auto Communities Environmental Response (RACER) Trust to install and operate an interim remediation system to remediate hydrocarbon contamination in soil vapors and prevent migration of soil vapors to offsite receptors located at the Former General Motors Plant on Boxwood Road in Wilmington, Delaware, Underground Storage Tank (UST) Facility ID 3-000541 (herein referred to as the "Site") (Figure 1). This Quarterly Monitoring Report is being submitted to meet the requirements of the State of Delaware Department of Natural Resources and Environmental Control (DNREC) Permit Waiver for air emissions and to document the conditions of the Site during this reporting period.

Petroleum contamination has been confirmed present at the Site through numerous investigations. The contamination appears to have resulted from the historical operation of the Site and leakage from several former USTs.

This Quarterly Monitoring Report is the second report prepared for the interim remediation system. This report describes the system installation and covers all operations from June 29, 2015 through September 23, 2015 and contains operations details, monitoring details, and air sampling results.

The remediation system was installed by BrightFields and started in late March 2015. During this quarter, the soil vapor extraction (SVE) system was operated for 1,162.2 hours. System inspection field sheets are included in Appendix A.

1.1 Purpose

This Quarterly Monitoring Report has been prepared to meet air permit waiver requirements. The permit waiver is included as Appendix B.

1.2 Site History

The Former General Motors Plant is approximately 142 acres consisting of two tax parcels. The larger parcel is 126.6 acres with a 3-million square foot auto assembly plant, waste water

treatment plant, and parking lots. The second parcel is a 15-acre undeveloped wooded lot. The surrounding use of the Site is commercial and residential.

Historical research indicates that the main plant facility was constructed by General Motors in 1947 and operated until July 2009. General Motors filed for bankruptcy in June 2009 and the property was purchased by Fisker Automotive in July 2010. In March 2011, the RACER Trust was formed as part of the bankruptcy settlement to clean up and promote redevelopment of Former General Motors properties. In April 2014, Wanxiang Delaware acquired the property.

An April 9, 1990 letter from DNREC to General Motors stated that 12 underground storage tanks (USTs) were removed from the property. Ten of those tanks were adjacent to the Anchor Motor Freight Building, located in the southeast section of the plant along Dodson Avenue. Additionally, one gasoline UST (GMGT-1) was removed from near the southeastern corner of the assembly plant and one waste oil tank (WW-1) was removed from the stormwater area. The USTs contained diesel (four tanks), gasoline (three tanks), heating oil (two tanks), waste oil (two tanks), and engine oil (one tank).

A contaminated groundwater plume extends from the Anchor Motor Freight Building towards the northeast across Dodson Avenue. Groundwater contamination includes several volatile organic compounds (VOCs) including 1,2,4-trimethylbenzene, benzene, ethylbenzene, toluene, and xylenes (BTEX). Groundwater contamination also includes semivolatile organic compounds (SVOCs) including naphthalene and 2-methylnaphthalene. Subsurface contaminated soil extends from the edge of the Anchor Motor Freight Building to approximately the eastern edge of Dodson Avenue. Soil contamination also consists of VOCs including 1,2,4-trimethylbenzene, benzene, ethylbenzene, toluene, and xylenes.

Results of a vapor intrusion investigation, with sampling events from October 2012 through December 2013, show that offsite contaminated soil vapors extended from the edge of the property to approximately 100 feet east of Dodson Avenue. Soil gas samples that were collected contain VOCs, including 1,2,4-trimethylbenzene, benzene, ethylbenzene, and xylenes.

In July 2014, BrightFields completed a Focused Feasibility Study (FFS) for the Site to address potential vapor intrusion issues into nearby residential structures along Dodson Avenue. The FFS evaluated remedial alternatives and selected installation of a SVE system as an interim vapor phase remediation.

1.3 System Installation

In order to facilitate the remediation activities for the property, BrightFields installed six 2-inch diameter extraction wells northeast of the Anchor Motor Freight Building from December 17 to December 19, 2014. The wells were drilled to depths of approximately 20 feet below ground surface (bgs) and screened from approximately 12 feet bgs to 20 feet bgs. Each screen is 2-inch outer diameter polyvinyl chloride (PVC), 12 feet in length, with a slot size of 0.020 inches.

BrightFields began installing the underground conveyance piping to the blower on February 6, 2015. Each well was connected to the manifold by a separate 2-inch PVC line. An additional 4-inch PVC pipe was installed in the conveyance trench and capped inside of the trench box for future use if needed.

The installation was completed in February 2015 and system start-up was implemented on March 30, 2015.

1.4 Description of System

The remediation system consists of a Falco 300 Catalytic Oxidizer with a 15-horsepower (hp) regenerative blower. The blower is capable of extracting 295 standard cubic feet per minute (scfm) of vapor flow at 60-inches of water vacuum. The blower is connected to extraction wells SVE-01 through SVE-06 (Figure 2).

Extracted vapors are currently treated by means of a catalytic oxidizer. Main components of the treatment system are as follows:

- Below ground piping to connect remediation wells to the system;
- Regenerative 15-hp SVE vacuum blower; and,
- Catalytic oxidizer to treat the extracted soil-gas.

There is a 40-gallon water knockout drum between the manifold and the catalytic oxidizer. A high-level switch connected to the water knockout drum turns off the blower and catalytic oxidizer to prevent drawing water into the catalytic oxidizer.

2.0 SYSTEM OPERATIONS AND MONITORING

BrightFields started the SVE system on March 30, 2015. This Quarterly Monitoring Report documents the remediation and monitoring activities performed at the Site from June 29, 2015, through September 23, 2015 (the third quarter of 2015). This report is the second monitoring period of system operations.

2.1 Operations

During the monitoring period from June 29, 2015 to September 23, 2015, the SVE system was not in operation on six occasions.

There were five occasions (July 31, August 6, August 13, August 20, and August 27, 2015) in which the SVE system was off upon arrival due to the high water level switch in the water knockout drum which automatically shut down the system. Water was drained and staged onsite in 55-gallon steel drums prior to restarting the SVE system. BrightFields adjusted the manual dilution valve to reduce the vacuum on the extraction wells on August 27, 2015 in an effort to reduce the quantity of groundwater being pulled into the system. The SVE system ran consistently for remainder of the quarter until it was turned off on September 21, 2015 for pilot testing.

2.2 Site Visits

The system was inspected at a minimum of once per week during this quarter in an effort to optimize system operations and ensure compliance with the permit waiver requirements. The table below outlines the inspection dates and significant notes collected at the time of the inspection (the raw field sheets are included in Appendix A).

The following table presents the inspection dates and relevant information. Bolded dates represent dates that air bag samples were collected.

Inspection Dates:	Significant Notes:
7/6/2015	System running successfully.
7/13/2015	System running successfully.
7/21/2015	Collected air bag samples. Adjusted manual dilution valve from 50% to 30% after performing system check.

Inspection Dates:	Significant Notes:
7/31/2015	System off upon arrival due to high water level in knockout drum. Drained water from knockout drum and restarted system.
8/6/2015	System off upon arrival due to high water level in knockout drum. Drained water from knockout drum and restarted system.
8/13/2015	System off upon arrival due to high water level in knockout drum. Drained water from knockout drum. Closed bypass valve and restarted system. Collected air bag samples.
8/20/2015	System off upon arrival due to high water level in knockout drum. Drained water from knockout drum and restarted system.
8/27/2015	System off upon arrival due to high water level in knockout drum. Drained water from knockout drum. Opened manual dilution valve to 50% and restarted system.
9/2/2015	System running successfully.
9/9/2015	System running successfully.
9/16/2015	Collected air bag samples.
9/21/2015	Turned off system to allow system to stabilize prior to pilot test.
9/22/2015	First day of pilot test. Did not perform system check.
9/23/2015	Completed pilot test. Collected air bag samples at end of pilot test with only SVE-05 open. Turned off system and adjusted wells with SVE-01 and SVE-05 closed off from influent to SVE system. System running upon departure.

2.3 Compliance

Air samples were collected from the system to evaluate the efficiency of the system. Although air samples are only required on a monthly basis, one additional sample was collected at the completion of the pilot test on September 23, 2015. Grab air samples were collected during system operations at the influent (pre-treatment) and at the effluent to the catalytic oxidizer (post-treatment) using one liter Tedlar® bags. Influent samples provided information pertaining to the mass extraction of hydrocarbons of subsurface soil vapor, and the effluent samples provided information regarding the efficiency of the catalytic oxidizer destruction of the contaminants, prior to their discharge to the atmosphere. All air samples were submitted to Eurofins Scientific in Lancaster, Pennsylvania for analysis using Environmental Protection Agency (EPA) Method TO-18. Raw mass loading/emission estimates and analytical data for each air bag sample collected are provided in Appendix C and Appendix D, respectively.

Based on the analytical data and data collected during the site visits, the effluent discharge estimates for this monitoring period have not exceeded the limit of 0.1 pounds (lbs)/hour or 2.4 lbs/day (system post treatment).

Table 1 provides the SVE System Monitoring Data summary and Chart 1 displays the estimated hydrocarbon mass removal for the SVE system. The mass removal estimate for this system was approximately 869 lbs of petroleum hydrocarbons for this quarter.

2.4 Pilot Tests

On September 22 and September 23, 2015, BrightFields performed pilot tests on SVE-04 and SVE-05, respectively. Influent and effluent air bag samples were collected at the conclusion of the pilot test on September 23, 2015. Mass loading and emissions estimates are shown in Appendix C. All activities and emissions during the pilot test were in compliance. Results of the pilot test will be summarized in the Feasibility Study for the Site.

2.5 Free Product Recovery

On September 22, 2015, SVE-03 was gauged and 1.02 feet of product were observed in the well. The separate phase product was hand bailed. Approximately 2/3 gallon of product was removed from the well.

On September 23, 2015, at the conclusion of the pilot test, 0.53 feet of product were observed in SVE-03. Approximately 1/8 gallon of product was hand bailed from the well.

Assuming the density of diesel fuel, approximately 5.5 lbs of product were removed from SVE-03 on September 22 and 23, 2015. Recovered product was placed in a 55-gallon steel drum and is staged onsite.

3.0 SUMMARY

This Quarterly Monitoring Report documents remediation system operations conducted at the Site from June 29, 2015 through September 23, 2015. During this period, the SVE system was operated for 1,162.2 hours. The system was down intermittently due to high water in the water knockout drum which activated the level switch.

3.1 Estimated Recovery

Based on the monitoring data, the total mass of hydrocarbons removed during this monitoring period from SVE recovery efforts is estimated to be approximately 869 lbs. Since startup on March 30, 2015, an estimated 2,058 lbs of hydrocarbons have been removed by the SVE system. An additional 5.5 lbs was removed as separate phase product by hand bailing.

3.2 Plan for Next Quarter

The remediation effort began in late March 2015; since that date, significant quantities of VOCs have been recovered. BrightFields will continue to operate the SVE system and monitor recovery, as required by the permit waiver.

BrightFields, Inc.

FIGURES

BrightFields, Inc.
Environmental Evaluation
Investigation, and Remediation

801 Industrial Street, Suite 1
Wilmington, Delaware 19801
302-656-9600
302-656-9700 fax

Site Map
Former General Motors Plant
Wilmington, DE

	By	Date	Scale:	File Name:
Drawn	KEP	7/9/2015	1:1,800	Fig1SiteMap.mxd
Checked	KLH	7/9/2015	Fig. No. Figure 1	
Project #	2734.04.51			

0 75 150 Feet

N W E S

Path: N:\Aerials and maps\Working GIS Files (Do Not Edit)\51 General Consulting\2734.04.51 - Dodson Ave\MXD\Qtr Report 2015 Q2\Fig1SiteMap.mxd

SVE-01
SVE-02
SVE-03
SVE-04
SVE-05
SVE-06
Anchor Motor
Freight Building
DODSON AV

SVE Extraction Well
SVE Conveyance Piping
SVE Catalytic Oxidizer Unit (housed in shed)
Fence
Former Wilmington Assembly Plant Property (DE-1149)
Tax Parcels

Source: DEMAC - Aerial 2013; Delaware DataMIL - Tax Parcels. New Castle County Office of Administrative Services - GIS and Mapping Services.

BrightFields, Inc.
Environmental Evaluation
Investigation, and Remediation
801 Industrial Street, Suite 1
Wilmington, Delaware 19801
302-656-9600
302-656-9700 fax

SVE System Layout
Former General Motors Plant
Wilmington, Delaware

	By	Date	Scale:	File Name:
Drawn	KEP	8/18/2015	1:720	Fig2SVE_Sys.mxd
Checked	KLH	8/18/2015	Fig. No. Figure 2	
Project #	2734.04.51			

0 30 60 Feet

N W E S

Path: N:\Aerials and maps\Working GIS Files (Do Not Edit)\51 General Consulting\2734.04.51 - Dodson Ave\MXD\Qtr Report 2015 Q2\Fig2SVE_Sys.mxd

BrightFields, Inc.

TABLE

TABLE 1
Soil Vapor Extraction System Monitoring Data
Former GM Plant
Wilmington, DE

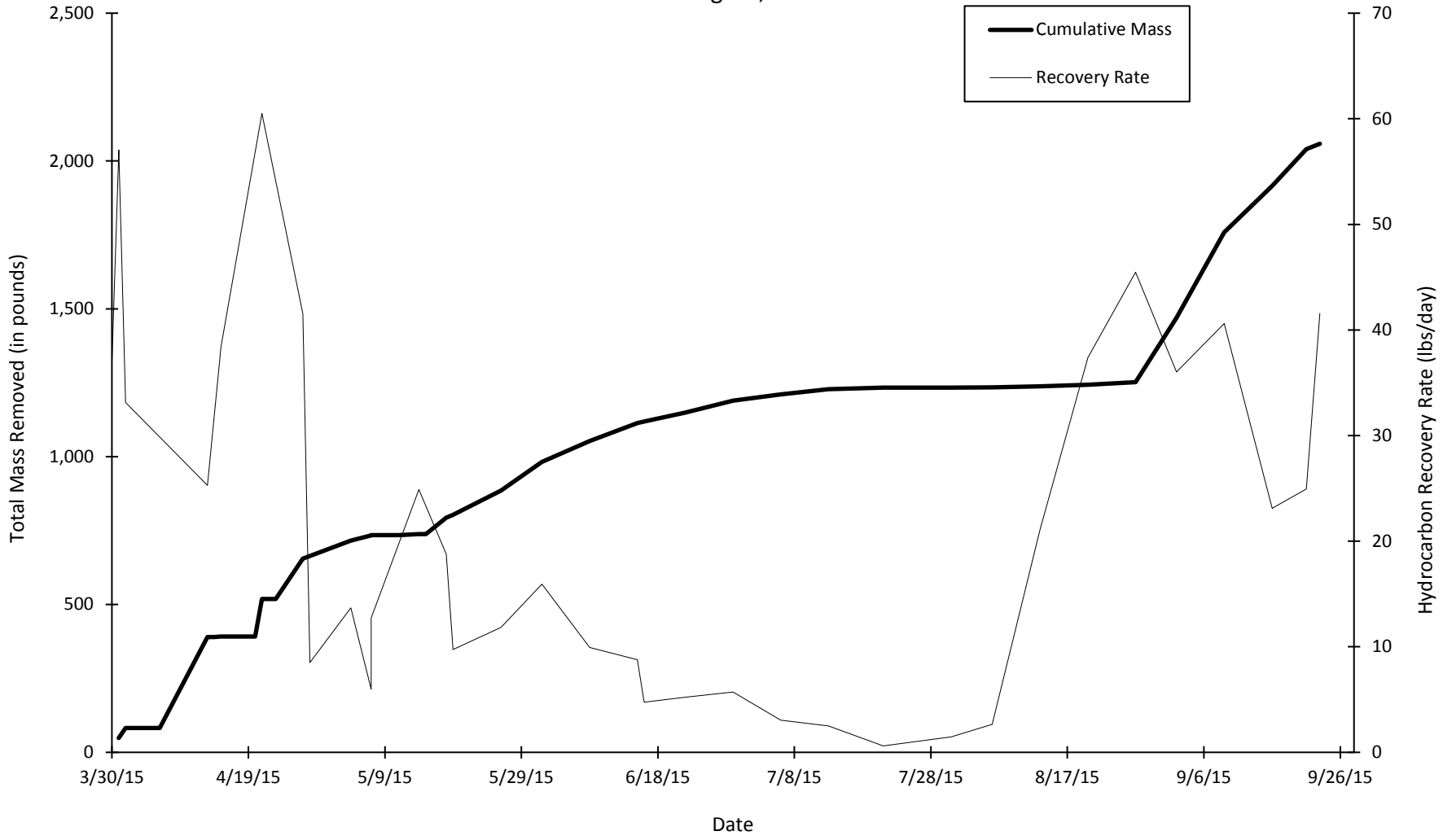
Date	Vacuum ("H_2O)	Influent Air Velocity (FPM - 3" pipe)	Influent Air Flow Rate (CFM)	Influent Vapor Concentration		Effluent Vapor Concentration		Cat/Ox Operating Temperatures		
				PID (ppmv)	Lab (ppmv)	PID (ppmv)	Lab (ppmv)	T1 (°C)	T2 (°C)	T3 (°C)
7/6/15	21.0	NM	223*	57.9	-	0.3	-	330	335	343
7/13/15	21.0	NM	223*	47.3	-	0.2	-	330	335	343
7/21/15	20.0	4,254	219	58.4	7.7	31.8	5.9	330	336	343
7/21/15	17.0	3,145	162	NM	-	NM	-	330	336	345
7/31/15	15.0	NM	181*	168.9	-	2.9	-	330	353	360
8/6/15	16.0	NM	188*	294.1	-	3.8	-	330	361	367
8/13/15	16.0	3,728	192	238.7	304	8.0	21.0	330	376	378
8/20/15	17.0	NM	195*	414.7	-	5.7	-	330	394	392
8/27/15	26.5	NM	260*	378.3	-	4.2	-	330	389	383
9/2/15	25.0	NM	248*	314.2	-	3.8	-	330	360	362
9/9/15	24.5	NM	248*	354.3	-	2.1	-	330	361	362
9/16/15	25.0	5,023	258	281.0	247	1.8	0	330	362	364
9/21/15	26.0	NM	254*	308.3	-	4.5	-	330	363	365
9/23/15	31.5	6,047	311	228.5	369	1.8	14.0	330	377	375
9/23/15	36.0	NM	311	NM	-	NM	-	330	331	339

Notes :
FPM - feet per minute
CFM - cubic feet per minute
NM - not measured
PID - photoionization detector
ppmv - parts per million by volume
* - Estimated flow rate from blower backpressure based on Falco 300 online calculator.
Bold indicates dates in which air bags were collected for laboratory analysis.
Lab vapor concentration is the total VOCs (less methane) detected in the air bag laboratory analysis.
Two readings taken on 7/21/15 due to adjustment of manual dilution valve.
Two readings taken on 9/23/15 were measured during and after pilot test. System had not stabilized during second system check to take PID readings.

BrightFields, Inc.

CHART

Chart 1
Soil Vapor Extraction System
Hydrocarbon Mass Removal Estimate
Falco 300
Former GM Plant
Wilmington, DE



BrightFields, Inc.

APPENDICES

BrightFields, Inc.

APPENDIX A

SYSTEM INSPECTION FIELD SHEETS

Former General Motors Plant
Wilmington, DE
System Check Sheet

Name: Kelly Power

Date/Time: 7/6/15; 11:44

SOIL VAPOR EXTRACTION SYSTEM				
Status			**Arrival**	**Departure**
SVE System			ON	ON
Alarms			NONE	NONE
Tag ID	**Location**	**% Open**	**Velocity (fpm)**	**PID (ppm)**
SVE-01	SVE-01	100	Not Measured	Not Measured
SVE-02	SVE-02	100	Not Measured	Not Measured
SVE-03	SVE-03	100	Not Measured	Not Measured
SVE-04	SVE-04	100	Not Measured	Not Measured
SVE-05	SVE-05	100	Not Measured	Not Measured
SVE-06	SVE-06	100	Not Measured	Not Measured
Tag ID	**Additional Data**			**Reading**
EFF	Cat/Ox Effluent Velocity (fpm)			Not Measured
EFF	Cat/Ox Effluent PID (ppm)			0.3
INF	Cat/Ox Influent Velocity (fpm)			Not Measured
INF	Cat/Ox Influent PID (ppm)			57.9
	Cat/Ox Run Time (hours)			1,915.5
T1	Cat/Ox Temperature - T1 (°C)			330
T2	Cat/Ox Temperature - T2 (°C)			335
T3	Cat/Ox Temperature - T3 (°C)			343
MV	Manual Valve Percentage Open			50%
	Recirculation Valve Percentage Open			0%
VCV	VCV Percentage Open			95%
	Filter Influent Pressure (inches WC)			-70
	Blower Influent Pressure (inches WC)			-70
BP	Blower Backpressure (inches WC)			21
	Water Level Check			ABSENT
Air Bag Sample Times:	**Influent**		**Effluent**	**Laboratory**
	11:48		11:46	FIELD SCRN

Additional Comments/Work Performed:

Turned off system at 11:49 to check water level; Startup complete at 11:55;

Estimated flow rate = 223 SCFM based on blower backpressure (calculated

using Falco 300 online calculator)

Former General Motors Plant
Wilmington, DE
System Check Sheet

Name: Kelly Power

Date/Time: 7/13/15; 10:22

SOIL VAPOR EXTRACTION SYSTEM				
Status			**Arrival**	**Departure**
SVE System			ON	ON
Alarms			NONE	NONE
Tag ID	**Location**	**% Open**	**Velocity (fpm)**	**PID (ppm)**
SVE-01	SVE-01	100	Not Measured	Not Measured
SVE-02	SVE-02	100	Not Measured	Not Measured
SVE-03	SVE-03	100	Not Measured	Not Measured
SVE-04	SVE-04	100	Not Measured	Not Measured
SVE-05	SVE-05	100	Not Measured	Not Measured
SVE-06	SVE-06	100	Not Measured	Not Measured
Tag ID	**Additional Data**			**Reading**
EFF	Cat/Ox Effluent Velocity (fpm)			Not Measured
EFF	Cat/Ox Effluent PID (ppm)			0.2
INF	Cat/Ox Influent Velocity (fpm)			Not Measured
INF	Cat/Ox Influent PID (ppm)			47.3
	Cat/Ox Run Time (hours)			2,082.0
T1	Cat/Ox Temperature - T1 (°C)			330
T2	Cat/Ox Temperature - T2 (°C)			335
T3	Cat/Ox Temperature - T3 (°C)			343
MV	Manual Valve Percentage Open			50%
	Recirculation Valve Percentage Open			0%
VCV	VCV Percentage Open			95%
	Filter Influent Pressure (inches WC)			-70
	Blower Influent Pressure (inches WC)			-70
BP	Blower Backpressure (inches WC)			21
	Water Level Check			ABSENT
Air Bag Sample Times:	**Influent**		**Effluent**	**Laboratory**
	10:25		10:24	FIELD SCRN

Additional Comments/Work Performed:

Turned off system at 10:26 to check water level; Startup complete at 10:32;

Estimated flow rate = 223 SCFM based on blower backpressure (calculated

using Falco 300 online calculator)

BrightFields File: 2734.04.51

Former General Motors Plant
Wilmington, DE
System Check Sheet

Name: Kelly Power

Date/Time: 7/21/15; 09:20

SOIL VAPOR EXTRACTION SYSTEM				
Status			**Arrival**	**Departure**
SVE System			ON	-
Alarms			NONE	-
Tag ID	**Location**	**% Open**	**Velocity (fpm)**	**PID (ppm)**
SVE-01	SVE-01	100	797	Not Measured
SVE-02	SVE-02	100	712	Not Measured
SVE-03	SVE-03	100	873	Not Measured
SVE-04	SVE-04	100	Not Measured	Not Measured
SVE-05	SVE-05	100	805	Not Measured
SVE-06	SVE-06	100	1,054	Not Measured
Tag ID	**Additional Data**			**Reading**
EFF	Cat/Ox Effluent Velocity (fpm)			1,791
EFF	Cat/Ox Effluent PID (ppm)			31.8
INF	Cat/Ox Influent Velocity (fpm)			4,254
INF	Cat/Ox Influent PID (ppm)			58.4
	Cat/Ox Run Time (hours)			2,272.9
T1	Cat/Ox Temperature - T1 (°C)			330
T2	Cat/Ox Temperature - T2 (°C)			336
T3	Cat/Ox Temperature - T3 (°C)			343
MV	Manual Valve Percentage Open			50%
	Recirculation Valve Percentage Open			0%
VCV	VCV Percentage Open			95%
	Filter Influent Pressure (inches WC)			-70
	Blower Influent Pressure (inches WC)			-70
BP	Blower Backpressure (inches WC)			20
	Water Level Check			ABSENT
Air Bag Sample Times:	**Influent**		**Effluent**	**Laboratory**
	9:34		9:23	Lanc Labs

Additional Comments/Work Performed:

Cat/Ox Effluent PID taken directly from sample port = 1.3 ppm; Influent PID taken directly from sample port = 47.3 ppm; Turned off system at 09:52 to check water level; Adjusted manual dilution valve from 50% to 30%; Startup complete at 10:32; Stayed onsite to perform system check after system stabilization

Former General Motors Plant
Wilmington, DE
System Check Sheet

Name: Kelly Power

Date/Time: 7/21/15; 11:00

SOIL VAPOR EXTRACTION SYSTEM				
Status			**Arrival**	**Departure**
SVE System			-	ON
Alarms			-	NONE
Tag ID	**Location**	**% Open**	**Velocity (fpm)**	**PID (ppm)**
SVE-01	SVE-01	100	Not Measured	Not Measured
SVE-02	SVE-02	100	Not Measured	Not Measured
SVE-03	SVE-03	100	Not Measured	Not Measured
SVE-04	SVE-04	100	Not Measured	Not Measured
SVE-05	SVE-05	100	Not Measured	Not Measured
SVE-06	SVE-06	100	Not Measured	Not Measured
Tag ID	**Additional Data**			**Reading**
EFF	Cat/Ox Effluent Velocity (fpm)			1,473
EFF	Cat/Ox Effluent PID (ppm)			Not Measured
INF	Cat/Ox Influent Velocity (fpm)			3,145
INF	Cat/Ox Influent PID (ppm)			Not Measured
	Cat/Ox Run Time (hours)			2,274.3
T1	Cat/Ox Temperature - T1 (°C)			330
T2	Cat/Ox Temperature - T2 (°C)			336
T3	Cat/Ox Temperature - T3 (°C)			345
MV	Manual Valve Percentage Open			30%
	Recirculation Valve Percentage Open			0%
VCV	VCV Percentage Open			90%
	Filter Influent Pressure (inches WC)			-80
	Blower Influent Pressure (inches WC)			-80
BP	Blower Backpressure (inches WC)			17
	Water Level Check			ABSENT
Air Bag Sample Times:	**Influent**		**Effluent**	**Laboratory**
	NONE		NONE	FIELD SCRN

Additional Comments/Work Performed:

Collected air bag samples and performed system check at 09:20 prior to shutting down system and adjusting manual dilution valve from 50% to 30%; Restarted system and allowed temperatures to stabilize prior to performing system check; PID not functioning properly during second system check; Turned off system at 11:20 to check water level; Startup complete at 11:26

Former General Motors Plant
Wilmington, DE
System Check Sheet

Name: Kelly Power

Date/Time: 7/31/15; 15:55

SOIL VAPOR EXTRACTION SYSTEM				
Status			**Arrival**	**Departure**
SVE System			OFF	ON
Alarms			High Water (70)	NONE
Tag ID	**Location**	**% Open**	**Velocity (fpm)**	**PID (ppm)**
SVE-01	SVE-01	100	Not Measured	Not Measured
SVE-02	SVE-02	100	Not Measured	Not Measured
SVE-03	SVE-03	100	Not Measured	Not Measured
SVE-04	SVE-04	100	Not Measured	Not Measured
SVE-05	SVE-05	100	Not Measured	Not Measured
SVE-06	SVE-06	100	Not Measured	Not Measured
Tag ID	**Additional Data**			**Reading**
EFF	Cat/Ox Effluent Velocity (fpm)			Not Measured
EFF	Cat/Ox Effluent PID (ppm)			2.9
INF	Cat/Ox Influent Velocity (fpm)			Not Measured
INF	Cat/Ox Influent PID (ppm)			168.9
	Cat/Ox Run Time (hours)			2,282.8
T1	Cat/Ox Temperature - T1 (°C)			330
T2	Cat/Ox Temperature - T2 (°C)			353
T3	Cat/Ox Temperature - T3 (°C)			360
MV	Manual Valve Percentage Open			30%
	Recirculation Valve Percentage Open			0%
VCV	VCV Percentage Open			95%
	Filter Influent Pressure (inches WC)			-85
	Blower Influent Pressure (inches WC)			-85
BP	Blower Backpressure (inches WC)			15
	Water Level Check			ABSENT
Air Bag Sample Times:	**Influent**		**Effluent**	**Laboratory**
	15:57		15:56	FIELD SCRN

Additional Comments/Work Performed:

Terminal 70 light turned off upon arrival (water knockout high-level switch) and run time = 2,282.2 hrs; Drained water knockout drum; Started system at 15:06; System startup complete at 15:34; Estimated flow rate = 181 SCFM based on blower backpressure (calculated using Falco 300 online calculator)

Former General Motors Plant
Wilmington, DE
System Check Sheet

Name: Kelly Power

Date/Time: 8/6/15; 11:38

SOIL VAPOR EXTRACTION SYSTEM				
Status			**Arrival**	**Departure**
SVE System			OFF	ON
Alarms			High Water (70)	NONE
Tag ID	**Location**	**% Open**	**Velocity (fpm)**	**PID (ppm)**
SVE-01	SVE-01	100	Not Measured	Not Measured
SVE-02	SVE-02	100	Not Measured	Not Measured
SVE-03	SVE-03	100	Not Measured	Not Measured
SVE-04	SVE-04	100	Not Measured	Not Measured
SVE-05	SVE-05	100	Not Measured	Not Measured
SVE-06	SVE-06	100	Not Measured	Not Measured
Tag ID	**Additional Data**			**Reading**
EFF	Cat/Ox Effluent Velocity (fpm)			Not Measured
EFF	Cat/Ox Effluent PID (ppm)			3.8
INF	Cat/Ox Influent Velocity (fpm)			Not Measured
INF	Cat/Ox Influent PID (ppm)			294.1
	Cat/Ox Run Time (hours)			2,286.9
T1	Cat/Ox Temperature - T1 (°C)			330
T2	Cat/Ox Temperature - T2 (°C)			361
T3	Cat/Ox Temperature - T3 (°C)			367
MV	Manual Valve Percentage Open			30%
	Recirculation Valve Percentage Open			0%
VCV	VCV Percentage Open			95%
	Filter Influent Pressure (inches WC)			-85
	Blower Influent Pressure (inches WC)			-85
BP	Blower Backpressure (inches WC)			16
	Water Level Check			ABSENT
Air Bag Sample Times:	**Influent**		**Effluent**	**Laboratory**
	11:43		11:42	FIELD SCRN

Additional Comments/Work Performed:

Terminal 70 light turned off upon arrival (water knockout high-level switch) and run time = 2,286.1 hrs; Drained water knockout drum; Started system at 10:50; System startup complete at 11:15; Estimated flow rate = 188 SCFM based on blower backpressure (calculated using Falco 300 online calculator)

Former General Motors Plant
Wilmington, DE
System Check Sheet

Name: Kelly Power

Date/Time: 8/13/15; 13:30

SOIL VAPOR EXTRACTION SYSTEM				
Status			**Arrival**	**Departure**
SVE System			OFF	ON
Alarms			High Water (70)	NONE
Tag ID	**Location**	**% Open**	**Velocity (fpm)**	**PID (ppm)**
SVE-01	SVE-01	100	Out of Range	Not Measured
SVE-02	SVE-02	100	Out of Range	Not Measured
SVE-03	SVE-03	100	Out of Range	Not Measured
SVE-04	SVE-04	100	Out of Range	Not Measured
SVE-05	SVE-05	100	Out of Range	Not Measured
SVE-06	SVE-06	100	Out of Range	Not Measured
Tag ID	**Additional Data**			**Reading**
EFF	Cat/Ox Effluent Velocity (fpm)			1,666
EFF	Cat/Ox Effluent PID (ppm)			8.0
INF	Cat/Ox Influent Velocity (fpm)			3,728
INF	Cat/Ox Influent PID (ppm)			238.7
	Cat/Ox Run Time (hours)			2,290.8
T1	Cat/Ox Temperature - T1 (°C)			330
T2	Cat/Ox Temperature - T2 (°C)			376
T3	Cat/Ox Temperature - T3 (°C)			378
MV	Manual Valve Percentage Open			30%
	Recirculation Valve Percentage Open			0%
VCV	VCV Percentage Open			95%
	Filter Influent Pressure (inches WC)			-85
	Blower Influent Pressure (inches WC)			-85
BP	Blower Backpressure (inches WC)			16
	Water Level Check			ABSENT
Air Bag Sample Times:	**Influent**		**Effluent**	**Laboratory**
	13:45		13:32	Lanc Labs

Additional Comments/Work Performed:

Terminal 70 light turned off upon arrival (water knockout high-level switch) and run time = 2,290.0 hrs; Nick Bradley attaching pump and hose to water knockout drum for draining; Closed bypass valve to increase efficiency; Drained water knockout drum; Started system at 12:30; System startup complete at 13:03; Cat/Ox Effluent PID taken directly from sample port = 3.3 ppm; Influent PID taken directly from sample port = 234.4 ppm

Former General Motors Plant
Wilmington, DE
System Check Sheet

Name: Kelly Power

Date/Time: 8/20/15; 10:45

SOIL VAPOR EXTRACTION SYSTEM				
Status			**Arrival**	**Departure**
SVE System			OFF	ON
Alarms			High Water (70)	NONE
Tag ID	**Location**	**% Open**	**Velocity (fpm)**	**PID (ppm)**
SVE-01	SVE-01	100	Not Measured	Not Measured
SVE-02	SVE-02	100	Not Measured	Not Measured
SVE-03	SVE-03	100	Not Measured	Not Measured
SVE-04	SVE-04	100	Not Measured	Not Measured
SVE-05	SVE-05	100	Not Measured	Not Measured
SVE-06	SVE-06	100	Not Measured	Not Measured
Tag ID	**Additional Data**			**Reading**
EFF	Cat/Ox Effluent Velocity (fpm)			Not Measured
EFF	Cat/Ox Effluent PID (ppm)			5.7
INF	Cat/Ox Influent Velocity (fpm)			Not Measured
INF	Cat/Ox Influent PID (ppm)			414.7
	Cat/Ox Run Time (hours)			2,294.4
T1	Cat/Ox Temperature - T1 (°C)			330
T2	Cat/Ox Temperature - T2 (°C)			394
T3	Cat/Ox Temperature - T3 (°C)			392
MV	Manual Valve Percentage Open			30%
	Recirculation Valve Percentage Open			0%
VCV	VCV Percentage Open			95%
	Filter Influent Pressure (inches WC)			-85
	Blower Influent Pressure (inches WC)			-85
BP	Blower Backpressure (inches WC)			17
	Water Level Check			ABSENT
Air Bag Sample Times:	**Influent**		**Effluent**	**Laboratory**
	10:47		10:46	FIELD SCRN

Additional Comments/Work Performed:

Terminal 70 light turned off upon arrival (water knockout high-level switch) and run time = 2,293.6 hrs; Drained water knockout drum; Started system at 9:58; System startup complete at 10:25; Estimated flow rate = 195 SCFM based on blower backpressure (calculated using Falco 300 online calculator)

Former General Motors Plant
Wilmington, DE
System Check Sheet

Name: Kelly Power

Date/Time: 8/27/15; 10:45

SOIL VAPOR EXTRACTION SYSTEM				
Status			**Arrival**	**Departure**
SVE System			OFF	ON
Alarms			High Water (70)	NONE
Tag ID	**Location**	**% Open**	**Velocity (fpm)**	**PID (ppm)**
SVE-01	SVE-01	100	Not Measured	Not Measured
SVE-02	SVE-02	100	Not Measured	Not Measured
SVE-03	SVE-03	100	Not Measured	Not Measured
SVE-04	SVE-04	100	Not Measured	Not Measured
SVE-05	SVE-05	100	Not Measured	Not Measured
SVE-06	SVE-06	100	Not Measured	Not Measured
Tag ID	**Additional Data**			**Reading**
EFF	Cat/Ox Effluent Velocity (fpm)			Not Measured
EFF	Cat/Ox Effluent PID (ppm)			4.2
INF	Cat/Ox Influent Velocity (fpm)			Not Measured
INF	Cat/Ox Influent PID (ppm)			378.3
	Cat/Ox Run Time (hours)			2,299.0
T1	Cat/Ox Temperature - T1 (°C)			330
T2	Cat/Ox Temperature - T2 (°C)			389
T3	Cat/Ox Temperature - T3 (°C)			383
MV	Manual Valve Percentage Open			50%
	Recirculation Valve Percentage Open			0%
VCV	VCV Percentage Open			95%
	Filter Influent Pressure (inches WC)			-60
	Blower Influent Pressure (inches WC)			-60
BP	Blower Backpressure (inches WC)			26.5
	Water Level Check			ABSENT
Air Bag Sample Times:	**Influent**		**Effluent**	**Laboratory**
	10:50		10:49	FIELD SCRN

Additional Comments/Work Performed:

Terminal 70 light turned off upon arrival (water knockout high-level switch) and run time = 2,298.1 hrs; Drained water knockout drum; Adjusted manual dilution valve from 30% to 50% open; Started system at 9:50; System startup complete at 10:17; Estimated flow rate = 260 SCFM based on blower backpressure (calculated using Falco 300 online calculator)

Former General Motors Plant
Wilmington, DE
System Check Sheet

Name: Kelly Power

Date/Time: 9/2/15; 11:50

SOIL VAPOR EXTRACTION SYSTEM				
Status			**Arrival**	**Departure**
SVE System			ON	ON
Alarms			NONE	NONE
Tag ID	**Location**	**% Open**	**Velocity (fpm)**	**PID (ppm)**
SVE-01	SVE-01	100	Not Measured	Not Measured
SVE-02	SVE-02	100	Not Measured	Not Measured
SVE-03	SVE-03	100	Not Measured	Not Measured
SVE-04	SVE-04	100	Not Measured	Not Measured
SVE-05	SVE-05	100	Not Measured	Not Measured
SVE-06	SVE-06	100	Not Measured	Not Measured
Tag ID	**Additional Data**			**Reading**
EFF	Cat/Ox Effluent Velocity (fpm)			Not Measured
EFF	Cat/Ox Effluent PID (ppm)			3.8
INF	Cat/Ox Influent Velocity (fpm)			Not Measured
INF	Cat/Ox Influent PID (ppm)			314.2
	Cat/Ox Run Time (hours)			2,444.1
T1	Cat/Ox Temperature - T1 (°C)			330
T2	Cat/Ox Temperature - T2 (°C)			360
T3	Cat/Ox Temperature - T3 (°C)			362
MV	Manual Valve Percentage Open			50%
	Recirculation Valve Percentage Open			0%
VCV	VCV Percentage Open			95%
	Filter Influent Pressure (inches WC)			-55
	Blower Influent Pressure (inches WC)			-57
BP	Blower Backpressure (inches WC)			25
	Water Level Check			ABSENT
Air Bag Sample Times:	**Influent**		**Effluent**	**Laboratory**
	11:54		11:53	FIELD SCRN

Additional Comments/Work Performed:

Estimated flow rate = 248 SCFM based on blower backpressure (calculated using Falco 300 online calculator); Turned off system to check water level at 12:00; Startup complete at 12:07

Former General Motors Plant
Wilmington, DE
System Check Sheet

Name: Kelly Power

Date/Time: 9/9/15; 14:20

SOIL VAPOR EXTRACTION SYSTEM				
Status			**Arrival**	**Departure**
SVE System			ON	ON
Alarms			NONE	NONE
Tag ID	**Location**	**% Open**	**Velocity (fpm)**	**PID (ppm)**
SVE-01	SVE-01	100	Not Measured	Not Measured
SVE-02	SVE-02	100	Not Measured	Not Measured
SVE-03	SVE-03	100	Not Measured	Not Measured
SVE-04	SVE-04	100	Not Measured	Not Measured
SVE-05	SVE-05	100	Not Measured	Not Measured
SVE-06	SVE-06	100	Not Measured	Not Measured
Tag ID	**Additional Data**			**Reading**
EFF	Cat/Ox Effluent Velocity (fpm)			Not Measured
EFF	Cat/Ox Effluent PID (ppm)			2.1
INF	Cat/Ox Influent Velocity (fpm)			Not Measured
INF	Cat/Ox Influent PID (ppm)			354.3
	Cat/Ox Run Time (hours)			2,614.5
T1	Cat/Ox Temperature - T1 (°C)			330
T2	Cat/Ox Temperature - T2 (°C)			361
T3	Cat/Ox Temperature - T3 (°C)			362
MV	Manual Valve Percentage Open			50%
	Recirculation Valve Percentage Open			0%
VCV	VCV Percentage Open			95%
	Filter Influent Pressure (inches WC)			-55
	Blower Influent Pressure (inches WC)			-57
BP	Blower Backpressure (inches WC)			24.5
	Water Level Check			ABSENT
Air Bag Sample Times:	**Influent**		**Effluent**	**Laboratory**
	14:23		14:22	FIELD SCRN

Additional Comments/Work Performed:

Estimated flow rate = 248 SCFM based on blower backpressure (calculated using Falco 300 online calculator); Turned off system to check water level at 14:25; Startup complete at 14:31

BrightFields File: 2734.04.51

Former General Motors Plant
Wilmington, DE
System Check Sheet

Name: Kelly Power

Date/Time: 9/16/15; 10:10

SOIL VAPOR EXTRACTION SYSTEM				
Status			**Arrival**	**Departure**
SVE System			ON	ON
Alarms			NONE	NONE
Tag ID	**Location**	**% Open**	**Velocity (fpm)**	**PID (ppm)**
SVE-01	SVE-01	100	Unable to Open	Not Measured
SVE-02	SVE-02	100	583	Not Measured
SVE-03	SVE-03	100	578	Not Measured
SVE-04	SVE-04	100	927	Not Measured
SVE-05	SVE-05	100	1,144	Not Measured
SVE-06	SVE-06	100	Out of Range	Not Measured
Tag ID	**Additional Data**			**Reading**
EFF	Cat/Ox Effluent Velocity (fpm)			1,848
EFF	Cat/Ox Effluent PID (ppm)			1.8
INF	Cat/Ox Influent Velocity (fpm)			5,023
INF	Cat/Ox Influent PID (ppm)			281.0
	Cat/Ox Run Time (hours)			2,778.1
T1	Cat/Ox Temperature - T1 (°C)			330
T2	Cat/Ox Temperature - T2 (°C)			362
T3	Cat/Ox Temperature - T3 (°C)			364
MV	Manual Valve Percentage Open			50%
	Recirculation Valve Percentage Open			0%
VCV	VCV Percentage Open			95%
	Filter Influent Pressure (inches WC)			-57
	Blower Influent Pressure (inches WC)			-60
BP	Blower Backpressure (inches WC)			25
	Water Level Check			ABSENT
Air Bag Sample Times:	**Influent**		**Effluent**	**Laboratory**
	10:24		10:12	Lanc Labs

Additional Comments/Work Performed:

SVE-01 sample port cannot be opened; Cat/Ox Effluent PID measured directly from effluent sample port; Turned off system to check water level at 10:44; Startup complete at 10:50

BrightFields File: 2734.04.51

Former General Motors Plant
Wilmington, DE
System Check Sheet

Name: Kelly Power

Date/Time: 9/21/15; 09:35

SOIL VAPOR EXTRACTION SYSTEM				
Status			**Arrival**	**Departure**
SVE System			ON	OFF
Alarms			NONE	NONE
Tag ID	**Location**	**% Open**	**Velocity (fpm)**	**PID (ppm)**
SVE-01	SVE-01	100	Not Measured	Not Measured
SVE-02	SVE-02	100	Not Measured	Not Measured
SVE-03	SVE-03	100	Not Measured	Not Measured
SVE-04	SVE-04	100	Not Measured	Not Measured
SVE-05	SVE-05	100	Not Measured	Not Measured
SVE-06	SVE-06	100	Not Measured	Not Measured
Tag ID	**Additional Data**			**Reading**
EFF	Cat/Ox Effluent Velocity (fpm)			Not Measured
EFF	Cat/Ox Effluent PID (ppm)			4.5
INF	Cat/Ox Influent Velocity (fpm)			Not Measured
INF	Cat/Ox Influent PID (ppm)			308.3
	Cat/Ox Run Time (hours)			2,897.4
T1	Cat/Ox Temperature - T1 (°C)			330
T2	Cat/Ox Temperature - T2 (°C)			363
T3	Cat/Ox Temperature - T3 (°C)			365
MV	Manual Valve Percentage Open			50%
	Recirculation Valve Percentage Open			0%
VCV	VCV Percentage Open			95%
	Filter Influent Pressure (inches WC)			-60
	Blower Influent Pressure (inches WC)			-60
BP	Blower Backpressure (inches WC)			26
	Water Level Check			ABSENT
Air Bag Sample Times:	**Influent**		**Effluent**	**Laboratory**
	9:38		9:36	FIELD SCRN

Additional Comments/Work Performed:

Estimated flow rate = 254 SCFM based on blower backpressure (calculated using Falco 300 online calculator); Turned system off at 09:39 to allow stabilization prior to pilot test

Former General Motors Plant
Wilmington, DE
System Check Sheet

Name: Kelly Power

Date/Time: 9/23/15; 14:10

SOIL VAPOR EXTRACTION SYSTEM				
Status			**Arrival**	**Departure**
SVE System			ON	-
Alarms			NONE	-
Tag ID	**Location**	**% Open**	**Velocity (fpm)**	**PID (ppm)**
SVE-01	SVE-01	0	Not Measured	Not Measured
SVE-02	SVE-02	0	Not Measured	Not Measured
SVE-03	SVE-03	0	Not Measured	Not Measured
SVE-04	SVE-04	0	Not Measured	Not Measured
SVE-05	SVE-05	100	584	Not Measured
SVE-06	SVE-06	0	Not Measured	Not Measured

Tag ID	**Additional Data**	**Reading**
EFF	Cat/Ox Effluent Velocity (fpm)	3,120
EFF	Cat/Ox Effluent PID (ppm)	1.8
INF	Cat/Ox Influent Velocity (fpm)	6,047
INF	Cat/Ox Influent PID (ppm)	228.5
	Cat/Ox Run Time (hours)	2,907.8
T1	Cat/Ox Temperature - T1 (°C)	330
T2	Cat/Ox Temperature - T2 (°C)	377
T3	Cat/Ox Temperature - T3 (°C)	375
MV	Manual Valve Percentage Open	50%
	Recirculation Valve Percentage Open	0%
VCV	VCV Percentage Open	95%
	Filter Influent Pressure (inches WC)	-38
	Blower Influent Pressure (inches WC)	-44
BP	Blower Backpressure (inches WC)	31.5
	Water Level Check	ABSENT

Air Bag Sample Times:	**Influent**	**Effluent**	**Laboratory**
	14:21	14:16	Lanc Labs

Additional Comments/Work Performed:

Performed system check and collected samples at completion of pilot test

using SVE-05 as extraction well

BrightFields File: 2734.04.51

Former General Motors Plant
Wilmington, DE
System Check Sheet

Name: Kelly Power

Date/Time: 9/23/15; 15:10

SOIL VAPOR EXTRACTION SYSTEM				
Status			**Arrival**	**Departure**
SVE System			-	ON
Alarms			-	NONE
Tag ID	**Location**	**% Open**	**Velocity (fpm)**	**PID (ppm)**
SVE-01	SVE-01	0	Not Measured	Not Measured
SVE-02	SVE-02	100	Not Measured	Not Measured
SVE-03	SVE-03	100	Not Measured	Not Measured
SVE-04	SVE-04	100	Not Measured	Not Measured
SVE-05	SVE-05	0	Not Measured	Not Measured
SVE-06	SVE-06	100	Not Measured	Not Measured
Tag ID	**Additional Data**			**Reading**
EFF	Cat/Ox Effluent Velocity (fpm)			Not Measured
EFF	Cat/Ox Effluent PID (ppm)			Not Measured
INF	Cat/Ox Influent Velocity (fpm)			Not Measured
INF	Cat/Ox Influent PID (ppm)			Not Measured
	Cat/Ox Run Time (hours)			2,908.2
T1	Cat/Ox Temperature - T1 (°C)			330
T2	Cat/Ox Temperature - T2 (°C)			331
T3	Cat/Ox Temperature - T3 (°C)			339
MV	Manual Valve Percentage Open			50%
	Recirculation Valve Percentage Open			0%
VCV	VCV Percentage Open			20%
	Filter Influent Pressure (inches WC)			-5
	Blower Influent Pressure (inches WC)			-35
BP	Blower Backpressure (inches WC)			36
	Water Level Check			ABSENT
Air Bag Sample Times:	**Influent**		**Effluent**	**Laboratory**
	NONE		NONE	N/A

Additional Comments/Work Performed:

Closed SVE-01 and SVE-05 due to lower PID readings measured during pilot test; System not fully stable yet and therefore did not perform full system check

BrightFields, Inc.

APPENDIX B

PERMIT WAIVER

STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF AIR & WASTE MANAGEMENT
715 GRANTHAM LANE
NEW CASTLE, DELAWARE 19720

AIR QUALITY MANAGEMENT
SECTION

TELEPHONE: (302) 323 - 4542
FAX NO.: (302) 323 - 4598

March 23, 2015

Brightfields Inc.
801 Industrial Street
Wilmington, Delaware 19801

ATTENTION: Ken Hannon
Engineering Program Manager

UST Facility ID#: 3-000541
LUST Project ID #: N8708035

SUBJECT: Former GM Plant
801 Boxwood Road, Wilmington, DE 19804
SVE System, Dodson Avenue

Dear Mr. Hannon:

This is in reference to the information in your submission dated December 29, 2014, in which you requested, on behalf of Brightfields Inc., the Department's permission to operate a Soil Vapor Extraction system for the owner, Racer Trust, controlled by thermal incineration with controlled rate located at the Former GM Plant at 801 Boxwood Road, Newport, Delaware 19804.

In the Department's opinion, the air contaminant emissions from this proposed source have little or no potential to cause a condition of air pollution; therefore, since this equipment will emit less than 0.1 pounds per hour and 2.4 pounds per day, permits for installation and operation are not required as long as the said equipment is operating as described on Form AQM-12 dated December 29, 2014 and signed by Pamela Barnett.

When the system is placed in operation, the owner or operator shall immediately fine-tune the system components based upon inlet Volatile Organic Compound (VOC) concentrations to ensure that VOC emissions do not exceed the emission limit of 0.1 pounds per hour and 2.4 pounds per day.

The owner or operator shall, at a minimum, perform system monitoring as follows:

- Field samples from the influent and effluent shall be collected and field screened using a PID at least twice a month.

- Influent and effluent samples shall be collected for laboratory analysis on a monthly basis. These samples shall be tested for benzene, toluene, ethylbenzene, and xylenes (BTEX), Total Petroleum Hydrocarbons (TPH) C_1-C_4, and TPH C_5-C_{10} using Reference Method 18.

The following information shall be recorded, initialed, and maintained in a log book:

- Monthly VOC concentrations and inlet gas flow rate;

- The date, time and results of each field analysis;
- The date, time collected, and results of each laboratory analysis;
- The date, type of work, and reason for any maintenance performed on the equipment;
- Calculated thermal destruction efficiencies based upon the monitoring results; and
- Inlet gas flow proportioning adjustments required to avoid exceedance of the 0.1 pound per hour and 2.4 pounds per day VOC emission limit.

All air monitoring results from the process shall be forwarded to the Department's Underground Storage Tank Branch and the Site Investigation and Restoration Branch (SIRB) on a quarterly basis as part of the normal report to that Branch. Reference UST Facility ID # **3-000541** and LUST Project ID# **N8708035** when submitting these results.

If any change in operation is necessary (i.e. emission rates, flow rates, etc.) to the above equipment, the Department's Air Quality Management, Site Investigation And Restoration and Underground Storage Tank Branches shall be notified, in writing, two (2) weeks prior to commencement of operation of this equipment.

If, at any time, the above equipment fails to meet the requirements of Regulation No. 2, Section 2.1(a), either by exceeding the emission limitation of 2.4 pounds per day on a site-wide basis or by causing a condition of air pollution, then operation of said equipment shall be immediately discontinued and shall be reported to the Department via the Emergency Notification and Complaint Hotline (1-800-662-8802). The equipment shall remain inactive until the necessary permits have been issued or the problem has been resolved to the satisfaction of the Department.

Sincerely,

Everett L. DeWhitt, Jr., PhD.
Environmental Engineer
Engineering & Compliance Branch

PEF
F:\EngAndCompliance\eld15013

pc: Dover File
Paul E. Foster, P.E.
Rick Galloway, P.G.

BrightFields, Inc.

APPENDIX C

MASS LOADING / EMISSIONS ESTIMATES FROM AIR BAG SAMPLES

APPENDIX C
Soil Vapor Extraction System Vapor Mass Loading / Emissions Estimates
Former GM Plant
Wilmington, DE

Date	PID Readings					Laboratory Data				
	Mass Loading Rate		Mass Emissions Rate		Destruction Efficiency	Mass Loading Rate		Mass Emissions Rate		Destruction Efficiency
	(lbs/hr)	(lbs/day)	(lbs/hr)	(lbs/day)	(%)	(lbs/hr)	(lbs/day)	(lbs/hr)	(lbs/day)	(%)
7/6/15	0.13	3.1	0.0044	0.11	96.5%	-	-	-	-	-
7/13/15	0.10	2.5	0.0029	0.07	97.2%	-	-	-	-	-
7/21/15	0.025	0.61	0.019	0.47	23.4%	0.023	0.55	0.011	0.26	53.4%
7/31/15	0.061	1.5	0.0015	0.035	97.6%	-	-	-	-	-
8/6/15	0.11	2.6	0.0020	0.048	98.2%	-	-	-	-	-
8/13/15	0.88	21.1	0.061	1.5	93.1%	0.75	18.0	0.035	0.84	95.3%
8/20/15	1.6	37.4	0.044	1.1	97.2%	-	-	-	-	-
8/27/15	1.9	45.5	0.043	1.0	97.7%	-	-	-	-	-
9/2/15	1.5	36.0	0.037	0.90	97.5%	-	-	-	-	-
9/9/15	1.7	40.6	0.021	0.50	98.8%	-	-	-	-	-
9/16/15	0.96	23.1	0.0070	0.17	99.3%	0.85	20.3	0	0	100%
9/21/15	1.0	24.9	0.017	0.41	98.3%	-	-	-	-	-
9/23/15	1.7	41.6	0.066	1.6	96.2%	1.5	36.5	0.058	1.4	96.2%

Notes :
PID - photoionization detector
Bold indicates dates in which air bags were collected for laboratory analysis.
9/16/15 and 9/21/15 mass emissions assume response factor of 1 since no VOCs were detected in effluent sample laboratory analysis.
Two readings taken on 7/21/15 due to adjustment of manual dilution valve.

BrightFields, Inc.

APPENDIX D

AIR BAG ANALYTICAL DATA

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

August 11, 2015

Project: Dodson Ave/2734.04.51

Submittal Date: 07/22/2015
Group Number: 1578885
PO Number: 13035
Release Number: 2734.04.51
State of Sample Origin: DE

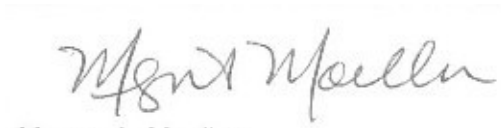
Client Sample Description	Lancaster Labs (LL) #
DA-EFF-072115 Grab Air	7975631
DA-INF-072115 Grab Air	7975632

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	Brightfields, Inc.	Attn: Kelly Power
ELECTRONIC COPY TO	Brightfields, Inc.	Attn: Ken Hannon

Respectfully Submitted,



Megan A. Moeller
Senior Specialist

(717) 556-7261

Sample Description: DA-EFF-072115 Grab Air
Dodson Ave/2734.04.51

LL Sample # AQ 7975631
LL Group # 1578885
Account # 04549

Project Name: Dodson Ave/2734.04.51

Collected: 07/21/2015 09:23 by KP

Submitted: 07/22/2015 18:30
Reported: 08/11/2015 20:53

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
Volatiles in Air	**EPA 18 mod/EPA 25 mod**		ppm(v)		ppm(v)	
07090	Benzene	71-43-2	N.D.		0.5	1
07090	C2-C4 Hydrocarbons as propane	n.a.	5	J	5	1
07090	>C4-C10 Hydrocarbons hexane	n.a.	N.D.		5	1
07090	Ethylbenzene	100-41-4	N.D.		0.4	1
07090	Methane	74-82-8	180		2	1
07090	Toluene	108-88-3	N.D.		0.8	1
07090	Xylene (total)	1330-20-7	0.9	J	0.7	1

The holding time was not met.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07090	BTEX/MTBE/Hydrocarbons by GC	EPA 18 mod/EPA 25 mod	1	M1521930AA	08/07/2015 20:29	Alexander D Sechrist	1

Sample Description: DA-INF-072115 Grab Air
Dodson Ave/2734.04.51

LL Sample # AQ 7975632
LL Group # 1578885
Account # 04549

Project Name: Dodson Ave/2734.04.51

Collected: 07/21/2015 09:34 by KP

Submitted: 07/22/2015 18:30
Reported: 08/11/2015 20:53

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
Volatiles in Air	**EPA 18 mod/EPA 25 mod**		ppm(v)		ppm(v)	
07090	Benzene	71-43-2	N.D.		0.5	1
07090	C2-C4 Hydrocarbons as propane	n.a.	N.D.		5	1
07090	>C4-C10 Hydrocarbons hexane	n.a.	7	J	5	1
07090	Ethylbenzene	100-41-4	N.D.		0.4	1
07090	Methane	74-82-8	54		2	1
07090	Toluene	108-88-3	N.D.		0.8	1
07090	Xylene (total)	1330-20-7	0.7	J	0.7	1

The holding time was not met.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07090	BTEX/MTBE/Hydrocarbons by GC	EPA 18 mod/EPA 25 mod	1	M1521930AA	08/07/2015 20:58	Alexander D Sechrist	1

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Quality Control Summary

Client Name: Brightfields, Inc. Group Number: 1578885
Reported: 08/11/2015 20:53

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: M1521930AA	Sample number(s): 7975631-7975632							
Benzene	N.D.	0.5	ppm(v)	98	94	75-111	4	30
C2-C4 Hydrocarbons as propane	N.D.	5.	ppm(v)					
>C4-C10 Hydrocarbons hexane	N.D.	5.	ppm(v)					
Ethylbenzene	N.D.	0.4	ppm(v)	117	120	59-159	3	30
Methane	N.D.	2.	ppm(v)					
Toluene	N.D.	0.8	ppm(v)	104	104	77-143	0	30
Xylene (total)	N.D.	0.7	ppm(v)	117	121	70-134	3	30

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 4549 For Eurofins Lancaster Laboratories Environmental use only Group # 1578885 Sample # 7975631-32
Instructions on reverse side correspond with circled numbers.

372763

1 Client Information

Client: BrightFields, Inc. | Acct. #:
Project Name/#: Dodson Ave/2734.04.51 | PWSID #:
Project Manager: Ken Hannon | P.O. #: 13035
Sampler: Kelly Power | Quote #:
Name of state where samples were collected: Delaware

4 Matrix

Soil ☐ Sediment ☐ Water: Potable ☐ Ground ☐ NPDES ☐ Surface ☐ Other: AIR

5 Analysis Requested

Preservation Codes

For Lab Use Only

FSC:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

6 Remarks

Custody Seal #558724

2 Sample Identification	Collected Date	Collected Time	3 Grab	Composite	Total # of Containers	BTEX, C_2-C_4, C_4-C_{10} & Methane by Method
DA-EFF-072115	7/21/15	0923	X		1	X
DA-INF-072115	7/21/15	0934	X		1	X

7 Turnaround Time (TAT) Requested (please circle)

(Standard) Rush short hold

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed:

E-mail address: kpower@brightfieldsinc.com

8 Data Package Options (circle if required)

Type I (Validation/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) TX TRRP-13
NYSDEC Category A or B MA MCP CT RCP

9

Relinquished by	Date	Time	Received by	Date	Time
Kelly Power	7/22/15	11:51	Mark Denlinger	7/22/15	11:51
Mark Denlinger	7-22-15	1830			
			Received by	7/22/15	1830

EDD Required? Yes (No)
If yes, format:

Site-Specific QC (MS/MSD/Dup)? Yes (No)
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS _____ FedEx _____ Other _____

Temperature upon receipt NA °C

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

August 26, 2015

Project: Dodson Ave/2734.045.51

Submittal Date: 08/14/2015
Group Number: 1585012
PO Number: 13089
Release Number: 2734.04.51
State of Sample Origin: DE

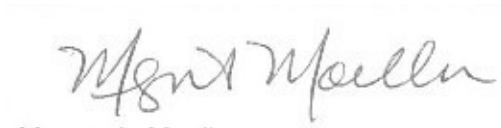
Client Sample Description	Lancaster Labs (LL) #
DA-EFF-081315 Grab Air	8007619
DA-INF-081315 Grab Air	8007620

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	Brightfields, Inc.	Attn: Kelly Power
ELECTRONIC COPY TO	Brightfields, Inc.	Attn: Ken Hannon

Respectfully Submitted,



Megan A. Moeller
Senior Specialist

(717) 556-7261

Sample Description: DA-EFF-081315 Grab Air
Dodson Ave/2734.04.51

LL Sample # AQ 8007619
LL Group # 1585012
Account # 04549

Project Name: Dodson Ave/2734.045.51

Collected: 08/13/2015 13:32 by KP

Submitted: 08/14/2015 17:25
Reported: 08/26/2015 22:49

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
Volatiles in Air	**EPA 18 mod/EPA 25 mod**		ppm(v)		ppm(v)	
07090	Benzene	71-43-2	N.D.		0.5	1
07090	C2-C4 Hydrocarbons as propane	n.a.	15		5	1
07090	>C4-C10 Hydrocarbons hexane	n.a.	6	J	5	1
07090	Ethylbenzene	100-41-4	N.D.		0.4	1
07090	Methane	74-82-8	620		20	10
07090	Toluene	108-88-3	N.D.		0.8	1
07090	Xylene (total)	1330-20-7	N.D.		0.7	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07090	BTEX/MTBE/Hydrocarbons by GC	EPA 18 mod/EPA 25 mod	1	M1522930AA	08/17/2015 14:29	Alexander D Sechrist	1
07090	BTEX/MTBE/Hydrocarbons by GC	EPA 18 mod/EPA 25 mod	1	M1523030AA	08/18/2015 13:37	Alexander D Sechrist	10

Sample Description: DA-INF-081315 Grab Air
Dodson Ave/2734.04.51

LL Sample # AQ 8007620
LL Group # 1585012
Account # 04549

Project Name: Dodson Ave/2734.045.51

Collected: 08/13/2015 13:45 by KP

Submitted: 08/14/2015 17:25
Reported: 08/26/2015 22:49

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
Volatiles in Air	**EPA 18 mod/EPA 25 mod**		ppm(v)		ppm(v)	
07090	Benzene	71-43-2	0.6	J	0.5	1
07090	C2-C4 Hydrocarbons as propane	n.a.	29		5	1
07090	>C4-C10 Hydrocarbons hexane	n.a.	270		5	1
07090	Ethylbenzene	100-41-4	0.9	J	0.4	1
07090	Methane	74-82-8	670		20	10
07090	Toluene	108-88-3	0.9	J	0.8	1
07090	Xylene (total)	1330-20-7	3		0.7	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07090	BTEX/MTBE/Hydrocarbons by GC	EPA 18 mod/EPA 25 mod	1	M1522930AA	08/17/2015 14:59	Alexander D Sechrist	1
07090	BTEX/MTBE/Hydrocarbons by GC	EPA 18 mod/EPA 25 mod	1	M1523030AA	08/18/2015 14:23	Alexander D Sechrist	10

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Quality Control Summary

Client Name: Brightfields, Inc. Group Number: 1585012
Reported: 08/26/2015 22:49

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: M1522930AA	Sample number(s): 8007619-8007620							
Benzene	N.D.	0.5	ppm(v)	94	95	75-111	1	30
C2-C4 Hydrocarbons as propane	N.D.	5.	ppm(v)					
>C4-C10 Hydrocarbons hexane	N.D.	5.	ppm(v)					
Ethylbenzene	N.D.	0.4	ppm(v)	107	111	59-159	4	30
Toluene	N.D.	0.8	ppm(v)	101	104	77-143	3	30
Xylene (total)	N.D.	0.7	ppm(v)	100	109	70-134	8	30
Batch number: M1523030AA	Sample number(s): 8007619-8007620							
Methane	N.D.	2.	ppm(v)					

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 4549 For Eurofins Lancaster Laboratories Environmental use only Group # 1585012 Sample # 8007619-20
Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: BrightFields, Inc.	Acct. #:
Project Name/#: Dodson Ave/2734.04.51	PWSID #:
Project Manager: Ken Hannon	P.O. #: 13089
Sampler: Kelly Power	Quote #:

Name of state where samples were collected: Delaware

4 Matrix: Sediment ☐ Soil ☐ | Ground ☐ Potable ☐ Water | Surface ☐ NPDES ☐ | Other: Air

5 Analysis Requested — Preservation Codes

2 Sample Identification	Collected Date	Collected Time	3 Grab	Composite	Total # of Containers	BTEX, C_2-C_4, C_4-C_{10}, & Methane by Method 18
DA-EFF-081315	8/13/15	1332	X		1	X
DA-INF-081315	8/13/15	1345	X		1	X

For Lab Use Only
FSC:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

6 Remarks
Custody seal
#549854

7 Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)
*short Hold Time

Date results are needed:

E-mail address: kpower@brightfieldsinc.com

8 Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) TX TRRP-13
NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
Kelly Power	8/14/15	11:00	[illegible]	08/14/15	11:01
[illegible]	08/14/15	12:25	[illegible]	8-14-15	1325
[illegible]	8-14-15	1725			
			[illegible]	8/14/15	1725

EDD Required? Yes (No)
If yes, format:

Site-Specific QC (MS/MSD/Dup)? Yes (No)
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS _____ FedEx _____ Other _____

Temperature upon receipt N/A °C

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

September 24, 2015

Project: Dodson Ave/2734.045.51

Submittal Date: 09/17/2015
Group Number: 1593682
PO Number: 12778
Release Number: 2734.04.51
State of Sample Origin: DE

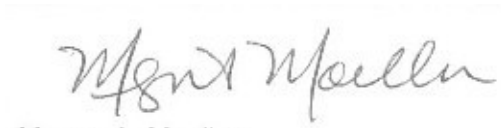
Client Sample Description	Lancaster Labs (LL) #
DA-EFF-091615 Grab Air	8051451
DA-INF-091615 Grab Air	8051452

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	Brightfields, Inc.	Attn: Kelly Power
ELECTRONIC COPY TO	Brightfields, Inc.	Attn: Ken Hannon

Respectfully Submitted,



Megan A. Moeller
Senior Specialist

(717) 556-7261

Sample Description: DA-EFF-091615 Grab Air
Dodson Ave/2734.04.51

LL Sample # AQ 8051451
LL Group # 1593682
Account # 04549

Project Name: Dodson Ave/2734.045.51

Collected: 09/16/2015 10:12 by KP

Submitted: 09/17/2015 17:50
Reported: 09/24/2015 13:29

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Volatiles in Air	**EPA 18 mod/EPA 25 mod**		ppm(v)	ppm(v)	
07090	Benzene	71-43-2	N.D.	0.5	1
07090	C2-C4 Hydrocarbons as hexane	n.a.	N.D.	5	1
07090	>C4-C10 Hydrocarbons hexane	n.a.	N.D.	5	1
07090	Ethylbenzene	100-41-4	N.D.	0.4	1
07090	Methane	74-82-8	23	2	1
07090	Toluene	108-88-3	N.D.	0.8	1
07090	Xylene (total)	1330-20-7	N.D.	0.7	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07090	BTEX/MTBE/Hydrocarbons by GC	EPA 18 mod/EPA 25 mod	1	M1526130AA	09/18/2015 15:20	Alexander D Sechrist	1

Sample Description: DA-INF-091615 Grab Air
Dodson Ave/2734.04.51

LL Sample # AQ 8051452
LL Group # 1593682
Account # 04549

Project Name: Dodson Ave/2734.045.51

Collected: 09/16/2015 10:24 by KP

Submitted: 09/17/2015 17:50
Reported: 09/24/2015 13:29

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
Volatiles in Air	**EPA 18 mod/EPA 25 mod**		ppm(v)		ppm(v)	
07090	Benzene	71-43-2	1		0.5	1
07090	C2-C4 Hydrocarbons as hexane	n.a.	8	J	5	1
07090	>C4-C10 Hydrocarbons hexane	n.a.	230		5	1
07090	Ethylbenzene	100-41-4	1		0.4	1
07090	Methane	74-82-8	240		2	1
07090	Toluene	108-88-3	2		0.8	1
07090	Xylene (total)	1330-20-7	5		0.7	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07090	BTEX/MTBE/Hydrocarbons by GC	EPA 18 mod/EPA 25 mod	1	M1526130AA	09/18/2015 15:50	Alexander D Sechrist	1

Quality Control Summary

Client Name: Brightfields, Inc. Group Number: 1593682
Reported: 09/24/2015 13:29

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: M1526130AA	Sample number(s): 8051451-8051452							
Benzene	N.D.	0.5	ppm(v)	88	87	75-111	1	30
C2-C4 Hydrocarbons as hexane	N.D.	5.	ppm(v)					
>C4-C10 Hydrocarbons hexane	N.D.	5.	ppm(v)					
Ethylbenzene	N.D.	0.4	ppm(v)	114	110	59-159	3	30
Methane	N.D.	2.	ppm(v)					
Toluene	N.D.	0.8	ppm(v)	120	115	77-143	5	30
Xylene (total)	N.D.	0.7	ppm(v)	115	110	70-134	5	30

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody

377807

1-BOX

eurofins | Lancaster Laboratories Environmental

Acct. # 4549 For Eurofins Lancaster Laboratories Environmental use only Group # 1593682 Sample # BOS1451-52

Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: Bright Fields	Acct. #:
Project Name/#: Dodson Ave/2734.04.51	PWSID #:
Project Manager: Ken Hannon	P.O. #: 13156
Sampler: Kelly Power	Quote #:

Name of state where samples were collected: Delaware

4 Matrix

Soil ☐ Sediment ☐ Water: Potable ☐ Ground ☐ NPDES ☐ Surface ☐ Other: AIR

5 Analysis Requested

Preservation Codes

For Lab Use Only

FSC:

SCR#:

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

6 Remarks

2 Sample Identification	Collected Date	Collected Time	3 Grab	Composite	Total # of Containers	BTEX, C_2-C_4, C_4-C_{10} & Methanol 1 day Methanol 18
DA-EFF-091615	9/16/15	1012	X		1	X
DA-INF-091615	9/16/15	1024	X		1	X

7 Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

short hold time

Date results are needed:

E-mail address: kpower@brightfieldsinc.com

8 Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP)
Type VI (Raw Data Only)
Type III (Reduced non-CLP)
TX TRRP-13
NYSDEC Category A or B
MA MCP
CT RCP

Relinquished by	Date	Time	Received by	Date	Time
Kelly Power	9/17/15	12:01	Mark D	9-17-15	1201
Mark D	9-17-15	1750			

9

EDD Required? Yes (No)

If yes, format:

Site-Specific QC (MS/MSD/Dup)? Yes (No)

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:

UPS _____ FedEx _____ Other _____

Temperature upon receipt N/A °C

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

October 01, 2015

Project: Dodson Ave/2734.04.51

Submittal Date: 09/25/2015
Group Number: 1596016
PO Number: 13178
Release Number: 2734.04.51
State of Sample Origin: DE

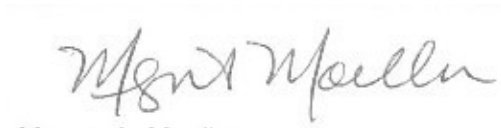
Client Sample Description	Lancaster Labs (LL) #
DA-EFF-092315 Grab Air	8064387
DA-INF-092315 Grab Air	8064388

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	Brightfields, Inc.	Attn: Kelly Power
ELECTRONIC COPY TO	Brightfields, Inc.	Attn: Ken Hannon

Respectfully Submitted,



Megan A. Moeller
Senior Specialist

(717) 556-7261

Sample Description: DA-EFF-092315 Grab Air
Dodson Ave/2734.04.51

LL Sample # AQ 8064387
LL Group # 1596016
Account # 04549

Project Name: Dodson Ave/2734.04.51

Collected: 09/23/2015 14:16 by KP

Submitted: 09/25/2015 17:20
Reported: 10/01/2015 15:00

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Volatiles in Air	**EPA 18 mod/EPA 25 mod**		ppm(v)	ppm(v)	
07090	Benzene	71-43-2	N.D.	0.5	1
07090	C2-C4 Hydrocarbons as hexane	n.a.	N.D.	5	1
07090	>C4-C10 Hydrocarbons hexane	n.a.	14	5	1
07090	Ethylbenzene	100-41-4	N.D.	0.4	1
07090	Methane	74-82-8	340	2	1
07090	Toluene	108-88-3	N.D.	0.8	1
07090	Xylene (total)	1330-20-7	N.D.	0.7	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07090	BTEX/MTBE/Hydrocarbons by GC	EPA 18 mod/EPA 25 mod	1	M1527130AA	09/28/2015 14:02	Alexander D Sechrist	1

Sample Description: DA-INF-092315 Grab Air
Dodson Ave/2734.04.51

LL Sample # AQ 8064388
LL Group # 1596016
Account # 04549

Project Name: Dodson Ave/2734.04.51

Collected: 09/23/2015 14:21 by KP

Submitted: 09/25/2015 17:20
Reported: 10/01/2015 15:00

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Volatiles in Air	**EPA 18 mod/EPA 25 mod**		ppm(v)	ppm(v)	
07090	Benzene	71-43-2	1	0.5	1
07090	C2-C4 Hydrocarbons as hexane	n.a.	11	5	1
07090	>C4-C10 Hydrocarbons hexane	n.a.	350	5	1
07090	Ethylbenzene	100-41-4	1	0.4	1
07090	Methane	74-82-8	360	2	1
07090	Toluene	108-88-3	2	0.8	1
07090	Xylene (total)	1330-20-7	4	0.7	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07090	BTEX/MTBE/Hydrocarbons by GC	EPA 18 mod/EPA 25 mod	1	M1527130AA	09/28/2015 14:31	Alexander D Sechrist	1

Quality Control Summary

Client Name: Brightfields, Inc. Group Number: 1596016
Reported: 10/01/2015 15:00

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: M1527130AA	Sample number(s): 8064387-8064388							
Benzene	N.D.	0.5	ppm(v)	90	87	75-111	4	30
C2-C4 Hydrocarbons as hexane	N.D.	5.	ppm(v)					
>C4-C10 Hydrocarbons hexane	N.D.	5.	ppm(v)					
Ethylbenzene	N.D.	0.4	ppm(v)	111	107	59-159	4	30
Methane	N.D.	2.	ppm(v)					
Toluene	N.D.	0.8	ppm(v)	120	113	77-143	6	30
Xylene (total)	N.D.	0.7	ppm(v)	109	104	70-134	5	30

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only
Acct. # 4549 Group # 1596016 Sample # 806430?-88
Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: Brightfields Inc.
Acct. #:
Project Name/#: Dodson Ave / 2734.04.51
PWSID #:
Project Manager: Ken Hannon
P.O. #: 13178
Sampler: Kelly Power
Quote #:
Name of state where samples were collected: Delaware

4 Matrix

Soil ☐ Sediment ☐ Water: Potable ☐ Ground ☐ NPDES ☐ Surface ☐ Other: AIR

5 Analysis Requested

Preservation Codes

For Lab Use Only

FSC:
SCR#:

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

6 Remarks

Cust seal # 516859

2 Sample Identification	Collected Date	Collected Time	3 Grab	Composite	Total # of Containers	BTEX, C_2-C_4, C_4-C_{10} & Methane by Method 18
DA-EFF-092315	9/23/15	1416	X		1	X
DA-INF-092315	9/23/15	1421	X		1	X

7 Turnaround Time (TAT) Requested (please circle)

Standard Rush *short hold time

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed:

E-mail address:

8 Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP)
Type VI (Raw Data Only)
Type III (Reduced non-CLP)
TX TRRP-13
NYSDEC Category A or B
MA MCP
CT RCP

Relinquished by	Date	Time	Received by	Date	Time
Kelly Power	9/25/15	13:10	[illegible]	9/25/15	13:10
[illegible]	9/25/15	[illegible]			
			[illegible]	9/25/15	1720

9

EDD Required? Yes (No)
If yes, format:

Site-Specific QC (MS/MSD/Dup)? Yes (No)
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS FedEx Other

Temperature upon receipt N/A °C

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.