

# Bristol-Myers Squibb Company

# BUILDING 22 AREA SOIL REMOVAL INTERIM REMEDIAL MEASURE SUMMARY REPORT

Syracuse North Campus Restoration Area NYSDEC BCP Site #C734138

January 2020

# Mark & Aundly

Mark Gravelding

New York State P.E. License No. 069985

I, Mark Gravelding, certify that I am currently a New York State registered Professional Engineer and that this Building 22 Area Soil Removal Interim Remedial Measure Summary Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

William McCune

Principal Geologist/ Project Manager

Daniel Zuck, CPG

Associate Project Manager

# **BUILDING 22 AREA SOIL REMOVAL INTERIM REMEDIAL MEASURE SUMMARY REPORT**

Syracuse North Campus Restoration Area NYSDEC BCP Site #C734138

Prepared for:

Bristol-Myers Squibb Company

Prepared by:

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January 2020

#### BUILDING 22 AREA SOIL REMOVAL INTERIM REMEDIAL MEASURE SUMMARY REPORT

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# **ACRONYMS AND ABBREVIATIONS**

Abscope Environmental, Inc. of Canastota, New York

Arcadis Arcadis of New York, Inc.

BDA Brownfield Development Area

bgs below ground surface

BMS Bristol-Myers Squibb Company

CAMP Community Air Monitoring Plan

CT Male CT Male Associates

Eurofins Eurofins Lancaster Environmental Laboratories of Lancaster, Pennsylvania

IRM Interim Remedial Measure

PCB polychlorinated biphenyl

TCLP Toxicity Characteristic Leaching Procedure

## 1 INTRODUCTION

This Building 22 Area Soil Removal Interim Remedial Measure Summary Report has been developed for the Bristol-Myers Squibb Company (BMS) to document observations and sampling activities performed by Arcadis of New York, Inc. (Arcadis) in connection with soil excavation activities in the Building 22 area at the Syracuse North Campus Restoration Area, which is also referred to as the Brownfield Development Area (BDA). The BDA is part of the BMS Facility located at 6000 Thompson Road in East Syracuse, New York. The layout of the BDA and BMS Facility are shown on Figure 1.

### 2 BUILDING 22 AREA SOIL EXCAVATION ACTIVITIES

Field activities were conducted in accordance with the *Building 22 Soil Removal Interim Remedial Measure (IRM) Work Plan* and relevant existing project remedial investigation work plans, including the *Field Sampling and Analysis Plan, Quality Assurance Project Plan*, and *Community Air Monitoring Plan* (CAMP).

A summary of each step of the IRM activities performed in connection with the soil removal completed by Abscope Environmental, Inc. of Canastota, New York (Abscope), and overseen by Arcadis are detailed below.

# 2.1 Site Preparation

The proposed excavation limits were staked in the field by CT Male Associates (CT Male), a New York State-licensed surveyor. A 10-foot grid of control points was also surveyed within the removal area to establish the baseline ground surface elevations prior to the soil excavation. These elevations could then be used to compare the post-excavation elevation survey of the same control points to demonstrate that the planned removal depths were achieved.

Prior to mobilizing for the excavation, Arcadis completed appropriate utility clearance procedures, including reviewing BMS utility drawings and records, calling DigSafely New York to have utilities covered by this program identified and located, contacting National Grid to confirm the location of a high-pressure gas main known to exist in proximity to the work area, and arranging for a National Grid-contracted overwatch person to be present during excavation activities. Arcadis also performed geophysical surveys using ground penetrating radar and electromagnetic sensing equipment across the work zone.

At the request of National Grid, Abscope also contracted a local drilling company, Parratt Wolff Inc., to daylight the high pressure gas line two locations along the western edge of the proposed excavation area, using an air knife and vacuum excavator, to confirm that the line did not run underneath the excavation area. Once the location of the transmission line was confirmed at each location, the holes were backfilled using filter sand (#0 Morie).

Mud matts were laid from the paved parking lot to the eastern edge of the work area to minimize rutting of the existing lawn during movement of equipment to the work area. Erosion controls in the form of 8-inch-diameter silt socks were installed around the perimeter of the work area using stakes to mitigate silts and other fines from being washed downslope during precipitation events.

#### 2.2 Soil Removal

The soil removal activities were completed by Abscope. An Arcadis geologist observed and documented all field activities, including monitoring soil for potential evidence of gross impacts (i.e., staining, odors) and conducting CAMP monitoring. Work was conducted by personnel with hazardous waste operations and emergency response training, using Modified Level D personal protective equipment, and in accordance with the project Health and Safety Plan.

Soil was removed from the excavation area in a north to south direction to a minimum of 3 inches below ground surface (bgs). Excavated soils were temporarily stockpiled in a working pile bermed on the downslope side. A skid steer loader was used to transfer the removed soil into roll-off containers staged in the adjoining paved parking lot.

On June 13, 2019, CT Male returned to the site to conduct the post-excavation survey. The 10-foot grid of control points were resurveyed to compare pre- and post-excavation elevations. Nine of the 43 control points did not meet the 3-inch removal criteria. Abscope returned the following day, June 14, 2019, to address the areas that did not meet the removal criteria as identified by CT Male. Following the second soil removal, CT Male re-surveyed the nine control points on June, 19, 2019, and found that all control points met the 3-inch soil removal criteria.

# 2.3 Western Site Boundary Soil Sampling

Following soil excavation, six soil samples were collected along the western boundary of the excavation area (Figure 2). Soil samples were collected at each of the three locations from two depth intervals, including 3 to 12 inches bgs and 12 to 24 inches bgs.

Laboratory analysis of the confirmation soil samples was conducted by Eurofins Lancaster Environmental Laboratories of Lancaster, Pennsylvania (Eurofins), a New York State Department of Health-approved laboratory. The samples were analyzed for polychlorinated biphenyls (PCBs) in accordance with United States Environmental Protection Agency's SW-846 Method 8082A. Analytical results of the soil samples are summarized in Table 1. PCBs were detected in all six soil samples. However, none of these detections exceeded the Unrestricted Soil Cleanup Objective for PCBs of 0.1 milligrams per kilograms.

# 2.4 Equipment Decontamination

Equipment and tools that contacted the removed soil were decontaminated prior to demobilization. Decontamination activities included scraping and water washing and were conducted within a decontamination pad constructed by Abscope with a polyethylene liner. The decontamination pad was located on the adjacent parking area, close to the work area, to minimize transport of impacted material. Rinse water collected in the decontamination pad was pumped into a Department of Transportation-approved 55-gallon drum.

# 2.5 Waste Characterization and Disposal

One representative sample of the removed soil deposited in the roll-off containers was collected for waste characterization purposes. This composite sample was analyzed for Toxicity Characteristic Leaching

Procedure (TCLP) analysis of semi-volatile organic compounds, pesticides, herbicides, and metals, and for total PCB, reactivity, ignitability, and corrosivity. Additionally, discrete soil samples were collected from each of the five roll-off containers. These discrete soil samples were analyzed for TCLP analysis of volatile organic compounds. Laboratory analysis was conducted at Eurofins.

Results of the waste characterization samples showed that soils removed from the excavation boundary were non-hazardous. A total of 72.9 tons of soil in the five roll-off containers were transported under a Bill of Lading for disposal at the High Acres facility in Fairport, New York (Attachment 4).

The drummed decontamination rinse water was disposed of under the waste profile generated from the BDA-17 well cluster drilling water. The drilling water was analyzed for metals, VOCs, SVOCs, alcohols, glycols, pH, and reactivity. Results of the waste characterization samples determined that the waste waters were non-hazardous and therefore, were transported offsite for disposal (Attachment 4).

### 2.6 Restoration

Following soil excavation to the required 3-inch depth, the removal area boundaries were sloped to meet existing lawn grade to the north, east, and south. The soil removal area was not backfilled as part of the IRM. BMS will conduct final grading and restoration later, consistent with anticipated future use of this area.

# **TABLE**

# Table 1 Soil Analytical Results - PCB



# **Building 22 Soil Removal Interim Remediation Measure Report Site #C734138: BMS Syracuse North Campus Restoration Area**

Location ID: Sample Depth(ft): Date Collected:	CAS Number	Unrestricted Use SCO	Restricted Use SCO - Commercial	BCP-SS-2019A 0.25-1.0 06/12/19	BCP-SS-2019A 1.0-2.0 06/12/19	BCP-SS-2019B 0.25-1.0 06/12/19	BCP-SS-2019B 1.0-2.0 06/12/19	BCP-SS-2019C 0.25-1.0 06/12/19	BCP-SS-2019C 1.0-2.0 06/12/19
PCB - USEPA SW-84	6 Method 808	2/A (mg/kg)							
Aroclor-1016	12674-11-2			0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Aroclor-1221	11104-28-2			0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Aroclor-1232	11141-16-5			0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Aroclor-1242	53469-21-9			0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Aroclor-1248	12672-29-6			0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Aroclor-1254	11097-69-1			0.014 J	0.01 J	0.0094 J	0.007 J	0.091	0.014 J
Aroclor-1260	11096-82-5			0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Aroclor-1262	37324-23-5			0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Aroclor-1268	11100-14-4			0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Total PCB	1336-36-3	0.1	1	0.014 J	0.01 J	0.0094 J	0.007 J	0.091	0.014 J

#### Notes:

- 1. Unrestricted use and restricted commercial use SCO are from 6 NYCRR Part 375-6.8.
- 2. Samples were collected by Arcadis and analyzed by Eurofins Lancaster Laboratories of Lancaster, Pennsylvania.
- 3. Analytes detected in sample are shown in black font and analytes that are not detected are shown in gray font.
- 4. Soil investigation depths are from original ground surface prior to excavation.
- 5. Data have been validated.
- 6. Abbreviations:
  - - = 6 NYCRR SCO not available.

6 NYCRR = Title 6 of the Official Compilation of Codes, Rules, and Regulations of the State of New York.

CAS = Chemical Abstracts Service.

ft = Feet.

mg/kg = Milligrams per kilogram or part per million.

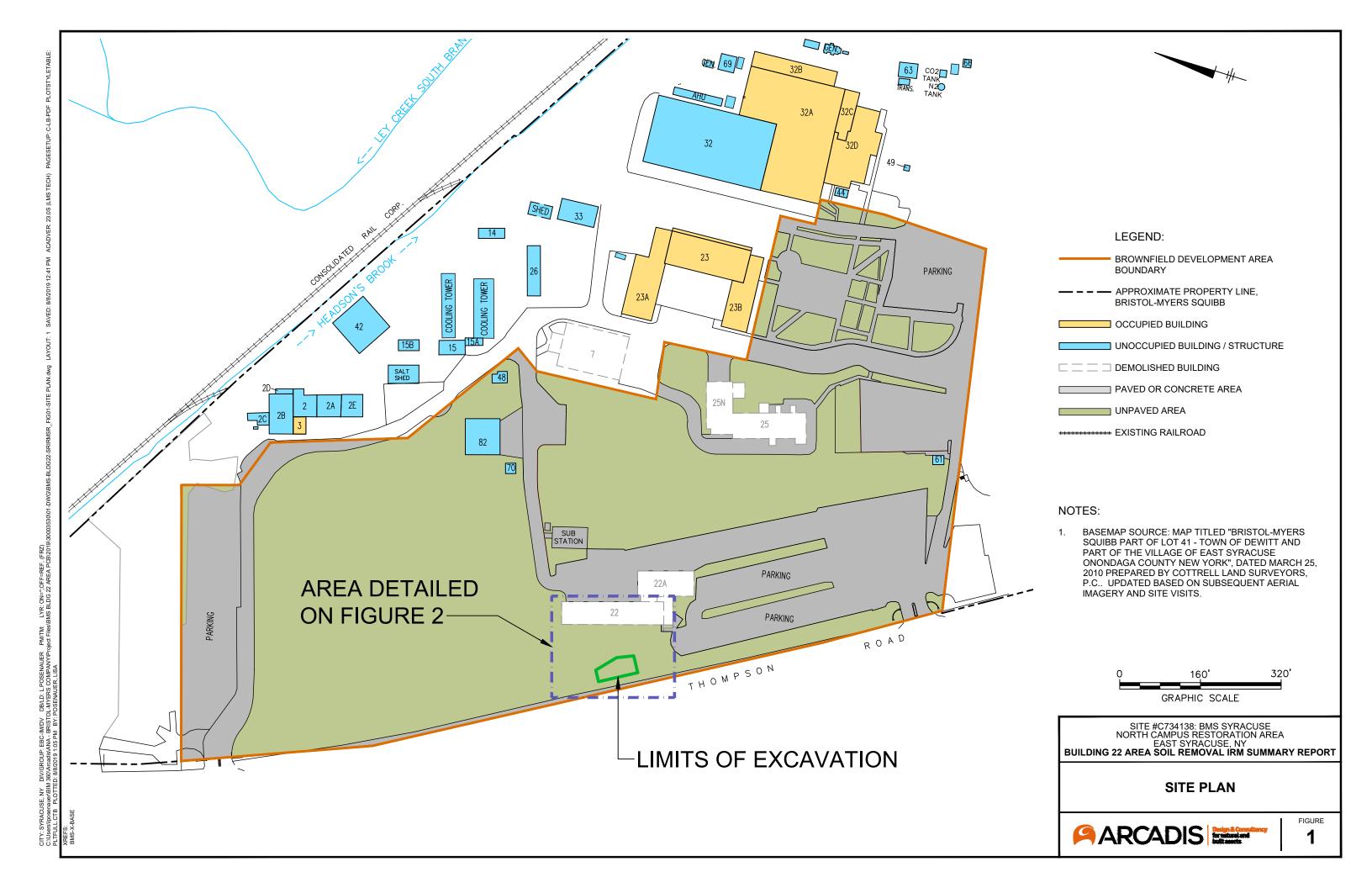
PCB = Polychlorinated biphenyls.

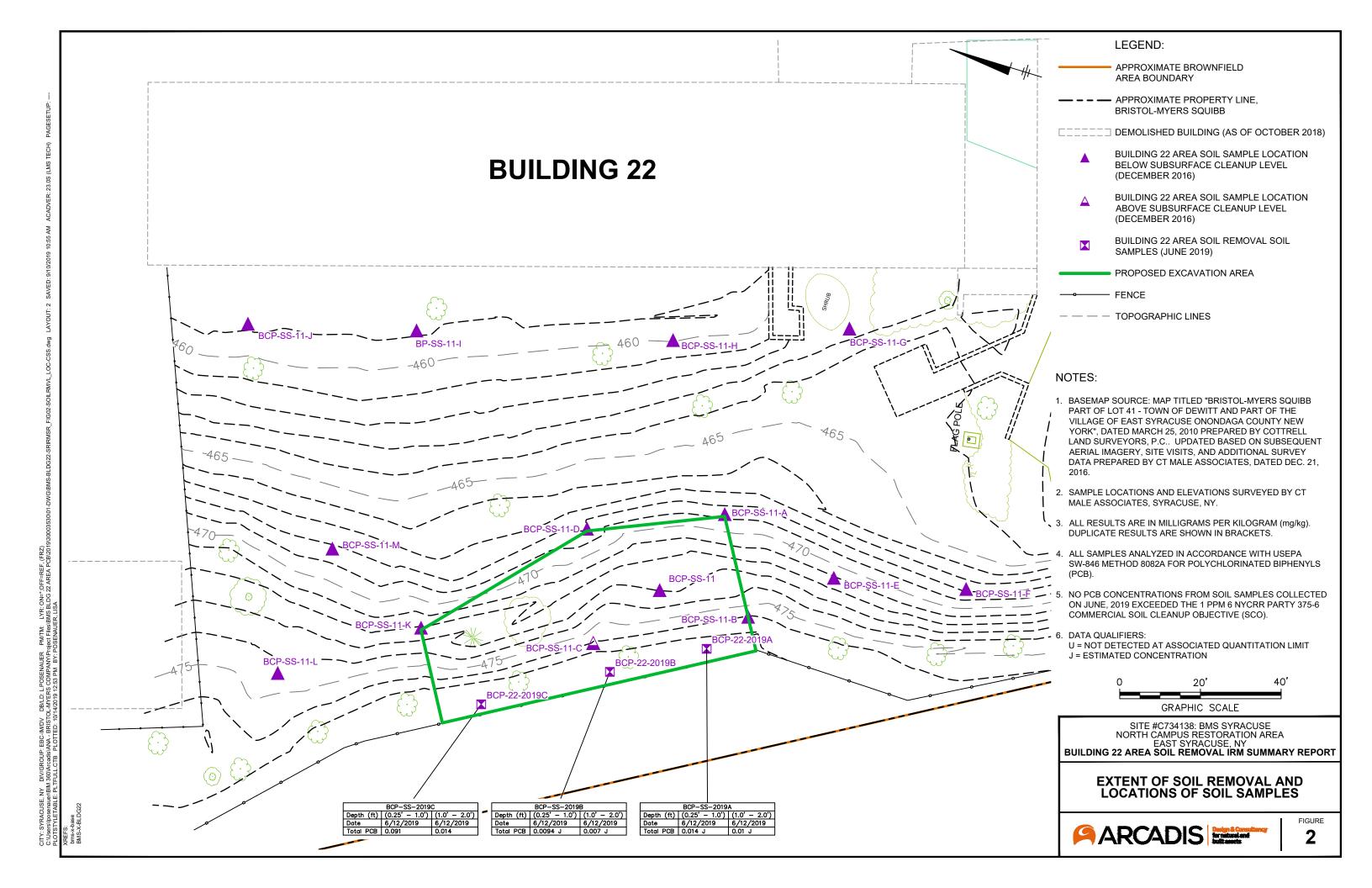
SCO = Soil Cleanup Objectives.

USEPA = United States Environmental Protection Agency.

- 7. Qualifier Definitions:
  - J = Estimated value. Result is greater than the MDL but less than the RL.
  - U = Analyte not detected at listed reporting detection limit.

# **FIGURES**





# **ATTACHMENT 1 Building 22 Area Soil Removal Interim Remedial Measure Work Plan**



# **Bristol-Myers Squibb Company**

# BUILDING 22 AREA SOIL REMOVAL INTERIM REMEDIAL MEASURE (IRM) WORK PLAN

Site # C734138

BMS Syracuse North Campus Restoration Area

East Syracuse, New York

November 2018



11-09.2018

David A. Wright New York State P.E. License No. 086954

I, David A. Wright, certify that I am currently a New York State registered Professional Engineer and that this Building 22 Area Soil Removal Interim Remedial Measure (IRM) Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

# BUILDING 22 AREA SOIL REMOVAL IRM WORK PLAN

Site # C734138
BMS Syracuse North Campus Restoration Area
East Syracuse, New York

Prepared for: Bristol-Myers Squibb Company 6000 Thompson Road East Syracuse, New York 13057

Prepared by:
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B0087363.0037

Date:

November 2018

#### BUILDING 22 AREA SOIL REMOVAL IRM WORK PLAN

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Figure 1 Site Plan

Figure 2 Proposed Extent of Soil Removal

# **ACRONYMS AND ABBREVIATIONS**

Arcadis Arcadis of New York, Inc.

BCA Brownfield Cleanup Agreement

BCP Brownfield Cleanup Program

BDA Brownfield Development Area

bgs below ground surface

BMS Bristol-Myers Squibb Company

CAMP community air monitoring program

CY cubic yards

DER Division of Environmental Remediation

DOT Department of Transportation

HASP health and safety plan

HAZWOPER hazardous waste operations and emergency response

IRM interim remedial measure

mg/kg milligrams per kilogram

NYCRR New York Codes, Rules, and Regulations

NYS New York State

NYSDEC New York State Department of Environmental Conservation

NYSDOH New York State Department of Health

OBG O'Brien & Gere Engineers, Inc.

PCB polychlorinated biphenyls

PID photoionization detector

PPE personal protective equipment

RI Remedial Investigation

RIWP Remedial Investigation Work Plan

SCO Soil Cleanup Objective

TCLP Toxicity Characteristic Leaching Procedure

USEPA United States Environmental Protection Agency

VOC volatile organic compounds

### 1 INTRODUCTION

Bristol-Myers Squibb Company (BMS) has completed a remedial investigation (RI) of the North Campus Restoration Area (also referred to as the Brownfield Development Area [BDA]) portion of its Facility located at 6000 Thompson Road in East Syracuse, New York. The BDA is identified by the New York State Department of Environmental Conservation (NYSDEC) as Site No. C734138 and is subject to a Brownfield Cleanup Agreement (BCA; October 2011) between BMS and the NYSDEC. The locations of the BMS Facility and BDA are shown on Figure 1. The RI activities are documented in the *Remedial Investigation Report* (Arcadis, 2018).

In the RI Report (Section 9.3), and as previously discussed with NYSDEC, BMS proposed that a limited volume of surface and shallow soil west of Building 22 impacted with polychlorinated biphenyls (PCB) would be excavated and disposed off-site. This *Building 22 Area Soil Removal Interim Remedial Measure (IRM) Work Plan* (IRM Work Plan) addresses the proposed limited soil removal.

### 2 IRM BASIS

Sampling was conducted in 2013 and 2014 to evaluate surface and shallow soil quality near then-current and former electrical transformers and broadly across the BDA for PCB and a range of other potential contaminants in accordance with the NYSDEC-approved *Remedial Investigation Work Plan* (RIWP) (O'Brien & Gere Engineers, Inc. [OBG] 2013a) and *C734138 Phase 1A Remedial Investigation Work Plan - Surface Soil Sampling Module* (Arcadis 2014). These analytical results identified PCB concentrations greater than the 1 milligrams per kilogram (mg/kg) NYSDEC commercial use Soil Cleanup Objective (SCO) listed in Title 6 of the New York Codes, Rules, and Regulations (NYCRR) Subpart 375-6.8 (b) at 1 of 41 sampling locations. The one sampling location was BCP-SS-11, in the sloped lawn area west of Building 22 (Figure 2).

Additional surface and shallow soil sampling was conducted to evaluate the extent of PCB around location BCP-SS-11. In accordance with the NYSDEC-approved *Building 22 Area Soil Sampling Plan* (Arcadis 2016), soil samples were collected from 14 locations at four depth intervals: (0-2 inches below ground surface [bgs], 2-12 inches bgs, 12-24 inches bgs, and 24-36 inches bgs). The analytical results for PCB are provided on Figure 2. The maximum concentration was 11 mg/kg in the 0- to 2-inch depth interval at location BCP-SS-11-C, and the second highest concentration was 8.1 mg/kg in the 0- to 2-inch depth interval at adjoining location BCP-SS-11.

NYSDEC Policy CP-51 / Soil Cleanup Guidance (NYSDEC; 2010) identifies (Section I) an "acceptable presumptive remedy for soil" regarding PCB at Brownfield Cleanup Program (BCP) sites as a soil cleanup level of 1 mg/kg in surface soil and 10 mg/kg in subsurface soil, assuming the following conditions are satisfied:

- The site cleanup is under BCP Track 4 (i.e., long-term institutional and engineering controls allowed to achieve protection of public health and the environment, and must include a cover system for exposed residual soil contamination);
- Site use will be restricted residential, commercial or industrial; and

The SCO protective of ecological resources do not apply.

The above conditions are satisfied for the BDA. As discussed in the RI Report, BMS anticipates use of a cover system (to the extent needed) and will restrict future site use to commercial/industrial via institutional controls.

Therefore, BMS proposes to remove soil with PCB concentrations greater than the CP-51 level of 10 mg/kg for off-site disposal at a commercial landfill permitted to accept the waste. Soil remaining with PCB concentrations greater than the 1 mg/kg commercial SCO will be managed in place beneath at least 12 inches of clean soil (to be installed at a later date).

Soil will be removed to a depth of 3 inches bgs around adjoining locations BCP-SS-11C and BCP-SS-11. PCB concentrations in the 0-2 inch depth interval are slightly greater than 10 mg/kg at BCP-SS-11C and slightly less in the same interval at BCP-SS-11, and less than 1 mg/kg in the 2-12 inch depth interval at both locations. The area of soil removal will extend to the next closest sampling locations to the north, east, and south, and to the Facility fence along the Thompson Road bus stop edge of pavement to the west (Figure 2). This will result in a removal area of approximately 2,950 square feet and a removal volume of approximately 28 cubic yards.

No additional soil sampling is proposed because the existing soil data is in general conformance with the remediation limits soil sampling frequency identified in DER-10, and a soil cover will be installed over the area in the future.

# 3 IRM ACTIVITIES

In general, the IRM activities will include the following tasks (with details provided in subsequent subsections):

- Establish survey control and stake the limits of the soil removal area.
- Identify and mark overhead and buried utilities in the work area.
- Mobilize labor, equipment, and material to the site and secure necessary permits to commence work.
- Install mud matts and sedimentation and erosion controls.
- Prepare for dust suppression (i.e., wetting) and perimeter air monitoring in accordance with the project Community Air Monitoring Plan (CAMP).
- Remove the soil using small powered excavation equipment.
- Loadout removed soil into roll-off containers for off-site disposal.
- Characterize and dispose of the removed soil.
- Restore the work area, decontaminate, and demobilize.

#### 3.1 Soil Removal

The soil removal activities will be completed by Abscope Environmental, Inc. of Canastota, New York. An Arcadis geologist will observe and document (including photographs) field activities, monitor soil for potential evidence of gross impacts (i.e., staining, odors), and conduct CAMP monitoring. Work will be conducted by personnel with hazardous waste operations and emergency response (HAZWOPER) training, using Modified Level D personal protective equipment (PPE), and in accordance with the project health and safety plan (HASP).

Prior to excavation, a Facility Excavation Permit will be obtained from BMS, and buried utilities will be identified through BMS, Digsafely New York, and a geophysical survey. Abscope will also coordinate with National Grid based on the known proximity of a buried natural gas transmission line along the western side of the work area.

The prior sampling locations and proposed excavation limits will be staked in the field by a NYS-licensed surveyor (CT Male, Inc.) and an approximate 10-foot grid of control points will be established within the removal area to demonstrate that removal depths are met (pre- and post-removal elevation survey).

Soil adjacent to trees and within root systems will be removed to the extent practical (note that trees within the work area will be removed to ground level prior to this work scope). Smaller tree roots will be cut and removed to facilitate soil removal, while tree stumps (flush to grade) and large roots will be left in-place, with soil removed as practical.

Soil will be removed in a west to east direction (i.e., downslope). As the excavator scrapes the soil to the 3-inch depth, it will be temporarily staged in a working pile (placed on a minimum 10-mil thick polyethylene liner that will be bermed on the downslope side). A skid steer loader will be used to transfer the removed soil into roll-off containers staged in the adjoining paved parking lot.

#### 3.2 Erosion Controls

Mud matts will be laid down from the paved parking lot to the eastern edge of the work area to minimize rutting of the existing lawn. Erosion controls will be installed to mitigate silts and other fines from being washed downslope during a potential precipitation event, including approximate 10-foot by 12-inch filter socks or coir logs staked in a line downslope of the work area. Yard drains along the western side of Building 22 will also be protected with filter cloth.

# 3.3 Dust Control and Air Monitoring

Measures will be implemented during the soil removal and handling activities to limit the generation of vapors/odors and dust to within acceptable levels. The magnitude and extent of control measures required will be based on the results of air monitoring. The main objectives of the air monitoring and response actions are to protect the health and safety of onsite workers and the surrounding community and to address potential nuisance conditions. Based on existing analytical data, vapor/odor issues are not expected, and control measures will focus on fugitive dust (i.e., wetting of soil with water spray) and covering of staged soil with a liner.

Perimeter air monitoring will be conducted in accordance with the project CAMP (OBG 2013b), as amended. Monitoring will include one upwind and one downwind station for PM-10 particulates (dust) and

for volatile organic compounds (VOC). The VOC monitoring will be conducted with photoionization detectors (PID) equipped with an 11.7 electron volt lamp. Particulate and VOC levels will be monitored at the designated upwind station and downwind station. Appropriate actions (e.g., work stoppage, water sprays, covering excavations, as outlined in the CAMP) will be taken in response to the air monitoring results, if needed.

#### 3.4 Restoration

The removal area boundaries will be sloped to meet existing lawn grade to the north, east, and south. The soil removal area will not be backfilled as part of the IRM. Grass seed will be planted over the disturbed area. BMS will conduct final grading and restoration later following completion of ongoing Building 22 demolition activities.

# 3.5 Equipment Decontamination

Equipment and tools that contact the removed soil will be decontaminated prior to demobilization. Decontamination activities will include scraping and water washing and will be conducted within a small decontamination pad constructed with a polyethylene liner. The decontamination pad will be close to the work area to minimize transport of impacted material. Rinse water collected in the decontamination pad will be pumped into a Department of Transportation (DOT)-approved drum.

# 3.6 Waste Characterization and Disposal

One representative sample of the removed soil deposited in the roll-off containers will be collected for waste characterization purposes, including Toxicity Characteristic Leaching Procedure (TCLP) analysis of VOC, semi-volatile organic compounds, pesticides, herbicides, and metals, and for total PCB, reactivity, ignitability, and corrosivity. Laboratory analysis will be conducted at Eurofins Lancaster Environmental Laboratories of Lancaster, PA, a NYSDOH-approved laboratory. Following receipt of acceptable analytical results, the soil will be transported to a properly permitted commercial landfill facility. It is anticipated that the soil will be non-hazardous and will be transported under a Bill of Lading.

One representative sample of the drummed decontamination rinse water will be collected for analysis of the same parameters as the waste soil. If the analytical results are acceptable, then the water will be discharged to the BMS Waste Water Pre-treatment Plant. Otherwise, the water will be disposed offsite at a properly permitted facility.

## 4 SCHEDULE AND REPORTING

The IRM activities will not commence until after receipt of written approval of the IRM Work Plan from the NYSDEC and removal of the above ground portions of the trees in the work area. Further, the start date will be dependent on coordination with ongoing Building 22 demolition activities, coordination with National Grid (natural gas line), tree removal, and field/weather conditions. BMS will provide the NYSDEC and NYSDOH with a proposed start date and detailed schedule before proceeding.

Once a start date is established, it is anticipated that preparation activities (survey, utility clearance, BMS excavation permit) will require approximately one week to complete, and that erosion controls installation, soil removal, load-out, and restoration will be conducted over an estimated two days of field work.

After completion of waste disposal, the field activities will be summarized in an IRM Completion Summary Report, including the following components:

- Narrative discussion of the remedial activities conducted.
- Certification statement with the signature and seal of a NYS-licensed professional engineer.
- Figure showing the extent of soil removal, including boundary control point coordinates and surveyed pre-and post-excavation elevations.
- Summary of dust control measures implemented and perimeter air monitoring (CAMP) results.
- Laboratory analytical report for waste characterization.
- Documentation of waste disposal.
- Photographs of the soil removal area during and after the work.
- Conclusions, including modifications of the work plan, if any.

The IRM Completion Summary Report will be submitted within four weeks following completion of waste disposal.

# 5 REFERENCES

Arcadis. 2014. C734138 Phase 1A Remedial Investigation Work Plan: Surface Soil Sampling Module. September 2014.

Arcadis. 2016. Building 22 Soil Sampling Plan. November 2016.

Arcadis. 2018. Remedial Investigation Report. September 2018.

BMS and NYSDEC. 2011. Brownfield Cleanup Agreement. October 2011.

NYSDEC. 2006. 6 NYCRR Subpart 375-6, Remedial Program Soil Cleanup Objectives. December 14, 2006.

NYSDEC. 2010a. NYSDEC Policy CP-51 / Soil Cleanup Guidance. October 21, 2010.

NYSDEC. 2010b. DER-10 Technical Guidance for Site Investigation and Remediation. May 3. Available online at: <a href="http://www.dec.ny.gov/regulations/67386.html">http://www.dec.ny.gov/regulations/67386.html</a>

OBG. 2013a. Remedial Investigation Work Plan: BMS Syracuse North Campus Restoration Area Site No. C734138. March 2013.

OBG. 2013b. Remedial Investigation Work Plan: BMS Syracuse North Campus Restoration Area Site No. C734138. Community Air Monitoring Plan. March 2013.

# **FIGURES**



APPROXIMATE BROWNFIELD
DEVELOPMENT AREA (BDA) BOUNDARY

APPROXIMATE BRISTOL-MYERS SQUIBB PROPERTY LINE

# NOTE:

1. 2015 IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.

SITE #C734138: BMS SYRACUSE NORTH CAMPUS RESTORATION AREA EAST SYRACUSE, NY

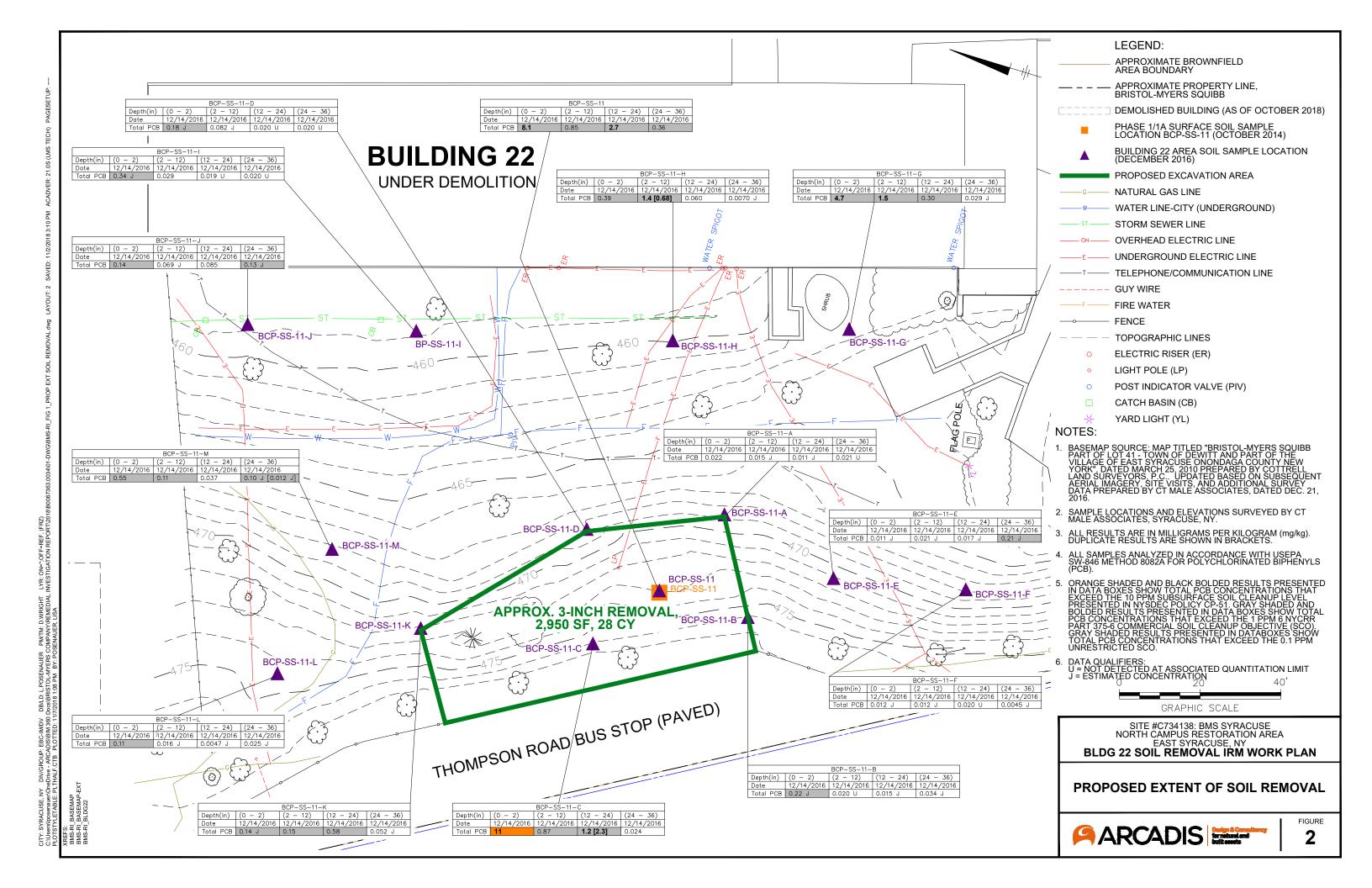
**BLDG 22 AREA SOIL REMOVAL IRM WORK PLAN** 

**SITE PLAN** 



**FIGURE** 

1



**CAMP Summary Report** 



Ms. Anne Locke Associate Manager, Environmental Protection Environmental, Health and Safety Department Bristol-Myers Squibb P.O. Box 4755 Syracuse, NY 13221

Subject:

Community Air Monitoring During Building 22 Area Soil Excavation IRM Bristol-Myers Squibb Syracuse Facility East Syracuse, New York 13057

Dear Ms. Locke:

The following is a summary of the community air monitoring activities implemented by Arcadis U.S., Inc. (Arcadis) in connection with the soil excavation activities (soil excavation, grading, soil transport, etc.) for the Building 22 Area Soil Excavation Interim Remedial Measures conducted at the Bristol-Myers Squibb (BMS) Syracuse North Campus, East Syracuse, New York, on June 10<sup>th</sup> and 11<sup>th</sup>, 2019.

Perimeter air monitoring was conducted in accordance with the project CAMP (OBG 2013b), as amended. Monitoring included one upwind and one downwind station for PM-10 particulates (dust) and for volatile organic compounds (VOCs). The VOC monitoring was conducted with photoionization detectors (PID) equipped with an 11.7 electron volt lamp. Particulate and VOC levels were monitored at the appropriate upwind station and downwind station selected each day based on wind direction and soil handling activities. The contractor was prepared to take appropriate actions (e.g., work stoppage, water sprays, covering excavations, as outlined in the CAMP) in response to the air monitoring results, if needed. However, as documented on the attached summary table (Attachment 1), no exceedances of the established action levels were observed at any time throughout the soil handling activities.

June 10, 2019: Parratt-Wolff Inc. conducted vacuum excavation to daylight the gas line adjacent to the excavation area in two locations from 8:40 AM to 10:50 AM. Abscope Environmental, Inc. (Abscope) began soil excavation activities at 10:55 AM and concluded at 1:30 PM. Arcadis conducted CAMP monitoring for the duration of intrusive activities from approximately 8:30 AM to 1:30 PM. The prevailing wind direction was observed originating from the southeast through the day. Air quality parameters did not exceed CAMP standards at any time during work activities.

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**ENVIRONMENT** 

Date: **June 17, 2019** 

Contact: William McCune

Phone: 315 671 9172

Email: William.McCune@arcadis.com

Our ref: B0087363.0037

Ms. Anne Locke Bristol-Myers Squibb June 17, 2019

June 11, 2019: Soil excavation activities conducted by Abscope continued and were completed on this day. Arcadis conducted CAMP monitoring for the duration of excavation activities from 7:20 AM to 4:20 PM. The prevailing wind direction was observed from the northwest through the workday. At 2:42 PM, the downwind CAMP monitoring station was repositioned approximately 1,000 feet south, downwind of the roll-off containers, to monitor potential dust particles and organic vapors generated during transport of soils from the excavation area to the roll-offs. Air quality parameters did not exceed CAMP standards at any time during work activities.

A sketch map (Attachment 2) illustrates the overall work area with the approximate locations of the air monitoring stations in relation to the areas in which soil handling activities were performed (e.g., air knife/vacuum unit utility clearance, the soil excavation, and soil transport to containment roll-offs throughout the first day of excavation activities).

Another two sketch maps (Attachments 3 and 4) illustrate the overall work area with the approximate locations of the air monitoring stations in relation to the areas in which soil handling activities were performed (e.g., the soil excavation, and soil transport to containment roll-offs during the second day of excavation activities), with Attachment 4 illustrating the revised location of the downwind air monitoring station following the placement of additional roll-offs for containment of excavated soil.

Please contact us with any questions or comments pertaining to this project.

Sincerely,

Arcadis of New York, Inc.

1 Man

William McCune

Principal Geologist

#### **Attachments**

- 1 CAMP Data Logs
- 2 Site Sketches/Notes for June 10th 10:55 AM till 1:30 PM
- 3 Site Sketches/Notes for June 11th 7:20 AM till 2:42 PM
- 4 Site Sketches/Notes for June 11th 2:45 PM till 4:20 PM

Table 1A - Particulate

Building 22 Area Soil Removal IRM Dust Particulate Monitoring Data BMS Syracuse North Campus Area

East Syracuse, New York



Upwind DustTrak 6/10/20	019		Downwind DustTrak 6/10/	19		Upwind DustTrak 6/11/19			Downwind DustTrak 6/11/1	9	
Instrument Name	DustTrak II		Instrument Name	DustTrak II		Instrument Name	DustTrak II		Instrument Name	DustTrak II	
Model Number	8530		Model Number	8530		Model Number	8530		Model Number	8530	
Serial Number	8530141715		Serial Number	8530183906		Serial Number	8530141715		Serial Number	8530141715	
Test Start Time	7:30:44 AM		Test Start Time	8:06:00 AM		Test Start Time	7:30:44 AM		Test Start Time	7:30:44 AM	
Test Start Date	6/11/2019		Test Start Date	6/10/2019		Test Start Date	6/11/2019		Test Start Date	6/11/2019	
Mass Average [mg/m3]	0.006		Mass Average [mg/m3]	0.057		Mass Average [mg/m3]	0.006		Mass Average [mg/m3]	0.006	
Mass Minimum [mg/m3]	0.002		Mass Minimum [mg/m3]	0.006		Mass Minimum [mg/m3]	0.002		Mass Minimum [mg/m3]	0.002	
Mass Maximum [mg/m3]	0.044		Mass Maximum [mg/m3]	0.087		Mass Maximum [mg/m3]	0.044		Mass Maximum [mg/m3]	0.002	
ividss ividxiiiiuiii [iiig/iiis]	0.044		iviass iviaximum [mg/ms]	0.087		iviass iviaxiiiiuiii [iiig/iiis]	0.044		iviass iviaxiiiiuiii [iiig/iiis]	0.044	
Time [h:mm]	Mass [mg/m3] Alarm	s Errors Comm	ents Time [h:mm]	Mass [mg/m3]	Alarms Errors Comments	Time [h:mm]	Mass [mg/m3]	Alarms Errors Comments	Time [h:mm:ss]	Mass [mg/m3]	Alarms Errors Comments
8:16 AM	0.035	5 211015 - Collins	8:06 AM	0.07	Zilois comments	7:30 AM	0.004		7:22 AM	0.005	tidinis Errors comments
8:21 AM	0.0395		8:11 AM	0.079		7:35 AM	0.004		7:27 AM	0.005	
8:26 AM	0.04		8:16 AM	0.08		7:40 AM	0.004		7:32 AM	0.005	
8:31 AM	0.0405		8:21 AM	0.081		7:45 AM	0.005		7:37 AM	0.003	
8:36 AM	0.041		8:26 AM	0.081		7:50 AM	0.005		7:43 AM	0.007	
8:41 AM	0.041		8:31 AM	0.082		7:55 AM	0.003		7:48 AM	0.008	
8:46 AM	0.042		8:36 AM	0.084		8:00 AM	0.005		7:53 AM	0.008	
8:46 AM 8:51 AM	0.03		8:36 AM 8:41 AM	0.06		8:00 AM 8:06 AM		<del>                                     </del>	7:53 AM 7:58 AM	0.008	-+-+
	0.033		8:41 AW	0.086						0.006	
8:56 AM 9:01 AM	0.043	+	8:46 AM 8:51 AM	0.086		8:11 AM			8:03 AM 8:08 AM	0.006	$\longrightarrow$
9:01 AM 9:06 AM	0.0522	+	8:51 AM 8:56 AM	0.087		8:16 AM 8:21 AM			8:08 AM 8:13 AM	0.006	
9:06 AM 9:11 AM	0.0516	+	9:01 AM	0.085		8:21 AM 8:26 AM	0.005		8:13 AM 8:18 AM	0.006	
9:11 AM 9:16 AM	0.051	+	9:01 AM 9:06 AM	0.085		8:26 AM 8:31 AM	0.004		8:18 AM 8:23 AM	0.007	$\longrightarrow$
9:21 AM	0.0516		9:06 AM	0.086		8:36 AM	0.004		8:23 AM 8:28 AM	0.006	
9:21 AM 9:26 AM	0.0516		9:11 AM 9:16 AM			8:36 AM 8:41 AM			8:28 AM	0.006	
9:31 AM	0.0504		9:16 AW	0.084					8:33 AM	0.006	
9:31 AM 9:36 AM	0.0066		9:21 AM 9:26 AM			8:46 AM 8:51 AM			8:38 AIVI 8:43 AM	0.005	
9:41 AM	0.0396		9:26 AW	0.066		8:51 AM 8:56 AM			8:43 AM	0.005	
9:46 AM	0.0468		9:36 AM	0.078		9:01 AM	0.003		8:53 AM	0.003	
9:51 AM	0.0462		9:41 AM	0.078		9:06 AM			8:58 AM	0.005	
9:51 AM 9:56 AM	0.0462		9:41 AM 9:46 AM	0.077		9:06 AM 9:11 AM			9:03 AM	0.005	
			9:46 AM 9:51 AM	0.078					9:03 AM 9:08 AM	0.005	
10:01 AM	0.0462					9:16 AM	0.003				
10:06 AM	0.0468		9:56 AM 10:01 AM	0.078		9:21 AM	0.003		9:13 AM 9:18 AM	0.005	
10:11 AM	0.0468			0.078		9:26 AM				0.006	
10:16 AM 10:22 AM	0.0468 0.0474		10:06 AM 10:12 AM	0.078 0.079		9:31 AM 9:36 AM			9:23 AM 9:28 AM	0.005 0.005	
10:27 AM	0.0474		10:17 AM	0.079		9:41 AM			9:33 AM	0.003	
10:32 AM	0.0474		10:22 AM	0.079		9:46 AM			9:38 AM	0.006	
10:37 AM	0.0474		10:27 AM	0.079		9:51 AM	0.002		9:43 AM	0.006	
10:42 AM	0.0474		10:32 AM	0.079		9:56 AM	0.002		9:49 AM	0.006	
10:47 AM	0.0474		10:37 AM			10:01 AM	0.002		9:54 AM	0.006	
10:52 AM	0.0474		10:42 AM			10:06 AM			9:59 AM	0.009	
10:57 AM	0.0054		10:47 AM	0.009		10:12 AM	0.002		10:04 AM	0.005	
11:02 AM	0.0034	+ + + + + + + + + + + + + + + + + + + +	10:52 AM	0.009		10:17 AM			10:09 AM	0.005	-+-+
11:07 AM	0.0306	+ + + -	10:57 AM	0.051		10:22 AM	0.003	<del>                                     </del>	10:14 AM	0.005	-+-
11:12 AM	0.0504		11:02 AM	0.031		10:27 AM			10:19 AM	0.003	<del>-      </del>
11:17 AM	0.051	+ + + + + + + + + + + + + + + + + + + +	11:07 AM	0.085		10:32 AM	0.003		10:24 AM	0.006	-+
11:22 AM	0.051		11:12 AM	0.085		10:37 AM	0.003		10:29 AM	0.006	
11:27 AM	0.051		11:17 AM			10:42 AM	0.009		10:34 AM	0.006	
11:32 AM	0.051		11:22 AM	0.085		10:47 AM	0.005		10:39 AM	0.006	
11:37 AM	0.051		11:27 AM	0.085		10:52 AM	0.003		10:44 AM	0.006	-+
11:42 AM	0.051		11:32 AM	0.085		10:57 AM	0.009		10:49 AM	0.006	-+
11:47 AM	0.051		11:37 AM	0.085		11:02 AM	0.004		10:54 AM	0.006	
11:52 AM	0.051		11:42 AM	0.085		11:07 AM			10:59 AM	0.006	-+
11:57 AM	0.051		11:47 AM	0.085		11:12 AM	0.008		11:04 AM	0.007	-+
12:02 PM	0.0516		11:52 AM	0.086		11:17 AM	0.006		11:09 AM	0.007	
12:07 PM	0.0516		11:57 AM	0.086		11:22 AM	0.004		11:14 AM	0.007	
12:12 PM	0.0042		12:02 PM			11:27 AM	0.006		11:19 AM	0.007	-+
12:17 PM	0.0042		12:07 PM			11:32 AM			11:24 AM	0.007	
12:22 PM	0.0042		12:12 PM	0.007		11:37 AM	0.005		11:29 AM	0.007	
12:28 PM	0.0042		12:18 PM	0.007		11:42 AM			11:34 AM	0.007	
12:33 PM	0.0042		12:23 PM	0.007		11:47 AM	0.003		11:39 AM	0.007	
12:38 PM	0.0042		12:28 PM	0.007		11:52 AM	0.003		11:44 AM	0.007	
12:43 PM	0.0042		12:33 PM	0.007		11:57 AM	0.003		11:49 AM	0.007	
12:48 PM	0.0042	+ + + -	12:38 PM	0.007		12:02 PM	0.003		11:55 AM	0.007	-
22.101101	2.30 12		12.301141	5.007	1 1	12.02 1 101	0.003		11.55 AW	0.007	

Table 1A - Particulate Building 22 Area Soil Removal IRM Dust Particulate Monitoring Data BMS Syracuse North Campus Area East Syracuse, New York



me [h:mm]	Mass [mg/m3]	Alarms Erro <u>rs</u>	Comments	Time [h:mm]	Mass [mg/m3]	Alarms	Errors	Comments	Time [h:mm]	Mass [mg/m3] Al	arms Er	rors Commen	s Time [h:mm:ss]	Mass [mg/m3]	Alarms Erro	rs Comm
12:53 PM	0.005			12:43 PM					12:07 PM	0.003			12:00 PM	0.007		
12:58 PM	0.0105			12:48 PM	0.021				12:12 PM	0.003			12:05 PM	0.007		
1:03 PM	0.0035			12:53 PM	0.007				12:18 PM	0.003			12:10 PM			
1:08 PM	0.0035			12:58 PM	0.007				12:23 PM	0.003			12:15 PM	0.007		
1:13 PM	0.0035			1:03 PM	0.007				12:28 PM	0.004			12:20 PM			
1:18 PM	0.003			1:08 PM	0.006				12:33 PM	0.004			12:25 PM			
1:23 PM	0.0035			1:13 PM	0.007				12:38 PM	0.004			12:30 PM	0.007		
1:28 PM	0.0035			1:18 PM	0.007				12:43 PM	0.006			12:35 PM	0.007		
1:33 PM	0.0033			1:23 PM	0.008				12:48 PM	0.006			12:40 PM			
1:38 PM	0.0035			1:28 PM	0.007				12:53 PM	0.004			12:45 PM			
1:43 PM	0.0035			1:33 PM	0.007				12:58 PM	0.015			12:50 PM			
1:48 PM	0.0033			1:38 PM	0.007				1:03 PM	0.007			12:55 PM			
1:53 PM	0.004			1:43 PM	0.008				1:08 PM	0.007			1:00 PM	0.082		
1:58 PM	0.004			1:48 PM	0.008				1:13 PM	0.009			1:05 PM	0.083		
2:03 PM	0.004			1:53 PM	0.008				1:18 PM	0.007			1:10 PM			
2:03 PM	0.039			1:53 PM 1:58 PM	0.078				1:18 PM 1:23 PM	0.003			1:10 PM	0.084		
2:13 PM	0.0425		-	2:03 PM	0.085				1:23 PM 1:28 PM	0.008			1:15 PW			
2:13 PM 2:18 PM	0.0425			2:03 PM 2:08 PM	0.085				1:28 PM 1:33 PM	0.006			1:20 PM			
2:18 PM 2:23 PM	0.043			2:08 PM 2:13 PM	0.085				1:33 PM 1:38 PM	0.004			1:25 PM	0.084		
2:28 PM	0.0415			2:18 PM	0.083				1:43 PM	0.003			1:35 PM	0.084		
2:34 PM	0.0425			2:24 PM	0.085				1:48 PM	0.005			1:40 PM	0.084		
-	-			2:29 PM	0.085				1:53 PM	0.009			1:45 PM			
-	-			2:34 PM	0.086				1:58 PM	0.005			1:50 PM			
-	-			2:39 PM	0.086				2:03 PM	0.005			1:55 PM			
-	-			-	-				2:08 PM	0.004			2:01 PM	0.084		
-	-			-	-				2:13 PM	0.005			2:06 PM	0.084		
-	-			=					2:18 PM	0.017			2:11 PM			
=	=			=					2:24 PM	0.044			2:16 PM			
-	-			-	-				2:29 PM	0.014			2:21 PM			
-	-			=	-				2:34 PM	0.014			2:26 PM			
-	-			=	-				2:39 PM	0.02			2:31 PM	0.083		
-	-			-	•				2:44 PM	0.004			2:36 PM			
-	-			-	•				2:49 PM	0.009			2:41 PM	0.082		
-	-			-	-				2:54 PM	0.008			2:46 PM	0.083		
-	-			-					2:59 PM	0.004			2:51 PM	0.083		
-	-			-	-				3:04 PM	0.012			2:56 PM	0.082		
-	-			=	=				3:09 PM	0.004			3:01 PM	0.082		
-	-			=	-				3:14 PM	0.005			3:06 PM	0.082		
-	-			≘	-				3:19 PM	0.005			3:11 PM	0.082		
-	-			-	-				3:24 PM	0.011			3:16 PM	0.082		
-	-			-	-				3:29 PM	0.018			3:21 PM	0.082		
-	-			-	-				3:34 PM	0.007			3:26 PM	0.083		
-	-			-	-				3:39 PM	0.016			3:31 PM	0.083		
-	-			=	-				3:44 PM	0.015			3:36 PM	0.082		
-	-			-	-				3:49 PM	0.012			3:41 PM	0.081		
-	-			-	-				3:54 PM	0.012			3:46 PM			
-	-		+	-	-				3:59 PM	0.017			3:51 PM			
_	-				_				4:04 PM	0.005			3:56 PM	0.083		
-	-			-	-				4:09 PM	0.005			4:01 PM	0.083		
-	-		-	-	-				4:09 PM 4:14 PM	0.003			4:01 PM	0.083		
		1	1	-	-				4:14 PIVI	0.004			4:07 PM	0.083		- 1



How	vind PID 6/10/2	2010		Down	nwind PID 6/10,	/2010	Her	wind PID 6/11/201	1	Downwind PID 6	2/11/2010
		2019				2019			,		
Instrument Name Model Number	MiniRAE 3000 PGM-7320			Instrument Name Model Number	MiniRAE 3000 PGM-7320		Instrument Name Model Number	MiniRAE 3000 PGM-7320		Instrument Name MiniRAE 300 Model Number PGM-733	
Serial Number	592-908547			Serial Number	592-000174		Serial Number	592-908547		Serial Number 592-0001	
Test Start Time	8:20 AM 6/10/2019			Test Start Time	8:17 AM 6/10/2019		Test Start Time	7:33 AM 6/11/2019		Test Start Time 7:32 A	
Test Start Date	6/10/2019			Test Start Date	6/10/2019		Test Start Date	6/11/2019		Test Start Date 6/11/20:	0
Mass Average [mg/m3]	0			Mass Average [mg/m3]	0		Mass Average [mg/m3]	0		Mass Average [mg/m3]	0
Mass Minimum [mg/m3]	0			Mass Minimum [mg/m3]	0.1		Mass Minimum [mg/m3]	0.3		Mass Minimum [mg/m3]	0
Mass Maximum [mg/m3]	U			Mass Maximum [mg/m3]	0.1		Mass Maximum [mg/m3]	0.3		Mass Maximum [mg/m3]	0
Date/Time F	PID(ppm)	Alarms Er	rors Comments	Date/Time	PID(ppm)	Alarms Errors Comments	Date/Time	PID(ppm) Ala	rms Errors Comments	Date/Time PID(ppm)	Alarms Errors Comments
6/10/2019 8:20	0			6/10/2019 8:17	0		6/11/2019 7:34	0		6/11/2019 7:33	0
6/10/2019 8:21	0			6/10/2019 8:18	0		6/11/2019 7:35	0		6/11/2019 7:34	0
6/10/2019 8:22	0			6/10/2019 8:19	0		6/11/2019 7:36	0		6/11/2019 7:35	0
6/10/2019 8:23	0			6/10/2019 8:20	0		6/11/2019 7:37	0		6/11/2019 7:36	0
6/10/2019 8:24	0			6/10/2019 8:21	0		6/11/2019 7:38	0		6/11/2019 7:37	0
6/10/2019 8:25	0			6/10/2019 8:22	0		6/11/2019 7:39	0		6/11/2019 7:38	0
6/10/2019 8:26	0			6/10/2019 8:23	0		6/11/2019 7:40	0		6/11/2019 7:39	0
6/10/2019 8:27	0			6/10/2019 8:24	0		6/11/2019 7:41	0		6/11/2019 7:40	0
6/10/2019 8:28	0			6/10/2019 8:25	0		6/11/2019 7:42	0		6/11/2019 7:41	0
6/10/2019 8:29	0			6/10/2019 8:26	0		6/11/2019 7:43	0		6/11/2019 7:42	0
6/10/2019 8:30	0			6/10/2019 8:27	0		6/11/2019 7:44	0		6/11/2019 7:43	0
6/10/2019 8:31	0			6/10/2019 8:28	0		6/11/2019 7:45	0		6/11/2019 7:44	0
6/10/2019 8:32	0			6/10/2019 8:29	0		6/11/2019 7:46	0		6/11/2019 7:45	0
6/10/2019 8:33	0			6/10/2019 8:30	0		6/11/2019 7:47	0		6/11/2019 7:46	0
6/10/2019 8:34	0			6/10/2019 8:31	0		6/11/2019 7:48	0		6/11/2019 7:47	0
6/10/2019 8:35	0			6/10/2019 8:32	0		6/11/2019 7:49	0		6/11/2019 7:48	0
6/10/2019 8:36	0			6/10/2019 8:33	0		6/11/2019 7:50	0		6/11/2019 7:49	0
6/10/2019 8:37	0			6/10/2019 8:34	0		6/11/2019 7:51	0		6/11/2019 7:50	0
6/10/2019 8:38	0			6/10/2019 8:35	0		6/11/2019 7:52	0		6/11/2019 7:51	0
6/10/2019 8:39	0			6/10/2019 8:36	0		6/11/2019 7:53	0		6/11/2019 7:52	0
6/10/2019 8:40	0			6/10/2019 8:37	0		6/11/2019 7:54	0		6/11/2019 7:53	0
6/10/2019 8:41	0			6/10/2019 8:38	0		6/11/2019 7:55	0		6/11/2019 7:54	0
6/10/2019 8:42	0			6/10/2019 8:39	0		6/11/2019 7:56	0		6/11/2019 7:55	0
6/10/2019 8:43	0			6/10/2019 8:40	0		6/11/2019 7:57	0		6/11/2019 7:56	0
6/10/2019 8:44	0			6/10/2019 8:41	0		6/11/2019 7:58	0		6/11/2019 7:57	0
6/10/2019 8:45	0			6/10/2019 8:42	0		6/11/2019 7:59	0		6/11/2019 7:58	0
6/10/2019 8:46	0			6/10/2019 8:43	0		6/11/2019 8:00	0		6/11/2019 7:59	0
6/10/2019 8:47	0			6/10/2019 8:44	0		6/11/2019 8:01	0		6/11/2019 8:00	0
6/10/2019 8:48	0			6/10/2019 8:45	0		6/11/2019 8:02	0		6/11/2019 8:01	0
6/10/2019 8:49	0			6/10/2019 8:46	0		6/11/2019 8:03	0		6/11/2019 8:02	0
6/10/2019 8:50	0			6/10/2019 8:47	0		6/11/2019 8:04	0		6/11/2019 8:03	0
6/10/2019 8:51	0			6/10/2019 8:48	0		6/11/2019 8:05	0		6/11/2019 8:04	0
6/10/2019 8:52	0			6/10/2019 8:49	0		6/11/2019 8:06	0		6/11/2019 8:05	0
6/10/2019 8:53	0			6/10/2019 8:50	0		6/11/2019 8:07	0		6/11/2019 8:06	0
6/10/2019 8:54	0			6/10/2019 8:51	0		6/11/2019 8:08	0		6/11/2019 8:07	0
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Date /Time	DID/mm)	Alamas Emana Camananta	Data /Time	·/	F		Data /Time	Ala		C	Date /Time	DID/mm) Alama	E	C
	PID(ppm)	Alarms Errors Comments		· · · · · · · · · · · · · · · · · · ·	arms Error	rs Comments	Date/Time PID(ppm)		s Errors	Comments	Date/Time	PID(ppm) Alarms	Errors	Comments
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6/10/2019 10:07	0		6/10/2019 10:04	0			6/11/2019 9:21	0			6/11/2019 9:20			
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6/10/2019 10:17	C		6/10/2019 10:14	0			6/11/2019 9:31	0			6/11/2019 9:30	0		
6/10/2019 10:18	C		6/10/2019 10:15	0			6/11/2019 9:32	0			6/11/2019 9:31	0		
6/10/2019 10:19	C		6/10/2019 10:16	0			6/11/2019 9:33	0			6/11/2019 9:32	0		
6/10/2019 10:20	C		6/10/2019 10:17	0			6/11/2019 9:34	0			6/11/2019 9:33	0		
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Date/Time F	PID(ppm) Alarms Errors Comr	ments Date/Time PID(ppm) Alarms	Errors Comments	Date/Time PID(ppm)	Alarms E	rrors Comme	nts Date/Time	PID(ppm) Alarms	Errors	Comments
6/10/2019 11:05	0	6/10/2019 11:02 0			0		6/11/2019 10:18	0		
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6/10/2019 12:01	0	6/10/2019 11:58 0		6/11/2019 11:15	-		6/11/2019 11:14	0	+	
6/10/2019 12:02	0	6/10/2019 11:59 0		6/11/2019 11:16	-		6/11/2019 11:15	0	+	
6/10/2019 12:03	0	6/10/2019 12:00 0		6/11/2019 11:17	-		6/11/2019 11:16	0	+	
0/ 10/ 2013 12:03	5	0/10/2013 12.00		0/11/2017 11.17	~		0/11/2019 11.10	0		1



Date/Time P	ID(ppm) Alarms Errors Comme	ents Date/Time PID(ppm)	Alarms	Errors C	omments	Date/Time PID(ppm)	Alarms	Errors	Comments	Date/Time	PID(ppm) Alarms	Errors	Comments
6/10/2019 12:04	0	6/10/2019 12:01	)			6/11/2019 11:18	)			6/11/2019 11:17	0		
6/10/2019 12:05	0	6/10/2019 12:02	)			6/11/2019 11:19	)			6/11/2019 11:18	0		
6/10/2019 12:06	0	6/10/2019 12:03	)			6/11/2019 11:20	)			6/11/2019 11:19	0		
6/10/2019 12:07	0	6/10/2019 12:04	0			6/11/2019 11:21	)			6/11/2019 11:20	0		
6/10/2019 12:08	0	6/10/2019 12:05	0			6/11/2019 11:22	)			6/11/2019 11:21	0		
6/10/2019 12:09	0	6/10/2019 12:06	0			6/11/2019 11:23	)			6/11/2019 11:22	0		
6/10/2019 12:10	0	6/10/2019 12:07				6/11/2019 11:24	)			6/11/2019 11:23	0		
6/10/2019 12:11	0	6/10/2019 12:08	)			6/11/2019 11:25	)			6/11/2019 11:24	0		
6/10/2019 12:12	0	6/10/2019 12:09	•			6/11/2019 11:26	,			6/11/2019 11:25	0		
6/10/2019 12:13	0	6/10/2019 12:10	•			6/11/2019 11:27	-			6/11/2019 11:26	0		
6/10/2019 12:14	0	6/10/2019 12:11	•			6/11/2019 11:28	-			6/11/2019 11:27	0		
6/10/2019 12:15	0	6/10/2019 12:12				6/11/2019 11:29	,			6/11/2019 11:28	0		
6/10/2019 12:16	0	6/10/2019 12:13				6/11/2019 11:30				6/11/2019 11:29	0		
6/10/2019 12:17	0	6/10/2019 12:14				6/11/2019 11:31				6/11/2019 11:30	0		
6/10/2019 12:18	0	6/10/2019 12:15				6/11/2019 11:32				6/11/2019 11:31	0		
6/10/2019 12:19	0	6/10/2019 12:16				6/11/2019 11:33				6/11/2019 11:32	0		
6/10/2019 12:20	0	6/10/2019 12:17				6/11/2019 11:34	-			6/11/2019 11:33	0		
6/10/2019 12:21	0	6/10/2019 12:18				6/11/2019 11:35	-			6/11/2019 11:34	0		
6/10/2019 12:22	0	6/10/2019 12:19				6/11/2019 11:36				6/11/2019 11:35	0		
6/10/2019 12:23	0	6/10/2019 12:20				6/11/2019 11:37 ( 6/11/2019 11:38 (				6/11/2019 11:36	-		
6/10/2019 12:24	0	6/10/2019 12:21 0 6/10/2019 12:22 0				-,,				6/11/2019 11:37	0		
6/10/2019 12:25 6/10/2019 12:26	0 0	6/10/2019 12:22 0 6/10/2019 12:23 0				6/11/2019 11:39 ( 6/11/2019 11:40 (	-			6/11/2019 11:38 6/11/2019 11:39	0		
6/10/2019 12:27	0	6/10/2019 12:23				6/11/2019 11:41	-			6/11/2019 11:39	0		
6/10/2019 12:28	0	6/10/2019 12:25				6/11/2019 11:42				6/11/2019 11:41	0		
6/10/2019 12:29	0	6/10/2019 12:26				6/11/2019 11:43				6/11/2019 11:42	0		
6/10/2019 12:30	0	6/10/2019 12:27				6/11/2019 11:44	-			6/11/2019 11:43	0		
6/10/2019 12:31	0	6/10/2019 12:28	,			6/11/2019 11:45	,			6/11/2019 11:44	0		
6/10/2019 12:32	0	6/10/2019 12:29				6/11/2019 11:46	)			6/11/2019 11:45	0		
6/10/2019 12:33	0	6/10/2019 12:30	)			6/11/2019 11:47	)			6/11/2019 11:46	0		
6/10/2019 12:34	0	6/10/2019 12:31	)			6/11/2019 11:48	)			6/11/2019 11:47	0		
6/10/2019 12:35	0	6/10/2019 12:32	)			6/11/2019 11:49	)			6/11/2019 11:48	0		
6/10/2019 12:36	0	6/10/2019 12:33	)			6/11/2019 11:50	)			6/11/2019 11:49	0		
6/10/2019 12:37	0	6/10/2019 12:34	)			6/11/2019 11:51	כ			6/11/2019 11:50	0		
6/10/2019 12:38	0	6/10/2019 12:35	)			6/11/2019 11:52	)			6/11/2019 11:51	0		
6/10/2019 12:39	0	6/10/2019 12:36	)			6/11/2019 11:53	)			6/11/2019 11:52	0		
6/10/2019 12:40	0	6/10/2019 12:37				6/11/2019 11:54	_			6/11/2019 11:53	0		
6/10/2019 12:41	0	6/10/2019 12:38				6/11/2019 11:55	)			6/11/2019 11:54	0		
6/10/2019 12:42	0	6/10/2019 12:39				6/11/2019 11:56				6/11/2019 11:55	0		
6/10/2019 12:43	0	6/10/2019 12:40				6/11/2019 11:57				6/11/2019 11:56	0		
6/10/2019 12:44	0	6/10/2019 12:41				6/11/2019 11:58	-			6/11/2019 11:57	0		
6/10/2019 12:45	0	6/10/2019 12:42				6/11/2019 11:59	_			6/11/2019 11:58	0		
6/10/2019 12:46	0	6/10/2019 12:43				6/11/2019 12:00				6/11/2019 11:59	0		
6/10/2019 12:47	0	6/10/2019 12:44				6/11/2019 12:01				6/11/2019 12:00	0		
6/10/2019 12:48 6/10/2019 12:49	0	6/10/2019 12:45 C	•			6/11/2019 12:02 ( 6/11/2019 12:03 (				6/11/2019 12:01 6/11/2019 12:02	0		
6/10/2019 12:49	0	6/10/2019 12:46				6/11/2019 12:03	-	-		6/11/2019 12:02 6/11/2019 12:03	0		
6/10/2019 12:50	0	6/10/2019 12:47				6/11/2019 12:04	-			6/11/2019 12:03	0		
6/10/2019 12:52	0	6/10/2019 12:49				6/11/2019 12:06	-			6/11/2019 12:04	0		
6/10/2019 12:53	0	6/10/2019 12:50				6/11/2019 12:07		1		6/11/2019 12:06	0		
6/10/2019 12:54	0	6/10/2019 12:51	,			6/11/2019 12:08	-			6/11/2019 12:07	0		
6/10/2019 12:55	0	6/10/2019 12:52				6/11/2019 12:09				6/11/2019 12:08	0		
6/10/2019 12:56	0	6/10/2019 12:53				6/11/2019 12:10	-	<u> </u>		6/11/2019 12:09	0		
6/10/2019 12:57	0	6/10/2019 12:54				6/11/2019 12:11	-			6/11/2019 12:10	0		
6/10/2019 12:58	0	6/10/2019 12:55				6/11/2019 12:12				6/11/2019 12:11	0		
6/10/2019 12:59	0	6/10/2019 12:56	)			6/11/2019 12:13	)			6/11/2019 12:12	0		
6/10/2019 13:00	0	6/10/2019 12:57	)			6/11/2019 12:14	)			6/11/2019 12:13	0		
6/10/2019 13:01	0	6/10/2019 12:58				6/11/2019 12:15	)			6/11/2019 12:14	0		
6/10/2019 13:02	0	6/10/2019 12:59				6/11/2019 12:16	)	1		6/11/2019 12:15	0		1



Date/Time	PID(ppm)	Alarms Errors Comments	Date/Time PID(p	nm) Alarn	ns Errors	Comments	Date/Time PID(p	nnm) Al	arms Errors	Comments	Date/Time	PID(ppm) Alarms	Errors	Comments
6/10/2019 13:03	PID(ppin)		6/10/2019 13:00	pm) Alarn O	no Eriors	comments	6/11/2019 12:17	ppm) Ai	arms Emors	comments	6/11/2019 12:16		LITUIS	comments
6/10/2019 13:04	0		6/10/2019 13:01	0			6/11/2019 12:18	0			6/11/2019 12:17			
6/10/2019 13:04	0		6/10/2019 13:02	0			6/11/2019 12:19	0			6/11/2019 12:17	0		
6/10/2019 13:06	0		6/10/2019 13:03	0			6/11/2019 12:20	0			6/11/2019 12:19	0		
6/10/2019 13:07	0		6/10/2019 13:04	0			6/11/2019 12:21	0			6/11/2019 12:19	0		
6/10/2019 13:07	0		6/10/2019 13:05	0			6/11/2019 12:22	0			6/11/2019 12:20	0		
	0			0			, ,	0			6/11/2019 12:21	0		
6/10/2019 13:09 6/10/2019 13:10	0		6/10/2019 13:06 6/10/2019 13:07	0			6/11/2019 12:23 6/11/2019 12:24	0			6/11/2019 12:22	0		
6/10/2019 13:10	0		6/10/2019 13:08	0			6/11/2019 12:25	0			6/11/2019 12:23	0		
' '	0			0			, ,	0			' '	0		
6/10/2019 13:12			6/10/2019 13:09				6/11/2019 12:26				6/11/2019 12:25			
6/10/2019 13:13	C		6/10/2019 13:10	0			6/11/2019 12:27	0			6/11/2019 12:26	0		
6/10/2019 13:14	0		6/10/2019 13:11 6/10/2019 13:12	0			6/11/2019 12:28 6/11/2019 12:29	0			6/11/2019 12:27 6/11/2019 12:28	0		
6/10/2019 13:15				-			, ,				' '			
6/10/2019 13:16	0		6/10/2019 13:13	0			6/11/2019 12:30	0			6/11/2019 12:29	0		
6/10/2019 13:17	0		6/10/2019 13:14	0			6/11/2019 12:31	0			6/11/2019 12:30	0		
6/10/2019 13:18	0		6/10/2019 13:15	0			6/11/2019 12:32	0			6/11/2019 12:31	0		
6/10/2019 13:19	C		6/10/2019 13:16	0			6/11/2019 12:33	0			6/11/2019 12:32	0		
6/10/2019 13:20	C		6/10/2019 13:17	0			6/11/2019 12:34	0			6/11/2019 12:33	0		
6/10/2019 13:21	0		6/10/2019 13:18	0			6/11/2019 12:35	0			6/11/2019 12:34	0		
6/10/2019 13:22	0		6/10/2019 13:19	0			6/11/2019 12:36	0			6/11/2019 12:35	0		
6/10/2019 13:23	0		6/10/2019 13:20	0			6/11/2019 12:37	0			6/11/2019 12:36			
6/10/2019 13:24	C		6/10/2019 13:21	0			6/11/2019 12:38	0			6/11/2019 12:37	0		
6/10/2019 13:25	C		6/10/2019 13:22	0			6/11/2019 12:39	0			6/11/2019 12:38	0		
6/10/2019 13:26	C		6/10/2019 13:23	0			6/11/2019 12:40	0			6/11/2019 12:39	0		
6/10/2019 13:27	C		6/10/2019 13:24	0			6/11/2019 12:41	0			6/11/2019 12:40	0		
6/10/2019 13:28	C		6/10/2019 13:25	0			6/11/2019 12:42	0			6/11/2019 12:41	0		
6/10/2019 13:29	C		6/10/2019 13:26	0			6/11/2019 12:43	0			6/11/2019 12:42	0		
6/10/2019 13:30	C		6/10/2019 13:27	0			6/11/2019 12:44	0			6/11/2019 12:43	0		
6/10/2019 13:31	C		6/10/2019 13:28	0			6/11/2019 12:45	0			6/11/2019 12:44	0		
6/10/2019 13:32	C		6/10/2019 13:29	0			6/11/2019 12:46	0			6/11/2019 12:45	0		
6/10/2019 13:33	C		6/10/2019 13:30	0			6/11/2019 12:47	0			6/11/2019 12:46	0		
6/10/2019 13:34	C		6/10/2019 13:31	0			6/11/2019 12:48	0			6/11/2019 12:47	0		
6/10/2019 13:35	C		6/10/2019 13:32	0			6/11/2019 12:49	0			6/11/2019 12:48	0		
6/10/2019 13:36	C		6/10/2019 13:33	0			6/11/2019 12:50	0			6/11/2019 12:49	0		
6/10/2019 13:37	C		6/10/2019 13:34	0			6/11/2019 12:51	0			6/11/2019 12:50	0		
6/10/2019 13:38	C		6/10/2019 13:35	0			6/11/2019 12:52	0			6/11/2019 12:51	0		
6/10/2019 13:39	C		6/10/2019 13:36	0			6/11/2019 12:53	0			6/11/2019 12:52	0		
6/10/2019 13:40	C		6/10/2019 13:37	0			6/11/2019 12:54	0			6/11/2019 12:53	0		
6/10/2019 13:41	C		6/10/2019 13:38	0			6/11/2019 12:55	0			6/11/2019 12:54	0		
6/10/2019 13:42	C		6/10/2019 13:39	0			6/11/2019 12:56	0			6/11/2019 12:55	0		
6/10/2019 13:43	C		6/10/2019 13:40	0			6/11/2019 12:57	0			6/11/2019 12:56	0		
6/10/2019 13:44	C		6/10/2019 13:41	0			6/11/2019 12:58	0			6/11/2019 12:57	0		
6/10/2019 13:45	C		6/10/2019 13:42	0			6/11/2019 12:59	0			6/11/2019 12:58	0		
6/10/2019 13:46	C		6/10/2019 13:43	0			6/11/2019 13:00	0			6/11/2019 12:59	0		
	-		6/10/2019 13:44	0			6/11/2019 13:01	0			6/11/2019 13:00	0		
			6/10/2019 13:45	0			6/11/2019 13:02	0			6/11/2019 13:01	0		
	-		6/10/2019 13:46	0			6/11/2019 13:03	0			6/11/2019 13:02	0		
	-		6/10/2019 13:47	0			6/11/2019 13:04	0			6/11/2019 13:03	0		
	-		6/10/2019 13:48	0.1			6/11/2019 13:05	0			6/11/2019 13:04	0		
	-		6/10/2019 13:49	0			6/11/2019 13:06	0			6/11/2019 13:05	0		
	-			-			6/11/2019 13:07	0			6/11/2019 13:06	0		
	-			-			6/11/2019 13:08	0			6/11/2019 13:07	0		
	-			-			6/11/2019 13:09	0			6/11/2019 13:08			
	-			-			6/11/2019 13:10	0			6/11/2019 13:09	0		
	-			-			6/11/2019 13:11	0			6/11/2019 13:10	0		
	-			-			6/11/2019 13:12	0			6/11/2019 13:11	0		
	-			-			6/11/2019 13:13	0			6/11/2019 13:12	0		
	-			-			6/11/2019 13:14	0			6/11/2019 13:13	0		
	-			-			6/11/2019 13:15	0			6/11/2019 13:14	0		



Date/Time	PID(ppm)	Alarme	Errors Comments	Date/Time	PID(ppm)	Alarms Errors Comments	Date/Time	PID(ppm) Alarn	ms Errors Comments	Date/Time PID(ppm)	Alarms Errors Comments
Date/ Time	PID(ppm)	Alaims	- Errors Comments	Date/Tille	PID(ppm)	Alarms Errors Comments	6/11/2019 13:16	0 Alam	ns Errors Comments		0 Errors Comments
	-	-					6/11/2019 13:17	0			0
	-						6/11/2019 13:18	0			0
	-				-		6/11/2019 13:19	0			0
	-						6/11/2019 13:20	0			0
	-						6/11/2019 13:20	0			0
	-				-		6/11/2019 13:22	0			0
	-						6/11/2019 13:23	0			0
	-				-		6/11/2019 13:24	0			0
	-				-		6/11/2019 13:25	0			0
	-				-		6/11/2019 13:26	0			0
	-				-		6/11/2019 13:27	0			0
	-				-		6/11/2019 13:28	0			0
	-				-		6/11/2019 13:29	0			0
	-				-		6/11/2019 13:30	0			0
	-				-		6/11/2019 13:31	0		6/11/2019 13:30	0
	-				-		6/11/2019 13:32	0		6/11/2019 13:31	0
	-				1		6/11/2019 13:33	0		6/11/2019 13:32	0
	-				-		6/11/2019 13:34	0		6/11/2019 13:33	0
	-				-		6/11/2019 13:35	0		6/11/2019 13:34	0
	-				-		6/11/2019 13:36	0		6/11/2019 13:35	0
	-				-		6/11/2019 13:37	0			0
	-				-		6/11/2019 13:38	0			0
	-				-		6/11/2019 13:39	0			0
	-				-		6/11/2019 13:40	0			0
	-				-		6/11/2019 13:41	0			0
	-				-		6/11/2019 13:42	0			0
	-				-		6/11/2019 13:43	0			0
					-		6/11/2019 13:44	0			0
	-				-		6/11/2019 13:45	0			0
	-				-		6/11/2019 13:46	0			0
	-				-		6/11/2019 13:47	0			0
	-				-						0
							6/11/2019 13:48	0			
	-				-		6/11/2019 13:49	0			0
	-				-		6/11/2019 13:50	0			0
	-				-		6/11/2019 13:51	0			0
	-				-		6/11/2019 13:52	0			0
	-				-		6/11/2019 13:53	0			0
	-				-		6/11/2019 13:54	0			0
	-				-		6/11/2019 13:55	0			0
	-				-		6/11/2019 13:56	0			0
	-				1		6/11/2019 13:57	0		., ,	0
	-				-		6/11/2019 13:58	0			0
	-				1		6/11/2019 13:59	0			0
	-				-		6/11/2019 14:00	0		6/11/2019 13:59	0
	-				-		6/11/2019 14:01	0		6/11/2019 14:00	0
	-				-		6/11/2019 14:02	0		6/11/2019 14:01	0
	-				-		6/11/2019 14:03	0			0
	-				-		6/11/2019 14:04	0			0
	-				-		6/11/2019 14:05	0			0
	-				-		6/11/2019 14:06	0			0
	-	1			-		6/11/2019 14:07	0			0
	-	1			-		6/11/2019 14:08	0			0
	-	1	<del>                                     </del>		-		6/11/2019 14:09	0			0
	-	-			-		6/11/2019 14:10	0			0
	-	-			-			0			
		1					6/11/2019 14:11				0
	-	1			-		6/11/2019 14:12	0			0
	-	1			-		6/11/2019 14:13	0			0
	-				-		6/11/2019 14:14	0		6/11/2019 14:13	0



Data /Time	DID/www)	Alamas 5		Camananta	Data /Time DID/man)	Alaman	F	Camanana	Data /Time DID/man)	Alamas	F	C	Data /Time	DID/www.) Alawas	F	C
Date/Time		Alarms E	Errors	Comments	Date/Time PID(ppm)	Alarms	Errors	Comments		_	Errors	Comments			Errors	Comments
	-				-					0			6/11/2019 14:14	0		
	-				-				0,,	0			6/11/2019 14:15	0		
	-				-				6/11/2019 14:17	-			6/11/2019 14:16	0		
	-				-				0,,	0			6/11/2019 14:17	0		
	-				-					0			6/11/2019 14:18	0		
	-				-					0			6/11/2019 14:19	0		
	-				-				6/11/2019 14:21	0			6/11/2019 14:20	0		
	-				-				6/11/2019 14:22	0			6/11/2019 14:21	0		
	-				-				6/11/2019 14:23	0			6/11/2019 14:22	0		
	-				-				6/11/2019 14:24	0			6/11/2019 14:23	0		
	-				-				6/11/2019 14:25	0			6/11/2019 14:24	0		
	-				-				6/11/2019 14:26	0			6/11/2019 14:25	0		
	-				-				6/11/2019 14:27	0			6/11/2019 14:26	0		
	-				-					0			6/11/2019 14:27	0		
	-				-					0			6/11/2019 14:28	0		
	-				-					0			6/11/2019 14:29	0		
	-				_					0			6/11/2019 14:30	0		
	-				_					0			6/11/2019 14:31	0		
	-				_					0			6/11/2019 14:32	0		
	-	1					<b></b>			0			6/11/2019 14:33	0	ļ	
	-	<del>                                     </del>			-					0			6/11/2019 14:34	0		
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	-				-					0			6/11/2019 14:36	0		
					-					0				0		
	-												6/11/2019 14:37			
	-				-				6/11/2019 14:39	-			6/11/2019 14:38	0		
	-				-				4,,	0			6/11/2019 14:39	0		
	-				-				0,,	0			6/11/2019 14:40	0		
	-				-				4,,	0			6/11/2019 14:41	0		
	-				-					0			6/11/2019 14:42	0		
	-				-				3, 22, 2020 2 1111	0			6/11/2019 14:43	0		
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	-				-				6/11/2019 14:46	0			6/11/2019 14:45	0		
	-				-				6/11/2019 14:47	0			6/11/2019 14:46	0		
	-				-				6/11/2019 14:48	0			6/11/2019 14:47	0		
	-				-				6/11/2019 14:49	0			6/11/2019 14:48	0		
	-				-				6/11/2019 14:50	0			6/11/2019 14:49	0		
	-				-				6/11/2019 14:51	0			6/11/2019 14:50	0		
	-				-				6/11/2019 14:52	0			6/11/2019 14:51	0		
	-				-					0			6/11/2019 14:52	0		
	-				-					0			6/11/2019 14:53	0		
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	-				-					0			6/11/2019 14:55	0		
	-				-				6/11/2019 14:57	-			6/11/2019 14:56	0		
	-				-					0			6/11/2019 14:57	0		
	-				-					0			6/11/2019 14:58	0		
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1	-				-					0			6/11/2019 15:00	0		
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	-				-					0			6/11/2019 15:04	0		
	-	$\vdash$			-		-		0/11/2015 15:00	0			6/11/2019 15:05	0		
	-				-					0			6/11/2019 15:06	0		
	-				-					0			6/11/2019 15:07	0		
	-				-				0,,	0			6/11/2019 15:08	0		
	-				-				0,,	0			6/11/2019 15:09	0		
	-				-				., ,	0			6/11/2019 15:10	0		
	-				-					0			6/11/2019 15:11	0		
	-				-				6/11/2019 15:13	0			6/11/2019 15:12	0		



Date/Time	PID(ppm)	Alarms Frre	ors Comments	Date/Time PID(ppm)	Alarms	Errors	Comments	Date/Time PID(ppm)	Alarms	s Errors	Comments	Date/Time	PID(ppm) Alarms	Errors	Comments
Sate/ Hille	- I ID (ppiii)	- IIIIIIII EIIC	or comments	- Fib(ppiii)	- Harris	-217013	comments		0 Alaim	- 111013	Comments	6/11/2019 15:13	0 Alarins		Comments
	-			-					0			6/11/2019 15:14	0	+	
	-			-					0			6/11/2019 15:15	0	+	
	-			-					0			6/11/2019 15:16	0	<b>†</b>	<u> </u>
	-			_					0			6/11/2019 15:17	0	+	
	_			_					0			6/11/2019 15:18	0	+	
	-			_					0			6/11/2019 15:19	0	+	
	-			-					0			6/11/2019 15:20	0	+	
	-			_					0			6/11/2019 15:21	0	+	
	_			_					0			6/11/2019 15:22	0	+	
	-			_					0			6/11/2019 15:23	0	+	
	-			_					0			6/11/2019 15:24	0	+	
	_			_					0			6/11/2019 15:25	0	_	
	_			_					0			6/11/2019 15:26	0	_	
	_			_					0			6/11/2019 15:27	0	+	
	_			_					0			6/11/2019 15:28	0	+	
	-			_					0			6/11/2019 15:29	0	+	
	-			-				6/11/2019 15:31 0.	-			6/11/2019 15:30	0	<b>†</b>	<u> </u>
	-			-				6/11/2019 15:32				6/11/2019 15:31	0	+	
	-			-				6/11/2019 15:33				6/11/2019 15:32	0	+	
	-			_				6/11/2019 15:34 0.				6/11/2019 15:33	0	+	
				-				6/11/2019 15:35				6/11/2019 15:34	0	+	
	_			_					0			6/11/2019 15:35	0	_	
	-			-					0			6/11/2019 15:36	0	<b>†</b>	<u> </u>
	-			_					0			6/11/2019 15:37	0	+	
	_			_					0			6/11/2019 15:38	0	+	
	-			-					0			6/11/2019 15:39	0	+	
	-								0			6/11/2019 15:40	0	+	
	_			_					0			6/11/2019 15:41	0	+	
	_			_				7, 7, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	0			6/11/2019 15:42	0	+	
	_			_					0			6/11/2019 15:43	0	+	
	_			_					0			6/11/2019 15:44	0	+	
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	-			-					0			6/11/2019 15:47	0	_	
	-			_					0			6/11/2019 15:48	0	_	
	-			_					0			6/11/2019 15:49	0	_	
	_			_					0			6/11/2019 15:50	0	_	
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	-			-					0			6/11/2019 15:52	0	<del>+</del>	
	-			_					0			6/11/2019 15:53	0	1	
	-			-					0			6/11/2019 15:54	0	<del>+</del>	
	-			-					0			6/11/2019 15:55	0	<b>†</b>	
	-			_					0			6/11/2019 15:56	0	<b>†</b>	
	-			-					0			6/11/2019 15:57	0	<b>†</b>	
	-			_					0			6/11/2019 15:58	0	<b>†</b>	
	-			-					0			6/11/2019 15:59	0	<b>†</b>	
	-			-					0			6/11/2019 16:00	0	<b>†</b>	
	-			_					0			6/11/2019 16:01	0	<b>†</b>	
	-			-					0			6/11/2019 16:02	0	<b>†</b>	
	-			_					0			6/11/2019 16:03	0	<b>†</b>	
	-			_					0			6/11/2019 16:04	0	<del>+</del>	
	-			-					0			6/11/2019 16:05	0	<b>†</b>	
	-			-					0			6/11/2019 16:06	0	<del>+</del>	
	-			_					0			6/11/2019 16:07	0	<b>†</b>	
	-			-					0			6/11/2019 16:08	0	<b>†</b>	1
	-			_					0			6/11/2019 16:09	0	+	
	-			-					0			6/11/2019 16:10	0	+	
	_			_					0			6/11/2019 16:11	0	+	
	_	1 1	1	I -	1	1		0/11/2013 10:12	-			0/11/2015 10:11	U	1	1



Date/Time	PID(ppm)	Alarms Erro	rs Comments	Date/Time	PID(ppm)	Alarms Errors Comments	Date/Time	PID(ppm)	Alarms Errors Comments	Date/Time	PID(ppm)	Alarms	Errors C	ommen
	-				-		6/11/2019 16:13	0		6/11/2019 16:12	C	)		
	-				-		6/11/2019 16:14	1 0		6/11/2019 16:13	0	)		
	-				-		6/11/2019 16:15	0		6/11/2019 16:14	0	)		
	-				-		6/11/2019 16:16	5 0		6/11/2019 16:15	0	)		
	-				-		6/11/2019 16:17	7 0		6/11/2019 16:16	0	)		
	-				-		6/11/2019 16:18	3 0		6/11/2019 16:17	0	)		
	-				-		6/11/2019 16:19	0		6/11/2019 16:18	O	j ,		
	-				-		6/11/2019 16:20	0		6/11/2019 16:19	0	)		
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	-				-		6/11/2019 16:24	1 0		6/11/2019 16:23	0	)		



Design & Consultancy for natural and built assets

Project	Building 22 Area Soil Excavation IRM
Location	East Syracuse, NY
Date	6/10/2019
Weather Conditions	Low 70's precipitation late morning/early afternoon
Upwind Monitor	DustTrak II(# 8530141715), PID (# 592-908547)
Downwind Monitor	DustTrak II(# 8530183906), PID (# 592-000174)
Start Time	8:17 AM
End Time	1:49 PM

Daily CAMP Log

Site Sketch North . Thompson Rd Bus Stop Excavited soil Area UPWIND CAMPStation Prevailing Wind Excavated 30.1 Roll off #1 Partins Lot

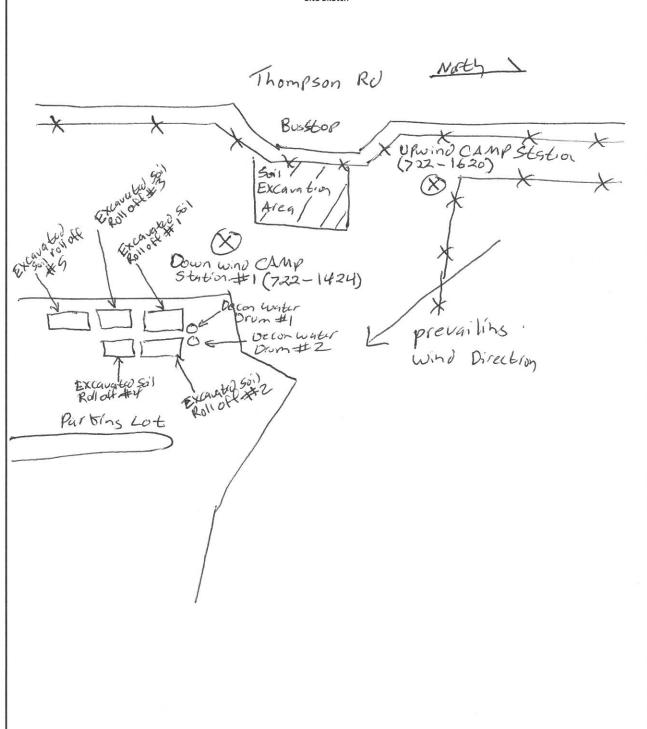


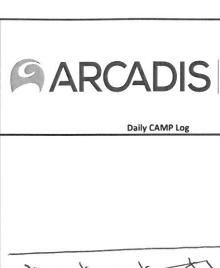
Design & Consultancy for natural and built assets

Project	Building 22 Area Soil Excavation IRM
Location	East Syracuse, NY
Date	6/11/2019
Weather Conditions	Low 70's, partly cloudy
Upwind Monitor	DustTrak II(# 8530141715), PID (# 592-908547)
Downwind Monitor	DustTrak II(# 8530183906), PID (# 592-000174)
Start Time	7:22 AM
End Time	4:20 PM

Daily CAMP Log

Site Sketch





Project	Building 22 Area Soil Excavation IRM	
Location	East Syracuse, NY	
Date	6/11/2019	
Weather Conditions	Low 70's, partly cloudy	
Upwind Monitor	DustTrak II(# 8530141715), PID (# 592-908547)	
Downwind Monitor	DustTrak II(# 8530183906), PID (# 592-000174)	
Start Time	7:22 AM	
End Time	4:20 PM	

Site Sketch

Design & Consultancy for natural and built assets

Thompson Rd North Bus Stop (722-1620) XX EX Cavity Areg Denvind CAMP Section (1424-1620) Excausted Soil
Roll of H Deconwater Oun #1 Decon water brund 2 Prevailing wind Excaverted Soil EXCAVATIO SOIL Roinoff#2 Rolloff#5 Excavated soil
Rolloft #4 Parkins Lot

**Laboratory Analytical Report** 

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Partial Report

Sample Description: BCP-SS-2019A(0.25-1.0) Grab Soil

BMS Bldg 22 Area IRM

**Bristol-Myers Squibb** 

Submittal Date/Time: 06/13/2019 09:50 Collection Date/Time: 06/12/2019 14:50

**Project Name:** 

SDG#: BMS72-01

ARCADIS U.S., Inc.

ELLE Sample #: SW 1084484 ELLE Group #: 2049748

Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
PCBs		SW-846 8082A Feb 2007 Rev 1	mg/kg	mg/kg	mg/kg	
10885	PCB-1016	12674-11-2	N.D. D1	0.019	0.0040	1
10885	PCB-1221	11104-28-2	N.D. D1	0.019	0.0051	1
10885	PCB-1232	11141-16-5	N.D. D1	0.019	0.0088	1
10885	PCB-1242	53469-21-9	N.D. D1	0.019	0.0036	1
10885	PCB-1248	12672-29-6	N.D. D1	0.019	0.0036	1
10885	PCB-1254	11097-69-1	0.014 JD1	0.019	0.0036	1
10885	PCB-1260	11096-82-5	N.D. D1	0.019	0.0054	1
10885	PCB-1262	37324-23-5	N.D. D1	0.019	0.0036	1
10885	PCB-1268	11100-14-4	N.D. D1	0.019	0.0036	1
10885	Total PCBs1	1336-36-3	0.014 J	0.019	0.0036	1
Wet Cl	nemistry	SM 2540 G-2011 %Moisture Calc	%	%	%	
00111	Moisture <sup>1</sup>	n.a.	9.6	0.50	0.50	1
	•	he loss in weight of the sample after over	, ,			

103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

#### **Sample Comments**

State of New York Certification No. 10670

#### **Laboratory Sample Analysis Record**

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10885	PCBs 8082A/3546	SW-846 8082A Feb 2007 Rev 1	1	191700037A	06/24/2019 17:07	Covenant Mutuku	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	19172820002B	06/22/2019 17:51	Scott W Freisher	1

Sample Description: BCP-SS-2019A(1.0-2.0) Grab Soil

BMS Bldg 22 Area IRM

**Bristol-Myers Squibb** 

Submittal Date/Time: 06/13/2019 09:50 Collection Date/Time:

06/12/2019 15:00 BMS72-02 SDG#:

ARCADIS U.S., Inc.

ELLE Sample #: SW 1084485 **ELLE Group #:** 2049748

Matrix: Soil

\*=This limit was used in the evaluation of the final result

**Project Name:** 

<sup>&</sup>lt;sup>1</sup> = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

ARCADIS U.S., Inc.

ELLE Sample #:

ELLE Group #:

Matrix: Soil

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Partial Report

SW 1084485

2049748

Sample Description: BCP-SS-2019A(1.0-2.0) Grab Soil

BMS Bldg 22 Area IRM

Bristol-Myers Squibb

Submittal Date/Time: 06/13/2019 09:50 Collection Date/Time: 06/12/2019 15:00

SDG#: BMS72-02

**Project Name:** 

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
PCBs		SW-846 8082A Feb 2007 Rev 1	mg/kg	mg/kg	mg/kg	
10885	PCB-1016	12674-11-2	N.D. D1	0.019	0.0040	1
10885	PCB-1221	11104-28-2	N.D. D1	0.019	0.0050	1
10885	PCB-1232	11141-16-5	N.D. D1	0.019	0.0088	1
10885	PCB-1242	53469-21-9	N.D. D1	0.019	0.0036	1
10885	PCB-1248	12672-29-6	N.D. D1	0.019	0.0036	1
10885	PCB-1254	11097-69-1	0.010 JD1	0.019	0.0036	1
10885	PCB-1260	11096-82-5	N.D. D1	0.019	0.0054	1
10885	PCB-1262	37324-23-5	N.D. D1	0.019	0.0036	1
10885	PCB-1268	11100-14-4	N.D. D1	0.019	0.0036	1
10885	Total PCBs1	1336-36-3	0.010 J	0.019	0.0036	1
Wet C	hemistry	SM 2540 G-2011 %Moisture Calc	%	%	%	
00111	Moisture <sup>1</sup>	n.a.	10.1	0.50	0.50	1
	Moisture represents t	he loss in weight of the sample after over				

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

#### **Sample Comments**

State of New York Certification No. 10670

#### **Laboratory Sample Analysis Record**

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10885	PCBs 8082A/3546	SW-846 8082A Feb 2007 Rev 1	1	191700037A	06/24/2019 17:18	Covenant Mutuku	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	19172820002B	06/22/2019 17:51	Scott W Freisher	1

Sample Description: BCP-SS-2019B(0.25-1.0) Grab Soil

**BMS Bldg 22 Area IRM** 

**Bristol-Myers Squibb** 

Submittal Date/Time: 06/13/2019 09:50
Collection Date/Time: 06/12/2019 15:10
SDG#: BMS72-03

ARCADIS U.S., Inc.

ELLE Sample #: SW 1084486 ELLE Group #: 2049748

Matrix: Soil

\*=This limit was used in the evaluation of the final result

**Project Name:** 

 $<sup>^{1}</sup>$  = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

ARCADIS U.S., Inc.

ELLE Sample #:

ELLE Group #:

Matrix: Soil

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Partial Report

SW 1084486

2049748

Sample Description: BCP-SS-2019B(0.25-1.0) Grab Soil

BMS Bldg 22 Area IRM

**Bristol-Myers Squibb** 

Submittal Date/Time: 06/13/2019 09:50 Collection Date/Time:

**Project Name:** 

06/12/2019 15:10 SDG#: BMS72-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
PCBs		SW-846 8082A Feb 2007 Rev 1	mg/kg	mg/kg	mg/kg	
10885	PCB-1016	12674-11-2	N.D. D1	0.019	0.0040	1
10885	PCB-1221	11104-28-2	N.D. D1	0.019	0.0051	1
10885	PCB-1232	11141-16-5	N.D. D1	0.019	0.0089	1
10885	PCB-1242	53469-21-9	N.D. D1	0.019	0.0037	1
10885	PCB-1248	12672-29-6	N.D. D1	0.019	0.0037	1
10885	PCB-1254	11097-69-1	0.0094 JD1	0.019	0.0037	1
10885	PCB-1260	11096-82-5	N.D. D1	0.019	0.0055	1
10885	PCB-1262	37324-23-5	N.D. D1	0.019	0.0037	1
10885	PCB-1268	11100-14-4	N.D. D1	0.019	0.0037	1
10885	Total PCBs1	1336-36-3	0.0094 J	0.019	0.0037	1
Wet Cl	hemistry	SM 2540 G-2011 %Moisture Calc	%	%	%	
00111	Moisture <sup>1</sup>	n.a.	10.5	0.50	0.50	1
	Moisture represents t	he loss in weight of the sample after over	n drying at			

103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

#### **Sample Comments**

State of New York Certification No. 10670

#### **Laboratory Sample Analysis Record**

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10885	PCBs 8082A/3546	SW-846 8082A Feb 2007 Rev 1	1	191700037A	06/24/2019 17:28	Covenant Mutuku	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	19172820002B	06/22/2019 17:51	Scott W Freisher	1

Sample Description: BCP-SS-2019B(1.0-2.0) Grab Soil

BMS Bldg 22 Area IRM

**Bristol-Myers Squibb** 

Submittal Date/Time: Collection Date/Time: SDG#:

**Project Name:** 

06/13/2019 09:50 06/12/2019 15:20 BMS72-04

ARCADIS U.S., Inc.

ELLE Sample #: SW 1084487 ELLE Group #: 2049748

Matrix: Soil

<sup>&</sup>lt;sup>1</sup> = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

ARCADIS U.S., Inc.

ELLE Sample #:

ELLE Group #:

Matrix: Soil

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Partial Report

SW 1084487

2049748

Sample Description: BCP-SS-2019B(1.0-2.0) Grab Soil

BMS Bldg 22 Area IRM

**Project Name: Bristol-Myers Squibb** 

Submittal Date/Time: Collection Date/Time: 06/12/2019 15:20 SDG#: BMS72-04

06/13/2019 09:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
PCBs		SW-846 8082A Feb 2007 Rev 1	mg/kg	mg/kg	mg/kg	
10885	PCB-1016	12674-11-2	N.D. D1	0.019	0.0040	1
10885	PCB-1221	11104-28-2	N.D. D1	0.019	0.0051	1
10885	PCB-1232	11141-16-5	N.D. D1	0.019	0.0089	1
10885	PCB-1242	53469-21-9	N.D. D1	0.019	0.0037	1
10885	PCB-1248	12672-29-6	N.D. D1	0.019	0.0037	1
10885	PCB-1254	11097-69-1	0.0070 JD1	0.019	0.0037	1
10885	PCB-1260	11096-82-5	N.D. D1	0.019	0.0055	1
10885	PCB-1262	37324-23-5	N.D. D1	0.019	0.0037	1
10885	PCB-1268	11100-14-4	N.D. D1	0.019	0.0037	1
10885	Total PCBs1	1336-36-3	0.0070 J	0.019	0.0037	1
Wet Cl	hemistry	SM 2540 G-2011 %Moisture Calc	%	%	%	
00111	Moisture <sup>1</sup>	n.a.	10.7	0.50	0.50	1
	Moisture represents t	he loss in weight of the sample after over	n drying at			

103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

#### **Sample Comments**

State of New York Certification No. 10670

#### **Laboratory Sample Analysis Record**

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10885	PCBs 8082A/3546	SW-846 8082A Feb 2007 Rev 1	1	191700037A	06/24/2019 17:39	Covenant Mutuku	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	19172820002B	06/22/2019 17:51	Scott W Freisher	1

Sample Description: BCP-SS-2019C(0.25-1.0) Grab Soil

BMS Bldg 22 Area IRM

**Bristol-Myers Squibb** 

Submittal Date/Time: Collection Date/Time: SDG#:

**Project Name:** 

06/13/2019 09:50 06/12/2019 15:30 BMS72-05

ARCADIS U.S., Inc.

ELLE Sample #: SW 1084488 **ELLE Group #:** 2049748

Matrix: Soil

<sup>&</sup>lt;sup>1</sup> = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

ARCADIS U.S., Inc.

ELLE Sample #:

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Partial Report

SW 1084488

2049748

Sample Description: BCP-SS-2019C(0.25-1.0) Grab Soil

BMS Bldg 22 Area IRM

Project Name: Bristol-Myers Squibb

Submittal Date/Time: 06/13/2019 09:50
Collection Date/Time: 06/12/2019 15:30
SDG#: BMS72-05

ELLE Group #: ol-Myers Squibb Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
<b>PCBs</b>		SW-846 8082A Feb 2007	mg/kg	mg/kg	mg/kg	
		Rev 1				
10885	PCB-1016	12674-11-2	N.D. D1	0.019	0.0040	1
10885	PCB-1221	11104-28-2	N.D. D1	0.019	0.0052	1
10885	PCB-1232	11141-16-5	N.D. D1	0.019	0.0090	1
10885	PCB-1242	53469-21-9	N.D. D1	0.019	0.0037	1
10885	PCB-1248	12672-29-6	N.D. D1	0.019	0.0037	1
10885	PCB-1254	11097-69-1	0.091 D1	0.019	0.0037	1
10885	PCB-1260	11096-82-5	N.D. D1	0.019	0.0055	1
10885	PCB-1262	37324-23-5	N.D. D1	0.019	0.0037	1
10885	PCB-1268	11100-14-4	N.D. D1	0.019	0.0037	1
10885	Total PCBs <sup>1</sup>	1336-36-3	0.091	0.019	0.0037	1
Wet C	hemistry	SM 2540 G-2011 %Moisture Calc	%	%	%	
00111	Moisture <sup>1</sup>	n.a.	11.0	0.50	0.50	1
	Moisture represents t	he loss in weight of the sample after over	n drving at			

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

#### **Sample Comments**

State of New York Certification No. 10670

#### **Laboratory Sample Analysis Record**

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10885	PCBs 8082A/3546	SW-846 8082A Feb 2007 Rev 1	1	191700037A	06/24/2019 17:49	Covenant Mutuku	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	19172820002B	06/22/2019 17:51	Scott W Freisher	1

Sample Description: BCP-SS-2019C(0.25-1.0) MS Grab Soil

**BMS Bldg 22 Area IRM** 

Project Name: Bristol-Myers Squibb

Submittal Date/Time: 06/ Collection Date/Time: 06/ SDG#: BM

06/13/2019 09:50 06/12/2019 15:30 BMS72-06 ARCADIS U.S., Inc.

ELLE Sample #: SW 1084489 ELLE Group #: 2049748

Matrix: Soil

 $<sup>^{1}</sup>$  = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

ARCADIS U.S., Inc.

ELLE Sample #:

ELLE Group #:

Matrix: Soil

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Partial Report

SW 1084489

2049748

Sample Description: BCP-SS-2019C(0.25-1.0) MS Grab Soil

BMS Bldg 22 Area IRM

**Project Name: Bristol-Myers Squibb** 

Collection Date/Time: SDG#: BMS72-06

Submittal Date/Time: 06/13/2019 09:50 06/12/2019 15:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
PCBs		SW-846 8082A Feb 2007 Rev 1	mg/kg	mg/kg	mg/kg	
10885	PCB-1016	12674-11-2	N.D. D1	0.094	0.020	5
10885	PCB-1221	11104-28-2	N.D. D1	0.094	0.026	5
10885	PCB-1232	11141-16-5	N.D. D1	0.094	0.044	5
10885	PCB-1242	53469-21-9	N.D. D1	0.094	0.018	5
10885	PCB-1248	12672-29-6	N.D. D1	0.094	0.018	5
10885	PCB-1254	11097-69-1	0.54 D2	0.094	0.018	5
10885	PCB-1260	11096-82-5	N.D. D1	0.094	0.027	5
10885	PCB-1262	37324-23-5	N.D. D1	0.094	0.018	5
10885	PCB-1268	11100-14-4	N.D. D1	0.094	0.018	5
10885	Total PCBs1	1336-36-3	0.54	0.094	0.018	5
Wet C	hemistry	SM 2540 G-2011 %Moisture Calc	%	%	%	
00111	Moisture <sup>1</sup>	n.a.	10.6	0.50	0.50	1
		he loss in weight of the sample after over				

103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

#### **Sample Comments**

State of New York Certification No. 10670

#### **Laboratory Sample Analysis Record**

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10885	PCBs 8082A/3546	SW-846 8082A Feb 2007 Rev 1	1	191700037A	06/24/2019 18:00	Covenant Mutuku	5
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	19172820002B	06/22/2019 17:51	Scott W Freisher	1

Sample Description: BCP-SS-2019C(0.25-1.0) MSD Grab Soil

BMS Bldg 22 Area IRM

**Bristol-Myers Squibb** 

Submittal Date/Time: Collection Date/Time: SDG#:

**Project Name:** 

06/13/2019 09:50 06/12/2019 15:30 BMS72-07

ARCADIS U.S., Inc.

ELLE Sample #: SW 1084490 ELLE Group #: 2049748

Matrix: Soil

<sup>&</sup>lt;sup>1</sup> = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

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Partial Report

Sample Description: BCP-SS-2019C(0.25-1.0) MSD Grab Soil

BMS Bldg 22 Area IRM

**Bristol-Myers Squibb** 

Submittal Date/Time: 06/13/2019 09:50
Collection Date/Time: 06/12/2019 15:30
SDG#: BMS72-07

**Project Name:** 

ARCADIS U.S., Inc.

ELLE Sample #: SW 1084490 ELLE Group #: 2049748

Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
PCBs		SW-846 8082A Feb 2007 Rev 1	mg/kg	mg/kg	mg/kg	
10885	PCB-1016	12674-11-2	N.D. D1	0.021	0.0044	1
10885	PCB-1221	11104-28-2	N.D. D1	0.021	0.0056	1
10885	PCB-1232	11141-16-5	N.D. D1	0.021	0.0098	1
10885	PCB-1242	53469-21-9	N.D. D1	0.021	0.0040	1
10885	PCB-1248	12672-29-6	N.D. D1	0.021	0.0040	1
10885	PCB-1254	11097-69-1	0.20 D1	0.021	0.0040	1
10885	PCB-1260	11096-82-5	N.D. D1	0.021	0.0060	1
10885	PCB-1262	37324-23-5	N.D. D1	0.021	0.0040	1
10885	PCB-1268	11100-14-4	N.D. D1	0.021	0.0040	1
10885	Total PCBs <sup>1</sup>	1336-36-3	0.20	0.021	0.0040	1
Wet Cl	nemistry	SM 2540 G-2011 %Moisture Calc	%	%	%	
00111	Moisture <sup>1</sup>	n.a.	18.3	0.50	0.50	1
	Moisture represents t	he loss in weight of the sample after over				

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

#### **Sample Comments**

State of New York Certification No. 10670

#### **Laboratory Sample Analysis Record**

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10885	PCBs 8082A/3546	SW-846 8082A Feb 2007 Rev 1	1	191700037A	06/24/2019 18:11	Covenant Mutuku	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	19175820001A	06/25/2019 12:02	Larry E Bevins	1

Sample Description: BCP-SS-2019(1.0-2.0) Grab Soil

**BMS Bldg 22 Area IRM** 

Project Name: Bristol-Myers Squibb

Submittal Date/Time: Collection Date/Time: SDG#: 06/13/2019 09:50 06/12/2019 15:40 BMS72-08 ARCADIS U.S., Inc.

ELLE Sample #: SW 1084491 ELLE Group #: 2049748

Matrix: Soil

 $<sup>^{1}</sup>$  = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

ARCADIS U.S., Inc.

ELLE Sample #:

ELLE Group #:

Matrix: Soil

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Partial Report

SW 1084491

2049748

Sample Description: BCP-SS-2019(1.0-2.0) Grab Soil

**BMS Bldg 22 Area IRM** 

Project Name: Bristol-Myers Squibb

Submittal Date/Time: 06/1 Collection Date/Time: 06/1 SDG#: BMS

06/13/2019 09:50 06/12/2019 15:40

BMS72-08

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
PCBs		SW-846 8082A Feb 2007 Rev 1	mg/kg	mg/kg	mg/kg	
10885	PCB-1016	12674-11-2	N.D. D1	0.019	0.0040	1
10885	PCB-1221	11104-28-2	N.D. D1	0.019	0.0052	1
10885	PCB-1232	11141-16-5	N.D. D1	0.019	0.0090	1
10885	PCB-1242	53469-21-9	N.D. D1	0.019	0.0037	1
10885	PCB-1248	12672-29-6	N.D. D1	0.019	0.0037	1
10885	PCB-1254	11097-69-1	0.014 JD2	0.019	0.0037	1
10885	PCB-1260	11096-82-5	N.D. D1	0.019	0.0055	1
10885	PCB-1262	37324-23-5	N.D. D1	0.019	0.0037	1
10885	PCB-1268	11100-14-4	N.D. D1	0.019	0.0037	1
10885	Total PCBs <sup>1</sup>	1336-36-3	0.014 J	0.019	0.0037	1
Wet Cl	hemistry	SM 2540 G-2011 %Moisture Calc	%	%	%	
00111	Moisture <sup>1</sup>	n.a.	11.3	0.50	0.50	1
	•	he loss in weight of the sample after over	, ,			

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

#### **Sample Comments**

State of New York Certification No. 10670

#### **Laboratory Sample Analysis Record**

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10885	PCBs 8082A/3546	SW-846 8082A Feb 2007 Rev 1	1	191700037A	06/24/2019 18:21	Covenant Mutuku	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	19172820002B	06/22/2019 17:51	Scott W Freisher	1

Sample Description: WC-BLD22-IRM-C Grab Soil

BMS Bldg 22 Area IRM

**Bristol-Myers Squibb** 

Submittal Date/Time: Collection Date/Time: SDG#:

**Project Name:** 

06/13/2019 09:50 06/12/2019 16:00 BMS72-09 ARCADIS U.S., Inc.

ELLE Sample #: SW 1084492 ELLE Group #: 2049748

Matrix: Soil

 $<sup>^{1}</sup>$  = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.



ARCADIS U.S., Inc.

ELLE Sample #:

ELLE Group #:

Dry

Method

mg/kg

**Detection Limit** 

Matrix: Soil

Dry

Limit of

mg/kg

Quantitation\*

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Partial Report

SW 1084492

Dilution

Factor

2049748

Sample Description: WC-BLD22-IRM-C Grab Soil

BMS Bldg 22 Area IRM

**Project Name: Bristol-Myers Squibb** 

Submittal Date/Time: 06/13/2019 09:50

**Analysis Name** 

CAT

No.

**PCBs** 

Collection Date/Time: 06/12/2019 16:00 SDG#: BMS72-09

		IVO A I				
10885	PCB-1016	12674-11-2	N.D. D1	0.22	0.047	10
10885	PCB-1221	11104-28-2	N.D. D1	0.22	0.060	10
10885	PCB-1232	11141-16-5	N.D. D1	0.22	0.10	10
10885	PCB-1242	53469-21-9	N.D. D1	0.22	0.043	10
10885	PCB-1248	12672-29-6	N.D. D1	0.22	0.043	10
10885	PCB-1254	11097-69-1	1.6 D2	0.22	0.043	10
10885	PCB-1260	11096-82-5	N.D. D1	0.22	0.064	10
10885	PCB-1262	37324-23-5	N.D. D1	0.22	0.043	10
10885	PCB-1268	11100-14-4	N.D. D1	0.22	0.043	10
10885	Total PCBs1	1336-36-3	1.6	0.22	0.043	10
Wet Ch	nemistry	SW-846 9012B	mg/kg	mg/kg	mg/kg	
01123	Cyanide (Reactivity)	n.a.	N.D.	58.3	19.4	1
		ASTM D93-90	Degrees F	Degrees F	Degrees F	
00430	Flash Point1	n.a.	No Flash Observed	50	50	1
	well enough to obtain uses that of the material	mple. The sample submitted could not niform heating. The temperature being near the top of the cup. The material and the have a higher temperature. The temporature.	g measured at the			
		SW-846 9034	mg/kg	mg/kg	mg/kg	
01122	Sulfide (Reactivity) <sup>1</sup>	n.a.	N.D.	160	53.6	1
		SW-846 9045D Nov 2004	Std. Units	Std. Units	Std. Units	
00394	pH <sup>1</sup>	n.a.	7.79	0.0100	0.0100	1
	The pH was measured	in water at 20.3 C.				
		SW-846 Chapter 7				
00496	Corrosivity <sup>1</sup>	n.a.	See Below	0	0	1
		s 7.79 indicating that the sample is not exhibits a pH equal to or less than 2 or				
		SW-846 Chapter 7.3	see below	see below	see below	
01121	Reactivity <sup>1</sup>	n.a.	See Below	0	0	1
		* TI : 1: ·				

Dry

Result

mg/kg

**CAS Number** 

SW-846 8082A Feb 2007

Rev 1



ARCADIS U.S., Inc.

**ELLE Sample #:** 

**ELLE Group #:** 

Matrix: Soil

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Partial Report

SW 1084492

2049748

Sample Description: WC-BLD22-IRM-C Grab Soil

BMS Bldg 22 Area IRM

**Project Name: Bristol-Myers Squibb** 

Submittal Date/Time: 06/13/2019 09:50 Collection Date/Time: SDG#: BMS72-09

06/12/2019 16:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor			
Wet Chemistry SW-846 Chapter 7.3		SW-846 Chapter 7.3	see below	see below	see below				
	Reactivity:								
	This sample was extracted and analyzed by the interim method described in								
	SW-846 Revision 3, D	ecember 1996 - Chapter 7.3. The Interir	m Guidance for						

Reactive Cyanide and Reactive Sulfide (SW-846 Sections 7.3.3 and 7.3.4 of Chapter 7 - December 1996) identifies a reactive material as generating more than 250 mg/kg of hydrogen cyanide or 500 mg/kg of hydrogen sulfide. This waste is not considered hazardous due to reactivity based on that standard. These results do not reflect total cyanide or total sulfide. On July 14, 2005, EPA published a rule in the Federal Register that removed the Interim Guidance and the method referenced above. At this time there is no specific guidance or a method to be used to evaluate "Reactivity".

Wet Chemistry SM 2540 G-2011 %Moisture Calc		%	%	%	
00111 Moisture <sup>1</sup>	n.a.	23.7	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

#### **Sample Comments**

State of New York Certification No. 10670

#### **Laboratory Sample Analysis Record**

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10885	PCBs 8082A/3546	SW-846 8082A Feb 2007 Rev 1	1	191700037A	06/24/2019 18:32	Covenant Mutuku	10
01123	Cyanide (Reactivity)	SW-846 9012B	1	19175104201A	06/24/2019 21:35	Gregory Baldree	1
00430	Flash Point	ASTM D93-90	1	19171043001A	06/20/2019 09:00	Susan A Engle	1
01122	Sulfide (Reactivity)	SW-846 9034	1	19171112201A	06/20/2019 09:11	Susan E Hibner	1
00394	рН	SW-846 9045D Nov 2004	1	19177039401B	06/26/2019 17:00	Jeremy L Bolf	1
00496	Corrosivity	SW-846 Chapter 7	1	19177039401B	06/26/2019 17:00	Jeremy L Bolf	1
01121	Reactivity	SW-846 Chapter 7.3	1	19171112201A	06/20/2019 09:11	Susan E Hibner	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	19172820002B	06/22/2019 17:51	Scott W Freisher	1

Sample Description: WC-BLD22-IRM-C Composite Soil

**TCLP NVE** 

BMS Bldg 22 Area IRM

**Project Name: Bristol-Myers Squibb**  ARCADIS U.S., Inc.

ELLE Sample #: TL 1084493 **ELLE Group #:** 

Matrix: Soil

2049748

\*=This limit was used in the evaluation of the final result

Reference ID: 2049748020719135102

<sup>&</sup>lt;sup>1</sup> = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

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Partial Report

Sample Description: WC-BLD22-IRM-C Composite Soil

**TCLP NVE** 

**BMS Bldg 22 Area IRM** 

ARCADIS U.S., Inc.

ELLE Sample #: TL 1084493 ELLE Group #: 2049748

Matrix: Soil

**Project Name: Bristol-Myers Squibb** 

Submittal Date/Time: 06/13/2019 09:50 Collection Date/Time: 06/12/2019 16:00

SDG#: BMS72-10

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270D	mg/l	mg/l	mg/l	
14252	1,4-Dichlorobenzene	106-46-7	N.D.	0.010	0.003	1
14252	2,4-Dinitrotoluene	121-14-2	N.D.	0.025	0.005	1
14252	Hexachlorobenzene	118-74-1	N.D.	0.003	0.0005	1
14252	Hexachlorobutadiene	87-68-3	N.D.	0.010	0.003	1
14252	Hexachloroethane	67-72-1	N.D.	0.025	0.005	1
14252	2-Methylphenol	95-48-7	N.D.	0.010	0.003	1
14252	4-Methylphenol	65794-96-9	N.D.	0.010	0.003	1
	chromatographic condition	nylphenol cannot be resolved under t s used for sample analysis. The resu ents the combined total of both compo				
14252	Nitrobenzene	98-95-3	N.D.	0.010	0.003	1
14252	Pentachlorophenol	87-86-5	N.D.	0.025	0.005	1
14252	Pyridine	110-86-1	N.D.	0.025	0.010	1
14252	2,4,5-Trichlorophenol	95-95-4	N.D.	0.010	0.003	1
14252	2,4,6-Trichlorophenol	88-06-2	N.D.	0.010	0.003	1
Metals		SW-846 6010C	mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0500	0.0160	1
07046	Barium	7440-39-3	0.515	0.0050	0.0010	1
07049	Cadmium	7440-43-9	0.0013 J	0.0050	0.0010	1
07051	Chromium	7440-47-3	N.D.	0.0150	0.0053	1
07055	Lead	7439-92-1	N.D.	0.0150	0.0071	1
07036	Selenium	7782-49-2	N.D.	0.0500	0.0210	1
07066	Silver	7440-22-4	N.D.	0.0100	0.0050	1
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.00020	0.000050	1

#### **Sample Comments**

State of New York Certification No. 10670

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

#### **Laboratory Sample Analysis Record**

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14252	TCLP 8270D MINI	SW-846 8270D	1	19175WAK026	06/26/2019 02:11	Ashley R Transue	1
07035	Arsenic	SW-846 6010C	1	191751404504	06/25/2019 08:35	Kevin Litwa	1
07046	Barium	SW-846 6010C	1	191751404504	06/25/2019 11:24	Kevin Litwa	1
07049	Cadmium	SW-846 6010C	1	191751404504	06/25/2019 08:35	Kevin Litwa	1
07051	Chromium	SW-846 6010C	1	191751404504	06/25/2019 08:35	Kevin Litwa	1
07055	Lead	SW-846 6010C	1	191751404504	06/25/2019 08:35	Kevin Litwa	1

<sup>\*=</sup>This limit was used in the evaluation of the final result

Reference ID: 2049748020719135102



ARCADIS U.S., Inc. ELLE Sample #:

ELLE Group #:

Matrix: Soil

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Partial Report

TL 1084494

2049748

#### **Laboratory Sample Analysis Record**

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07036	Selenium	SW-846 6010C	1	191751404504	06/25/2019 08:35	Kevin Litwa	1
07066	Silver	SW-846 6010C	1	191751404504	06/25/2019 08:35	Kevin Litwa	1
00259	Mercury	SW-846 7470A	1	191750571303	06/25/2019 11:55	Damary Valentin	1

Sample Description: WC-BLD22-IRM-R01 Grab Soil

**TCLP ZHE** 

BMS Bldg 22 Area IRM

Submittal Date/Time: 06/13/2019 09:50 Collection Date/Time: 06/12/2019 16:10 SDG#: BMS72-11

**Project Name: Bristol-Myers Squibb** 

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor		
GC/MS	Volatiles	SW-846 8260C	mg/l	mg/l	mg/l			
11997	Benzene	71-43-2	N.D.	0.020	0.004	20		
11997	2-Butanone	78-93-3	0.007 J	0.20	0.006	20		
11997	Carbon Tetrachloride	56-23-5	N.D.	0.020	0.004	20		
11997	Chlorobenzene	108-90-7	N.D.	0.020	0.004	20		
11997	Chloroform	67-66-3	N.D.	0.020	0.004	20		
11997	1,2-Dichloroethane	107-06-2	N.D.	0.020	0.006	20		
11997	1,1-Dichloroethene	75-35-4	N.D.	0.020	0.004	20		
11997	Tetrachloroethene	127-18-4	N.D.	0.020	0.004	20		
11997	Trichloroethene	79-01-6	N.D.	0.020	0.004	20		
11997	Vinyl Chloride	75-01-4	N.D.	0.020	0.004	20		
	The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration.							

in the calibration to exceed the 20% Drift continuing calibration verification criteria. The reported concentration in the associated sample(s) is considered to be estimated. Therefore the result for the following analyte(s) is estimated: 2-Butanone.

#### Sample Comments

State of New York Certification No. 10670

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

#### **Laboratory Sample Analysis Record**

CAT	Analysis Name	Method	Trial#	Batch#	Analysis	Analyst	Dilution
No.					Date and Time		Factor
11997	VOCs- 5ml Water by 8260C/D	SW-846 8260C	1	W191782AA	06/28/2019 04:49	Patrick T Herres	20

Sample Description: WC-BLD22-IRM-R02 Grab Soil

**TCLP ZHE** 

BMS Bldg 22 Area IRM

**Bristol-Myers Squibb** 

ARCADIS U.S., Inc.

**ELLE Sample #:** TL 1084495 **ELLE Group #:** 2049748

Matrix: Soil

\*=This limit was used in the evaluation of the final result

Reference ID: 2049748020719135102

**Project Name:** 



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Partial Report

Sample Description: WC-BLD22-IRM-R02 Grab Soil

TCLP ZHE

BMS Bldg 22 Area IRM

ARCADIS U.S., Inc.

**ELLE Sample #:** TL 1084495 **ELLE Group #:** 

Matrix: Soil

2049748

**Project Name: Bristol-Myers Squibb** 

Submittal Date/Time: 06/13/2019 09:50 Collection Date/Time: 06/12/2019 16:15 SDG#: BMS72-12

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	mg/l	mg/l	mg/l	
11997	Benzene	71-43-2	N.D.	0.020	0.004	20
11997	2-Butanone	78-93-3	N.D.	0.20	0.006	20
11997	Carbon Tetrachloride	56-23-5	N.D.	0.020	0.004	20
11997	Chlorobenzene	108-90-7	N.D.	0.020	0.004	20
11997	Chloroform	67-66-3	N.D.	0.020	0.004	20
11997	1,2-Dichloroethane	107-06-2	N.D.	0.020	0.006	20
11997	1,1-Dichloroethene	75-35-4	N.D.	0.020	0.004	20
11997	Tetrachloroethene	127-18-4	N.D.	0.020	0.004	20
11997	Trichloroethene	79-01-6	N.D.	0.020	0.004	20
11997	Vinyl Chloride	75-01-4	N.D.	0.020	0.004	20

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

#### **Sample Comments**

State of New York Certification No. 10670

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

#### **Laboratory Sample Analysis Record**

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	VOCs- 5ml Water by 8260C/D	SW-846 8260C	1	W191782AA	06/28/2019 05:13	Patrick T Herres	20

Sample Description: WC-BLD22-IRM-R03 Grab Soil

**TCLP ZHE** 

BMS Bldg 22 Area IRM

ARCADIS U.S., Inc.

**ELLE Sample #:** TL 1084496 **ELLE Group #:** 

Matrix: Soil

2049748

**Project Name: Bristol-Myers Squibb** 

Submittal Date/Time: 06/13/2019 09:50 Collection Date/Time: 06/12/2019 16:20 SDG#: BMS72-13

Limit of Method CAT Dilution Quantitation\* **Detection Limit Analysis Name CAS Number** Result Factor

**GC/MS Volatiles** SW-846 8260C mg/l mg/l mg/l



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Partial Report

Sample Description: WC-BLD22-IRM-R03 Grab Soil

**TCLP ZHE** 

BMS Bldg 22 Area IRM

ARCADIS U.S., Inc.

**ELLE Sample #:** TL 1084496 ELLE Group #: 2049748

Matrix: Soil

**Project Name: Bristol-Myers Squibb** 

Submittal Date/Time: 06/13/2019 09:50 06/12/2019 16:20

Collection Date/Time: SDG#: BMS72-13

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	mg/l	mg/l	mg/l	
11997	Benzene	71-43-2	N.D.	0.020	0.004	20
11997	2-Butanone	78-93-3	N.D.	0.20	0.006	20
11997	Carbon Tetrachloride	56-23-5	N.D.	0.020	0.004	20
11997	Chlorobenzene	108-90-7	N.D.	0.020	0.004	20
11997	Chloroform	67-66-3	N.D.	0.020	0.004	20
11997	1,2-Dichloroethane	107-06-2	N.D.	0.020	0.006	20
11997	1,1-Dichloroethene	75-35-4	N.D.	0.020	0.004	20
11997	Tetrachloroethene	127-18-4	N.D.	0.020	0.004	20
11997	Trichloroethene	79-01-6	N.D.	0.020	0.004	20
11997	Vinyl Chloride	75-01-4	N.D.	0.020	0.004	20

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

#### Sample Comments

State of New York Certification No. 10670

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

#### **Laboratory Sample Analysis Record**

CAT	Analysis Name	Method	Trial#	Batch#	Analysis	Analyst	Dilution
No.					Date and Time		Factor
11997	VOCs- 5ml Water by 8260C/D	SW-846 8260C	1	W191782AA	06/28/2019 05:37	Patrick T Herres	20

WC-BLD22-IRM-R04 Grab Soil Sample Description:

TCLP ZHE

BMS Bldg 22 Area IRM

ARCADIS U.S., Inc.

ELLE Sample #: TL 1084497

**ELLE Group #:** 2049748

Matrix: Soil

**Project Name: Bristol-Myers Squibb** 

Submittal Date/Time: 06/13/2019 09:50 Collection Date/Time: 06/12/2019 16:25

SDG#: BMS72-14

Limit of Method CAT Dilution Quantitation\* **Detection Limit Analysis Name CAS Number** Result No. **Factor** 

mg/l mg/l **GC/MS Volatiles** SW-846 8260C

<sup>\*=</sup>This limit was used in the evaluation of the final result



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Partial Report

Sample Description: WC-BLD22-IRM-R04 Grab Soil

**TCLP ZHE** 

BMS Bldg 22 Area IRM

ARCADIS U.S., Inc.

**ELLE Sample #:** TL 1084497 ELLE Group #:

Matrix: Soil

2049748

**Project Name: Bristol-Myers Squibb** 

Submittal Date/Time: 06/13/2019 09:50 Collection Date/Time: 06/12/2019 16:25

SDG#: BMS72-14

Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
Volatiles	SW-846 8260C	mg/l	mg/l	mg/l	
Benzene	71-43-2	N.D.	0.020	0.004	20
2-Butanone	78-93-3	N.D.	0.20	0.006	20
Carbon Tetrachloride	56-23-5	N.D.	0.020	0.004	20
Chlorobenzene	108-90-7	N.D.	0.020	0.004	20
Chloroform	67-66-3	N.D.	0.020	0.004	20
1,2-Dichloroethane	107-06-2	N.D.	0.020	0.006	20
1,1-Dichloroethene	75-35-4	N.D.	0.020	0.004	20
Tetrachloroethene	127-18-4	N.D.	0.020	0.004	20
Trichloroethene	79-01-6	N.D.	0.020	0.004	20
Vinyl Chloride	75-01-4	N.D.	0.020	0.004	20
	Benzene 2-Butanone Carbon Tetrachloride Chlorobenzene Chloroform 1,2-Dichloroethane 1,1-Dichloroethene Tetrachloroethene Trichloroethene	S Volatiles         SW-846 8260C           Benzene         71-43-2           2-Butanone         78-93-3           Carbon Tetrachloride         56-23-5           Chlorobenzene         108-90-7           Chloroform         67-66-3           1,2-Dichloroethane         107-06-2           1,1-Dichloroethene         75-35-4           Tetrachloroethene         127-18-4           Trichloroethene         79-01-6	SW-846 8260C   mg/l	Analysis Name         CAS Number         Result         Quantitation*           6 Volatiles         SW-846 8260C         mg/l         mg/l           Benzene         71-43-2         N.D.         0.020           2-Butanone         78-93-3         N.D.         0.20           Carbon Tetrachloride         56-23-5         N.D.         0.020           Chlorobenzene         108-90-7         N.D.         0.020           Chloroform         67-66-3         N.D.         0.020           1,2-Dichloroethane         107-06-2         N.D.         0.020           1,1-Dichloroethene         75-35-4         N.D.         0.020           Tetrachloroethene         127-18-4         N.D.         0.020           Trichloroethene         79-01-6         N.D.         0.020	Analysis Name         CAS Number         Result         Quantitation*         Detection Limit           5 Volatiles         SW-846 8260 C         mg/l         mg/l         mg/l           Benzene         71-43-2         N.D.         0.020         0.004           2-Butanone         78-93-3         N.D.         0.20         0.006           Carbon Tetrachloride         56-23-5         N.D.         0.020         0.004           Chlorobenzene         108-90-7         N.D.         0.020         0.004           Chloroform         67-66-3         N.D.         0.020         0.004           1,2-Dichloroethane         107-06-2         N.D.         0.020         0.006           1,1-Dichloroethene         75-35-4         N.D.         0.020         0.004           Tetrachloroethene         127-18-4         N.D.         0.020         0.004           Trichloroethene         79-01-6         N.D.         0.020         0.004

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

#### Sample Comments

State of New York Certification No. 10670

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

#### **Laboratory Sample Analysis Record**

CAT	Analysis Name	Method	Trial#	Batch#	Analysis	Analyst	Dilution
No.					Date and Time		Factor
11997	VOCs- 5ml Water by 8260C/D	SW-846 8260C	1	W191782AA	06/28/2019 06:00	Patrick T Herres	20

WC-BLD22-IRM-R05 Grab Soil Sample Description:

TCLP ZHE

BMS Bldg 22 Area IRM

ARCADIS U.S., Inc.

ELLE Sample #: TL 1084498

**ELLE Group #:** 2049748

Matrix: Soil

**Project Name: Bristol-Myers Squibb** 

Submittal Date/Time: 06/13/2019 09:50 Collection Date/Time: 06/12/2019 16:25

SDG#: BMS72-15

Limit of Method CAT Dilution Quantitation\* **Detection Limit Analysis Name CAS Number** Result No. **Factor** 

mg/l mg/l **GC/MS Volatiles** SW-846 8260C

<sup>\*=</sup>This limit was used in the evaluation of the final result



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Partial Report

Sample Description: WC-BLD22-IRM-R05 Grab Soil

**TCLP ZHE** 

**BMS Bldg 22 Area IRM** 

ARCADIS U.S., Inc.

ELLE Sample #: TL 1084498 ELLE Group #: 2049748

Matrix: Soil

0.004

0.004

20

20

**Project Name: Bristol-Myers Squibb** 

Submittal Date/Time: 06/13/2019 09:50 Collection Date/Time: 06/12/2019 16:25 SDG#: BMS72-15

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	mg/l	mg/l	mg/l	
11997	Benzene	71-43-2	N.D.	0.020	0.004	20
11997	2-Butanone	78-93-3	N.D.	0.20	0.006	20
11997	Carbon Tetrachloride	56-23-5	N.D.	0.020	0.004	20
11997	Chlorobenzene	108-90-7	N.D.	0.020	0.004	20
11997	Chloroform	67-66-3	N.D.	0.020	0.004	20
11997	1,2-Dichloroethane	107-06-2	N.D.	0.020	0.006	20
11997	1,1-Dichloroethene	75-35-4	N.D.	0.020	0.004	20
11997	Tetrachloroethene	127-18-4	N.D.	0.020	0.004	20

N.D.

N.D.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

79-01-6

75-01-4

#### Sample Comments

0.020

0.020

State of New York Certification No. 10670

Trichloroethene

Vinyl Chloride

11997

11997

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

#### **Laboratory Sample Analysis Record**

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	VOCs- 5ml Water by 8260C/D	SW-846 8260C	1	W191782AA	06/28/2019 06:23	Patrick T Herres	20

## Chain of Custody Record

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THE LEADER IN ENVIRONMENTAL TESTING TestAmerica Laboratories, Inc.

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Are any samples from a listed EPA Hazardous Waste? Please Comments Section if the lab is to dispose of the sample.	∋ List any ⊨	PA Waste	Codes for t	.he samp	le in the	e																
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# 3074/2049748/1084484-98 Chain of Custody Record 315087

THE LEADER IN ENVIRONMENTAL TESTING TestAmerica Laboratories, Inc.

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## Sample Administration Receipt Documentation Log

Doc Log ID: 251442

Group Number(s): 2049748

Client: Arcadis

**Delivery and Receipt Information** 

Delivery Method: Fed Ex Arrival Timestamp: 06/13/2019 9:50

Number of Packages: 1 Number of Projects: 1

**Arrival Condition Summary** 

Shipping Container Sealed: Yes Sample IDs on COC match Containers: Yes

Custody Seal Present: Yes Sample Date/Times match COC: Yes

Custody Seal Intact: Yes VOA Vial Headspace ≥ 6mm: N/A

Samples Chilled: Yes Total Trip Blank Qty: 0

Paperwork Enclosed: Yes Air Quality Samples Present: No

Samples Intact: Yes

Missing Samples: No

Extra Samples: No

Discrepancy in Container Qty on COC: No

Unpacked by Darian Jaynes (29952) at 20:59 on 06/13/2019

#### **Samples Chilled Details**

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler# Thermometer ID Corrected Temp Therm. Type Ice Type Ice Present? Ice Container **Elevated Temp?** DT42-01 DT Wet Υ Ν 1 3.7 Loose/Bag



**BMQL** 

ppb

basis

Dry weight

parts per billion

as-received basis.

## **Explanation of Symbols and Abbreviations**

milliliter(s)

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

Below Minimum Quantitation Level

			` '
С	degrees Celsius	MPN	Most Probable Number
cfu	colony forming units	N.D.	non-detect
CP Units	cobalt-chloroplatinate units	ng	nanogram(s)
F	degrees Fahrenheit	NTU	nephelometric turbidity units
g	gram(s)	pg/L	picogram/liter
IU	International Units	RL	Reporting Limit
kg	kilogram(s)	TNTC	Too Numerous To Count
L	liter(s)	μg	microgram(s)
lb.	pound(s)	μL	microliter(s)
m3	cubic meter(s)	umhos/cm	micromhos/cm
meq	milliequivalents	MCL	Maximum Contamination Limit
mg	milligram(s)		
<	less than		
>	greater than		
ppm	aqueous liquids, ppm is usually take	n to be equivalent to milli	kilogram (mg/kg) or one gram per million grams. For grams per liter (mg/l), because one liter of water has a weight juivalent to one microliter per liter of gas.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

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

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.

This report shall not be reproduced except in full, without the written approval of the laboratory.

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.



## **Data Qualifiers**

Qualifier	Definition
С	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
Р	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
P^	Concentration difference between the primary and confirmation column > 40%. The higher 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.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

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.

**Data Usability Summary Report** 



# Bristol-Myers Squibb Thompson Road Investigation

## Data Usability Summary Report

Syracuse, NY

PCB Analysis

SDGs # BMS72

Analyses Performed By: Eurofins Lancaster Laboratories Environmental

Lancaster, PA

Report #34007R Review Level: Tier III

Project: 30003539 - B0087363.0040-2019

#### **SUMMARY**

This data quality assessment summarizes the review of Sample Delivery Groups (SDGs) # BMS72 for samples collected in association with the with the Bristol-Myers Squibb Thompson Road Site. The review was conducted as a Tier III evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

			Sample				Ana	lysis	
Sample ID	Lab ID	Matrix	Collection Date	Parent Sample	VOC	svoc	РСВ	MET	MISC
BCP-SS-2019A(0.25-1.0)	1084484	Soil	6/12/2019				Х		
BCP-SS-2019A(1.0-2.0)	1084485	Soil	6/12/2019				Х		
BCP-SS-2019B(0.25-1.0)	1084486	Soil	6/12/2019				Х		
BCP-SS-2019B(1.0-2.0)	1084487	Soil	6/12/2019				Х		
BCP-SS-2019C(0.25-1.0)	1084488	Soil	6/12/2019				Х		
BCP-SS-2019(1.0-2.0)	1084491	Soil	6/12/2019				Х		

#### Notes:

1. TCLP analyses and Waste Characterization (WC) samples associated with this SDG were not evaluated in this report.

#### **ANALYTICAL DATA PACKAGE DOCUMENTATION**

The table below is the evaluation of the data package completeness.

	Rep	orted		rmance ptable	Not
Items Reviewed	No	Yes	No	Yes	Required
Sample receipt condition		Х		Х	
2. Requested analyses and sample results		Х		Х	
Master tracking list		Х		Х	
4. Methods of analysis		Х		Х	
5. Reporting limits		Х		Х	
6. Sample collection date		Х		Х	
7. Laboratory sample received date		Х		Х	
8. Sample preservation verification (as applicable)		Х		Х	
9. Sample preparation/extraction/analysis dates		Х		Х	
10. Fully executed Chain-of-Custody (COC) form		Х		Х	
11. Narrative summary of QA or sample problems provided		Х		X	
12. Data Package Completeness and Compliance		Х		X	

Note:

QA - Quality Assurance

#### **List of Acronyms**

%D: Percent Difference

%R: Percent Recovery

AC: Acceptable

ALC/GLY: Alcohols/Glycols

**BAL: Blank Action Level** 

CCV: Continuing Calibration Verification

CRDL: Contract Required Detection Limit

D: Dilution

EIS: Extractable Internal Standard

FB: Field Blank

FD: Field Duplicate

ALD: Aldehydes

GC/ECD: Gas Chromatograph/Electron Capture Detector

GC/MS: Gas Chromatograph/Mass spectrometer

HT: Holding Time

ICP: Inductively Coupled Plasma

ICS: Interference Control Sample

ICV: Initial Calibration Verification

ISTD: Internal Standards

LabDup: Laboratory Duplicate

LCS: Lab Control Sample

LCSD: Lab Control Sample Duplicate

LL: Lower Control Limit

MB: Method Blank

MDL: Method Detection Limit

MET: Metals

MS: Matrix Spike

MSD: Matrix Spike Duplicate

N/A: Not Applicable

NC: Not Compliant

#### List of Acronyms, Continued

PAH: Polyaromatic Hydrocarbon

PCB: Polychlorinated Biphenyl

PEST: Pesticide

PFAS: Per- and Polyfluoroalkyl Substances

QA: Quality Assurance

QC: Quality Control

RB: Rinse Blank

RL: Reporting Limit

RPD: Relative Percent Difference

RRF: Relative Response Factor

**RSD**: Relative Standard Deviation

RT: Retention Time

SDG: Sample Delivery Group

SerDil: Serial Dilution

SIM: Single Ion Monitoring

SOP: Standard Operating Procedure

SSTD: Surrogate Standards

SVOC: Semivolatile Organic Compound

TB: Trip Blank

TIC: Tentatively Identified Compound

TOC: Total Organic Carbon

**TOTDIS: Total and Dissolved** 

**UL: Upper Control Limit** 

USEPA: United States Environmental Protection Agency

VOC: Volatile Organic Compound

#### **ORGANIC ANALYSIS INTRODUCTION**

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW846 methods 8082A. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999 and applicable EPA Region 2 SOPs.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers
  - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
  - B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- · Quantitation (Q) Qualifiers
  - E The compound was quantitated above the calibration range.
  - D Concentration is based on a diluted sample analysis.

#### Validation Qualifiers

- J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
- UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
- JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
- UB Compound considered non-detect at the listed value due to associated blank contamination.
- N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
- R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is

that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

# POLYCHLORINATED BIPHENYLS (PCBs) ANALYSES

## 1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8082A	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

#### Note:

The holding time above is a recommendation. PCBs are very stable in a variety of matrices, and holding times, under the conditions listed above, may be as long as a year per SW-846 8082A (February 2007).

All samples were analyzed within the specified holding time criteria.

#### 2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

#### 3. Instrument Performance

Instrumentation performance is verified by evaluating the chromatographic resolution of standards/surrogates as well as reviewing the chromatographic baseline. At the beginning of each 12-hour period during which samples or standards are analyzed, the retention time (RT) windows are verified for the identification of target compounds.

The instrument performance and column resolution were acceptable.

#### 4. Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

## 4.1 Initial Calibration

A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. Multiple-point calibrations were performed for Aroclor 1016 and 1260 only. Single-point calibrations were performed for the remaining Aroclors.

## 4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (20%).

All Aroclors associated with calibrations were within the specified control limits.

## 5. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. PCB analysis requires that one of the two PCB surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries reported from the primary column were within control limits.

# 6. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

A MS/MSD analysis was not performed on a sample location within this SDG.

# 7. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

# 8. Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 35% for water matrices and 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate was not included with this SDG

# Compound Identification

The retention times of all quantitated peaks must fall within the calculated retention time windows for both the primary and confirmation columns. When dual column analysis is performed the relative percent difference (%RPD) of detected sample results must be less than 25%.

Sample locations associated with RPD analysis exhibiting recoveries outside of the control limits presented in the following table.

Sample Locations	Compound	RPD
BCP-SS-2019B(1.0-2.0)	Aroclor 1254	32.3%

The criteria used to evaluate the RPD are presented in the following table. In the case of a RPD deviation, the sample results are qualified as documented in the table below.

Control Limit (%D)	Qualification
>25% to 70%	J
>70% to 100%	JN
>100% 1	R
>100% to 200% (Interference detected) <sup>2</sup>	J or JN
>50% (PCB sample results less than the RL)	U

When the PCB sample results are less than the RL and the RPD greater than 50% the sample result are raised to the RL and reported as non-detect.

Note 1: If the pattern is confirmed sample results will be qualified as estimated (J). If pattern exhibits interference or if the PCB cannot be positively determined due to weathering the sample results will be qualified as tentative identification estimate (JN).

Note 2: If interference is detected in either column the sample results will be qualified as tentative identification estimate (JN).

#### 10. System Performance and Overall Assessment

Please note the laboratory qualified results with "D1" and "D2" to indicate which column results were reported from; these qualifiers were removed during validation as they have no impact on data quality.

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

# **DATA VALIDATION CHECKLIST FOR PCBs**

PCBs; SW-846 8082	Rep	orted	Perfo Acce	Not	
	No	Yes	No	Yes	Required
GAS CHROMATOGRAPHY (GC/ECD)		•			
Tier II Validation					
Holding times		Х		Х	
Reporting limits (units)		Х		Х	
Blanks					
A. Method blanks		Х		Х	
B. Rinse/Equipment blanks					Х
Laboratory Control Sample (LCS) %R		Х		Х	
Laboratory Control Sample Duplicate(LCSD) %R					Х
LCS/LCSD Precision (RPD)					Х
Matrix Spike (MS) %R					Х
Matrix Spike Duplicate(MSD) %R					Х
MS/MSD Precision (RPD)					Х
Field/Lab Duplicate (RPD)					Х
Surrogate Spike Recoveries		Х		Х	
Column (RPD) (If dual column is performed-not confirmation purposes only)		Х		Х	
Dilution Factor		Х		Х	
Moisture Content		Х		Х	
Tier III Validation					
Initial calibration %RSDs		Х		X	
Continuing calibration %Ds		X		X	
System performance and column resolution		X		Х	
Compound identification and quantitation					
A. Quantitation Reports		Х		X	
B. RT of sample compounds within the established RT windows		X		Х	
C. Pattern identification		Х		Х	
D. Transcription/calculation errors present		Х		X	
E. Reporting limits adjusted to reflect sample dilutions		Х		Х	

# **DATA USABILITY SUMMARY REPORT**

# **SAMPLE COMPLIANCE REPORT**

Sample	Sampling Date	Protocol	Sample ID			(	Complianc	y <sup>1</sup>		
Delivery Group (SDG)				Matrix	VOC	svoc	РСВ	MET	MISC	Noncompliance
	6/12/2019	SW846	BCP-SS-2019A(0.25-1.0)	Soil	-	-	Yes	-	-	
	6/12/2019	SW846	BCP-SS-2019A(1.0-2.0)	Soil	-	-	Yes	-	-	
BMS72	6/12/2019	SW846	BCP-SS-2019B(0.25-1.0)	Soil	-	-	Yes	-	-	
Billor	6/12/2019	SW846	BCP-SS-2019B(1.0-2.0)	Soil	-	-	Yes	-	-	
	6/12/2019	SW846	BCP-SS-2019C(0.25-1.0)	Soil	-	-	Yes	-	-	
	6/12/2019	SW846	BCP-SS-2019(1.0-2.0)	Soil	-	-	Yes	-	-	

#### Note:

Samples which are compliant with no added validation qualifiers are listed as "yes". Samples which are non-compliant or which have added qualifiers are listed as "no". A "no" designation does not necessarily indicate that the data have been rejected or are otherwise unusable.

# **DATA USABILITY SUMMARY REPORT**

VALIDATION PERFORMED BY: Jeffrey L. Davin

SIGNATURE:

DATE: September 6, 2019

PEER REVIEW: Dennis K. Capria

DATE: October 2, 2019

# CHAIN OF CUSTODY CORRECTED SAMPLE ANALYSIS DATA SHEETS (Following 8 pages)

# Chain of Custody Record

315088

<u>TestAmerica</u>

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

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BCP-SS-2019A(1.0-2.0)	6/12/15	1500	G	50	1	MW	X			İ										
BCP-SS-2019B(0.25-1.0)	6/12/19	1520	<u>G</u>	50	1	Mı	X						\$	vra	acı	186	<b>)</b>			
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WC-BLU 22-IRM-RO3	6/12/19	1220	6	50	1						W								***	
Preservation Used: 1= Ice, 2= HCI; 3= H2SO4; 4=HNO3;	5=NaOH;	6= Other _																		
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Pleas	e List any E	EPA Waste	Codes for t	he samp	le in the	Sa	ımple	Dispo	sal (	A fee	may b	e assess	ed if sa	amples	s are re	tained	longer than 1	month)	THE PROPERTY OF THE PROPERTY O	
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Page 28 of 32



# **Data Qualifiers**

Qualifier	Definition
С	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
Р	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
P^	Concentration difference between the primary and confirmation column > 40%. The higher 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.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

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.



2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description: BCP-SS-2019A(0.25-1.0) Grab Soil

BMS Bldg 22 Area IRM

**Project Name: Bristol-Myers Squibb** 

Submittal Date/Time: 06/13/2019 09:50 Collection Date/Time: 06/12/2019 14:50

SDG#: BMS72-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
PCBs		SW-846 8082A Feb 2007 Rev 1	mg/kg	mg/kg	mg/kg	
10885	PCB-1016	12674-11-2	N.D. D1	0.019	0.0040	1
10885	PCB-1221	11104-28-2	N.D. D1	0.019	0.0051	1
10885	PCB-1232	11141-16-5	N.D. <b>D</b> 1	0.019	0.0088	1
10885	PCB-1242	53469-21-9	N.D. <b>D</b> 1	0.019	0.0036	1
10885	PCB-1248	12672-29-6	N.D. D1	0.019	0.0036	1
10885	PCB-1254	11097-69-1	0.014 JD1	0.019	0.0036	1
10885	PCB-1260	11096-82-5	N.D. D1	0.019	0.0054	1
10885	PCB-1262	37324-23-5	N.D. D	0.019	0.0036	1
10885	PCB-1268	11100-14-4	N.D. D <mark>1</mark>	0.019	0.0036	1
10885	Total PCBs <sup>1</sup>	1336-36-3	0.014 J	0.019	0.0036	1
Wet Ch	nemistry	SM 2540 G-2011 %Moisture Calc	%	%	%	
00111	Moisture <sup>1</sup>	n.a.	9.6	0.50	0.50	1
		e loss in weight of the sample after over sius. The moisture result reported is on				

# **Sample Comments**

 $<sup>^{1}</sup>$  = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

	Laboratory Sample Analysis Record											
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor					
10885	PCBs 8082A/3546	SW-846 8082A Feb 2007 Rev 1	1	191700037A	06/24/2019 17:07	Covenant Mutuku	1					
10497	PCB Microwave Soil Extraction	SW-846 3546	1	191700037A	06/20/2019 11:00	Joshua S Ruth	1					
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	19172820002B	06/22/2019 17:51	Scott W Freisher	1					

<sup>\*=</sup>This limit was used in the evaluation of the final result



2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description: BCP-SS-2019A(1.0-2.0) Grab Soil

**BMS Bldg 22 Area IRM** 

**Project Name: Bristol-Myers Squibb** 

Submittal Date/Time: 06/13/2019 09:50 Collection Date/Time: 06/12/2019 15:00

SDG#: BMS72-02

ARCADIS U.S., Inc. ELLE Sample #: ELLE Group #:	SW 1084485 2049748
Matrix: Soil	

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
PCBs		SW-846 8082A Feb 2007 Rev 1	mg/kg	mg/kg	mg/kg	
10885	PCB-1016	12674-11-2	N.D. D1	0.019	0.0040	1
10885	PCB-1221	11104-28-2	N.D. D1	0.019	0.0050	1
10885	PCB-1232	11141-16-5	N.D. D1	0.019	0.0088	1
10885	PCB-1242	53469-21-9	N.D. D <mark>1</mark>	0.019	0.0036	1
10885	PCB-1248	12672-29-6	N.D. D	0.019	0.0036	1
10885	PCB-1254	11097-69-1	0.010 JD1	0.019	0.0036	1
10885	PCB-1260	11096-82-5	N.D. D <mark>1</mark>	0.019	0.0054	1
10885	PCB-1262	37324-23-5	N.D. D1	0.019	0.0036	1
10885	PCB-1268	11100-14-4	N.D. D1	0.019	0.0036	1
10885	Total PCBs <sup>1</sup>	1336-36-3	0.010 J	0.019	0.0036	1
Wet Ch	nemistry	SM 2540 G-2011 %Moisture Calc	%	%	%	
00111	Moisture <sup>1</sup>	n.a.	10.1	0.50	0.50	1
		loss in weight of the sample after oven us. The moisture result reported is on a				

# **Sample Comments**

 $<sup>^{1}</sup>$  = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

	Laboratory Sample Analysis Record								
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor		
10885	PCBs 8082A/3546	SW-846 8082A Feb 2007 Rev 1	1	191700037A	06/24/2019 17:18	Covenant Mutuku	1		
10497	PCB Microwave Soil Extraction	SW-846 3546	1	191700037A	06/20/2019 11:00	Joshua S Ruth	1		
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	19172820002B	06/22/2019 17:51	Scott W Freisher	1		



SW 1084486

2049748

ARCADIS U.S., Inc.

ELLE Sample #:

**ELLE Group #:** 

Matrix: Soil

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description: BCP-SS-2019B(0.25-1.0) Grab Soil

BMS Bldg 22 Area IRM

Project Name: Bristol-Myers Squibb

Submittal Date/Time: 06/13/2019 09:50 Collection Date/Time: 06/12/2019 15:10

SDG#: BMS72-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
PCBs		SW-846 8082A Feb 2007 Rev 1	mg/kg	mg/kg	mg/kg	
10885	PCB-1016	12674-11-2	N.D. D1	0.019	0.0040	1
10885	PCB-1221	11104-28-2	N.D. <b>D</b> 1	0.019	0.0051	1
10885	PCB-1232	11141-16-5	N.D. D1	0.019	0.0089	1
10885	PCB-1242	53469-21-9	N.D. D	0.019	0.0037	1
10885	PCB-1248	12672-29-6	N.D. D	0.019	0.0037	1
10885	PCB-1254	11097-69-1	0.0094 JD1	0.019	0.0037	1
10885	PCB-1260	11096-82-5	N.D. D1	0.019	0.0055	1
10885	PCB-1262	37324-23-5	N.D. D1	0.019	0.0037	1
10885	PCB-1268	11100-14-4	N.D. <b>D</b> 1	0.019	0.0037	1
10885	Total PCBs1	1336-36-3	0.0094 J	0.019	0.0037	1
Wet CI	nemistry	SM 2540 G-2011 %Moisture Calc	%	%	%	
00111	Moisture <sup>1</sup>	n.a.	10.5	0.50	0.50	1
		he loss in weight of the sample after over elsius. The moisture result reported is on				

# **Sample Comments**

 $<sup>^{1}</sup>$  = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

	Laboratory Sample Analysis Record									
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor			
10885	PCBs 8082A/3546	SW-846 8082A Feb 2007 Rev 1	1	191700037A	06/24/2019 17:28	Covenant Mutuku	1			
10497	PCB Microwave Soil Extraction	SW-846 3546	1	191700037A	06/20/2019 11:00	Joshua S Ruth	1			
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	19172820002B	06/22/2019 17:51	Scott W Freisher	1			

<sup>\*=</sup>This limit was used in the evaluation of the final result



SW 1084487

2049748

ARCADIS U.S., Inc.

ELLE Sample #:

**ELLE Group #:** 

Matrix: Soil

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description: BCP-SS-2019B(1.0-2.0) Grab Soil

BMS Bldg 22 Area IRM

Project Name: Bristol-Myers Squibb

Submittal Date/Time: 06/13/2019 09:50 Collection Date/Time: 06/12/2019 15:20

SDG#: BMS72-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
PCBs		SW-846 8082A Feb 2007 Rev 1	mg/kg	mg/kg	mg/kg	
10885	PCB-1016	12674-11-2	N.D. <b>p</b> 1	0.019	0.0040	1
10885	PCB-1221	11104-28-2	N.D. <b>D</b> 1	0.019	0.0051	1
10885	PCB-1232	11141-16-5	N.D. D <mark>1</mark>	0.019	0.0089	1
10885	PCB-1242	53469-21-9	N.D. D <mark>1</mark>	0.019	0.0037	1
10885	PCB-1248	12672-29-6	N.D. D	0.019	0.0037	1
10885	PCB-1254	11097-69-1	0.0070 JD1	0.019	0.0037	1
10885	PCB-1260	11096-82-5	N.D. D1	0.019	0.0055	1
10885	PCB-1262	37324-23-5	N.D. <b>D</b> 1	0.019	0.0037	1
10885	PCB-1268	11100-14-4	N.D. <b>b</b> 1	0.019	0.0037	1
10885	Total PCBs <sup>1</sup>	1336-36-3	0.0070 J	0.019	0.0037	1
Wet Ch	nemistry	SM 2540 G-2011 %Moisture Calc	%	%	%	
00111	Moisture <sup>1</sup>	n.a.	10.7	0.50	0.50	1
		e loss in weight of the sample after over sius. The moisture result reported is on				

# **Sample Comments**

<sup>&</sup>lt;sup>1</sup> = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

	Laboratory Sample Analysis Record									
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor			
10885	PCBs 8082A/3546	SW-846 8082A Feb 2007 Rev 1	1	191700037A	06/24/2019 17:39	Covenant Mutuku	1			
10497	PCB Microwave Soil Extraction	SW-846 3546	1	191700037A	06/20/2019 11:00	Joshua S Ruth	1			
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	19172820002B	06/22/2019 17:51	Scott W Freisher	1			

<sup>\*=</sup>This limit was used in the evaluation of the final result



SW 1084488

2049748

ARCADIS U.S., Inc.

ELLE Sample #:

**ELLE Group #:** 

Matrix: Soil

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Sample Description: BCP-SS-2019C(0.25-1.0) Grab Soil

BMS Bldg 22 Area IRM

Project Name: Bristol-Myers Squibb

Submittal Date/Time: 06/13/2019 09:50
Collection Date/Time: 06/12/2019 15:30

SDG#: BMS72-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
PCBs		SW-846 8082A Feb 2007 Rev 1	mg/kg	mg/kg	mg/kg	
10885	PCB-1016	12674-11-2	N.D. D1	0.019	0.0040	1
10885	PCB-1221	11104-28-2	N.D. <b>D</b> 1	0.019	0.0052	1
10885	PCB-1232	11141-16-5	N.D. <b>D</b> 1	0.019	0.0090	1
10885	PCB-1242	53469-21-9	N.D. <b>p</b> 1	0.019	0.0037	1
10885	PCB-1248	12672-29-6	N.D. 01	0.019	0.0037	1
10885	PCB-1254	11097-69-1	0.091 <b>D</b> 1	0.019	0.0037	1
10885	PCB-1260	11096-82-5	N.D. D1	0.019	0.0055	1
10885	PCB-1262	37324-23-5	N.D. D <mark>1</mark>	0.019	0.0037	1
10885	PCB-1268	11100-14-4	N.D. D <mark>1</mark>	0.019	0.0037	1
10885	Total PCBs <sup>1</sup>	1336-36-3	0.091	0.019	0.0037	1
Wet Chemistry		SM 2540 G-2011 %Moisture Calc	%	%	%	
00111	Moisture <sup>1</sup>	n.a.	11.0	0.50	0.50	1
		e loss in weight of the sample after over sius. The moisture result reported is on				

# **Sample Comments**

 $<sup>^{1}</sup>$  = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

	Laboratory Sample Analysis Record								
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor		
10885	PCBs 8082A/3546	SW-846 8082A Feb 2007 Rev 1	1	191700037A	06/24/2019 17:49	Covenant Mutuku	1		
10497	PCB Microwave Soil Extraction	SW-846 3546	1	191700037A	06/20/2019 11:00	Joshua S Ruth	1		
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	19172820002B	06/22/2019 17:51	Scott W Freisher	1		

<sup>\*=</sup>This limit was used in the evaluation of the final result



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Sample Description: BCP-SS-2019(1.0-2.0) Grab Soil

BMS Bldg 22 Area IRM

Project Name: Bristol-Myers Squibb

Submittal Date/Time: 06/13/2019 09:50 Collection Date/Time: 06/12/2019 15:40

SDG#: BMS72-08

ARC	ADIS	U.S.,	Inc
$\Delta \cup \Delta \cup \Delta$	$\neg \cup \cup$	0.0.,	

ELLE Sample #: SW 1084491 ELLE Group #: 2049748

Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
PCBs		SW-846 8082A Feb 2007 Rev 1	mg/kg	mg/kg	mg/kg	
10885	PCB-1016	12674-11-2	N.D. D1	0.019	0.0040	1
10885	PCB-1221	11104-28-2	N.D. <b>D</b> 1	0.019	0.0052	1
10885	PCB-1232	11141-16-5	N.D. <b>D</b> 1	0.019	0.0090	1
10885	PCB-1242	53469-21-9	N.D. D1	0.019	0.0037	1
10885	PCB-1248	12672-29-6	N.D. D <mark>1</mark>	0.019	0.0037	1
10885	PCB-1254	11097-69-1	0.014 JD2	0.019	0.0037	1
10885	PCB-1260	11096-82-5	N.D. <b>D</b> 1	0.019	0.0055	1
10885	PCB-1262	37324-23-5	N.D. 🚺1	0.019	0.0037	1
10885	PCB-1268	11100-14-4	N.D. <b>b</b> 1	0.019	0.0037	1
10885	Total PCBs <sup>1</sup>	1336-36-3	0.014 J	0.019	0.0037	1
Wet Cl	nemistry	SM 2540 G-2011 %Moisture Calc	%	%	%	
00111	Moisture <sup>1</sup>	n.a.	11.3	0.50	0.50	1
		ne loss in weight of the sample after over lsius. The moisture result reported is on				

# **Sample Comments**

 $<sup>^{1}</sup>$  = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

	Laboratory Sample Analysis Record								
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor		
10885	PCBs 8082A/3546	SW-846 8082A Feb 2007 Rev 1	1	191700037A	06/24/2019 18:21	Covenant Mutuku	1		
10497	PCB Microwave Soil Extraction	SW-846 3546	1	191700037A	06/20/2019 11:00	Joshua S Ruth	1		
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	19172820002B	06/22/2019 17:51	Scott W Freisher	1		

<sup>\*=</sup>This limit was used in the evaluation of the final result

# **ATTACHMENT 5**

**Waste Disposal Documentation** 

Site Address: 6000 Thompson Road East Syraouse, NY 13057



SC PPW 3/12/2019

OCUMENT N	0.		STRAIGHT	BILL OF LADING				
RANSPORTE	R1	Clear	n Harbors Environmental Se	Control of the control of the control of	VEHICLE ID# 4	353		
PA ID#		MAI	D039322250		TRANS. 1 PHONE			
RANSPORTE	R2			-	VEHICLE ID #			
PA ID#	-			TRANS. 2 PHONE				
DESIGNATED	FACILITY	s Landfil	it thinks	SHIPPER	Myers Squibb Company			
FACILITY EPA					EPA ID3#0 9 0 2			
ADDRESS 425 I	Perinton Par	rkway		ADDRESS PO Box				
CITY STATE ZIP				CITY	STATE	ZIP 13221		
ONTAINERS NO. & SIZE	TYPE	НМ		TION OF MATER	TOTAL	UNIT WT/VOL		
-254	cm		A. NON DOT REQULATED	MATERIAL	EST	+		
			B. C.					
_			D.					
			E.					
			F.					
			G.					
			Н.					

SHIPPERS CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

SHIPPER PRINT	SIGN	cho DATE 7-21-19
TRANSPORTER 1 (SEAS) GRAVEN	SIGN	DATE 7-31-19
PRINT TRANSPORTER 2	SIGN	DATE
RECEIVED BY	SIGN	DATE

A.120917NY

Site Address:

6000 Thompson Road East Syracuse, NY 13057

SC PPW 3/12/2019

4353

1141585

WORK ORDER NO.5Y 1902986124-003

DOCUMENT N	0.			S	TRAIGHT B	BILL OI	F LA	DING				
TRANSPORTE	R1	Clear	Harbo	rs Envir	onmental Ser	rvices, l	nc.		VEHICI	LE ID#	6	1353
EPA ID#		MAI	039	3222	50							L) 792-5000
TRANSPORTER	R2								_ VEHICL	LE ID#	-	
DESIGNATED	FACILITY	s Landfi	1	414	Hitch	S	HIP	PER	ers Squibb	Compa	ny	
FACILITY EPA	ID# DEC808	7076				S	HIP	PER EP	A ID # 223090	2	,	
ADDRESS				-		A	DD	RESS		, 4		-
CITY	Perinton Pa	ricway	STA		ZIP	C	ITY	O Box 4	755	S	TATE	ZIP
CONTAINERS NO. & SIZE	TYPE	НМ		MA	DESCRIPTI	ION O	F M	ATERIAL	_S		TOTAL QUANTITY	UNIT WT/VOL
1-254	cm		A.	NON DO	T REGULATED						E515	WINGE
			B.									
			C.									
			D.									
			E.									
			F.									
			G.									
			H.	4.50					and the second			
SPECIAL HAND A 120917NY		POT		EME 19912	RGENCY PHO	ONE #:	800	483-37	18 GENE	ERATOR	: Bristol-Myer	s Squibb Com
SHIP	PERS CER	RTIFICA	TION	This is t	to certify that	t the et						

SHIPPER	PRINT H Locke	SIGN MANIA LA	12 DATE 7-31-19
TRANSPORTER 1	PRINT (FERAL) GRAVEN	SIGN SIGN	DATE 7-31-19
TRANSPORTER 2	PRINT	SIGN	DATE
RECEIVED BY	PRINT	SIGN	DATE 19

SC PPW 3/12/2019

1141586

WORK ORDER NO.SY 1902986124-003

	STRAIGHT BIL an Harbors Environmental Servi				
MA			VEHICLE ID	)# 5/3	53
	D039322250			PHONE	
			VEHICLE ID		.) 792-0000
			TRANS. 2 P	HONE	
ITY Acres Landf	in Mendana	SHIPPER Installed	ers Squibb Com	Inany	-
808707	6	SHIPPER EP	A ID #	iparty	
D .		ADDRESS	2230302		
n Fancway	STATE ZIP	CITY Box 47	755	STATE	ZIP
е нм		N OF MATERIAL	S	TOTAL	UNIT
$\wedge$	Α.			EST	WT/VOL
	В.			2	
	C.				
	D.		-		
	E.		7		
	F.				
	G.				West and the second
	H.				
	TIONS EMERGENCY PHON	E#: (800) 483-371	L8 GENERATO	OR: Bristol-Myers	Squibb Com
	PE HM  INSTRUCT  M PO A	STATE ZIP  NY 14450 PE HM DESCRIPTIO A. NON DOT REGULATED M B.  C.  D.  E.  F.  G.  H.  INSTRUCTIONS  M PO # W1914773	SHIPPER EPARTS STATE ZIP CITY  DESCRIPTION OF MATERIAL  A. NON DOT REGULATED MATERIAL  B. C.  C.  D.  E.  F.  G.  H.  INSTRUCTIONS  EMERGENCY PHONE #: (800) 483-377.	SHIPPER Myers Squibb Com  SHIPPER EPA ID #  IV D Q Q 2 2 3 0 9 0 2  ADDRESS  STATE ZIP CITY  DESCRIPTION OF MATERIALS  A. NON DOT REGULATED MATERIAL  B. C.  D. E.  F. G.  H.  INSTRUCTIONS  EMERGENCY PHONE # (800) 483-3718 GENERATE  M. PO # WIGHLIAM CONTRACTOR # CON	SHIPPER EPA ID #  IN PORT STATE ZIP CITY STATE  STATE ZIP CITY STATE  DE HM DESCRIPTION OF MATERIALS QUANTITY  A. NON DOT REQULATED MATERIAL  B. C. D. E. F. G. H. INSTRUCTIONS  MATERIALS GENERATOR: Bristol-Myora AND HEALTH STATE STATE  MATERIALS GENERATOR: Bristol-Myora AND HEALTH STATE STATE  STATE ZIP CITY STATE  TOTAL QUANTITY  A. NON DOT REQULATED MATERIAL  B. C. STATE ZIP CITY STATE  TOTAL QUANTITY  A. NON DOT REQULATED MATERIAL  B. C. STATE ZIP CITY STATE  TOTAL QUANTITY  A. NON DOT REQULATED MATERIAL  B. STATE ZIP CITY STATE  TOTAL QUANTITY  A. NON DOT REQULATED MATERIAL  B. STATE  TOTAL QUANTITY  A. NON DOT REQULATED MATERIAL  TOTAL QUANTITY  A. NON DOT REQULATED MATERIAL  A. NON DOT REQULATED MATERIAL  A. NON DOT REQULATED MATERIAL  B. STATE  TOTAL QUANTITY  A. NON DOT REQULATED MATERIAL  B. STATE  TOTAL QUANTITY  A. NON DOT REQ

SHIPPER ANNUL LOCKE	SIGN	ve H. Lacko	DATE 19
TRANSPORTER 1 (FEASIS GRAVEN)	SIGN	al Denen	DATE
PRINT TRANSPORTER 2	SIGN	- NIMONI	DATE
RECEIVED BY	SIGN		DATE

Site Address:

6000 Thompson Road East Syraouse, NY 13057



1141587

SC PPW 3/12/2019

	WORK	ORDER NO.ST	11000000010100
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DOCUMENT N	10.			STRAIGHT BII	LL OF LADING			
TRANSPORTE	R1	Clea	n Harbors En	vironmental Serv	The second secon	VEHICLE ID	)# 43	353
EPA ID#			0039322				HONE	
TRANSPORTE	R 2					VEHICLE ID		792-5000
PA ID#								
-						THANS. 2 P	HONE	
DESIGNATED	FACILITY	s Landfi	1	met Mid 3	SHIPPER	vers Squibb Com	illus and a	
FACILITY EPA	AID# SDEC808	37076			SHIPPER EP	A ID # 2230902	pany	
ADDRESS					ADDRESS	2230902		
CITY 426	Perinton Pa	ricway	STATE	ZIP	CITY Box 4	755	STATE 2	ZIP
CONTAINERS NO. & SIZE	TYPE	НМ	NY	14450 DESCRIPTIO	N OF MATERIAL		TOTAL QUANTITY	UNIT WT/VOL
1-254	cm		A.	DOT REGULATED M			E51 15	VIIVOL
			B.					
			C.					
			D.					
			E.					
			F.					
			G.					
			Н.					
SPECIAL HAND			EI	MERGENCY PHON	E #-(900) 492 47	19 054504	D Date 122	
A.120917NY	Wm	PO#	W1911	47173	1E#: (800) 483-37	18 GENERAK	T 2 750	Squibb Compa
SHID	PERS CER	TIEICA	TION: This :	in da				

SHIPPER PRINT H Locke	SIGN	DATE 1-19
TRANSPORTER 1 (ERAIS GRAVEN)	SIGN	DATE 8-1-19
PRINT TRANSPORTER 2	SIGN	DATE
RECEIVED BY	SIGN	DATE 19

6000 Thompson Road East Syracuse, NY 13057 4353

SC PPW 3/12/2019

1141588

	SV 100	2000	104	nn
WORK ORDER NO	)	X300	1.24	-00

DOCUMENT NO	0.				LL OF LADING			
TRANSPORTER	31	Clear	Harbors En	vironmental Serv	ices, Inc.	VEHICLE ID #	4.	353
EPA ID #		MAD	039322	2250		TRANS. 1 PHONE	(78:1	) 792-5000
TRANSPORTER	R2					_ VEHICLE ID #		
EPA ID#						TRANS. 2 PHONE		
DESIGNATED	FACILITY	s Landfil	1		SHIPPER	ers Squibb Company		
FACILITY EPA	D#808	37076			SHIPPER ER			
ADDRESS	erinton Par	rlcway			ADDRESS	7RK	-	
CITY Fairpo			STATE	ZIP 14450	CITY	STA	TE :	ZIP 13221
ONTAINERS NO. & SIZE	TYPE	НМ			ON OF MATERIAL	Т	OTAL ANTITY	UNIT WT/VOL
1-254	cm			DOT REGULATED N			EST 15	7
			B.					
			C.					
			D.					
			E.					
-			F.					
1			G.					
			H.	-				
A.120917NY	Wm	PO#	ons + WJ9/	MERGENCY PHON	NE # (800) 483-87			

SHIPPER AND LOCKE	SIGN	Ole DATE 2-19
TRANSPORTER 1 (FRANE)	SIGN	DATE
PRINT TRANSPORTER 2	SIGN	DATE
RECEIVED BY	SIGN	DATE



Original Ticket# 1298372

Customer Name Ticket Date Payment Type Manual Ticket Haulding Ticke Route State Waste C Manifest Destination PO	07/31/2019 Credit Acc # t#	• •	(LEEN-16	Vehic Conta Drive Check Billi	le# 4353 iner r # ng # 00 PA ID N/	<b>0</b> 7715	ORS Volume	
	120917NY (	SOILS BM	S BLDG	22 ARFA TR	M)			
Generator	190-BRISTO	LMYERSSG	UIBB BR	ISTOL-MYER	S SQUIBB			
Time In 07/31/2019 Out 07/31/2019	14:55 A_Sc 15:20 B_Sc	Scal ale_i ale_2	SD #6	Operato 04682 04682	r	Inbound	Gross Tare Net	67780 lb 37660 lb 30120 lb
Comments							Tons	15. 06
				1				
Product	illi talli tita sisa gun san gun aya aya aya aya	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1 Cont Soil 2 EVF-P6-Er	RCG-Tons	100 100	15. 06	Tons %	nere were preife fiddie spiese plane plane perso perso p	970 910 Mar vito ello que que que que que que que que que que		ONO ONO

Total Fees Total Ticket

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404WM

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Original Ticket# 1298543

Customer Name CLEANHARBORSAFETYKLEEN-120917 Carrier CLN CLEAN HARBORS 08/01/2019 Ticket Date Vehicle# 4353 Volume Payment Type Credit Account Container Manual Ticket# Driver Hauling Ticket# Check# Route Billing # 0007715 State Waste Code Gen EPA ID N/A Manifest 1141585 Grid CELL 12A Destination PO . 1) W19147173 2) W19147173 Profile 120917N% (SOILS BMS BLDG 22 AREA IRM)

190-BRISTOLMYERSSQUIBB BRISTOL-MYERS SQUIBB

Time Scale Operator Inbound Gross 64980 15 In 08/01/2019 09:34 A\_Scale\_1 SD #604682 Tare 37900 1ь Out 08/01/2019 10:20 B\_Scale\_2 SD #604682 Net 27080 15 Tons 13.54 Comments

Product	LD%	Qty	MOU	Rate	Fee	Amount	Origin
1 Cont Soil RCG-Tons 2 EVF-P6-Environment	100	13.54	Tons %	mete allen elet dren men inter riner pape allen inten natur e	100 MIN 1007 100 100 100 100 100 100 100 100 10	- 100 '400 '600 '600 '600 '600 '600 '600 '6	ONO ONO

Total Fees
Driver's Signature\_\_\_\_\_\_\_ Total Ticket

404WM

Generator



Original Ticket# 1298706

Customer Name CLEANHARBORSAFETYKLEEN-120917 Carrier CLN CLEAN HARBORS Ticket Date 08/01/2019 Vehicle# 4353 Volume Payment Type Credit Account Container Manual Ticket# Driver Hauling Ticket# Check# Route Billing # 0007715 State Waste Code Gen EPA ID N/A Manifest 1141586 Grid CELL 12A Destination PO 1) W191147173 2) W191147173 Profile 120917N% (SOILS BMS BLDG 22 AREA IRM) Genérator 190-BRISTOLMYERSSQUIBB BRISTOL-MYERS SQUIBB Time Scale Operator Inbound Gross 67500 lb In 08/01/2019 14:25 A\_Scale\_1 SD #604682 Tare Out 08/01/2019 14:55 B\_Scale\_2 SD #604682 36960 15 Net 30540 16 Tons 15.27 Comments Product LD% Qty UOM Rate Fee Amount Origin Cont Soil RCG-Tons 100 15.27 Tons EVF-P6-Environment 100 ONO % ONO

> Total Fees Total Ticket

404WM

Driver's Signature



Original Ticket# 1298749

Customer Name CLEANHARBORSAFETYKLEEN-120917 Carrier CLN CLEAN HARBORS Ticket Date 08/02/2019 Vehicle# 4353 Volume Payment Type Credit Account Container Manual Ticket# Driver Hauling Ticket# Check# Route Billing # 0007715 State Waste Code Gen EPA ID N/A Manifest 1141587 Brid CELL 12A Destination PO 1) 191147173 2) 191147173 Profile 120917NY (SOILS BMS BLDG 22 AREA IRM) 190-BRISTOLMYERSSQUIBB BRISTOL-MYERS SQUIBB Generator

Time Scale Operator Inbound In 08/02/2019 08:41 A\_Scale\_1 Gross 68920 16 SD #604682 Tare Jut 08/02/2019 09:09 B\_Scale\_2 38180 16 SD #604682 Net 30740 15 Tons 15.37 Comments

EN SON THE

Product	LD%	Oty	UOM	Rate	Fee	Amount	Origin
1 Cont Soil RCB-Tons 2 EVF-P6-Environment	100 100	15.37	Tons %	a mada sala sala sala sala sala sala sala s	a cana anna a' anna anna anna anna anna	No salan dana salah salah dana dana dana dana da	ONO ONO

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Original Ticket# 1298848

Customer Name CLEANHARBORSAFETYKLEEN-120917 Carrier CLN CLEAN HARBORS
Ticket Date 08/02/2019 Vehicle# 4353 Volume
Payment Type Credit Account Container
Manual Ticket# Driver
Hauling Ticket# Check#
Route Rilling # 0007715

Route Billing # 0007715
State Waste Code Gen EPA ID N/A
Manifest 1141588 Grid CELL 12A

Destination

PO 1) 191147173 2) 191147173

Profile 120917NY (SOILS BMS BLDG 22 AREA IRM)
Generator 190-BRISTOLMYERSSQUIBB BRISTOL-MYERS SQUIBB

Time Scale Operator Inbound Gross 64300 lb In 08/02/2019 13:52 A\_Scale\_1 SD #604682 Tare 36980 lb Out 08/02/2019 14:29 B\_Scale\_2 SD #604682 Net 27320 lb Comments

Product LD% Qty UOM Rate Fee Amount Origin. 1 Cont Soil RCG-Tons 100 13.66 Tons ONO 2 EVF-P6-Environment 100 % ONO

> Total Fees Total Ticket

Driver's Signature

404WM

Site Address:

6000 Thompson Road East Syracuse, NY 13057

# SC PPW 12/9/2008

1241558

WORK ORDER NØ21905782635

DOCUMENT NO. STRAIGHT BILL OF LADING								
TRANSPORTER 1Clean	Harbors Environmental Services	, Inc. VEHICLE II	D#					
EPA ID #MAD	TRANS. 1 I	PHONE						
TRANSPORTER 2 FRANK'S V	LICE INC. VEHICLE I	* 800/259-B						
EPAID# NYD9	82792814	TRANS. 2 F	PHONE 716-284-213 LJ					
DESIGNATED FACILITY Clean Harbors Environme FACILITY EPA ID # OHD000724153 ADDRESS	ntal Services, Inc.	SHIPPER Bristol-Myers Squibb Company SHIPPER EPA ID # NYD 0 0 2 2 3 0 9 0 2						
2900 Rockefeller Avenue		ADDRESS PO Box 4755						
CITY Cleveland	STATE ZIP OH 44115	CITY Syracuse	STATE ZIP NY 13221					
CONTAINERS NO. & SIZE TYPE HM	DESCRIPTION	N OF MATERIALS	TOTAL UNIT					
10 x 55 Om	A. NON HAZARDOUS, NON D.O	2000 A						
1x85 Dm	B. non Hozardovy non D.O. Ti 400 P Regulated Exposed 400 P							
	D. Reject du to nonconformance - excessive solids  Line 1 3x55 DM Line 2 1x85 DM							
	F. Ship to Class Herbors El Dorado LLC ARDOG9748192							
	F.1 7	Derado 1 AR 71730 0) -863-7173						
	H.							
A.CH1923203 3, 24192		N: (800) 483-3718 GENERATO	)R: Bristol-Myers Squibb Compan					
SHIPPERS CERTIFICA	ATION: This is to certify that the	e above named materials are p	properly classified,					

described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

SHIPPER FINE HLOCKE	SIGN Jane H. Jack	DATE 10-18-19
TRANSPORTER 1 PRINT A H St. Pie	SIGN CLL	DATE 10-28-19
PRINT TRANSPORTER 2 MANTEN T. NOONE	SIGN	DATE 11-4-19
RECEIVED BY PRINT Frank G. Hugarty	SIGN () & Myth	DATE U-U-19