E. P. FERRIS AND ASSOCIATES INC
CONSULTING CIVIL ENGINEERS AND SURVEYORS
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COLUMBUS, OHIO 43212
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1005.013
April 8, 2019

Mr. Greg Fedner, PE
Private Development Section Manager
City of Columbus
Division of Sewerage and Drainage
1250 Fairwood Avenue
Columbus, Ohio 43206

Re: **SWDM Variance Request**
Marble Cliff Quarry Development & Quarry Trails Metro Park
Review Response

Dear Mr. Fedner,

We are in receipt of your comments from the Variance Committee sent via email on March 19, 2019. These comments were discussed during a variance review meeting held on Wednesday March 27, 2019 with yourself, Jeff Cox, PE, and the development team. The following is a disposition response to the comments, as received from the committee and as discussed in our meeting:

1. SWDM Variance Type II – Section 1.4 Floodplain Preservation and Developments within Special Flood Hazard Areas
   As discussed, the variance request was acceptable to the committee. No further discussion is necessary.

2. SWDM Variance Type II – Section 3.2 Stormwater Quantity Controls
   a. Gateway Lofts Variance Type 2 Commitment
      According to the conditionally approved Type II Variance request submitted by EMH&T, Inc. for the Gateway Lofts project, stormwater control facilities for that site will be located off-site, on the adjacent Marble Cliff Quarry property, now owned by the Quarry Trails Metro Park. Additionally, there is a stipulation in this previous variance that stormwater management on the Marble Cliff Quarry Development site must account for undetained stormwater from Gateway Lofts and provide the necessary post-construction BMP's and stormwater quantity controls sized for both developments in accordance with Columbus SWDM requirements. Marble Cliff Quarry agreed by easement to allow Gateway Lofts stormwater to flow undetained into the existing Quarry Trails Metro Park pond system. It is the development's intention to allow runoff from that property to flow into and become stored within the site's existing pond system before out letting to the Scioto River through a series of spillway weirs. As noted in the

attached Burgess and Niple response letter, the peak storage volume during a 100-year storm event needed as a result of the Gateway Loft's development is 37,500 cf. The SWDM requires that stormwater control facilities are to be outside of the FEMA designated 100-year floodplain boundary. A portion of the upper pond is located outside of the FEMA floodplain boundary. The storage volume provided in the upper pond outside of the FEMA mapped floodplain boundary is approximately 250,000 cf, based on the peak elevation of the upper pond achieved during a 100-year storm event. Based on an analysis to quantify non-SWDM compliant detention provided within the existing quarry ponds there is an additional 500,000 cf. that will become available for runoff storage within the 100-year floodplain. The Marble Cliff Quarry development also intends to provide an accumulation of 40,000 cf. of detention by utilizing control structures within the proposed water quality solutions. This 40,000 cf will be realized by detaining 24,000 cf. outside the Rule 13 boundary and 16,000 cf. in surface ponding within the proposed parking lot.

In summary, the Marble Cliff Quarry Development will provide 40,000 cf of stormwater detention on it's site, the Quarry Lofts 37,500 cf of detention is being provided for in the Quarry Trails Metro Park's upper pond, outside of the FEMA floodplain and there is a remaining 212,500 cf (250,000 – 37,500) of available detention in the upper pond, outside of the FEMA floodplain during the 100-year storm event. Through these good faith efforts, storage will be provided where possible, but as previously discussed in the variance request, the City's stormwater quantity requirements cannot be completely met due to existing landfill conditions across the site, the intention to avoid breaching installed environmental controls, and the hardship associated with excessive excavation through the site's shallow limestone base.

b. Quantifying non-SWDM compliant detention provided within the ponds with the Preferred Alternative

   The attached Burgess and Niple response letter provides additional detail about the available detention within the Quarry Trails Metro Park ponds.

   - Ponds Outside of Floodplain Detention = 250,000 cf.
   - Ponds Total Detention = 750,000 cf.

c. Possible detention at/near the proposed Metro Parks Waterfall Overlook Parking Lot

   The current drainage design of the proposed waterfall parking lot is to sheet flow off of the pavement into two bioretention cells. This design is not conducive to surface detention in the parking lot and the intent of this parking lot design is to minimize the disturbance within this portion of the proposed Metro Park. Therefore, some water quantity control could be provided in this area, however it would require additional disturbance.

d. Possible Detention within the non-landfill and sufficient clean overtop landfill areas, currently located outside the floodplain or to be taken outside the floodplain by the LOMR-F

   Due to concerns with water infiltrating into the landfill, the storm sewer network has been designed to channel as much of the site as reasonably possible to water

quality solutions in areas outside of the Rule 13 boundary. Control structures will be added to these water quality solutions to provide some detention in these areas. The development will provide 24,000 cf of stormwater detention with the water quality solutions and 16,000 cf of surface detention within the proposed parking lot.

e. Possible rooftop and parking lot detention

The development team does not plan to provide detention through rooftop stormwater management methods, but will implement parking lot surface grading designs to introduce 16,000 cf. of total storage at catch basin inlets within the site's southern parking lot. This lot does not overlap with the 100-year floodplain, allowing for compliant shallow surface storage up to a twelve (12) inch depth. However underground detention will not be provided in this parking lot due to its location within the Rule 13 boundary, which would risk breaching installed environmental landfill controls.

3. SWDM Variance Type III – Section 1.3 Stream Corridor Protection Zone

a. Existing Scioto River SCPZ tree removal

The density of underbrush along the Scioto River SCPZ makes it unfeasible to perform a traditional tree survey. The development has committed to planting the equivalent of 200 diameter inches of trees within the proposed conservation easement and/or existing Scioto River SCPZ.

b. Reforestation/Mitigation plan, including invasive species removal for the proposed additional Scioto River conservation easement

Metro Parks develops an individual Resource Management Plan for each of their parks. We have attached a letter from Metro Parks further describing their plans.

c. Proposed roadway within the Scioto River SCPZ

As shown in the project's preferred development plan (Appendix J, Exhibit C of original variance package), the roadway adjacent to the Scioto River on the east side of the site will encroach upon the river's SCPZ. Several encroachments will occur as the roadway meanders between the proposed development and multi-use paths beside the Scioto River, but to clarify the intent of the indicated SCPZ dedication area, it will account for all roadway overlap into river's SCPZ. Dedicated SCPZ within the proposed Scioto River conservation easement will also account for remaining Scioto River and Millikin Ditch SCPZ encroachments resulting from preferred site grading, building footprints, and parking lots as shown in Appendix J, Exhibit C. Mitigation for all encroachments will be provided at a 1:1.1 on-site ratio in an effort to provide protected areas exceeding the City's SWDM variance requirements.

4. Approved VAP

Due to the site's former use as a solid waste landfill, it must be capped or otherwise properly closed under Ohio EPA's Solid Waste Program. Wagenbrenner Development, on behalf of Marble Cliff Canyon, LLC, has secured the approval for this work from Ohio EPA pursuant to OAC 3745-27-13 and a Remedial Action Plan ("RAP") prepared for the site under the Ohio EPA Voluntary Action Program ("VAP"), one of the components of which is to place a 4 ft. cap of clean material over the existing trash layer. Within the originally

submitted variance package for this project, the "VAP" was referred to throughout its text, which was an incorrect reference to what should have been the "RAP". Please disregard all "VAP" references within the variance and refer to the project's "RAP" that is provided with this disposition letter for reference and to accompany our variance request as an additional appendix. This plan outlines remedial activities that are being undertaken using Ohio Water Development Authority (OWDA) funding to achieve compliance with applicable standards under the Ohio EPA's "VAP" and to adequately prepare the site for commercial and/or industrial, multi-family residential, and recreational / park land use.

We appreciate the sense of urgency that your office and the Variance Committee has extended to the Marble Cliff Quarry Development and Quarry Trails Metro Park. The owner and the design team are grateful for the assistance provided by your office on this project!

Please feel free to contact us with any questions.

Very truly yours,
E. P. FERRIS & ASSOCIATES, INC.

Brian Saunders, PE
Project Engineer

CC: Joseph Reidy, Wagenbrenner Development
Matthew Ferris, PE, PS, E.P. Ferris & Associates, Inc.
Steve Studenmund, Columbus & Franklin County Metro Parks
Brian Tornes, PE, Burgess & Niple, Inc.
File Copy

Enclosures

Metro Parks

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Westerville OH 43081
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www.metroparks.net

Your Metro Parks:
Battelle Darby Creek
Blacklick Woods and Golf Courses
Blendon Woods
Chestnut Ridge
Clear Creek
Glacier Ridge
Heritage Park and Trail
Highbanks
Homestead
Inniswood Metro Gardens
Pickerington Ponds
Prairie Oaks
Rocky Fork
Scioto Audubon
Scioto Grove
Sharon Woods
Slate Run Farm and Park
Three Creeks
Walnut Woods

April 4, 2019

Joseph M. Reidy, General Counsel
Wagenbrenner Development
842 North 4th Street, Suite 200
Columbus, Ohio 43215

RE: Quarry Trails Metro Park

Dear Mr. Reidy:

This letter is provided in reference to the City of Columbus to address Metro Parks' resource management approach to the proposed new park (Quarry Trails) at the Marble Cliff Quarry. Metro Parks develops Resource Management Plans for all parks we operate in central Ohio. A plan will be developed for Quarry Trails after planning of park facilities.

MANAGEMENT THEORY

The management theory of the Metro Parks is to manage on a District wide basis all park- lands for the optimal amount of diversity of native species possible. While this is somewhat subjective, this approach considers the type, quality, and amount of habitat available or possible where restoration may take place. Management is primarily, but not always, focused on managing communities or habitats as opposed to specific species management. The theory of this approach is that if the available habitat is present, the individual species will find the area. This management approach may utilize a number of management techniques ranging from allowing natural succession to occur to mowing and prescribed burning.

MANAGEMENT GOAL

Metro Parks owns and manages over 27,000 acres in seven central Ohio counties. These areas range in size from 40 acres to nearly 6,000 acres. Habitats and habitat potential also vary a great deal throughout the park system. Each park has been surveyed not only for individual species, but also for communities and the potential for restoration efforts, such as woodlands, wetlands and grasslands. Many management efforts are based upon optimizing the naturally occurring communities, for example, if a quality old field exists with a compliment of wildflowers, insects, birds, etc., it may be more productive to manage the old field by maintaining the successional stage or clearing adjacent habitat, rather than by establishing some other habitat type.

Quarry Trails Metro Park, Resource Management Plan will follow this same approach as outlined above. The plan will reflect the diversity of the site (existing habitats, soil conditions, topography, former land use and existing land cover) while allowing the flexibility in achieving obtainable outcomes.

Sincerely,

Steve Studenmund
Planning Manager

BURGESS & NIPLE

5085 Reed Road | Columbus, OH 43220 | 614.459.2050

Mr. Brian Saunders
Project Manager
E.P. Ferris & Associates, Inc.
880 King Avenue
Columbus, OH 43212

Re: Quarry Trails Metro Park Type III Variance Request – Response to City Comments

April 4, 2019

Dear Mr. Saunders,

Burgess & Niple, Inc. (B&N) has prepared the following responses to the comments from the City of Columbus (City) discussed on March 27, 2019 with Mr. Greg Fedner and Mr. Jeff Cox of the City regarding the Quarry Trails Metro Park Type III Variance Request originally submitted to the City on February 1, 2019.

Stormwater Quantity Control

The proposed pond system within the Quarry Trails Metro Park will consist of an upper pond and a lower pond. Flow from the upper pond passes through a 50-ft weir situated at an elevation of 728 and a subsequent kayak run channel before discharging to the lower pond. Flow from the lower pond passes through a 50-ft weir situated at an elevation of 723 and a subsequent channel (existing Millikin Ditch) before discharging to the Scioto River. In order to maintain enough flow through the pond system to sustain reasonable use of the kayak run channel throughout the year, four flow sources are proposed to be directed to the proposed pond system:

1. Local stormwater runoff from the park itself;
2. Stormwater from Gateway Lofts;
3. Stormwater from the Wagenbrenner Development to be located adjacent to the park; and
4. Flows from Millikin Ditch up to a 10-year storm event.

The Hydrologic Engineering Center Hydrologic Modeling System (HEC-HMS) was used to model the pre- and post-developed conditions for the flow sources listed above. The pre-developed peak discharges from each flow source are presented below in **Table 1**. The post-developed peak discharges from each flow source, including the flows diverted from existing Millikin Ditch to the pond system, as well as the discharge from the upper pond to the lower pond and the discharge from the lower pond to the Scioto River, are presented in **Table 2**. While all flows from Millikin Ditch will be diverted into the pond system up to a 10-year storm event, Millikin Ditch is an existing stream and its drainage area is not being impacted by the proposed Quarry Trails Metro Park. Therefore, flows from Millikin Ditch are not factored into the quantity control determinations, but the flows are included in the modeling as they will pass through the pond system. The post-developed peak discharges from each of the remaining flow sources, not including the routing of Millikin Ditch through the pond system, are presented in **Table 3**.

Table 1. Pre-Developed Peak Discharges (cfs)

Flow Source	Storm Event						
	1	2	5	10	25	50	100
Quarry Trails Metro Park	82	107	143	173	217	253	291
Gateway Lofts	5	7	9	12	15	18	21
28 ac Wagenbrenner Development	22	30	42	52	67	80	94
Millikin Ditch to Scioto River	210	277	384	480	623	748	885
Total (not including Millikin Ditch)	***109***	**143**	**194**	**237**	**299**	**350**	**405**

Table 2. Post-Developed Peak Discharges Including Flows from Millikin Ditch (cfs)

Property	Storm Event (year)						
	1	2	5	10	25	50	100
Quarry Trails Metro Park (To Upper Pond)	63	79	103	122	150	173	197
28 ac. Wagenbrenner Development (To Upper Pond)	58	70	87	101	120	135	152
Gateway Lofts (To Upper Pond)	19	23	28	32	38	44	49
Millikin Ditch (To Upper Pond)	210	277	384	480	480	480	480
Upper Pond Discharge to Lower Pond	214	282	390	486	491	494	497
Quarry Trails Metro Park (To Lower Pond)	57	72	95	114	141	164	187
Lower Pond Discharge to Scioto River	**215**	**283**	**392**	**489**	**505**	**572**	**657**
Millikin Ditch to Scioto River	0	0	0	0	143	268	405

Table 3. Post-Developed Peak Discharges Not Including Flows from Millikin Ditch (cfs)

Property	Storm Event (year)						
	1	2	5	10	25	50	100
Quarry Trails Metro Park (To Upper Pond)	63	79	103	122	150	173	197
28 ac. Wagenbrenner Development (To Upper Pond)	58	70	87	101	120	135	152
Gateway Lofts (To Upper Pond)	19	23	28	32	38	44	49
Upper Pond Discharge to Lower Pond	46	60	81	98	124	330	376
Quarry Trails Metro Park (To Lower Pond)	57	72	95	114	141	164	187
Lower Pond Discharge to Scioto River	**33**	**44**	**62**	**77**	***100***	**124**	**335**

The proposed pond system outlined above and as discussed within the February 1, 2019 Variance Request, provides natural detention, specifically, the overall post-developed 25-year storm event (109 cfs) is released from the lower pond to the Scioto River at a peak flow rate less than the pre-developed 1-year storm event (100 cfs). The critical storm for the Quarry Trails Metro Park has been determined to be a 2-year storm event, the critical storm from the Wagenbrenner Development a 25-year storm event, and the critical storm for Gateway Lofts a 10-year, as presented in **Table 4**. If the three sites are considered as a single site, the overall critical storm is a 5-year storm. Per Section 3.2.1 of the City of Columbus Stormwater Drainage Manual (CSWDM), under post-developed conditions, the runoff from storm events less than or equal to the critical storm event shall be released at a rate no greater than the peak runoff during a 1-year storm event under pre-developed conditions. The proposed pond system meets this requirement as the

post-developed peak flow rate for the largest critical storm event (25-year) is released at rate less than the peak flow rate for the pre-developed 1-year storm event.

Table 4. Runoff Volumes and Critical Storm for each Flow Source

Flow Source	Pre-Developed Runoff Volume (ac-ft)	Post-Developed Runoff (ac-ft)	% Increase	Critical Storm
Quarry Trails Metro Park	6.51	7.5	15%	2-year
28 ac. Wagenbrenner Development	2.23	4.95	122%	25-year
Gateway Lofts	0.6	0.93	55%	10-year
Overall	**9.34**	**13.38**	**43%**	**5-year**

Gateway Lofts Variance Type II Commitment

Gateway Lofts previously received a Type II variance from the City to allow stormwater runoff from the site to be discharged to the pond system within the Quarry Trails Metro Park. A 30-inch culvert has already been constructed to carry stormwater from Gateway Lofts, under Old Dublin Road, to the upper pond within the Quarry Trails Metro Park. The proposed Quarry Trails Metro Park including creating an outlet from the proposed pond system to the Scioto River, and the City has indicated that the CSWDM is to be followed for quantity control of stormwater from Gateway Lofts.

The critical storm for Gateway Lofts is a 10-year storm, therefore per Section 3.2.1 of the CSWDM, the peak flow discharged from a 10-year storm event and smaller for post-developed conditions must be released at or less than the peak rate of runoff from a 1-year storm event under pre-developed conditions. In addition, the peak flow during the 100-year storm event for post-developed conditions must be released at a rate at or less than the peak flow for a 10-year storm event for pre-developed conditions.

Per Section 3.1 of the CSWDM, stormwater control facilities may not be located within the Federal Emergency Management Agency (FEMA) designated floodplain boundary. A portion of the upper pond is located outside of the 100-year floodplain boundary (as presented in the Site Overview Map, from the original Type III Variance Request), however, it is understood that the 100-year floodplain boundary does not physically or hydrologically separate the upper pond. The peak storage volume needed to achieve the reduction in flow rates outlined above for only stormwater runoff from Gateway Lofts is approximately 0.86 acre-feet, or 37,500 cubic feet (CF). The storage volume provided in the upper pond outside of the FEMA mapped floodplain boundary is approximately 250,000 CF, as calculated from the upper pond weir elevation to the peak upper pond water surface elevation of 730.51 that will be achieved during a 100-year storm event. Therefore, there is sufficient storage occurring within the pond system that is located outside of the FEMA designated floodplain boundary to meet the requirements outlined in Section 3.2.1 of the CSWDM for Gateway Lofts.

In addition to storage provided in the upper pond outside of the 100-year floodplain boundary, addition compensatory stormwater storage will be provided within stormwater quality control features that are a part of the proposed Wagenbrenner Development.

If you have any questions or comments concerning these responses, please do not hesitate to contact us by phone at (614) 459-2050 or by email at brian.tornes@burgessniple.com or sarah.disario@burgessniple.com

Sincerely,

Brian W. Tornes, PE

Sarah E. Disario, EIT

BWT:sed
Enclosures

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REMEDIAL ACTION PLAN

For the:
Marble Cliff Quarry Property

Located at:
2650 Dublin Rd.
Columbus, Ohio
Franklin County

Prepared for:

Ohio Water Development Authority Brownfield Loan Program

September, 2017

TABLE OF CONTENTS

LIST OF EXHIBITS

1.0 PROJECT PROPERTY

Marble Cliff Canyon, LLC authorized Geotechnical Consultants, Inc. (GCI) to proceed with a Remedial Action Plan (RAP) for the Marble Cliff Quarry property located at 2650 Dublin Rd. in Columbus, Franklin County, Ohio (the "property"). The Property is shown on **Exhibit 1**.

1.1 Description of Activities / Media to be Addressed on Project Property

The purpose of this RAP is to provide a document consistent with the requirements of Ohio Environmental Protection Agency (Ohio EPA) Voluntary Action Program (VAP) that outlines those activities that will be undertaken using Ohio Water Development Authority (OWDA) funding to achieve compliance with applicable standards under the VAP. The selected remedies are consistent with the proposed re-development and re-use of the property for commercial and/or industrial, multi-family residential, and recreational / park land use, as defined under the VAP.

The goals of remedial activities at the property include:

- Placing a protective soil cover over areas of the Property containing solid waste, in accordance with Ohio Administrative Code 3745-27-13 ("Rule 13" areas). See **Exhibit 2** for the Rule 13 Application previously provided to Ohio EPA for the Rule 13 areas on the Property.

- Preparing and implementing a VAP Operation and Maintenance (O&M) Plan and O&M Agreement for the engineering controls.

- Installation of a vapor mitigation system (VMS) underneath future occupied structures to be constructed on the Property, to eliminate the soil gas to indoor air pathway.

- Preparation and implementation of a risk mitigation plan (RMP) to provide those risk mitigation measures needed to protect future construction and excavation workers from direct contact with soil and/or wastes containing COCs exceeding the relevant VAP DCSS below future engineering controls.

- Establishing a groundwater use restriction at the property, to preclude future extraction of the groundwater underlying the property for any uses other than investigation or remediation. The groundwater use restriction will be in a proposed VAP Environmental Covenant, which will also include use limitations for commercial/industrial, restricted residential and recreational land use areas on the property. Also, additional ground water monitoring will be performed to determine if other ground water response requirements are necessary under the VAP.

- A VAP No Further Action (NFA) Letter, with attachments as required in the VAP NFA Letter template.

1.2 Property Boundaries

The Property area is 607 acres. A map of the Property, VAP identified areas, and development areas is provided with the application.

1.3 Proposed End-Use of the Property

The proposed future uses of the property are a combination of commercial, multi-family residential and recreational / park land.

1.4 Portions of the Property Governed by Another Regulatory Program

Aside from the Rule 13 area (Exhibit 2), no areas on the Property have been determined to be subject to closure or other obligations of any regulatory program or agency.

1.5 Portions of the Property Subject to Institutional/Engineering Controls

An environmental covenant that will prohibit the extraction of groundwater from beneath the property for any purpose other than monitoring or cleanup, and delineating future commercial, restricted residential and recreational land use areas on the Property, will be implemented as an institutional control.

Engineering controls to be put in place include a minimum 2-foot thick layer of soil meeting relevant DCSS and/or floor slab and pavement sections over the Rule 13 area and other areas which currently contain COCs in excess of relevant DCSS. Proposed restricted residential areas to be developed with soil or landscaping at ground surface (i.e. areas outside proposed buildings and pavement) will have a 4-foot point of compliance implemented as an institutional control in which excavation would be restricted below 4 feet. Also, vapor mitigation systems will be installed under future occupied structures to eliminate the soil gas to indoor air pathway. The currently proposed direct contact engineering control area is depicted on **Exhibit 3**.

A VAP Operation and Maintenance Plan (O&M Plan) and O&M Agreement will be prepared to monitor future compliance with applicable VAP standards relative to the planned engineering control remedies.

1.6 Confirmatory Sampling

Soil vapor samples will be collected prior to building construction to assess whether soil vapor contains COCs exceeding relevant GIAS and identify areas where vapor mitigation systems will be necessary to comply with VAP indoor air standards.

Confirmatory soil sampling will be performed to ensure that soils present within the 0-2 foot point of compliance meet the relevant VAP DCSS at the time of issuance of the VAP NFA Letter.

All confirmatory samples will be analyzed by a VAP Certified Laboratory to ensure compliance with VAP standards.

2.0 ENVIRONMENTAL MEDIUM – SOIL

2.1 Proposed Remedial Activities and Rationale

The results of VAP Phase II PA sampling indicated the presence of COCs in soils that – individually or in combination – resulted in an exceedance of VAP GDCSS for residential and commercial / industrial land uses, and/or future construction/excavation activities.

The goal is to render the property acceptable for commercial, restricted residential (i.e. apartments or condominiums) and recreational / park land uses to a minimum point of compliance depth of at least 2 feet below ground surface (bgs). The remediation goal will use the current VAP GDCSS (or supplemental generic direct contact soil values) either published in Ohio Administrative Code (OAC) Chapter 3745-300-08, or developed by the Ohio EPA.

To achieve the remedial goals stated above, a combination of engineering controls and soil meeting the relevant VAP DCSS within a minimum 2-foot soil point of compliance will be used.

2.2 Contaminant Levels in Soils on the Property

For results of the detected COCs, the reader is referred to **Exhibit 4**.

A total of 65 soil samples were collected in the identified areas. COCs exceeding the VAP GDCSS in soil samples in at the Property included one or more of the following:

- Arsenic,
- Lead,
- Benzo(a)pyrene, and
- Total Petroleum Hydrocarbons.

2.3 Location of Soils Impacted Above Applicable Standards

Exhibit 5 is a map of locations of soil exceeding applicable standards on the property.

3.0 ENVIRONMENTAL MEDIUM – GROUNDWATER

3.1 Saturated Zone Classification and COCs Present in this Saturated Zone

Based on the certified professional's review of ground water information for the Property, groundwater underlying the property is believed to be Class A. The assessment activities determined that the property does not lie within a Source Water Protection Area for public water systems using groundwater.

The attached **Exhibit 6** displays COC concentrations in the groundwater. Sixteen (16) ground water monitoring wells were installed screening the uppermost ground water zone underlying the Property. Groundwater occurs at the base of unconsolidated sediments / waste and the top of limestone bedrock on the Property. The top of the groundwater is present at depths ranging from approximately 7 feet to 40 feet bgs.

Groundwater sampling indicates COCs exceeding the VAP unrestricted potable use standards (UPUS) including metals, VOCs and SVOCs. Ground water flows south-southwesterly on the Property generally following the direction of flow in the Scioto River. Ohio EPA's ***Biological and Water Quality Study of the Middle Scioto River and Select Tributaries, 2010*** indicates the Scioto River adjacent to the Property is in full attainment of aquatic life use criteria. This finding confirms that the Property is in compliance with the applicable standards for the groundwater to surface water pathway.

3.2 Contaminant Levels Relative to Applicable Standards

The attached **Exhibit 7** shows a map of locations ground water exceeding the VAP UPUS.

3.3 Urban Setting Designation

Based on the ground water analysis, ground water emanating from the property may not meet UPUS; therefore, an Urban Setting Designation (USD) for the ground water zone may be necessary as a response requirement.

3.4 Groundwater Migration

The attached **Exhibit 8** shows ground water elevation contours and flow direction on the property.

3.5 Description of Proposed Remedy

Concentrations of certain COCs exceed VAP UPUS in ground water. The Certified Professional believes that a ground water use restriction in an Environmental Covenant as an administrative ground water remedy would be appropriate for the Property. Additional ground water monitoring is needed to further evaluate whether additional remedy is needed for ground water migration off of the property.

3.6 Groundwater Modeling

Ground water modeling is not necessary at this time.

3.7 Exhibit Showing Groundwater Impacts

The attached **Exhibit 7** shows groundwater impacts by COCs.

4.0 ENVIRONMENTAL EXPOSURE PATHWAY – VAPOR INTRUSION

4.1 Summary of VOC Levels in Soil, Soil Gas and Groundwater

The vapor intrusion pathway has been evaluated during the Phase II PA through use of the Vapor Intrusion Screening Level (VISL) calculator model provided by US EPA. The maximum concentrations of VOC detected in soil gas and ground water samples exceed the VISL target levels for residential land uses. The attached **Exhibit 9** is a map showing VOC detected in soil gas samples.

There were concentrations of VOC detected in the soil in various parts of the Property; however, there are currently no screening level calculator models to estimate vapor intrusion risk from VOC in soil.

4.2 Table Showing VOC Levels in Soil and/or Groundwater Compared to Applicable Standards

The attached **Exhibit 10** lists VOC maximum concentrations in soil gas on the property and the VISL target levels.

4.3 Proposed Remedial Activities and Rationale

Potential vapor intrusion into future occupied structures constructed on the Property will be mitigated through installation of a passive vapor mitigation system below floor slabs. Confirmation sampling may be included as part of remedial actions.

5.0 ENVIRONMENTAL MEDIUM – SURFACE WATER

Surface water samples have been collected from the existing ponds on the Property for analysis. There were no detections of COCs in the surface water. Additional sampling for analysis and a remedy may be necessary in conjunction with complying with the VAP applicable standards.

6.0 ENVIRONMENTAL MEDIUM – SEDIMENT

Sediment sampling for analysis and a remedy may be necessary in conjunction with complying with the VAP applicable standards.

7.0 ASBESTOS

At this time demolition of existing structures is not part of the site development plans. Existing structures on the Property will be inspected for asbestos and regulated asbestos abated if present, prior to demolition.

8.0 CONTAMINATED BUILDING MATERIALS

This is not applicable relative to the property at this time.

9.0 GENERAL WASTE REMOVAL

Contents of the buildings and structures will be removed for proper disposal prior to demolition.

10.0 PROPOSED IMPLEMENTATION SCHEDULE

Steps to complete the project include:

- Rule 13 soil cover placement,
- Confirmatory soil sampling for VAP certified laboratory analysis,
- Engineering control installation over remaining soil exceeding standards where needed,
- Additional ground water monitoring,
- Vapor mitigation system installation for future occupied structures where needed,
- Confirmatory sampling of the vapor intrusion to indoor air pathway where needed,
- Risk Mitigation Plan,
- Environmental Covenant,
- O&M Plan,
- O&M Agreement,
- Remediation Report,
- Phase I Property Assessment Amendment,
- Final Phase II Property Assessment Report,
- and
- VAP NFA Letter.

A preliminary implementation schedule is included as **Exhibit 11**.

GEOTECHNICAL
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EXHIBITS

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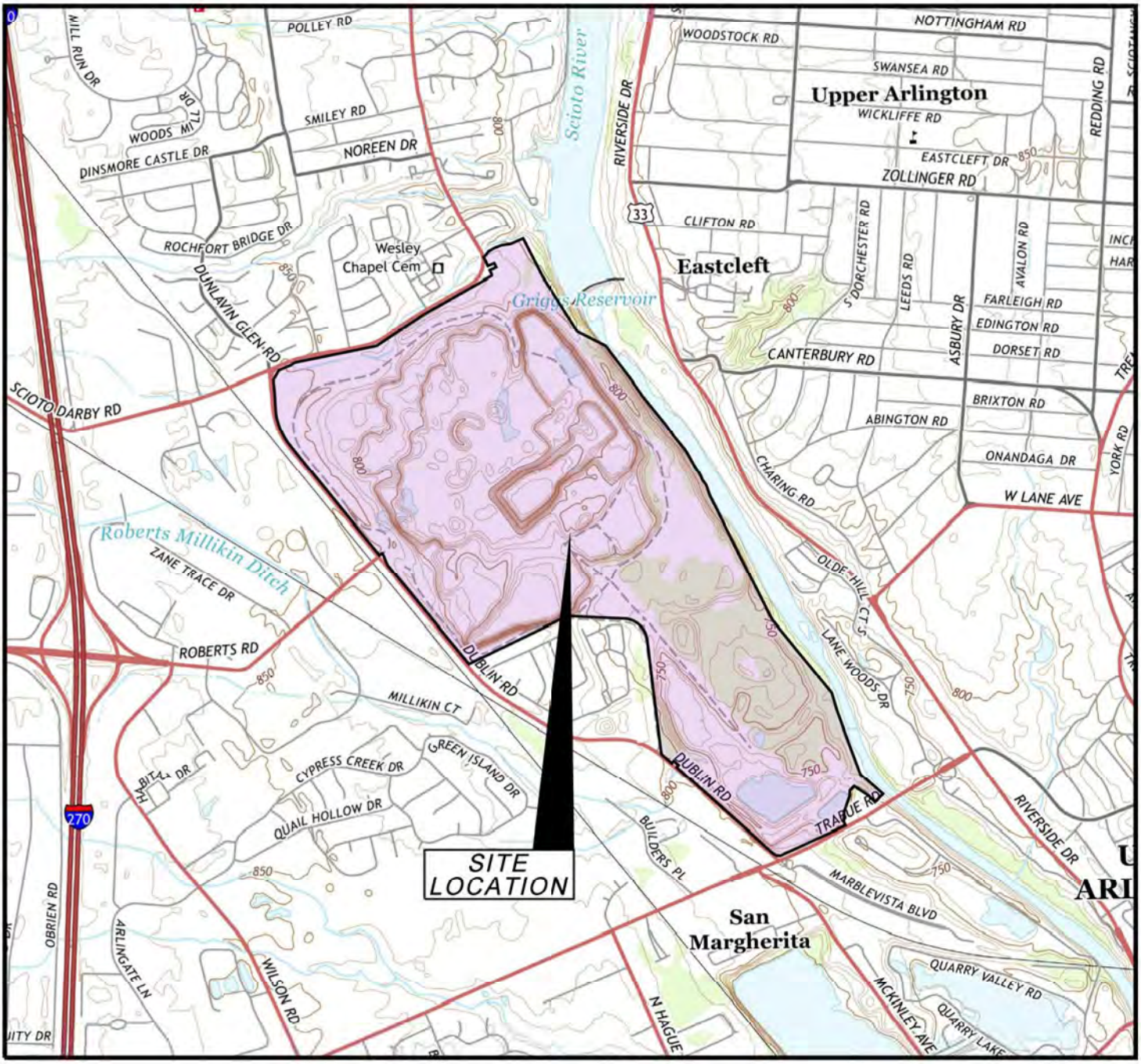
EXHIBIT 1

FIGURE 1 - Site Location Map

EXHIBIT 1

GCI Project #17-E-19414-B



SCALE 1:24,000

1 0 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1988

OHIO

QUADRANGLE LOCATION

GEOGRAPHIC COORDINATE-
LATITUDE: N. 40° 00' 25.60"
LONGITUDE: W. 83° 05' 41.85"
HORIZONTAL DATUM: NAD83

USGS 7.5 MINUTE SERIES (TOPOGRAPHIC) QUADRANGLES:

NORTHWEST COLUMBUS, OHIO 2013
SOUTHWEST COLUMBUS, OHIO 2013

North

MARBLE CLIFF QUARRY
COLUMBUS, OHIO

Geotechnical Consultants, Inc.•720 Greencrest Drive•Westerville, Ohio 43081•614-895-1400•FAX 614-895-1171

GEOTECHNICAL
CONSULTANTS INC.

EXHIBIT 2

EXHIBIT 2

MARBLE CLIFF CANYON, LLC
842 N. Fourth Street, Suite 200
Columbus, OH 43215

CERTIFIED MAIL

September 18, 2017

Fred Myers
Ohio Environmental Protection Agency
Division of Environmental Response and Revitalization
Central District Office
P.O. Box 1049
Columbus, OH 43216-1049

Reference: Amendment to OAC 3745-27-13(E) Request
Former Marble Cliff Quarry Landfill
2650 Dublin Rd., Columbus,
Franklin County, OH 43215

Dear Mr. Myers:

The purpose of this letter is to provide an amendment to the Rule 13 Request submitted on July 10, 2017 and respond to the Notice of Deficiency dated August 29, 2017 in order to comply with OAC 3745-27-13(E) for activities associated with the proposed remediation and redevelopment of the former solid waste facility at the referenced property (Latitude, Longitude: 40.001345, -83.084953) by Marble Cliff Canyon, LLC ("MCC"), which is in contract to purchase the property from its current owner, Trabue Dublin, LLC. Approval of this request will facilitate the completion of a voluntary action on the property pursuant to Ohio EPA's Voluntary Action Program. Unless otherwise noted, the attachments provided with the July 10, 2017 Rule 13 Request have not been changed and are incorporated herein by reference.

The following provides the information required by the rule.

(1) **Facility Location and Ownership**:

Attached is a 7-1/2 minute USGS topographic map depicting the location of the former Marble Cliff Quarry Landfill and a Site Diagram that shows the site ("Rule 13 Property") that is subject to this Rule 13 application. The Rule 13 Property is approximately 56.74 ± acres that is located within the ± 607-acre Marble Cliff Quarry property ("Property"), which is the subject of an active ODNR mining permit. The Property, including the Rule 13 Property is owned by Trabue Dublin, LLC. Based on recently completed additional VAP Phase II assessment work, the footprint of the Rule 13 Property has been adjusted to account for areas of solid waste that may be encountered during the proposed grading work. The existing deed does not indicate the limits of waste on the Property and it would be difficult, if not impossible, to accurately delineate the limits of waste until the clearing and grading work contemplated by this Request has been completed. Accordingly, MCC requests an exemption pursuant to ORC 3734.02(G) from the requirement to submit a legal description of the limits of waste at this time and will provide a legal description post-construction, once the final limits of waste have been determined and surveyed.

(2) **Specific activities and their intended purpose for which authorization is requested**:

The Rule 13 Property will be cleared of surface vegetation to facilitate cut-fill grading and compaction to achieve a more uniform surface prior to installation of a protective soil cover with a minimum thickness of four (4) feet (see attached Grading Plan). The overall extent of solid waste will not be expanded horizontally on the Rule 13 Property. However, MCC is requesting an exemption pursuant to ORC 3734.02(G) to increase the vertical limits of waste within some of the lower lying areas of the Rule 13 Property to achieve an overall lowering of the vertical limits of waste, with positive drainage, prior to the installation of the soil cover. Raising the existing vertical limits of solid waste in lower lying areas, is unlikely to adversely affect public health or safety or the environment. After construction of the soil cover described above, an explosive gas monitoring network will be installed and operated pursuant to an explosive gas monitoring plan that will be developed in accordance with OAC 2745-27-12, which will be included in a subsequent Rule 13 application upon determination of the limits of solid waste placement on the property and the necessary protection of adjacent properties and structures.

Following completion of the grading and capping project and other environmental remediation that may be necessary to receive a No Further Action Letter and Covenant Not to Sue for the Property, the Rule 13 Property is intended to be developed for condominium/multi-family residential and commercial purposes that will be operated and maintained by a common entity.

The purpose of this Rule 13 application is to secure OEPA approval for the relocation of solid waste into lower lying areas, placement of protective soil cover, and provide for the remediation and redevelopment of the Rule 13 Property, prior to the purchase of the Property. Approval of this Rule 13 Request is intended to also provide assurance that the Property can be developed for condominium/multi-family residential and commercial purposes if the Property is purchased. A subsequent Rule 13 Request will be submitted to the Ohio EPA for review and approval that details the proposed development on the Property prior to any work beyond what is approved by this Authorization.

(3) **Previous permits licenses and approvals**:

The Rule 13 Property consists of a former solid waste landfill, a portion of which was permitted by the Franklin County Board of Health from 1969 – 1974, that voluntarily ceased accepting wastes in June 1974.

The current owner of the Property previously submitted a landfill gas monitoring plan to Ohio EPA, which was approved by the Agency on October 19, 1992.

In October, 2015, authorization was received from Ohio EPA pursuant to OAC 3745-27-13 (G) to conduct soil and ground water sampling activities, the results of which are summarized in this application,

(4) **Letters of acknowledgement from the owners of all parcels of land to which the authorization pertains**:

See attached.

(5) **Copies of certified mail receipts and a statement certifying that letters of notice stating that authorization under this rule is being requested for the affected site have been sent to the following entities**:

(a) The board of health of the health district wherein the site is located.

See attached letter and certified mail receipt to the Columbus Board of Health.

(b) The governments of the general purpose political subdivisions where the site is located, i.e., county commissioner, legislative authority of a municipal corporation, and/or the board of township trustees.

See attached letters and certified mail receipts to the Columbus City Council and the Board of Commissioners of Franklin County.

(c) The local zoning authority having jurisdiction over the geographical area where the site is located, if any.

See attached letter and certified mail receipt to the City of Columbus, Department of Building and Zoning Services.

(d) If the site is a solid waste facility, the single county or joint county solid waste management district.

See attached letter and certified mail receipt to the Solid Waste Authority of Central Ohio.

(e) The local fire department for the geographical area where the site is located.

See attached letter and certified mail receipt to City of Columbus, Division of Fire.

(6) **Discussion of the site's present or known prior use of hazardous waste or solid waste treatment, storage or disposal, including a summary and discussion of all available documentation pertaining to the dates of operation, types and quantities of waste handled at the site, and ownership**.

The Rule 13 Property is approximately 56.74 ± acres that is located within the ± 607 acre Marble Cliff Quarry property, which is the subject of an active ODNR mining permit. The site contains mainly municipal solid waste, with some construction and demolition debris, and is also known to contain hazardous wastes from the former Columbus Coated Fabrics site, which were placed in an area North of the solid waste disposal area between 1950 and 1960. Exact waste quantities are unknown. The processes that created the waste include household and business trash, building demolition and manufacturing operations. Waste disposal occurred between approximately 1950 and June 1974. Based on review of historic records, it appears that the site was owned by Marble Cliff Quarries Company during the time that it was used for waste disposal.

(7) **Discussion of closure and/or post-closure activities performed at the facility and an evaluation of the present condition of the closed facility**.

Closure/Post-Closure Activities.

As indicated on the attached Site Diagram, some of the waste is covered with clean material that is between 4 feet and 12 feet in depth, while other areas have less than 2 feet of clean cover. However, there do not appear to be any records of formal closure or post-closure activities at the site, other than explosive gas monitoring that was conducted in the 1990s.

Evaluation of Present Condition.

Soil Gas. Soil vapor sampling / landfill gas monitoring wells were installed using a direct push soil boring rig in June and July 2016. Vapor wells MP-1 to MP-12 were installed north of the natural gas line easement. Vapor wells VW-1 to VW-29 were installed south of the easement. Additional vapor sampling / landfill gas monitoring wells VW-100 through VW-115 were installed in May 2017 south of the gas line easement. A total of 56 landfill gas screening wells have been installed over the Property and screened for landfill gas concentrations. The well construction included inserting a 1-inch diameter schedule 40 PVC well screen installed from 5 feet below ground surface (bgs) to the well completion depth. The well screens were installed within a 3.5" diameter direct-push borehole and connected to solid PVC riser piping from 5 feet bgs to approximately 3 feet above ground surface. The borehole annulus was backfilled with filter sand from 4 feet bgs to the well bottom and with hydrated granular bentonite from 4 feet bgs to the ground surface. The wells casings were topped with a PVC cap. Attached to the PVC cap was a brass sampling nipple connected to ¼-inch I.D. tubing and stopcock valve. A protective "stick-up" steel casing was set in concrete at ground surface over each completed well.

Due to obstructions encountered in the borings, several wells were completed shallower than the planned 20 feet bgs completion depth. The well completion depths varied from 7 feet to 20 feet bgs, as shown in the attached installation logs. Also, due to shallower obstructions, three wells (MP-7, VW-10 and VW-21) were constructed using a 6-inch stainless steel sampling mesh connected to ¼-inch pressure tubing that extended to the top of the protective "stick-up" steel casing ground surface and capped with a stopcock valve. These borehole annuli were backfilled with filter sand to 0.5 feet to 1.0 feet above the top of the sampling mesh, and hydrated granular bentonite above the sand to the ground surface. The sampling interval was 4.5 to 5 feet bgs for MP-7, 5 to 5.5 feet bgs for VW-10, and 3.5 to 4 feet bgs for VW-21.

Landfill gas screening results through June 27, 2017 and analysis results from a VAP certified laboratory for soil vapor samples collected May 31-June 1, 2017 are summarized in the attached tables. Landfill gas screening results indicated methane concentrations above 5% by volume (100% LEL) limited to eight (8) of the 56 screening well locations. Soil vapor samples have been collected in 20 of the gas wells for VAP certified laboratory analysis of VOCs, including wells containing elevated landfill gas concentrations. The laboratory results indicated concentrations of VOCs exceeding VAP applicable standards for residential land use were limited to three (3) well locations.

Ground Water. Six ground water monitoring wells (MW-1 and MW-3 through MW-7) were installed during the initial phase II environmental assessment at the site during 2015. Ten additional ground water monitoring wells (MW-9 through MW-18) were installed during 2017. One well MW-8 was previously existing on the property. All wells were constructed with 2-inch diameter PVC piping with 10 feet of PVC, 0.30-inch slotted screens. Wells #1 and #7 were constructed with an air rotary drill rig in limestone until ground water was

encountered. These two wells were backfilled in the annular space with sand starting at 2 feet above the well screen to within 3 feet of the surface, then grouted to the surface. The additional four wells (#3, #4, #5, and #6) were installed via direct push method. Air rotary (550 cfm) was attempted first on these locations, but no granular material was recovered due to the voids and pockets in the intermixed solid waste/mine spoils. Well head protection was provided for all wells upon completion. Well #8 was an existing ground water monitoring well of unknown construction that was discovered during initial site investigation. An initial round of sampling was completed in MW-1 and MW-3 through MW-7 shortly after construction of the wells in October 2015. Two rounds of sampling were subsequently completed in August 2016 and April 2017 using low-flow technique in MW-1 through MW-18.

Low-flow sampling results are summarized in the attached tables. The VAP certified laboratory results from sampling indicated ground water met VAP potable use standards in 12 of the 15 wells. Chemicals of concern above the VAP standards were limited to wells #3, #9 and #11.

Ground water in the uppermost zone on the Property occurs at or near the contact between unconsolidated deposits and the underlying weathered limestone bedrock. Ground water elevations in the monitoring well network range from approximately 800 feet to 720 feet, with an average depth to ground water of 23.5 feet and flow direction generally northwest to southeast toward the Scioto River. The ground water zone screened in the monitoring wells is believed to be vertically continuous downward into the limestone bedrock with no confining layer separating it from any deeper ground water in the bedrock. Surface water in the on-site ponds and the river are lower than ground water elevations by at least 10 feet.

Limits of Waste: Limits of waste reflected in the Site Diagram were determined based on a review of aerial photography that was field confirmed using soil borings and test pits as part of initial phase II assessment. If waste is encountered outside the previously determined limits of waste, the applicant will prepare a revised site diagram to reflect the additional areas of waste.

A total of 55 soil samples were collected for analysis of chemicals of concern in identified areas A through D and G. Chemicals of concern exceeding VAP direct contact standards for residential land use were generally limited to soil below 2 feet from existing ground surfaces. One sample location at 0-2 feet, boring SB-92, contained a concentration of benzo(a)pyrene above its VAP residential direct contact standard.

(8) **Description of the manner by which the proposed filling, grading, excavating, building, drilling, or mining will be accomplished**:

The Rule 13 Property will be cleared of surface vegetation to facilitate cut-fill grading and compaction to achieve a more uniform surface, graded for proper drainage, prior to installation of a protective soil cover with a minimum thickness of four (4) feet (see attached Grading Plan). The soil cover will consist of imported material meeting VAP unrestricted residential standards. The overall extent of solid waste will not be expanded horizontally on the Rule 13 Property. However, MCC is requesting an exemption to increase the vertical limits of waste pursuant to ORC 3734.02(G) within some of the lower lying areas of the Rule 13 Property to achieve an overall lowering of the vertical limits of waste, with positive drainage, prior to the installation of the soil cover. After construction

of the soil cover described above, an explosive gas monitoring network will be installed and operated pursuant to OAC 3745-27-12, which will be included in a subsequent Rule 13 application.

Applicant is looking to set the facility boundary for purposes of the Rule 13 authorization to be, in general, 50 feet from the limits of waste, subject to further reduction to 25 feet in places due to physical constraints, with a point of compliance for explosive gas monitoring at the facility boundary.

(9) **Description of the manner in which the integrity of the waste placement or the ancillary structures will be preserved where the filling, grading, excavating, building, drilling, or mining activities will occur in areas within three hundred feet of the limits of waste placement**.

The Property is currently an undeveloped former limestone quarry with no structures or other development within 300 hundred feet of the limits of waste. Grading, deep dynamic compaction and soil cover will extend beyond the limits of waste, where necessary, to stabilize mine spoil or other fill materials that may be encountered during the grading and filling activities, as well as maintain a uniform grade for drainage and future construction.

(10) **Description of the manner in which the control of air emissions, control of leachate, surface water run-on and runoff, explosive and toxic gas migration, and protection of ground water will be performed.**

Air Monitoring: During waste excavation, a portable gas analyzer will be used to measure methane (CH_4), carbon dioxide (CO_2), oxygen (O_2), carbon monoxide (CO), and hydrogen sulfide (H_2S) concentrations in the work zone. Also, a photo-ionization detector (PID) or organic vapor analyzer (OVA) will be used to monitor for the presence of volatile organic compounds at both the ground level and in the workers' breathing zone. The portable gas analyzer, PID, and/or OVA will be calibrated according to the manufacturer's instructions and logged. Workers in the area of waste excavation will wear four-gas meters capable of detecting combustibles, O_2, CO, and H_2S. If a level exceeding recommended exposure limits or greater is detected, the area will be evacuated and assessed. Assessment will include, at a minimum, CH_4, CO_2, CO, BTEX constituents, H_2S, and other compounds based on visual observations. Once an assessment has been performed to identify the compounds present, proper PPE and precautions will be taken to commence with work. The trained technician will wear level C PPE with a half face respirator equipped with organic vapor cartridges consistent with the types of compounds identified at the site. All incidences of detection will be fully documented.

Air Pollution: The Applicant will conduct all site activities associated with the Rule 13 Authorization in conformance with the requirements of ORC 3704, ORC 3767, and OAC 3745.

Nuisance Dust: Excavations and movement of equipment across the landfill area may result in nuisance dust generation. If necessary, a dust suppressant will be used on roadways and in excavation and grading areas in accordance with the requirements of OAC 3745-17-08(B). Dust suppressants may include, but may not be limited to, chemical suppressant applications specific for dust control, or water application.

Control of Leachate: While leachate has not been encountered during assessment to present, the possibility of encountering leachate is unpredictable. Leachate run-off encountered during site activities will be controlled by diverting it to a lined collection area located within the footprint of the landfill. Leachate will be collected and disposed of at a permitted wastewater treatment plant in accordance with the requirements of OAC 3745-27-19.

Storm Water: The proposed grading work at the Rule 13 Property is expected to be covered under the Ohio EPA's "General Storm Water Permit associated with Construction Activities." A notice of intent and SWPPP that corresponds with the enclosed plans is being prepared in accordance with the requirements of ORC 6111 and OAC 3745. Post-construction storm water controls will consist of water quality treatment with discharge to the adjacent Scioto River. Measures will be taken to control storm water run-on and run-off, sedimentation and erosion as outlined in the SWPPP. Such measures may include, but may not be limited to, silt fencing, storm drain inlet protection methods, hay bale barriers, dikes, and/or diversions directing runoff to settling or collection areas. Standard methods will also be employed to control erosion from stockpiled cover materials.

Groundwater Protection: Grading on the site, in preparation for redevelopment, will provide positive flow of storm water run-off to temporary or permanent storm water control structures to reduce infiltration of storm water into the waste mass and potentially into the underlying groundwater. Site grading will be accomplished to reduce or prevent run-on from surrounding areas. Storm water will be diverted away from areas where solid waste is exposed through the implementation of ditches, dikes, or other storm water control measures to prevent infiltration of storm water. Temporary storm water ponds constructed atop the waste mass will be lined to prevent infiltration. Based on the phase II assessment work, ground water is generally located 20 feet or more bgs. Accordingly, it is not anticipated that groundwater will be encountered during the proposed activities. In the event groundwater is encountered, it will be collected and disposed of in accordance with applicable regulations. Prior to the start of the work contemplated by this Request, all monitoring wells (vapor and ground water) within the Rule 13 Property will be properly abandoned pursuant to OAC 3745-9-03 and a well sealing report will be submitted to ODNR per the requirements of ORC 1521.05(C).

Odor Control: If necessary, odor control methods will be used during grading and capping activities. Odor control methods may include a soil cover over exposed cut and waste consolidation areas and odor masking/ neutralizing agents. Daily cover will be applied to exposed waste at the end of each working day.

LFG Monitoring: As described above, LFG will be continually monitored on a regular basis while construction activities proceed. An additional soil gas probe will be installed to monitor potential off-site gas migration toward the River Oaks Apartments (see attached figure).

Equipment Decontamination: Heavy equipment and large trucks exposed to waste will be cleaned with dry methods prior to leaving the site. Although not anticipated, water or residual waste generated during cleaning will be collected, containerized, and managed in accordance with applicable regulations.

Jurisdictional Waters: A wetlands report and letter from the U.S. Army Corps of Engineers (copies attached) indicates that there are no jurisdictional waters within the Rule 13 Property, with the exception of a small area north of the gas line, which was not

addressed by that report, but will be covered by a separate investigation as part of the Phase II work.

Threatened or Endangered Species: No threatened or endangered species have been identified on the Property at this time. Clearing of trees from the site will be done during the winter months prior to April to ensure that no nesting Indiana Bats are present during clearing operations. Prior to implementation of the proposed work covered by the Rule 13 Request, a professional ecologist will be consulted to determine if threatened or endangered species are likely to exist on the Property.

Open Burning: No open burning will be conducted on the property without specific written authorization from the Ohio EPA in accordance with the requirements of OAC 3745-19. No open burning of waste materials will be conducted.

Explosive Gas Monitoring Plan: An explosive gas monitoring plan (EGMP) will be prepared for the site in accordance with the requirements of OAC 3745-27-12. The EGMP will address Facility boundary monitoring to detect migration of explosive gas toward adjacent off-site receptors and on-site buildings for the prevention of gas migration into the occupied structures.

Site Access: Site access will be limited to those entities authorized by MCC. Ohio EPA will be given site access upon request. Gates or other structures have been installed to prevent unauthorized access to the site. Site security will be established when construction of the development begins.

Solid Waste Management: Solid waste encountered during grading operations will be managed in accordance with a Waste Management Plan (WMP) that will be prepared for the site. The WMP will detail the handling, storm water controls to prevent excess water from entering the waste mass, potential off-site disposal, regrading, daily soil cover, final cover soil placement, compaction, control of emissions, and rodent abatement of solid waste that is exposed during the work authorized by this Rule 13 Request. The WMP will include provisions for spill prevention and response to spills to prevent pollution of waters of the state. The WMP will be submitted to Ohio EPA for review prior to the start of construction to assure compliance with local, state, and federal environmental regulations.

(11) **Description of a notation or update to any prior recorded notation to be placed on the deed to the property to notify in perpetuity any potential purchaser of the property that the land has been used as a hazardous waste facility or solid waste facility.**

MCC does not currently own the Property and, as indicated above, does not currently know with any certainty the limits of waste at the Property. Accordingly, MCC requests an exemption pursuant to ORC 3734.02(G) from this requirement until the completion of the work contemplated by this request, at which time the Rule 13 Property will be included within an environmental covenant recorded in chain of title.

(12) **Other such information as Ohio EPA deems necessary to determine that these activities will be in compliance with all applicable laws and regulations administered by the director**.

(13) **Signature as described in paragraph (I) of this rule**.

By signature below the applicant affirms that the statements or assertions made in this application are true and complete and comply fully with applicable state requirements, including the notice required above, and shall subject the signatory to liability under applicable state laws forbidding false or misleading statements.

Respectfully submitted,

Marble Cliff Canyon, LLC

Mark A. Wagenbrenner, Authorized Member

State of Ohio)
) ss:
County of Franklin)

Before me, a notary public, in and for said county and state, personally appeared Mark A. Wagenbrenner, a duly authorized representative of Marble Cliff Canyon, LLC, who acknowledged to me the execution of the foregoing instrument on behalf of the company and certified that notice has been provided to local government agencies, as required by OAC 3745-27-13 (E)(5).

IN TESTIMONY WHEREOF, I have subscribed my name and affixed my official seal this 18th day of September, 2017.

Notary Public

JOSEPH M. REIDY
ATTORNEY AT LAW
NOTARY PUBLIC - STATE OF OHIO
MY COMMISSION HAS NO EXPIRATION DATE
SECTION 147.03 R.C.

Attachments: USGS Map
Site Diagram
Grading Plan
Notice letters and Certified Mail Receipts
Gas Sample Locations, Construction Diagrams and Sample Results
Groundwater Monitoring Well Location Map and Sample Results
Groundwater Well Logs
Jurisdictional Waters Documentation
Soil Boring/Test Pit Location Map and Sample Results
Soil Boring/Test Pit Logs
Property Owner Acknowledgement

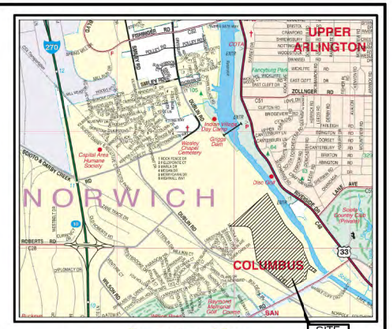
cc: Trabue Dublin, LLC, with attachments

ATTACHMENTS

GEOTECHNICAL
CONSULTANTS INC.

EXHIBIT 3

EXHIBIT 3



Location Map
Not To Scale

RULE 13 PROPERTY BOUNDARY (52.24 Ac.)

RULE 13 PROPERTY BOUNDARY (4.50 Ac.)

RULE 13 PROPERTY BOUNDARY (52.24 Ac.)

S C I O T O R I V E R

EX GAS LINE ESMT

PROPOSED NORTH ROAD

PROPOSED MIDDLE ROAD

PROPOSED ROAD A

PROPOSED ROAD B

PROPOSED ROAD C

PROPOSED ROAD D

PROPOSED ROAD E

PROPOSED SOUTH ROAD

EX POND

EX POND

OLD DUBLIN ROAD

DUBLIN ROAD

TRABUE ROAD

LEGEND

- PROPOSED MAJOR CONTOURS (5' INTERVALS)
- PROPOSED MINOR CONTOURS (1' INTERVALS)
- EXISTING MAJOR CONTOURS (5' INTERVALS)
- EXISTING MINOR CONTOURS (1' INTERVALS)
- EXISTING WATER WAY
- RULE 13 PROPERTY BOUNDARY (56.74 AC. TOTAL)
- EXISTING POND
- SOLID WASTE W/ MIN 4' OF COVER
- SOLID WASTE W/ 2' OR LESS OF COVER

0 100 200 400

REVISIONS	DATE	BY	CHK

E. P. FERRIS AND ASSOCIATES INC
Consulting Civil Engineers and Surveyors

CONTACT:
880 KING AVENUE
COLUMBUS, OHIO 43212
(614) 299-2999
(614) 299-2992 (Fax)
www.EPFERRIS.com

CITY OF COLUMBUS, OHIO

MARBLE CLIFF QUARRY DEVELOPMENT

FOR

MARBLE CLIFF CANYON, LLC

JOB NO.	1005.013
DESIGNED BY:	MEF
DRAWN BY:	CLP
CHECKED BY:	___
APPROVED BY:	___
DATE:	07/07/17

PROPOSED GRADING PLAN

SCALE: 1" = 200'

SHEET NO. 2 OF 2

C:\Users\cpost\Desktop\Projects\1005.013_TrabueRoad\CWG\Exhibits\Ohio EPA Exhibit-CLP.dwg -34x22 - Grading Plan LAST EDITED BYcpost ON 7/7/17

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EXHIBIT 4

				Identified Area	IA-A	IA-A	IA-A	IA-B	IA-B	IA-B	IA-C	IA-C	IA-C	IA-C	IA-C	IA-C
				Client Sample ID	IA-A TB-4	IA-A TB-5	IA-A TB-6	IA-B TB-1	IA-B TB-2	IA-B TB-3	IA-C MB67	IA-CMB68 5-6	IA-CMB70 2-4	IA-CMB70 18-20	IA-C MB71	MW-15
				Depth, Feet	1-3	2-4	2-4	8-10	8-10	5-8	0-2	5-6	2-4	18-20	0-2	0-2
				Date Collected	04/25/2017	04/25/2017	04/25/2017	04/25/2017	04/25/2017	04/25/2017	05/17/2017	05/16/2017	05/16/2017	05/16/2017	05/17/2017	03/20/2017
				Lab Sample ID	L905152-01	L905152-02	L905152-03	L905152-04	L905152-05	L905152-06	L910388-03	L910053-07	L910053-05	L910053-06	L910388-07	L897155-06
Method	Analyte	VAP R-DCS	VAP CI-DCS	VAP CE-DCS	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
2540 G-201	TOTAL SOLIDS				89.1	91.1	89.7	83.8	81.2	85.3	85.1	87.3	67.3	87.1	85.5	74.1
RCRA Metals																
6010B	ARSENIC	20.7	77	690							3.74	15.7	4.43	12.9	2.52	11.8
6010B	BARIUM										436	195	717	925	29.3	93.8
6010B	CADMIUM										0.178	0.154	<0.743	16	0.424	<0.674
6010B	CHROMIUM										9.49	8.19	27.8	63.1	9.37	21.1
6010B	LEAD	400	800	400							5.28	31.2	766	320	3.07	21.7
6010B	SILVER										<1.17	<1.15	<1.49	<1.15	<1.17	<1.35
7471A	MERCURY										0.0101	0.0252	0.0171	0.643	0.00856	0.0401
Total Petroleum Hydrocarbons																
8015B	TPHG C6 - C12	1000	1000	1000	112	0.217	0.252				0.1	2750	<0.149	8.39	0.0626	0.16
8015B	C10-C20 HYDROCARBONS	2000	2000	2000	1800	23	31.8	<4.77	<4.93	3.95	<4.7	1130	12.1	30.8	<4.68	<5.39
8015B	C20-C34 HYDROCARBONS	5000	5000	5000	109	3.98	6.59	<4.77	0.974	16.3	<4.7	1260	38.3	230	<4.68	<5.39
Volatile Organic Compounds																
8260A/B	ACETONE							0.0271	<0.0561	<0.0557	<0.0587	<5.73	<1.82	0.0539	<0.0585	<0.0674
8260A/B	ACRYLONITRILE							<0.0118	<0.0112	<0.0111	<0.0117	<1.15	<0.364	<0.0115	<0.0117	<0.0135
8260A/B	BENZENE				0.00328	0.00429	0.00451	<0.00118	0.00207	0.00543	<0.00117	0.0897	<0.0364	0.0152	0.00166	<0.00135
8260A/B	N-BUTYLBENZENE	110	110	110				<0.00118	<0.00112	0.000441	<0.00117	13.1	<0.0364	0.0633	<0.00117	<0.00135
8260A/B	SEC-BUTYLBENZENE	140	140	140				<0.00118	<0.00112	0.00655	<0.00117	8.9	<0.0364	0.0494	<0.00117	<0.00135
8260A/B	TERT-BUTYLBENZENE							<0.00118	<0.00112	0.00148	<0.00117	<0.115	<0.0364	0.00253	<0.00117	<0.00135
8260A/B	CHLOROBENZENE							<0.00118	<0.00112	<0.00111	<0.00117	<0.115	<0.0364	<0.00115	<0.00117	<0.00135
8260A/B	CHLOROFORM							<0.00591	<0.00561	<0.00557	<0.00587	<0.573	<0.182	<0.00574	<0.00585	<0.00337
8260A/B	1,2-DICHLOROBENZENE							<0.00118	<0.00112	<0.00111	<0.00117	<0.115	<0.0364	<0.00115	<0.00117	<0.00135
8260A/B	1,3-DICHLOROBENZENE							<0.00118	<0.00112	<0.00111	<0.00117	<0.115	<0.0364	<0.00115	<0.00117	<0.00135
8260A/B	1,4-DICHLOROBENZENE							<0.00118	<0.00112	<0.00111	<0.00117	<0.115	<0.0364	<0.00115	<0.00117	<0.00674
8260A/B	DICHLORODIFLUOROMETHANE							<0.00591	<0.00561	<0.00557	<0.00587	<0.573	<0.182	<0.00574	<0.00585	<0.00135
8260A/B	1,1-DICHLOROETHANE							<0.00118	<0.00112	<0.00111	<0.00117	<0.115	<0.0364	<0.00115	<0.00117	<0.00135
8260A/B	1,1-DICHLOROETHENE							<0.00118	<0.00112	<0.00111	<0.00117	<0.115	<0.0364	<0.00115	<0.00117	<0.00135
8260A/B	CIS-1,2-DICHLOROETHENE							<0.00118	<0.00112	<0.00111	<0.00117	<0.115	0.0231	<0.00115	<0.00117	<0.00135
8260A/B	TRANS-1,2-DICHLOROETHENE							<0.00118	<0.00112	<0.00111	<0.00117	<0.115	<0.0364	<0.00115	<0.00117	<0.00135
8260A/B	ETHYLBENZENE	130	480	480	0.0048	0.00225	0.00196	<0.00118	0.00144	0.00441	<0.00117	2.52	<0.0364	0.0568	<0.00117	0.00176
8260A/B	N-HEXANE							<0.0118	0.0123	0.0184	0.00349	<1.15	<0.364	0.0125	0.00169	<0.0135
8260A/B	ISOPROPYLBENZENE							<0.00118	<0.00112	0.000976	<0.00117	3.34	<0.0364	0.0503	<0.00117	<0.00135
8260A/B	P-ISOPROPYLTOLUENE							<0.00118	<0.00112	<0.00111	<0.00117	4.51	<0.0364	0.033	<0.00117	<0.00135
8260A/B	2-BUTANONE (MEK)							<0.0118	<0.0112	<0.0111	<0.0117	1.37	<0.364	0.0555	<0.0117	<0.0135
8260A/B	4-METHYL-2-PENTANONE (MIBK)							<0.0118	<0.0112	<0.0111	<0.0117	<1.15	<0.364	<0.0115	<0.0117	<0.0135
8260A/B	NAPHTHALENE	90	450	560				<0.00591	<0.00561	<0.00557	<0.00587	2.73	<0.182	0.0614	<0.00585	<0.00674
8260A/B	N-PROPYLBENZENE	260	260	260				<0.00118	0.000287	0.0016	<0.00117	10.1	<0.0364	0.0763	<0.00117	<0.00135
8260A/B	TETRACHLOROETHENE							<0.00118	<0.00112	<0.00111	<0.00117	<0.115	0.122	0.000993	<0.00117	<0.00135
8260A/B	TOLUENE	820	820	820	0.00797	0.00989	0.00889	<0.00591	0.00456	0.014	0.000877	14.8	<0.182	0.0172	0.00207	<0.00674
8260A/B	1,2,3-TRICHLOROBENZENE							<0.00118	<0.00112	<0.00111	<0.00117	0.041	<0.0364	<0.00115	<0.00117	<0.00135
8260A/B	1,2,4-TRICHLOROBENZENE							<0.00118	<0.00112	<0.00111	<0.00117	0.111	<0.0364	<0.00115	<0.00117	<0.00135
8260A/B	TRICHLOROETHENE							<0.00118	<0.00112	<0.00111	<0.00117	<0.115	0.0137	<0.00115	<0.00117	<0.00135
8260A/B	TRICHLOROFLUOROMETHANE	1200	1200	1200				<0.00591	<0.00561	<0.00557	<0.00587	<0.573	<0.182	<0.00574	<0.00585	<0.00674
8260A/B	1,2,4-TRIMETHYLBENZENE	160	220	220				<0.00118	0.00073	0.00323	<0.00117	39.8	<0.0364	1.53	<0.00117	<0.00135
8260A/B	1,3,5-TRIMETHYLBENZENE	180	180	180				<0.00118	<0.00112	0.000976	<0.00117	11.7	<0.0364	0.0759	<0.00117	<0.00135
8260A/B	XYLENES, TOTAL	260	260	260	0.0146	0.00646	0.0065	<0.00354	0.00263	0.00901	<0.00352	15.6	<0.109	5.47	<0.00351	<0.00405
Semi-Volatile Organic Compounds																
8270C	ACENAPHTHENE										<0.0388	<0.756	<0.049	<0.0379	<0.0386	<0.0445
8270C	ACENAPHTHYLENE										<0.0388	<0.756	<0.049	<0.0379	<0.0386	<0.0445
8270C	ANTHRACENE										<0.0388	<0.756	<0.049	<0.0379	<0.0386	<0.0445
8270C	BENZO(A)ANTHRACENE										<0.0388	<0.756	<0.049	<0.0379	<0.0386	<0.0445
8270C	BENZO(B)FLUORANTHENE										<0.0388	<0.756	<0.049	<0.0379	<0.0386	<0.0445
8270C	BENZO(K)FLUORANTHENE										<0.0388	<0.756	<0.049	<0.0379	<0.0386	<0.0445
8270C	BENZO(G,H,I)PERYLENE										<0.0388	<0.756	<0.049	<0.0379	<0.0386	<0.0445
8270C	DIBENZOFURAN										<0.391	<7.63	<0.495	<0.382	<0.389	<0.449
8270C	BENZO(A)PYRENE	1.24	5.8	120							<0.0388	<0.756	<0.049	<0.0379	<0.0386	<0.0445
8270C	CHRYSENE										<0.0388	<0.756	<0.049	<0.0379	<0.0386	<0.0445
8270C	DIBENZ(A,H)ANTHRACENE	1.2	5.8	120							<0.0388	<0.756	<0.049	<0.0379	<0.0386	<0.0445
8270C	N-NITROSODIPHENYLAMINE										<0.391	<7.63	<0.495	0.0194	<0.389	<0.449
8270C	BENZYLBUTYL PHTHALATE										<0.391	<7.63	<0.495	0.0318	<0.389	<0.449
8270C	FLUORANTHENE										<0.0388	<0.756	<0.049	0.0133	<0.0386	<0.0445
8270C	FLUORENE										<0.0388	<0.756	<0.049	0.0102	<0.0386	<0.0445
8270C	BIS(2-ETHYLHEXYL)PHTHALATE										<0.391	50.3	<0.495	5.96	<0.389	<0.449
8270C	DI-N-BUTYL PHTHALATE										<0.391	<7.63	<0.495	0.0252	<0.389	<0.449
8270C	DIETHYL PHTHALATE										<0.391	<7.63	<0.495	<0.382	<0.389	<0.449
8270C	DI-N-OCTYL PHTHALATE										<0.391	1.51	<0.495	3.05	<0.389	<0.449
8270C	INDENO(1,2,3-CD)PYRENE										<0.0388	<0.756	<0.049	<0.0379	<0.0386	<0.0445
8270C	NAPHTHALENE										<0.0388	0.27	0.0152	0.0881	<0.0386	<0.0445
8270C	4-CHLORO-3-METHYLPHENOL										<0.391	<7.63	<0.495	<0.382	<0.389	<0.449
8270C	PHENANTHRENE										<0.0388	<0.756	0.0126	0.0329	<0.0386	<0.0445
8270C	PHENOL										<0.391	2.52	<0.495	0.0413	<0.389	<0.449
8270C	PYRENE										<0.0388	<0.756	<0.049	<0.0379	<0.0386	<0.0445
8270C	3&4-METHYL PHENOL										<0.391	<7.63	<0.495	<0.382	<0.389	<0.449
Polychlorinated Biphenyls																
8082	PCB 1260							<0.0203	<0.0209	<0.0199						<0.0229
Polynuclear Aromatic Hydrocarbons																
8270C-SIM	ANTHRACENE				0.364	0.0163	0.00794	<0.00716	<0.00739	0.000783						
8270C-SIM	ACENAPHTHENE				0.382	0.0181	0.011	<0.00716	<0.00739	0.00101						
8270C-SIM	ACENAPHTHYLENE				0.069	0.00469	0.00244	<0.00716	<0.00739	<0.00703						
8270C-SIM	BENZO(A)ANTHRACENE				0.00369	0.00068	<0.00669	0.000777	<0.00739	<0.00703						
8270C-SIM	BENZO(A)PYRENE	1.24	5.8	120	<0.00673	<0.00659	<0.00669	<0.00716	<0.00739	<0.00703						
8270C-SIM	BENZO(B)FLUORANTHENE				0.000817	<0.00659	<0.00669	0.000979	<0.00739	<0.00703						
8270C-SIM	BENZO(G,H,I)PERYLENE				0.000681	<0.00659	0.00103	<0.00716	<0.00739	<0.00703						
8270C-SIM	BENZO(K)FLUORANTHENE				<0.00673	<0.00659	<0.00669	<0.00716	<0.00739	<0.00703						
8270C-SIM	CHRYSENE				0.0101	<0.00659	0.00317	<0.00716	<0.00739	0.00105						
8270C-SIM	DIBENZ(A,H)ANTHRACENE				<0.00673	<0.00659	<0.00669	<0.00716	<0.00739	<0.00703						
8270C-SIM	FLUORANTHENE				0.0256	0.000666	0.000996	0.00139	<0.00739	<0.00703						
8270C-SIM	FLUORENE				0.368	0.0277	0.0169	<0.00716	<0.00739	0.00111						
8270C-SIM	INDENO(1,2,3-CD)PYRENE				<0.00673	<0.00659	<0.00669	<0.00716	<0.00739	<0.00703						
8270C-SIM	NAPHTHALENE				0.0988	0.0125	0.0164	<0.0239	<0.0246	<0.0234						
8270C-SIM	PHENANTHRENE				0.885	0.0664	0.0325	0.000974	<0.00739	0.00317						
8270C-SIM	PYRENE				0.17	0.00279	0.00212	0.00133	<0.00739	0.00138						
8270C-SIM	1-METHYLNAPHTHALENE				0.917	<0.022	0.0756	<0.0239	<0.0246	<0.0234						
8270C-SIM	2-METHYLNAPHTHALENE				0.0654	<0.022	0.038	<0.0239	<0.0246	<0.0234						

	Identified Area	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D
	Client Sample ID	IA-D MB-51	IA-DMB54 8-10	IA-DMB55 8-10	IA-DMB56 8-10	IA-D MB57	IA-D MB58	IA-D MB59	IA-D MB60	IADSB61	IA-D SB-62	IA-D SB-63	IADSB72	IADSB73	IADSB74	IADSB75	IADSB76	IA-D SB-77	IA-D SB-78
	Depth, Feet	8-10	8-10	8-10	8-10	0-3	8-10	0-2	0-2	8-10	7-10	8-10	8-10	8-10	8-10	8-10	2-4	8-10	7-10
	Date Collected	04/27/2017	05/16/2017	05/16/2017	05/16/2017	05/16/2017	05/16/2017	05/17/2017	05/17/2017	05/12/2017	04/27/2017	04/27/2017	05/12/2017	05/12/2017	05/12/2017	05/12/2017	05/12/2017	04/27/2017	04/27/2017
	Lab Sample ID	L905652-06	L910053-02	L910053-01	L910053-08	L909979-03	L909979-02	L910388-01	L910388-02	L909346-08	L905652-04	L905652-05	L909346-07	L909346-05	L909346-06	L909346-04	L909346-01	L905652-07	L905652-03
Method	Analyte	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
2540 G-201	TOTAL SOLIDS	85.6	81.8	83.9	85.5	82	84.7	81.8	93	87.2	90.1	92.3	80.7	85.3	86.4	82.2	82.5	96.7	76.9
RCRA Metals																			
6010B	ARSENIC																		
6010B	BARIUM																		
6010B	CADMIUM																		
6010B	CHROMIUM																		
6010B	LEAD																		
6010B	SILVER																		
7471A	MERCURY																		
Total Petroleum Hydrocarbons																			
8015B	TPHG C6 - C12	0.103	<0.122	0.0918	3.16	0.279	1.13	<0.122	0.157	0.164	0.0438	<0.108	<0.124	0.255	0.496	1.91	<0.121	<0.103	<0.13
8015B	C10-C20 HYDROCARBONS	<4.67	<4.89	<4.77	7.32	3.77	2.8	<4.89	1.63	2.02	1.95	3.47	<4.96	7.41	<4.63	17.2	<4.85	<4.13	1.13
8015B	C20-C34 HYDROCARBONS	<4.67	<4.89	1.31	56.2	21.2	9.64	0.86	6.05	1.85	5.04	5.36	0.775	36.2	1.15	20.7	1.37	9.04	12.8
Volatile Organic Compounds																			
8260A/B	ACETONE	<0.0584	<0.0612	0.0259	<1.46	0.0277	<0.059	<0.0611	0.0152	<0.0573	<0.0555	<0.0542	0.0653	<0.0586	<0.0579	<0.0608	0.059	<0.0517	0.0513
8260A/B	ACRYLONITRILE	<0.0117	<0.0122	<0.0119	<0.292	<0.0122	<0.0118	<0.0122	<0.0108	<0.0115	<0.0111	<0.0108	<0.0124	<0.0117	<0.0116	<0.0122	<0.0121	<0.0103	<0.013
8260A/B	BENZENE	0.00241	<0.00122	0.002	<0.0292	0.00326	0.00224	0.00406	0.0024	0.00174	0.00179	0.00188	0.000373	0.00248	0.0035	0.00994	<0.00121	0.00119	<0.0013
8260A/B	N-BUTYLBENZENE	<0.00117	<0.00122	<0.00119	<0.0292	<0.00122	<0.00118	<0.00122	<0.00108	<0.00115	<0.00111	<0.00108	<0.00124	0.000575	<0.00116	0.002	<0.00121	<0.00103	<0.0013
8260A/B	SEC-BUTYLBENZENE	<0.00117	<0.00122	<0.00119	<0.0292	<0.00122	<0.00118	<0.00122	<0.00108	<0.00115	<0.00111	<0.00108	<0.00124	0.000599	0.000445	0.00163	<0.00121	<0.00103	<0.0013
8260A/B	TERT-BUTYLBENZENE	<0.00117	<0.00122	<0.00119	<0.0292	<0.00122	<0.00118	<0.00122	<0.00108	<0.00115	<0.00111	<0.00108	<0.00124	<0.00117	<0.00116	<0.00122	<0.00121	<0.00103	<0.0013
8260A/B	CHLOROBENZENE	<0.00117	<0.00122	<0.00119	<0.0292	<0.00122	<0.00118	<0.00122	<0.00108	<0.00115	<0.00111	<0.00108	<0.00124	<0.00117	<0.00116	0.0249	<0.00121	<0.00103	<0.0013
8260A/B	CHLOROFORM	<0.00584	<0.00612	<0.00596	<0.146	<0.0061	<0.0059	<0.00611	<0.00538	<0.00573	<0.00555	<0.00542	<0.00619	<0.00586	<0.00579	<0.00608	<0.00606	<0.00517	<0.0065
8260A/B	1,2-DICHLOROBENZENE	<0.00117	<0.00122	<0.00119	<0.0292	<0.00122	<0.00118	<0.00122	<0.00108	<0.00115	<0.00111	<0.00108	<0.00124	<0.00117	<0.00116	0.00208	<0.00121	<0.00103	<0.0013
8260A/B	1,3-DICHLOROBENZENE	<0.00117	<0.00122	<0.00119	<0.0292	<0.00122	<0.00118	<0.00122	<0.00108	<0.00115	<0.00111	<0.00108	<0.00124	<0.00117	<0.00116	<0.00122	<0.00121	<0.00103	<0.0013
8260A/B	1,4-DICHLOROBENZENE	<0.00117	<0.00122	<0.00119	<0.0292	<0.00122	<0.00118	<0.00122	<0.00108	<0.00115	<0.00111	<0.00108	<0.00124	<0.00117	<0.00116	0.136	<0.00121	<0.00103	<0.0013
8260A/B	DICHLORODIFLUOROMETHANE	<0.00584	<0.00612	<0.00596	<0.146	<0.0061	<0.0059	<0.00611	<0.00538	<0.00573	<0.00555	<0.00542	<0.00619	<0.00586	<0.00579	<0.00608	<0.00606	<0.00517	<0.0065
8260A/B	1,1-DICHLOROETHANE	<0.00117	<0.00122	<0.00119	<0.0292	<0.00122	<0.00118	<0.00122	<0.00108	<0.00115	<0.00111	<0.00108	<0.00124	<0.00117	<0.00116	<0.00122	<0.00121	<0.00103	<0.0013
8260A/B	1,1-DICHLOROETHENE	<0.00117	<0.00122	<0.00119	<0.0292	<0.00122	<0.00118	<0.00122	<0.00108	<0.00115	<0.00111	<0.00108	<0.00124	<0.00117	<0.00116	<0.00122	<0.00121	<0.00103	<0.0013
8260A/B	CIS-1,2-DICHLOROETHENE	<0.00117	<0.00122	<0.00119	<0.0292	<0.00122	<0.00118	<0.00122	<0.00108	<0.00115	<0.00111	<0.00108	<0.00124	0.00956	<0.00116	0.000844	<0.00121	<0.00103	0.000854
8260A/B	TRANS-1,2-DICHLOROETHENE	<0.00117	<0.00122	<0.00119	<0.0292	<0.00122	<0.00118	<0.00122	<0.00108	<0.00115	<0.00111	<0.00108	<0.00124	0.000383	<0.00116	<0.00122	<0.00121	<0.00103	<0.0013
8260A/B	ETHYLBENZENE	0.00189	0.000376	0.00107	<0.0292	0.0012	0.00045	<0.00122	0.000772	0.000633	0.00104	0.000666	<0.00124	0.00163	0.00235	0.0535	<0.00121	0.00146	<0.0013
8260A/B	N-HEXANE	0.0077	0.00314	0.00651	0.0186	0.012	0.0042	0.000986	0.00652	0.0104	0.00927	0.00706	0.00433	0.00944	0.0198	0.00773	<0.0121	0.00563	0.00106
8260A/B	ISOPROPYLBENZENE	<0.00117	<0.00122	<0.00119	<0.0292	<0.00122	<0.00118	<0.00122	<0.00108	<0.00115	<0.00111	<0.00108	<0.00124	0.000707	0.000742	0.00428	<0.00121	<0.00103	<0.0013
8260A/B	P-ISOPROPYLTOLUENE	<0.00117	<0.00122	<0.00119	<0.0292	<0.00122	<0.00118	<0.00122	<0.00108	<0.00115	<0.00111	<0.00108	<0.00124	0.0004	<0.00116	0.000747	<0.00121	<0.00103	<0.0013
8260A/B	2-BUTANONE (MEK)	<0.0117	<0.0122	0.0066	<0.292	0.00775	<0.0118	<0.0122	<0.0108	<0.0115	<0.0111	<0.0108	0.00967	0.00647	0.0117	0.00752	0.00903	<0.0103	<0.013
8260A/B	4-METHYL-2-PENTANONE (MIBK)	<0.0117	<0.0122	<0.0119	<0.292	<0.0122	<0.0118	<0.0122	<0.0108	<0.0115	<0.0111	<0.0108	<0.0124	<0.0117	<0.0116	<0.0122	<0.0121	<0.0103	<0.013
8260A/B	NAPHTHALENE	<0.00584	<0.00612	<0.00596	<0.146	<0.0061	<0.0059	<0.00611	<0.00538	0.00189	<0.00555	<0.00542	<0.00619	0.00535	<0.00579	0.0171	<0.00606	<0.00517	<0.0065
8260A/B	N-PROPYLBENZENE	0.000336	<0.00122	0.000402	<0.0292	0.000258	<0.00118	<0.00122	<0.00108	<0.00115	<0.00111	<0.00108	<0.00124	0.00124	0.000762	0.00657	<0.00121	0.000335	<0.0013
8260A/B	TETRACHLOROETHENE	<0.00117	<0.00122	<0.00119	0.211	0.00132	0.0019	<0.00122	<0.00108	0.000427	<0.00111	<0.00108	<0.00124	0.00884	0.00238	0.000707	0.00039	<0.00103	0.00296
8260A/B	TOLUENE	0.0056	0.00108	0.00448	<0.146	0.00547	0.00326	0.00283	0.00483	0.00279	0.0041	0.00359	0.000825	0.00507	0.00837	0.00581	<0.00606	0.00411	<0.0065
8260A/B	1,2,3-TRICHLOROBENZENE	<0.00117	<0.00122	<0.00119	<0.0292	<0.00122	<0.00118	<0.00122	<0.00108	<0.00115	<0.00111	<0.00108	<0.00124	<0.00117	<0.00116	<0.00122	<0.00121	<0.00103	<0.0013
8260A/B	1,2,4-TRICHLOROBENZENE	<0.00117	<0.00122	<0.00119	<0.0292	<0.00122	<0.00118	<0.00122	<0.00108	<0.00115	<0.00111	<0.00108	<0.00124	<0.00117	<0.00116	<0.00122	<0.00121	<0.00103	<0.0013
8260A/B	TRICHLOROETHENE	<0.00117	<0.00122	0.000799	<0.0292	<0.00122	<0.00118	<0.00122	<0.00108	<0.00115	<0.00111	<0.00108	<0.00124	0.00144	<0.00116	<0.00122	<0.00121	<0.00103	<0.0013
8260A/B	TRICHLOROFLUOROMETHANE	<0.00584	<0.00612	<0.00596	<0.146	<0.0061	<0.0059	<0.00611	<0.00538	<0.00573	<0.00555	<0.00542	<0.00619	<0.00586	<0.00579	<0.00608	<0.00606	<0.00517	<0.0065
8260A/B	1,2,4-TRIMETHYLBENZENE	0.00139	0.000551	0.00151	0.00874	0.00111	0.000376	<0.00122	0.000535	0.0011	0.00115	0.000818	<0.00124	0.0066	0.00184	0.0461	<0.00121	0.00137	<0.0013
8260A/B	1,3,5-TRIMETHYLBENZENE	0.000523	<0.00122	0.000688	<0.0292	0.000423	<0.00118	<0.00122	<0.00108	0.000361	0.000459	0.000338	<0.00124	0.00152	0.000619	0.0107	<0.00121	0.000586	<0.0013
8260A/B	XYLENES, TOTAL	0.00418	0.000868	0.00391	<0.0877	0.00356	0.00167	0.000856	0.00246	0.00241	0.00309	0.00229	<0.00372	0.0039	0.005	0.187	<0.00364	0.00395	<0.0039
Semi-Volatile Organic Compounds																			
8270C	ACENAPHTHENE	<0.0386	<0.0404	<0.0394	<0.386	<0.0402	<0.0389	<0.0403	<0.0355	<0.0378	<0.0366	<0.0357	<0.0409	<0.0387	<0.0382	<0.0401	<0.04	<0.0341	<0.0429
8270C	ACENAPHTHYLENE	<0.0386	<0.0404	<0.0394	<0.386	<0.0402	<0.0389	<0.0403	<0.0355	<0.0378	<0.0366	<0.0357	<0.0409	<0.0387	<0.0382	<0.0401	<0.04	<0.0341	<0.0429
8270C	ANTHRACENE	<0.0386	<0.0404	<0.0394	<0.386	<0.0402	<0.0389	<0.0403	<0.0355	<0.0378	<0.0366	<0.0357	<0.0409	<0.0387	<0.0382	<0.0401	<0.04	<0.0341	<0.0429
8270C	BENZO(A)ANTHRACENE	<0.0386	<0.0404	<0.0394	<0.386	0.0133	0.0145	<0.0403	<0.0355	<0.0378	<0.0366	<0.0357	<0.0409	<0.0387	<0.0382	<0.0401	<0.04	<0.0341	<0.0429
8270C	BENZO(B)FLUORANTHENE	<0.0386	<0.0404	<0.0394	<0.386	0.0233	0.0171	0.0123	<0.0355	<0.0378	<0.0366	<0.0357	<0.0409	<0.0387	<0.0382	<0.0401	<0.04	<0.0341	<0.0429
8270C	BENZO(K)FLUORANTHENE	<0.0386	<0.0404	<0.0394	<0.386	0.0105	<0.0389	<0.0403	<0.0355	<0.0378	<0.0366	<0.0357	<0.0409	<0.0387	<0.0382	<0.0401	<0.04	<0.0341	<0.0429
8270C	BENZO(G,H,I)PERYLENE	<0.0386	<0.0404	<0.0394	<0.386	0.0154	<0.0389	0.0323	<0.0355	<0.0378	<0.0366	<0.0357	<0.0409	<0.0387	<0.0382	<0.0401	<0.04	<0.0341	<0.0429
8270C	DIBENZOFURAN	<0.389	<0.407	<0.397	<3.89	<0.406	<0.393	<0.407	<0.358	<0.382	<0.37	<0.361	<0.413	<0.39	<0.386	<0.405	<0.404	<0.344	<0.433
8270C	BENZO(A)PYRENE	<0.0386	<0.0404	<0.0394	<0.386	0.0162	0.014	0.00704	<0.0355	<0.0378	<0.0366	<0.0357	<0.0409	<0.0387	<0.0382	<0.0401	<0.04	<0.0341	<0.0429
8270C	CHRYSENE	<0.0386	<0.0404	<0.0394	<0.386	0.0192	0.0115	<0.0403	<0.0355	<0.0378	<0.0366	<0.0357	<0.0409	<0.0387	<0.0382	<0.0401	<0.04	<0.0341	<0.0429
8270C	DIBENZ(A,H)ANTHRACENE	<0.0386	<0.0404	<0.0394	<0.386	0.0105	<0.0389	<0.0403	<0.0355	<0.0378	<0.0366	<0.0357	<0.0409	<0.0387	<0.0382	<0.0401	<0.04	<0.0341	<0.0429
8270C	N-NITROSODIPHENYLAMINE	<0.389	<0.407	<0.397	<3.89	<0.406	<0.393	<0.407	<0.358	<0.382	<0.37	<0.361	<0.413	<0.39	<0.386	<0.405	<0.404	<0.344	<0.433
8270C	BENZYLBUTYL PHTHALATE	<0.389	<0.407	<0.397	<3.89	<0.406	<0.393	<0.407	<0.358	<0.382	<0.37	<0.361	<0.413	<0.39	<0.386	<0.405	<0.404	<0.344	<0.433
8270C	FLUORANTHENE	<0.0386	<0.0404	<0.0394	<0.386	0.0288	0.0278	0.0297	0.00717	<0.0378	<0.0366	<0.0357	<0.0409	<0.0387	<0.0382	<0.0401	<0.04	<0.0341	<0.0429
8270C	FLUORENE	<0.0386	<0.0404	<0.0394	<0.386	<0.0402	<0.0389	<0.0403	<0.0355	<0.0378	<0.0366	<0.0357	<0.0409	<0.0387	<0.0382	<0.0401	<0.04	<0.0341	<0.0429
8270C	BIS(2-ETHYLHEXYL)PHTHALATE	<0.389	<0.407	<0.397	<3.89	0.257	<0.393	<0.407	<0.358	<0.382	<0.37	<0.361	<0.413	<0.39	<0.386	0.0221	<0.404	<0.344	<0.433
8270C	DI-N-BUTYL PHTHALATE	<0.389	<0.407	<0.397	<3.89	<0.406	<0.393	<0.407	<0.358	<0.382	<0.37	<0.361	<0.413	<0.39	<0.386	0.0188	<0.404	<0.344	<0.433
8270C	DIETHYL PHTHALATE	<0.389	<0.407	<0.397	<3.89	<0.406	<0.393	<0.407	<0.358	<0.382	<0.37	<0.361	<0.413	<0.39	<0.386	0.316	<0.404	<0.344	<0.433
8270C	DI-N-OCTYL PHTHALATE	<0.389	<0.407	<0.397	<3.89	<0.406	<0.393	<0.407	<0.358	<0.382	<0.37	<0.361	<0.413	<0.39	<0.386	<0.405	<0.404	<0.344	<0.433
8270C	INDENO(1,2,3-CD)PYRENE	<0.0386	<0.0404	<0.0394	<0.386	0.0107	<0.0389	0.0098	<0.0355	<0.0378	<0.0366	<0.0357	<0.0409	<0.0387	<0.0382	<0.0401	<0.04	<0.0341	<0.0429
8270C	NAPHTHALENE	<0.0386	<0.0404	<0.0394	<0.386	0.012	<0.0389	<0.0403	<0.0355	<0.0378	<0.0366	<0.0357	<0.0409	0.0263	<0.0382	0.11	<0.04	<0.0341	<0.0429
8270C	4-CHLORO-3-METHYLPHENOL	<0.389	<0.407	<0.397	<3.89	<0.406	<0.393	<0.407	<0.358	<0.382	<0.37	<0.361	<0.413	<0.39	<0.386	0.0639	<0.404	<0.344	<0.433
8270C	PHENANTHRENE	<0.0386	<0.0404	<0.0394	<0.386	0.0196	0.0125	0.0152	<0.0355	<0.0378	<0.0366	<0.0357	<0.0409	<0.0387	<0.0382	<0.0401	<0.04	<0.0341	<0.0429
8270C	PHENOL	<0.389	<0.407	<0.397	<3.89	<0.406	<0.393	<0.407	<0.358	<0.382	<0.37	<0.361	<0.413	<0.39	<0.386	<0.405	<0.404	<0.344	<0.433
8270C	PYRENE	<0.0386	<0.0404	<0.0394	<0.386	0.0227	0.0225	0.124	<0.0355	<0.0378	<0.0366	<0.0357	<0.0409	<0.0387	<0.0382	<0.0401	<0.04	<0.0341	<0.0429
8270C	3&4-METHYL PHENOL	<0.389	<0.407	<0.397	<3.89	0.134	<0.393	<0.407	<0.358	<0.382	<0.37	<0.361	<0.413	<0.39	<0.386	<0.405	<0.404	<0.344	<0.433
Polychlorinated Biphenyls																			
8082	PCB 1260																		
Polynuclear Aromatic Hydrocarbons																			
8270C-SIM	ANTHRACENE																		
8270C-SIM	ACENAPHTHENE																		
8270C-SIM	ACENAPHTHYLENE																		
8270C-SIM	BENZO(A)ANTHRACENE																		
8270C-SIM	BENZO(A)PYRENE																		
8270C-SIM	BENZO(B)FLUORANTHENE																		
8270C-SIM	BENZO(G,H,I)PERYLENE																		
8270C-SIM	BENZO(K)FLUORANTHENE																		
8270C-SIM	CHRYSENE																		
8270C-SIM	DIBENZ(A,H)ANTHRACENE																		
8270C-SIM	FLUORANTHENE																		
8270C-SIM	FLUORENE																		
8270C-SIM	INDENO(1,2,3-CD)PYRENE																		
8270C-SIM	NAPHTHALENE																		
8270C-SIM	PHENANTHRENE																		
8270C-SIM	PYRENE																		
8270C-SIM	1-METHYLNAPHTHALENE																		
8270C-SIM	2-METHYLNAPHTHALENE																		

Notes:
All values are mg/kg.

		IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	upgradient to IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-D	IA-E	IA-E	IA-E	IA-G	IA-G
		IA-D SB79	IA-D SB80	IA-D SB-81	IA-D SB-82	IA-D SB83	IA-D SB84	IA-D SB85	IA-D SB86	IA-D SB87	IA-D SB88	IA-D SB89	IA-D SB90	IA-D SB93	IA-D SB95	IA-D SB96	IA-D SB97	IA-D SB99	IADSB91	IA-D SB92	IADSB100	OUTSIDE OF IA SB-102	IA-D SB103	MW-10	MW-11	MW-12	MW-13	MW-14	IA-EMM64 8-10	IA-E MB65	IA-EMB66 8-10	IA-GMB52 8-10	IA-GMB53 8-10
		8-10	8-10	1-2.5	2-4.5	8-10	5-6	8-10	8-10	8-10	8-10	8-10	8-10	8-10	8-10	8-10	8-10	8-10	8-10	0-2	8-10	1-3	0-2	2-4	8-10	0-2	0-2	16-18	8-10	9-10	8-10	8-10	8-10
		05/10/2017	05/10/2017	04/27/2017	04/27/2017	05/10/2017	05/10/2017	05/10/2017	05/10/2017	05/10/2017	05/10/2017	05/10/2017	05/10/2017	05/10/2017	05/10/2017	05/10/2017	05/10/2017	05/10/2017	05/12/2017	05/17/2017	05/12/2017	05/17/2017	05/17/2017	03/20/2017	03/20/2017	03/20/2017	03/20/2017	03/20/2017	05/16/2017	05/16/2017	05/16/2017	05/16/2017	05/16/2017
		L908821-13	L908821-12	L905652-02	L905652-01	L908821-11	L908821-10	L908821-09	L908821-06	L908821-07	L908821-05	L908821-01	L908821-02	L908821-08	L908821-15	L908821-14	L908821-03	L908821-04	L909346-02	L910388-06	L909346-03	L910388-04	L910388-05	L897155-01	L897155-02	L897155-03	L897155-04	L897155-05	L910053-10	L909979-01	L910053-09	L910053-03	L910053-04
Method	Analyte	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
2540 G-201	TOTAL SOLIDS	82.4	88.3	84.9	90.5	81.1	79.2	83.7	87.1	83	81.1	82.2	87.5	87.2	87.3	85.1	84.4	92.8	90.7	63.9	83.5	79.4	84.9	93.5	91.7	88.5	87.2	92.6	82	84.1	83.5	90	86.8
RCRA Metals																																	
6010B	ARSENIC						86.8																	6.4	76.6	7.79	11.5	4.73					
6010B	BARIUM						137																	1250	305	154	224	79.5					
6010B	CADMIUM						1.52																	0.718	1.55	<0.565	0.597	<0.54					
6010B	CHROMIUM						30.5																	13.8	13.5	10.8	13.2	8.2					
6010B	LEAD						151																	77	47.6	13.6	27.2	10.8					
6010B	SILVER						16.7																	<1.07	<1.09	<1.13	<1.15	<1.08					
7471A	MERCURY						0.27																	0.053	0.432	0.0321	0.042	<0.0216					
Total Petroleum Hydrocarbons																																	
8015B	TPHG C6 - C12	<0.121	<0.113	<0.118	<0.11	<0.123	0.217	1.65	<0.115	<0.12	<0.123	0.254	0.212	0.116	<0.115	0.204	<0.118	0.291	0.398	0.411	0.187	0.0839	0.26	0.493	1.38	0.312	0.14	0.286	<0.122	0.242	0.296		
8015B	C10-C20 HYDROCARBONS	<4.86	10.4	3.97	4.73	<4.93	34.9	19.3	15.9	<4.82	<4.93	<4.87	2.87	4.03	<4.58	0.897	1.64	<4.31	<4.41	<62.6	<4.79	3.22	1.41	<42.8	<87.3	<4.52	<9.17	<4.32	<4.88	<4.76	<4.79	7.67	1.25
8015B	C20-C34 HYDROCARBONS	2.22	60.6	7.28	6.38	1.85	225	17.8	30.2	2.91	2.16	3	8.77	25.3	1.18	2.09	3.86	0.93	1.19	175	0.803	8.44	3.55	128	627	15.7	17.7	6.92	1.51	<4.76	2.95	8.09	1.35
Volatile Organic Compounds																																	
8260A/B	ACETONE	<0.0601	<0.056	<0.0589	<0.0552	<0.0617	0.0368	<0.0585	<0.0568	0.0647	<0.0617	<0.0608	<0.0566	<0.0568	<0.0567	<0.0588	<0.058	<0.0528	0.0127	0.126	<0.0599	0.078	0.0566	<0.0535	0.0807	<0.0565	<0.0573	<0.054	0.0485	<0.0595	<1.48	<0.0556	<0.0576
8260A/B	ACRYLONITRILE	<0.012	<0.0112	<0.0118	<0.011	<0.0123	<0.0126	<0.0117	<0.0114	<0.012	<0.0123	<0.0122	<0.0113	0.00296	<0.0113	<0.0118	<0.0116	<0.0106	<0.011	<0.0157	<0.012	<0.0126	<0.0118	<0.0107	<0.0109	<0.0113	<0.0115	<0.0108	<0.0122	<0.0119	<0.296	<0.0111	<0.0115
8260A/B	BENZENE	0.000936	0.00359	0.00104	0.000542	0.00186	0.00135	0.00371	0.000732	<0.0012	0.00311	0.00378	0.00109	0.00235	0.00115	0.0029	0.00138	0.0043	0.00738	0.00443	0.00173	0.000777	0.00334	<0.00107	0.00506	0.00198	<0.00115	0.00339	0.000366	0.00481	<0.0296	0.00202	0.00126
8260A/B	N-BUTYLBENZENE	<0.0012	<0.00112	<0.00118	<0.0011	<0.00123	0.00122	<0.00117	<0.00114	<0.0012	<0.00123	<0.00122	<0.00113	<0.00114	<0.00113	<0.00118	<0.00116	<0.00106	<0.0011	<0.00157	<0.0012	<0.00126	<0.00118	<0.00107	0.00215	<0.00113	<0.00115	<0.00108	<0.00122	<0.00119	<0.0296	<0.00111	<0.00115
8260A/B	SEC-BUTYLBENZENE	<0.0012	<0.00112	<0.00118	<0.0011	<0.00123	0.000571	0.000348	<0.00114	<0.0012	<0.00123	<0.00122	<0.00113	<0.00114	<0.00113	<0.00118	<0.00116	<0.00106	<0.0011	<0.00157	<0.0012	<0.00126	<0.00118	<0.00107	0.00295	<0.00113	<0.00115	<0.00108	<0.00122	<0.00119	<0.0296	<0.00111	<0.00115
8260A/B	TERT-BUTYLBENZENE	<0.0012	<0.00112	<0.00118	<0.0011	<0.00123	<0.00126	<0.00117	<0.00114	<0.0012	<0.00123	<0.00122	<0.00113	<0.00114	<0.00113	<0.00118	<0.00116	<0.00106	<0.0011	<0.00157	<0.0012	<0.00126	<0.00118	<0.00107	<0.00109	<0.00113	<0.00115	<0.00108	<0.00122	<0.00119	<0.0296	<0.00111	<0.00115
8260A/B	CHLOROBENZENE	<0.0012	<0.00112	<0.00118	<0.0011	<0.00123	<0.00126	<0.00117	<0.00114	<0.0012	<0.00123	<0.00122	<0.00113	<0.00114	<0.00113	<0.00118	<0.00116	<0.00106	<0.0011	<0.00157	<0.0012	<0.00126	<0.00118	<0.00107	<0.00109	<0.00113	<0.00115	<0.00108	<0.00122	<0.00119	<0.0296	<0.00111	<0.00115
8260A/B	CHLOROFORM	<0.00601	0.000341	<0.00589	<0.00552	<0.00617	<0.00632	<0.00585	<0.00568	<0.00602	<0.00617	<0.00608	<0.00566	0.000317	<0.00567	0.000388	<0.0058	0.000529	<0.00551	<0.00783	<0.00599	<0.0063	<0.00589	<0.00267	<0.00273	<0.00282	<0.00287	<0.0027	<0.0061	<0.00595	<0.148	<0.00556	<0.00576
8260A/B	1,2-DICHLOROBENZENE	<0.0012	<0.00112	<0.00118	<0.0011	<0.00123	<0.00126	<0.00117	<0.00114	<0.0012	<0.00123	<0.00122	<0.00113	<0.00114	<0.00113	<0.00118	<0.00116	<0.00106	<0.0011	<0.00157	<0.0012	<0.00126	<0.00118	<0.00107	<0.00109	<0.00113	<0.00115	<0.00108	<0.00122	<0.00119	<0.0296	<0.00111	<0.00115
8260A/B	1,3-DICHLOROBENZENE	<0.0012	<0.00112	<0.00118	<0.0011	<0.00123	<0.00126	<0.00117	<0.00114	<0.0012	<0.00123	<0.00122	<0.00113	<0.00114	<0.00113	<0.00118	<0.00116	<0.00106	<0.0011	<0.00157	<0.0012	<0.00126	<0.00118	<0.00107	0.00271	<0.00113	<0.00115	<0.00108	<0.00122	<0.00119	<0.0296	<0.00111	<0.00115
8260A/B	1,4-DICHLOROBENZENE	<0.0012	<0.00112	<0.00118	<0.0011	<0.00123	0.00199	0.0292	<0.00114	<0.0012	<0.00123	<0.00122	<0.00113	<0.00114	<0.00113	<0.00118	<0.00116	<0.00106	<0.0011	<0.00157	<0.0012	<0.00126	<0.00118	<0.00535	0.0468	<0.00565	<0.00573	<0.0054	<0.00122	<0.00119	<0.0296	<0.00111	<0.00115
8260A/B	DICHLORODIFLUOROMETHANE	<0.00601	<0.0056	<0.00589	<0.00552	<0.00617	<0.00632	0.0161	<0.00568	<0.00602	<0.00617	<0.00608	<0.00566	<0.00568	<0.00567	<0.00588	<0.0058	<0.00528	<0.00551	<0.00783	<0.00599	<0.0063	<0.00589	<0.00107	<0.00109	<0.00113	<0.00115	<0.00108	<0.0061	<0.00595	<0.148	<0.00556	<0.00576
8260A/B	1,1-DICHLOROETHANE	<0.0012	<0.00112	<0.00118	<0.0011	<0.00123	<0.00126	0.00431	<0.00114	<0.0012	<0.00123	<0.00122	<0.00113	<0.00114	<0.00113	<0.00118	<0.00116	<0.00106	<0.0011	<0.00157	<0.0012	<0.00126	<0.00118	<0.00107	<0.00109	<0.00113	<0.00115	<0.00108	<0.00122	<0.00119	<0.0296	<0.00111	<0.00115
8260A/B	1,1-DICHLOROETHENE	<0.0012	<0.00112	<0.00118	<0.0011	<0.00123	<0.00126	<0.00117	<0.00114	<0.0012	<0.00123	<0.00122	<0.00113	<0.00114	<0.00113	<0.00118	<0.00116	<0.00106	<0.0011	<0.00157	<0.0012	<0.00126	<0.00118	<0.00107	0.00317	<0.00113	<0.00115	<0.00108	<0.00122	<0.00119	<0.0296	<0.00111	<0.00115
8260A/B	CIS-1,2-DICHLOROETHENE	<0.0012	<0.00112	<0.00118	<0.0011	<0.00123	<0.00126	0.000714	<0.00114	<0.0012	<0.00123	<0.00122	<0.00113	<0.00114	<0.00113	<0.00118	<0.00116	<0.00106	<0.0011	<0.00157	<0.0012	<0.00126	<0.00118	<0.00107	<0.00109	<0.00113	<0.00115	<0.00108	<0.00122	<0.00119	<0.0296	<0.00111	<0.00115
8260A/B	TRANS-1,2-DICHLOROETHENE	<0.0012	<0.00112	<0.00118	<0.0011	<0.00123	<0.00126	0.000841	<0.00114	<0.0012	<0.00123	<0.00122	<0.00113	<0.00114	<0.00113	<0.00118	<0.00116	<0.00106	<0.0011	<0.00157	<0.0012	<0.00126	<0.00118	<0.00107	<0.00109	<0.00113	<0.00115	<0.00108	<0.00122	<0.00119	<0.0296	<0.00111	<0.00115
8260A/B	ETHYLBENZENE	0.000926	0.00142	0.000826	0.000412	0.00148	0.031	0.0154	0.00038	<0.0012	0.00124	0.00314	0.00123	0.000887	0.00109	0.00236	0.000476	0.00246	0.00385	0.00088	0.00134	<0.00126	0.00215	<0.00107	0.00527	0.00121	<0.00115	0.00127	<0.00122	0.0033	<0.0296	0.00183	0.00169
8260A/B	N-HEXANE	0.00466	0.00854	0.00478	0.00264	0.00664	0.00878	0.0142	0.00777	0.000505	0.00422	0.0207	0.013	0.0124	0.00582	0.0159	0.00557	0.0189	0.024	0.0117	0.0111	0.00615	0.0162	0.0134	0.0165	0.0145	<0.0115	0.0173	0.00138	0.0231	<0.296	0.0189	0.0192
8260A/B	ISOPROPYLBENZENE	<0.0012	0.000308	<0.00118	<0.0011	<0.00123	0.00198	0.00153	<0.00114	<0.0012	<0.00123	0.000352	<0.00113	<0.00114	<0.00113	<0.00118	<0.00116	0.000301	0.000472	<0.00157	<0.0012	<0.00126	0.000294	<0.00107	0.00444	<0.00113	<0.00115	<0.00108	<0.00122	0.000446	<0.0296	<0.00111	<0.00115
8260A/B	P-ISOPROPYLTOLUENE	<0.0012	0.000872	<0.00118	<0.0011	<0.00123	0.000394	0.00114	<0.00114	<0.0012	<0.00123	<0.00122	<0.00113	<0.00114	<0.00113	<0.00118	<0.00116	<0.00106	<0.0011	<0.00157	<0.0012	<0.00126	<0.00118	<0.00107	0.0433	<0.00113	<0.00115	<0.00108	<0.0302	<0.00119	<0.0296	<0.00111	<0.00115
8260A/B	2-BUTANONE (MEK)	<0.012	<0.0112	<0.0118	<0.011	<0.0123	<0.0126	<0.0117	<0.0114	0.0105	<0.0123	0.00697	<0.0113	<0.0114	<0.0113	<0.0118	<0.0116	0.00514	0.0103	0.0278	<0.012	0.0111	0.007	<0.0107	<0.0109	<0.0113	<0.0115	<0.0108	0.009	<0.0119	<0.296	<0.0111	<0.0115
8260A/B	4-METHYL-2-PENTANONE (MIBK)	<0.012	<0.0112	<0.0118	<0.011	<0.0123	<0.0126	<0.0117	<0.0114	<0.012	<0.0123	0.0041	<0.0113	<0.0114	<0.0113	<0.0118	<0.0116	<0.0106	<0.011	<0.0157	<0.012	<0.0126	<0.0118	<0.0107	<0.0109	<0.0113	<0.0115	<0.0108	<0.0122	<0.0119	<0.296	<0.0111	<0.0115
8260A/B	NAPHTHALENE	<0.00601	<0.0056	<0.00589	<0.00552	<0.00617	0.00786	<0.00585	<0.00568	<0.00602	<0.00617	<0.00608	<0.00566	<0.00568	<0.00567	<0.00588	<0.0058	<0.00528	<0.00551	<0.00783	<0.00599	<0.0063	<0.00589	<0.00535	0.00731	<0.00565	<0.00573	<0.0054	<0.0061	<0.00595	<0.148	<0.00556	<0.00576
8260A/B	N-PROPYLBENZENE	<0.0012	0.000482	<0.00118	<0.0011	0.000391	0.00721	0.00438	<0.00114	<0.0012	<0.00123	0.000642	0.000276	<0.00114	<0.00113	0.000471	<0.00116	0.000538	0.000877	<0.00157	0.000266	<0.00126	0.000543	<0.00107	0.00469	<0.00113	<0.00115	<0.00108	<0.00122	0.000787	<0.0296	0.000473	0.00049
8260A/B	TETRACHLOROETHENE	<0.0012	0.00276	<0.00118	<0.0011	0.000515	0.000552	0.00153	0.00351	<0.0012	<0.00123	<0.00122	<0.00113	0.0041	0.000498	<0.00118	<0.00116	<0.00106	0.000729	<0.00157	<0.0012	<0.00126	<0.00118	<0.00107	0.00224	<0.00113	0.00213	<0.00108	<0.00122	<0.00119	<0.0296	<0.00111	0.00072
8260A/B	TOLUENE	0.00283	0.00613	0.00286	0.00144	0.00566	0.0148	0.0066	0.00146	<0.00602	0.00629	0.00909	0.00378	0.00416	0.00339	0.00744	0.00251	0.00937	0.0142	0.00655	0.00533	0.00109	0.00627	<0.00535	0.0221	0.00619	<0.00573	0.0123	<0.151	0.0104	<0.148	0.00616	0.00531
8260A/B	1,2,3-TRICHLOROBENZENE	<0.0012	<0.00112	<0.00118	<0.0011	<0.00123	<0.00126	<0.00117	<0.00114	<0.0012	<0.00123	<0.00122	<0.00113	<0.00114	<0.00113	<0.00118	<0.00116	<0.00106	<0.0011	<0.00157	<0.0012	<0.00126	<0.00118	<0.00107	<0.00109	<0.00113	<0.00115	<0.00108	<0.00122	<0.00119	<0.0296	<0.00111	<0.00115
8260A/B	1,2,4-TRICHLOROBENZENE	<0.0012	<0.00112	<0.00118	<0.0011	<0.00123	<0.00126	<0.00117	<0.00114	<0.0012	<0.00123	<0.00122	<0.00113	<0.00114	<0.00113	<0.00118	<0.00116	<0.00106	<0.0011	<0.00157	<0.0012	<0.00126	<0.00118	<0.00107	0.00138	<0.00113	<0.00115	<0.00108	<0.00122	<0.00119	<0.0296	<0.00111	<0.00115
8260A/B	TRICHLOROETHENE	<0.0012	<0.00112	<0.00118	<0.0011	0.000579	<0.00126	0.00113	<0.00114	<0.0012	<0.00123	<0.00122	<0.00113	<0.00114	<0.00113	<0.00118	<0.00116	<0.00106	<0.0011	<0.00157	<0.0012	<0.00126	<0.00118	<0.00107	<0.00109	<0.00113	<0.00115	<0.00108	<0.00122	<0.00119	<0.0296	<0.00111	<0.00115
8260A/B	TRICHLOROFLUOROMETHANE	<0.00601	<0.0056	<0.00589	<0.00552	<0.00617	<0.00632	0.102	<0.00568	<0.00602	<0.00617	<0.00608	<0.00566	<0.00568	<0.00567	<0.00588	<0.0058	<0.00528	<0.00551	<0.00783	<0.00599	<0.0063	<0.00589	<0.00535	51.8	<0.00565	<0.00573	<0.0054	<0.0061	<0.00595	<0.148	<0.00556	<0.00576
8260A/B	1,2,4-TRIMETHYLBENZENE	0.000688	0.00206	0.000642	0.000388	0.00158	0.0501	0.0291	0.000359	<0.0012	0.000897	0.00209	0.002	0.000803	0.000798	0.00143	0.000384	0.00197	0.00214	0.000586	0.00144	<0.00126	0.00223	0.00145	0.0165	0.00128	<0.00115	0.00134	<0.0302	0.00216	<0.0296	0.00365	0.00451
8260A/B	1,3,5-TRIMETHYLBENZENE	<0.0012	0.000873	0.00036	<0.0011	0.000543	0.0204	0.0127	<0.00114	<0.0012	0.000354	0.000686	0.000734	0.000361	0.000311	0.000463	<0.00116	0.000689	0.000697	<0.00157	0.000605	<0.00126	0.000681	<0.00107	0.00582	<0.00113	<0.00115	<0.00108	<0.00122	0.000674	<0.0296	0.00132	0.0015
8260A/B	XYLENES, TOTAL	0.00237	0.00518	0.00224	0.00119	0.0054	0.178	0.396	0.000986	<0.00361	0.00411	0.00593	0.00417	0.00255	0.00252	0.00494	0.00143	0.00656	0.00718	0.00268	0.00376	<0.00378	0.00557	<0.00321	0.0317	0.00344	<0.00344	0.00385	<0.00366	0.00672	<0.0889	0.00679	0.00709
Semi-Volatile Organic Compounds																																	
8270C	ACENAPHTHENE	<0.0401	<0.0374	<0.0389	0.0184	<0.0407	<0.208	<0.0394	<0.0379	<0.0398	<0.0407	<0.0402	<0.0377	<0.0378	<0.0378	<0.0388	<0.0391	<0.0355	<0.0364	<1.03	<0.0395	<0.0416	<0.0389	<0.353	<0.036	<0.0373	<0.0378	<0.0356	<0.0403	<0.0392	<0.0395		
8270C	ACENAPHTHYLENE	<0.0401	<0.0374	<0.0389	0.0151	<0.0407	<0.208	<0.0394	<0.0379	<0.0398	<0.0407	<0.0402	<0.0377	<0.0378	<0.0378	<0.0388	<0.0391	<0.0355	<0.0364	<1.03	<0.0395	<0.0416	<0.0389	<0.353	<0.036	<0.0373	<0.0378	<0.0356	<0.0403	<0.0392	<0.0395		
8270C	ANTHRACENE	<0.0401	<0.0374	<0.0389	0.0168	<0.0407	<0.208	<0.0394	<0.0379	<0.0398	<0.0407	<0.0402	<0.0377	<0.0378	<0.0378	<0.0388	<0.0391	<0.0355	<0.0364	<1.03	<0.0395	<0.0416	<0.0389	<0.353	<0.036	<0.0373	<0.0378	<0.0356	<0.0403	<0.0392	<0.0395		
8270C	BENZO(A)ANTHRACENE	<0.0401	0.0115	0.00626	0.0736	<0.0407	<0.208	<0.0394	0.0203	<0.0398	<0.0407	<0.0402	<0.0377	0.0146	<0.0378	<0.0388	<0.0391	<0.0355	<0.0364	1.53	<0.0395	0.00908	<0.0389	<0.353	<0.036	<0.0373	<0.0378	<0.0356	0.00929	<0.0392	<0.0395		
8270C	BENZO(B)FLUORANTHENE	<0.0401	0.0166	0.0107	0.0951	<0.0407	<0.208	<0.0394	0.0273	<0.0398	<0.0407	<0.0402	<0.0377	0.0244	<0.0378	<0.0388	<0.0391	<0.0355	<0.0364	2.97	<0.0395	0.0156	<0.0389	<0.353	<0.036	<0.0373	<0.0378	<0.0356	0.0151	<0.0392	<0.0395		
8270C	BENZO(K)FLUORANTHENE	<0.0401	<0.0374	<0.0389	0.0196	<0.0407	<0.208	<0.0394	0.00689	<0.0398	<0.0407	<0.0402	<0.0377	0.0104	<0.0378	<0.0388	<0.0391	<0.0355	<0.0364	1.14	<0.0395	<0.0416	<0.0389	<0.353	<0.036	<0.0373	<0.0378	<0.0356	<0.0403	<0.0392	<0.0395		
8270C	BENZO(G,H,I)PERYLENE	<0.0401	<0.0374	<0.0389	0.044	<0.0407	<0.208	<0.0394	0.0126	<0.0398	0.0149	<0.0402	<0.0377	0.0201	<0.0378	<0.0388	<0.0391	<0.0355	<0.0364	0.813	<0.0395	<0.0416	<0.0389	<0.353	<0.036	<0.0373	<0.0378	<0.0356	<0.0403	<0.0392	<0.0395		
8270C	DIBENZOFURAN	<0.404	<0.377	0.00794	0.141	<0.411	<2.1	<0.398	0.0239	<0.401	<0.411	<0.405	0.0063	<0.382	<0.382	<0.391	<0.394	<0.359	<0.367	<10.4	<0.399	<0.419	<0.392	<3.56	<0.363	<0.376	<0.382	<0.36	<0.406	<0.396	<0.399		
8270C	BENZO(A)PYRENE	<0.0401	0.0122	0.00695	0.0484	<0.0407	<0.208	<0.0394	0.0167	<0.0398	0.00863	<0.0402	<0.0377	0.0236	<0.0378	<0.0388	<0.0391	<0.0355	<0.0364	1.97	<0.0395	0.00999	<0.0389	<0.353	<0.036	<0.0373	<0.0378	<0.0356	0.00904	<0.0392	<0.0395		
8270C	CHRYSENE	<0.0401	0.0136	<0.0389	0.129	<0.0407	<0.208	<0.0394	0.0249	<0.0398	<0.0407	<0.0402	<0.0377	0.0179	<0.0378	<0.0388	<0.0391	<0.0355	<0.0364	1.63	<0.0395	0.01	<0.0389	<0.353	<0.036	<0.0373	<0.0378	<0.0356	0.00932	<0.0392	<0.0395		
8270C	DIBENZ(A,H)ANTHRACENE	<0.0401	<0.0374	<0.0389	0.0207	<0.0407	<0.208	<0.0394	<0.0379	<0.0398	<0.0407	<0.0402	<0.0377	<0.0378	<0.0378	<0.0388	<0.0391	<0.0355	<0.0364	0.41	<0.0395	<0.0416	<0.0389	<0.353	<0.036	<0.0373	<0.0378	<0.0356	<0.0403	<0.0392	<0.0395		
8270C	N-NITROSODIPHENYLAMINE	<0.404	<0.377	<0.392	<0.368	<0.411	<2.1	<0.398	<0.382	<0.401	0.00904	<0.405	<0.381	<0.382	<0.382	<0.391	<0.394	<0.359	<0.367	<10.4	<0.399	<0.419	<0.392	<3.56	<0.363	<0.376	<0.382	<0.36	<0.406	<0.396	<0.399		
8270C	BENZYLBUTYL PHTHALATE	<0.404	<0.377	<0.392	<0.368	<0.411	<2.1	<0.398	<0.382	<0.401	<0.411	<0.405	<0.381	<0.382	<0.382	<0.391	<0.394	<0.359	<0.367	<10.4	<0.399	<0.419	<0.392	9.64	<0.363	<0.376	<0.382	<0.36	<0.406	<0.396	<0.399		
8270C	FLUORANTHENE	<0.0401	0.0187	0.00885	0.125	<0.0407	<0.208	<0.0394	0.0316	<0.0398	<0.0407	<0.0402	0.00818	0.0177	<0.0378	<0.0388	<0.0391	<0.0355	<0.0364	2.87	<0.0395	0.0192	<0.0389	<0.353	0.0519	<0.0373	<0.0378	<0.0356	0.0166	<0.0392	<0.0395		
8270C	FLUORENE	<0.0401	<0.0374	<0.0389	0.0341	<0.0407	<0.208	<0.0394	<0.0379	<0.0398	<0.0407	<0.0402	<0.0377	<0.0378	<0.0378	<0.0388	<0.0391	<0.0355	<0.0364	<1.03	<0.0395	<0.0416	<0.0389	<0.353	<0.036	<0.0373	<0.0378	<0.0356	<0.0403	<0.0392	<0.0395		
8270C	BIS(2-ETHYLHEXYL)PHTHALATE	<0.404	0.0182	<0.392	<0.368	<0.411	0.229	<0.398	<0.382	<0.401	0.915	<0.405	<0.381	0.0223	<0.382	<0.391	<0.394	<0.359	<0.367	<10.4	<0.399	<0.419	<0.392	<3.56	1.01	<0.376	<0.382	<0.36	<0.406	<0.396	0.0155		
8270C	DI-N-BUTYL PHTHALATE	<0.404	<0.377	<0.392	<0.368	<0.411	<2.1	<0.398	<0.382	<0.401	<0.411	<0.405	<0.381	<0.382	<0.382	<0.391	<0.394	<0.359	<0.367	<10.4	<0.399	<0.419	<0.392	<3.56	<0.363	<0.376	<0.382	<0.36	<0.406	<0.396	<0.399		
8270C	DIETHYL PHTHALATE	<0.404	0.00929	<0.392	<0.368	<0.411	<2.1	<0.398	<0.382	<0.401	<0.411	<0.405	<0.381	<0.382	<0.382	<0.391	<0.394	<0.359	<0.367	<10.4	<0.399	<0.419	<0.392	<3.56	<0.363	<0.376	<0.382	<0.36	<0.406	<0.396	<0.399		
8270C	DI-N-OCTYL PHTHALATE	<0.404	<0.377	<0.392	<0.368	<0.411	<2.1	<0.398	<0.382	<0.401	<0.411	<0.405	<0.381	<0.382	<0.382	<0.391	<0.394	<0.359	<0.367	<10.4	<0.399	<0.419	<0.392	<3.56	<0.363	<0.376	<0.382	<0.36	<0.406	<0.396	<0.399		
8270C	INDENO(1,2,3-CD)PYRENE	<0.0401	<0.0374	<0.0389	0.028	<0.0407	<0.208	<0.0394	0.0105	<0.0398	<0.0407	<0.0402	<0.0377	0.015	<0.0378	<0.0388	<0.0391	<0.0355	<0.0364	0.857	<0.0395	<0.0416	<0.0389	<0.353	<0.036	<0.0373	<0.0378	<0.0356	<0.0403	<0.0392	<0.0395		
8270C	NAPHTHALENE	<0.0401	<0.0374	0.0263	0.31	<0.0407	<0.208	<0.0394	0.0677	<0.0398	<0.0407	<0.0402	0.0179	<0.0378	<0.0378	0.0114	<0.0391	<0.0355	<0.0364	<1.03	<0.0395	<0.0416	<0.0389	<0.353	0.0871	<0.0373	<0.0378	<0.0356	<0.0403	<0.0392	<0.0395		
8270C	4-CHLORO-3-METHYLPHENOL	<0.404	<0.377	<0.392	<0.368	<0.411	<2.1	<0.398	<0.382	<0.401	<0.411	<0.405	<0.381	<0.382	<0.382	<0.391	<0.394	<0.359	<0.367	<10.4	<0.399	<0.419	<0.392	<3.56	<0.363	<0.376	<0.382	<0.36	<0.406	<0.396	<0.399		
8270C	PHENANTHRENE	<0.0401	0.0171	0.0192	0.4	<0.0407	<0.208	<0.0394	0.0549	<0.0398	<0.0407	<0.0402	0.0159	0.0159	<0.0378	<0.0388	<0.0391	<0.0355	<0.0364	0.812	<0.0395	0.0121	<0.0389	<0.353	0.0422	<0.0373	<0.0378	<0.0356	0.00997	<0.0392	<0.0395		
8270C	PHENOL	<0.404	<0.377	<0.392	<0.368	<0.411	<2.1	<0.398	<0.382	<0.401	<0.411	<0.405	<0.381	<0.382	<0.382	<0.391	<0.394	<0.359	<0.367	<10.4	<0.399	<0.419	<0.392	<3.56	<0.363	<0.376	<0.382	<0.36	<0.406	<0.396	<0.399		
8270C	PYRENE	<0.0401	0.0177	<0.0389	0.0957	<0.0407	<0.208	<0.0394	0.0295	<0.0398	<0.0407	<0.0402	<0.0377	0.0168	<0.0378	<0.0388	<0.0391	<0.0355	<0.0364	2.16	<0.0395	<0.0416	<0.0389	<0.353	0.0476	<0.0373	<0.0378	<0.0356	<0.0403	<0.0392	<0.0395		
8270C	3&4-METHYL PHENOL	<0.404	0.0437	<0.392	0.00977	<0.411	<2.1	<0.398	<0.382	<0.401	<0.411	<0.405	<0.381	0.0112	<0.382	<0.391	<0.394	<0.359	<0.367	<10.4	<0.399	<0.419	<0.392	<3.56	<0.363	<0.376	<0.382	<0.36	<0.406	<0.396	<0.399		
Polychlorinated Biphenyls																																	
8082	PCB 1260																							<0.0182	<0.0185	<0.0192	<0.0195	<0.0184				<0.0189	<0.0196
Polynuclear Aromatic Hydrocarbons																																	
8270C-SIM	ANTHRACENE																															0.00179	<0.00691
8270C-SIM	ACENAPHTHENE																															<0.00667	<0.00691
8270C-SIM	ACENAPHTHYLENE																															<0.00667	<0.00691
8270C-SIM	BENZO(A)ANTHRACENE																															0.00896	<0.00691
8270C-SIM	BENZO(A)PYRENE																															0.00908	<0.00691
8270C-SIM	BENZO(B)FLUORANTHENE																															0.0158	0.000797
8270C-SIM	BENZO(G,H,I)PERYLENE																															0.00928	<0.00691
8270C-SIM	BENZO(K)FLUORANTHENE																															0.00585	<0.00691
8270C-SIM	CHRYSENE																															0.0182	0.00116
8270C-SIM	DIBENZ(A,H)ANTHRACENE																															0.0027	<0.00691
8270C-SIM	FLUORANTHENE																															0.019	<0.00691
8270C-SIM	FLUORENE																															0.000752	<0.00691
8270C-SIM	INDENO(1,2,3-CD)PYRENE																															0.0073	<0.00691
8270C-SIM	NAPHTHALENE																															0.0225	0.00344
8270C-SIM	PHENANTHRENE																															0.0244	0.00351
8270C-SIM	PYRENE																															0.0179	0.00116
8270C-SIM	1-METHYLNAPHTHALENE																															0.031	0.00295
8270C-SIM	2-METHYLNAPHTHALENE																															0.0376	0.00314

Notes:
All values are mg/kg.

		IA-G	Off Property West in Old Dubiin Road ROW	OC-4	OC-4
		MW-18		MW-17	MW-16
		2-4		2-4	0-2
		03/20/2017		03/20/2017	03/20/2017
		L897155-09		L897155-08	L897155-07
Method	Analyte	Result		Result	Result
2540 G-201	TOTAL SOLIDS	**95**		**81.2**	**90.5**
RCRA Metals					
6010B	ARSENIC	**3.52**		**11.8**	**9.12**
6010B	BARIUM	**222**		**220**	**325**
6010B	CADMIUM	<0.526		**0.67**	<0.553
6010B	CHROMIUM	**6.05**		**12.4**	**10.4**
6010B	LEAD	**10.1**		**56.5**	**20.6**
6010B	SILVER	<1.05		<1.23	<1.11
7471A	MERCURY	<0.0211		**0.0688**	<0.0221
Total Petroleum Hydrocarbons					
8015B	TPHG C6 - C12	**0.206**		**0.265**	**28.3**
8015B	C10-C20 HYDROCARBONS	**27.5**		**6.19**	**1560**
8015B	C20-C34 HYDROCARBONS	**54.6**		**34.6**	**4070**
Volatile Organic Compounds					
8260A/B	ACETONE	<0.0526		<0.0616	<1.38
8260A/B	ACRYLONITRILE	<0.0105		<0.0123	<0.276
8260A/B	BENZENE	<0.00105		**0.00176**	<0.0276
8260A/B	N-BUTYLBENZENE	<0.00105		<0.00123	<0.0276
8260A/B	SEC-BUTYLBENZENE	<0.00105		<0.00123	<0.0276
8260A/B	TERT-BUTYLBENZENE	<0.00105		<0.00123	<0.0276
8260A/B	CHLOROBENZENE	<0.00105		<0.00123	<0.0276
8260A/B	CHLOROFORM	<0.00263		<0.00308	<0.0691
8260A/B	1,2-DICHLOROBENZENE	<0.00105		<0.00123	<0.0276
8260A/B	1,3-DICHLOROBENZENE	<0.00105		<0.00123	<0.0276
8260A/B	1,4-DICHLOROBENZENE	<0.00526		<0.00616	<0.138
8260A/B	DICHLORODIFLUOROMETHANE	<0.00105		<0.00123	<0.0276
8260A/B	1,1-DICHLOROETHANE	<0.00105		<0.00123	<0.0276
8260A/B	1,1-DICHLOROETHENE	<0.00105		<0.00123	<0.0276
8260A/B	CIS-1,2-DICHLOROETHENE	<0.00105		<0.00123	<0.0276
8260A/B	TRANS-1,2-DICHLOROETHENE	<0.00105		<0.00123	<0.0276
8260A/B	ETHYLBENZENE	<0.00105		**0.00132**	<0.0276
8260A/B	N-HEXANE	<0.0105		**0.0152**	<0.276
8260A/B	ISOPROPYLBENZENE	<0.00105		<0.00123	<0.0276
8260A/B	P-ISOPROPYLTOLUENE	<0.00105		<0.00123	<0.0276
8260A/B	2-BUTANONE (MEK)	<0.0105		<0.0123	<0.276
8260A/B	4-METHYL-2-PENTANONE (MIBK)	<0.0105		<0.0123	<0.276
8260A/B	NAPHTHALENE	<0.00526		<0.00616	**35.8**
8260A/B	N-PROPYLBENZENE	<0.00105		<0.00123	<0.0276
8260A/B	TETRACHLOROETHENE	<0.00105		<0.00123	<0.0276
8260A/B	TOLUENE	<0.00526		<0.00616	<0.138
8260A/B	1,2,3-TRICHLOROBENZENE	<0.00105		<0.00123	<0.0276
8260A/B	1,2,4-TRICHLOROBENZENE	<0.00105		<0.00123	<0.0276
8260A/B	TRICHLOROETHENE	<0.00105		<0.00123	<0.0276
8260A/B	TRICHLOROFLUOROMETHANE	<0.00526		<0.00616	<0.138
8260A/B	1,2,4-TRIMETHYLBENZENE	<0.00105		<0.00123	**1.07**
8260A/B	1,3,5-TRIMETHYLBENZENE	<0.00105		<0.00123	**0.655**
8260A/B	XYLENES, TOTAL	<0.00316		<0.0037	**0.681**
Semi-Volatile Organic Compounds					
8270C	ACENAPHTHENE	<0.0347		<0.0813	**24**
8270C	ACENAPHTHYLENE	<0.0347		**0.18**	**67.7**
8270C	ANTHRACENE	<0.0347		**0.148**	**101**
8270C	BENZO(A)ANTHRACENE	<0.0347		**0.677**	**130**
8270C	BENZO(B)FLUORANTHENE	<0.0347		**1.04**	**139**
8270C	BENZO(K)FLUORANTHENE	<0.0347		**0.324**	**51.4**
8270C	BENZO(G,H,I)PERYLENE	<0.0347		**0.25**	**58.9**
8270C	DIBENZOFURAN	<0.351		<0.82	<92
8270C	BENZO(A)PYRENE	<0.0347		**0.708**	**117**
8270C	CHRYSENE	<0.0347		**0.784**	**113**
8270C	DIBENZ(A,H)ANTHRACENE	<0.0347		<0.0813	**16.8**
8270C	N-NITROSODIPHENYLAMINE	<0.351		<0.82	<92
8270C	BENZYLBUTYL PHTHALATE	<0.351		<0.82	<92
8270C	FLUORANTHENE	<0.0347		**1.7**	**358**
8270C	FLUORENE	<0.0347		<0.0813	**111**
8270C	BIS(2-ETHYLHEXYL)PHTHALATE	<0.351		<0.82	<92
8270C	DI-N-BUTYL PHTHALATE	<0.351		<0.82	<92
8270C	DIETHYL PHTHALATE	<0.351		<0.82	<92
8270C	DI-N-OCTYL PHTHALATE	<0.351		<0.82	<92
8270C	INDENO(1,2,3-CD)PYRENE	<0.0347		**0.263**	**54.6**
8270C	NAPHTHALENE	<0.0347		<0.0813	**175**
8270C	4-CHLORO-3-METHYLPHENOL	<0.351		<0.82	<92
8270C	PHENANTHRENE	**0.0638**		**0.77**	**395**
8270C	PHENOL	<0.351		<0.82	<92
8270C	PYRENE	<0.0347		**1.14**	**229**
8270C	364-METHYL PHENOL	<0.351		<0.82	<92
Polychlorinated Biphenyls					
8082	PCB 1260	**0.0435**		<0.0209	<0.0188
Polynuclear Aromatic Hydrocarbons					
8270C-SIM	ANTHRACENE				
8270C-SIM	ACENAPHTHENE				
8270C-SIM	ACENAPHTHYLENE				
8270C-SIM	BENZO(A)ANTHRACENE				
8270C-SIM	BENZO(A)PYRENE				
8270C-SIM	BENZO(B)FLUORANTHENE				
8270C-SIM	BENZO(G,H,I)PERYLENE				
8270C-SIM	BENZO(K)FLUORANTHENE				
8270C-SIM	CHRYSENE				
8270C-SIM	DIBENZ(A,H)ANTHRACENE				
8270C-SIM	FLUORANTHENE				
8270C-SIM	FLUORENE				
8270C-SIM	INDENO(1,2,3-CD)PYRENE				
8270C-SIM	NAPHTHALENE				
8270C-SIM	PHENANTHRENE				
8270C-SIM	PYRENE				
8270C-SIM	1-METHYLNAPHTHALENE				
8270C-SIM	2-METHYLNAPHTHALENE				

Notes:
All values are mg/kg.

GEOTECHNICAL
CONSULTANTS INC.

EXHIBIT 5

MARBLE CLIFF QUARRY PH II ASSESSMENT LOCATIONS

EXHIBIT 5

0 300 600 1200 Feet
1:500

EXISTING WATER BODY
PROPERTY BOUNDARY
TEST PIT (EXPLORATORY)
TEST PIT (EXPLORATORY)
TEST PIT (NO SOLID WASTE VISIBLE)
TEST PIT (SOLID WASTE VISIBLE)
SOIL BORE (GEOTECHNICAL)
SOIL BORE (NON-CONTAMINATED)
SOIL BORE (CONTAMINATED)
GROUND WATER MONITORING WELL

DUBLIN ROAD
TRABUE ROAD
SCIOTO RIVER

MB-68
TPH-GRO 2,750 ppm @ 5-6 ft bgs

MW-11
Arsenic 77 ppm @ 8-10 ft bgs

SB-84
Arsenic 87 ppm @ 5-6 ft bgs

SB-92
Benzoapyrene 1.97 ppm @ 0-2 ft bgs

MB-70
Lead 766 ppm @ 2-4 ft bgs

GEOTECHNICAL
CONSULTANTS INC.

EXHIBIT 6

				Lab Sample ID	L851198-01	L904183-03	L851198-02	L904183-04	L851600-04	L904391-01	L851600-01	L904183-02	L851600-02	L904391-02	L851600-03	L904183-01	L903036-04	L903945-01	L903334-02	L903334-01	L903036-02	L903036-03	L903945-02	L903945-03	L903036-01
				Client Sample ID	MW-1		MW-3		MW-4		MW-6		MW-7		MW-8		MW-9	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18
				Date Collected	08/02/2016	04/20/2017	08/02/2016	04/20/2017	08/04/2016	04/21/2017	08/03/2016	04/20/2017	08/03/2016	04/21/2017	08/04/2016	04/20/2017	04/13/2017	04/19/2017	04/17/2017	04/17/2017	04/13/2017	04/13/2017	04/19/2017	04/19/2017	04/13/2017
Method	Analyte	Units	VAP UPUS		Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
	METALS																								
6010B	ALUMINUM	ug/l	NA			42.3		55.6	49.1	204	<200	59.8	<200	85.5	<200	66.2	391	<200	<200	<200	57.7	55.3	162	<200	180
6010B	ARSENIC	ug/l	10	10.4		28																			
6010B	BARIUM	ug/l	2000	92.8	78.9	712	576	272	239	170	234	100	102	109	107	1440	508	139	92.5	59.4	126	56.2	95.4	34.6
6010B	CADMIUM	ug/l	5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	4.46	<2	<2	<2	<2	<2	<2	<2	<2
6010B	CHROMIUM	ug/l	100	<10	<10	1.66	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	13.2	<10	<10	<10	1.44	<10	<10	<10	<10
6010B	COBALT	ug/l	4.7		<10		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	38.8	7.76	<10	<10	<10	<10	<10	<10	<10
6010B	LEAD	ug/l	15	<5	<5	<5	<5	<5	6.02	<5	2.48	<5	<5	2.32	<5	<5	82.8	3.1	<5	<5	2.83	<5	2.14	<5	<5
6010B	NICKEL	ug/l	300		<10		5.74	28.6	6.26	8.25	5.68	<10	<10	<10	<10	<10	80.5	20.8	5	20	<10	<10	10.6	13.4	7.09
6010B	SELENIUM	ug/l	50	<10	<10	<10	<10	<10	<10	<10	14.3	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
6010B	VANADIUM	ug/l	63		<20		2.66	<20	<20	<20	<20	<20	<20	<20	<20	3.32	<20	<20	<20	4.42	<20	<20	<20	<20	<20
6010B	ZINC	ug/l	4700		<50		<50	<50	8.67	1370	12	<50	<50	<50	<50	7.51	400	12.8	12.2	26.9	<50	9.85	7.25	<50	12.6
6020	ANTIMONY	ug/l	6		<2		0.827	1.17	<2	1.29	<2	1.22	<2	0.944	<2		66.8	1.14	<2	<2	<2	5.91	1.46	0.901	<2
6020	ARSENIC	ug/l	10		4.21		4.35	1.62	0.637	<2	<2	<2	0.328	0.323	0.497		25.7	16.2	<10	<10	0.295	0.378	0.497	0.308	0.359
6020	THALLIUM	ug/l	2		<2		<2	<2	<2	0.356	0.397	<2	<2	<2	<2	<2	<2	0.271	<2	0.197	<2	<2	<2	<2	0.239
7470A	MERCURY	ug/l	2	<0.2	<0.2	<0.2	<0.2	0.0848	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	VOCs																								
8260B	BENZENE	ug/l	5	<1	<1	3.65	2.4	<1	<1	<1	<1	<1	<1	<1	<1	<1	269	<1	<1	<1	<1	<1	<1	<1	<1
8260B	N-BUTYLBENZENE	ug/l	780	<1	<1	<1	0.379	<1	<1	<1	<1	<1	<1	<1	<1	<1	12.5	<1	<1	<1	<1	<1	<1	<1	<1
8260B	SEC-BUTYLBENZENE	ug/l	1600	<1	<1	<1	0.413	<1	<1	<1	<1	<1	<1	<1	<1	<1	15.7	<1	<1	<1	<1	<1	<1	<1	<1
8260B	CHLOROBENZENE	ug/l	100	<1	<1	10.3	7	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1
8260B	CHLOROETHANE	ug/l	21000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	17	<5	<5	<5	<5	<5	<5	<5	<5
8260B	CHLOROMETHANE	ug/l	190	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	4.84	<2.5	<2.5	<2.5	0.42	0.423	<2.5	<2.5	0.415
8260B	1,2-DICHLOROBENZENE	ug/l	600	<1	<1	0.503	0.702	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1
8260B	1,4-DICHLOROBENZENE	ug/l	75	<1	<1	2.53	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	0.872	<1	<1	<1	<1	<1	<1	<1
8260B	1,1-DICHLOROETHANE	ug/l	24	<1	<1	0.27	<1	0.34	<1	0.588	0.592	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1
8260B	CIS-1,2-DICHLOROETHENE	ug/l	70	<1	<1	151	5.27	1.18	<1	<1	<1	<1	<1	<1	<1	<1	11.3	<1	<1	<1	<1	<1	<1	<1	<1
8260B	TRANS-1,2-DICHLOROETHENE	ug/l	100	<1	<1	1.26	0.584	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1
8260B	1,2-DICHLOROPROPANE	ug/l	5	<1	<1	0.514	0.409	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1
8260B	DI-ISOPROPYL ETHER	ug/l	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	23.2	<1	<1	<1	<1	<1	<1	<1	<1
8260B	ETHYLBENZENE	ug/l	700	<1	<1	5.27	2.52	<1	<1	<1	<1	<1	<1	<1	<1	<1	670	<1	<1	<1	<1	<1	<1	<1	<1
8260B	ISOPROPYLBENZENE	ug/l	390	<1	<1	0.687	0.804	<1	<1	<1	<1	<1	<1	<1	<1	<1	57	<1	<1	<1	<1	<1	<1	<1	<1
8260B	P-ISOPROPYLTOLUENE	ug/l	170	<1	<1	6.2	1.76	<1	<1	<1	<1	<1	<1	<1	<1	<1	10.3	<1	<1	<1	<1	<1	<1	<1	<1
8260B	2-BUTANONE (MEK)	ug/l	4900	<10	<10	15.1	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	407	<10	<10	<10	<10	<10	<10	<10	<10
8260B	4-METHYL-2-PENTANONE (MIBK)	ug/l	1000	<10	<10	2.82	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	638	<10	<10	<10	<10	<10	<10	<10	<10
8260B	NAPHTHALENE	ug/l	1.4	<5	<5	3.34	3.88	<5	<5	<5	<5	<5	<5	<5	<5	<5	29.5	2.08	<5	<5	<5	<5	<5	<5	<5
8260B	N-PROPYLBENZENE	ug/l	530	<1	<1	0.716	1.08	<1	<1	<1	<1	<1	<1	<1	<1	<1	69.7	<1	<1	<1	<1	<1	<1	<1	<1
8260B	TETRACHLOROETHENE	ug/l	5	<1	<1	<1	<1	0.432	0.691	0.996	0.84	<1	<1	<1	<1	<1	<10	<1	1.03	<1	<1	<1	<1	<1	<1
8260B	TOLUENE	ug/l	1000	<5	<1	15.6	1.86	<5	<1	<5	<1	<5	<1	<5	<1	<5	2750	<1	<1	<1	<1	<1	<1	<1	<1
8260B	TRICHLOROETHENE	ug/l	5	<1	<1	<1	<1	0.595	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1
8260B	TRICHLOROFLUOROMETHANE	ug/l	1100	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	7.78	<5	<5	<5	<5	<5	<5	<5
8260B	1,2,4-TRIMETHYLBENZENE	ug/l	15	<1	<1	1.84	0.992	<1	<1	<1	<1	<1	<1	<1	<1	<1	339	<1	<1	<1	<1	<1	<1	<1	<1
8260B	1,3,5-TRIMETHYLBENZENE	ug/l	51	<1	<1	0.549	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	79.7	<1	<1	<1	<1	<1	<1	<1	<1
8260B	VINYL CHLORIDE	ug/l	2	<1	<1	52.3	4.19	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1
8260B	XYLENES, TOTAL	ug/l	10000	<3	<3	8.71	2.49	<3	<3	<3	<3	<3	<3	<3	<3	<3	4760	<3	<3	<3	<3	<3	<3	<3	<3
	SVOCs																								
8270C	BENZO(G,H,I)PERYLENE	ug/l	470	0.182		<0.2		<0.2		<0.2		<0.2		<0.2											
8270C	BENZO(A)PYRENE	ug/l	0.2	0.156		<0.2		<0.2		<0.2		<0.2		<0.2											
8270C	BIS(2-ETHYLHEXYL)PHTHALATE	ug/l	6	0.792	<3.15	0.91	0.872	<3	<2.86	<3	<2.86	<3	<2.86	<3	<3.15	35.8	<2.86	<3	<3	<3	<3.33	<2.86	<3	0.79
8270C	DI-N-BUTYL PHTHALATE	ug/l	670	0.474	<3.15	1.27	0.419	<3	<2.86	<3	<2.86	0.532	<2.86	0.699	<3.15	26.4	<2.86	<3	<3	<3	<3.33	<2.86	<3	<3
8270C	DIETHYL PHTHALATE	ug/l	11000	<3	<3.15	7.36	2.04	<3	0.29	<3	<2.86	<3	<2.86	<3	0.331	<3	0.835	<3	<3	<3	<3	<3.33	<2.86	<3	<3
8270C	DI-N-OCTYL PHTHALATE	ug/l	160	<3	<3.15	<3	<3	<3	<2.86	<3	<2.86	<3	<2.86	<3	<3.15	30.2	<2.86	<3	<3	<3	<3.33	<2.86	<3	<3
8270C	NAPHTHALENE	ug/l	1.4	<1		2.6		<1		<1		<1		<1											
8270C	2,4-DIMETHYLPHENOL	ug/l	270	<10	<10.5	0.683	<10	<10	<9.52	<10	<9.52	<10	<9.52	<10	<10.5	16.3	<9.52	<10	<10	<10	<11.1	<9.52	<10	<10
8270C	2-METHYLPHENOL	ug/l	720	<10	<10.5	0.338	<10	<10	<9.52	<10	<9.52	<10	<9.52	<10	<10.5	10.2	<9.52	<10	<10	<10	<11.1	<9.52	<10	<10
8270C	3&4-METHYL PHENOL	ug/l	720	<10	<10.5	149	4.07	<10	<9.52	<10	<9.52	<10	<9.52	<10	<10.5	69	<9.52	<10	<10	<10	<11.1	<9.52	<10	<10
8270C	PHENOL	ug/l	4500	<10	<10.5	10.1	1.23	13.2	<9.52	<10	<9.52	<10	2.02	<10	<10.5	231	0.813	<10	<10	<10	<11.1	<9.52	0.865	<10	
	PAHs																								
8270C-SIM	ANTHRACENE	ug/l	1300	<0.05	<0.05	0.0284	0.0193	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8270C-SIM	ACENAPHTHENE	ug/l	400	<0.05	<0.05	0.036	0.0544	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	0.0106	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8270C-SIM	ACENAPHTHYLENE	ug/l	390	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	25.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8270C-SIM	BENZO(A)ANTHRACENE	ug/l	0.92	<0.05	<0.05	0.00442	<0.05	0.015	<0.05	0.0144	<0.05	0.0146	<0.05	0.0157	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8270C-SIM	BENZO(A)PYRENE	ug/l	0.2	<0.05	<0.05	<0.05	<0.05	0.0142	<0.05	<0.05	<0.05	0.0121	0.117	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8270C-SIM	BENZO(B)FLUORANTHENE	ug/l	0.92	0.0023	<0.05	0.00214	<0.05	0.0123	<0.05	0.0105	<0.05	0.0117	<0.05	0.015	<0.05	<0.05	<0.05	<0.05	<0.05	0.0034	0.00324	<0.05	0.00714	<0.05	<0.05
8270C-SIM	BENZO(G,H,I)PERYLENE	ug/l	470	<0.05	<0.05	<0.05	<0.05	0.0116	<0.05	0.0112	<0.05	0.0121	<0.05	0.0136	<0.05	<0.05	0.00285	<0.05	<0.05	<0.05	<0.05	<0.05	0.00461	<0.05	<0.05
8270C-SIM	CHRYSENE	ug/l	92	<0.05	<0.05	<0.05	<0.05	0.0129	<0.05	0.0126	<0.05	0.0133	<0.05	0.0145	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8270C-SIM	DIBENZ(A,H)ANTHRACENE	ug/l	0.092	<0.05	<0.05	<0.05	<0.05	0.0104	<0.05	0.00975	<0.05	0.0107	<0.05	0.0111	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8270C-SIM	FLUORANTHENE	ug/l	630	<0.05	<0.05	<0.05	0.0211	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.0213	<0.05	<0.05	<0.05
8270C-SIM	FLUORENE	ug/l	220	<0.05	<0.05	0.0417	0.0608	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.231	0.0106	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8270C-SIM	NAPHTHALENE	ug/l	1.4	0.034	0.0217	2.66	3.5	0.0415	0.0335	0.0261	0.0281	0.0911	0.0201	0.0383	0.0347	25.7	0.0247	0.0314	0.0527	0.0873	0.0248	<0.25	<0.25	0.0729
8270C-SIM	PHENANTHRENE	ug/l	3400	<0.05	<0.05	0.0275	0.0688	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.00945	<0.05	0.009	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8270C-SIM	PYRENE	ug/l	87	<0.05	<0.05	<0.05	0.0123	0.0151	<0.05	0.0136	<0.05	0.0142	<0.05	0.0165	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.0226	<0.05	<0.05	<0.05
8270C-SIM	1-METHYLNAPHTHALENE	ug/l	9.7	<0.25	<0.25	0.253	0.344	0.0115	0.00957	<0.25	<0.25	0.0251	<0.25	0.0085	<0.25	1.9	0.011	0.00951	0.0178	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
8270C-SIM	2-METHYLNAPHTHALENE	ug/l	27	<0.25	<0.25	0.183	0.101	0.0135	0.0155	<0.25	0.0114	0.0306	<0.25	0.013	0.0113	2.07	<0.25	0.00985	0.012	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
8270C-SIM	2-CHLORONAPHTHALENE	ug/l	550	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<5	0.0176	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25

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EXHIBIT 7

Exhibit 7

EXISTING WATER BODY
PROPERTY BOUNDARY
GROUND WATER MONITORING WELL

UPUS (ppb)

Antimony	6
Arsenic	10
Cobalt	4.7
Lead	15
Naphthalene	1.4
Toluene	1000
124-Trimethylbenzene	15
135-Trimethylbenzene	51
Vinyl Chloride	2
bis-2-ethylhexylphthalate	6

DUBLIN ROAD
TRABUE ROAD
SCIOTO RIVER

Water Elevation 708.0±
Water Elevation 570.0± Actively Dewatered
Water Elevation 727.9±
Water Elevation 719.5±

MW-16 796.72
MW-17 794.51
MW-1 776.76 777.31
MW-14 762.05
MW-15 750.58
MW-9 771.45
MW-7 728.59 728.16
MW-4 725.09 726.09
MW-18 769.25
MW-11 726.38
MW-13 722.85
MW-3 745.13 745.05
MW-12 720.39
MW-8 720.48 722.50
MW-6 720.91 724.28
MW-10 dry
MW-5 719.68 724.99

MW-9
Antimony 66.8 ppb
Arsenic 25.7 ppb
Cobalt 38.8 ppb
Lead 82.8 ppb
Benzene 269 ppb
Naphthalene 29.5 ppb
Toluene 2750 ppb
124-Trimethylbenzene 339 ppb
135-Trimethylbenzene 339 ppb
Bis-2-ethylhexylphthalate 35.8 ppb

MW-9
Arsenic 16.2 ppb
Cobalt 7.76 ppb
Naphthalene 2.08 ppb

MW-3
Naphthalene 3.88 ppb
Vinyl Chloride 4.19 ppb

North
0 250 500
Scale in Feet

Legend
700 *December 2015 Ground Water Contour*
700 *April 2017 Ground Water Contour*

Pond water elevations by others

MARBLE CLIFF QUARRY
COLUMBUS, OHIO

Geotechnical Consultants, Inc. • 720 Greencrest Drive • Westerville, Ohio 43081 • 614-895-1400 • FAX 614-895-1171

GEOTECHNICAL
CONSULTANTS INC.

EXHIBIT 8

Exhibit 8

EXISTING WATER BODY
PROPERTY BOUNDARY
GROUND WATER MONITORING WELL

DUBLIN ROAD
TRABUE ROAD
SCIOTO RIVER

Water Elevation 708.0±
Water Elevation 570.0± Actively Dewatered
Water Elevation 727.9±
Water Elevation 719.5±

MW-16 796.72
MW-17 794.51
MW-1 776.76 777.3
MW-14 762.05
MW-15 750.58
MW-9 771.45
MW-7 728.59 728.16
MW-4 725.09 726.09
MW-18 769.25
MW-11 726.38
MW-13 722.85
MW-3 745.13 745.05
MW-12 720.39
MW-8 720.48 722.50
MW-6 720.9 724.28
MW-10 dry
MW-5 719.68 724.99

745 755 765 775 735 725 760 770 740 730 750

North

0 250 500
Scale in Feet

Legend

700 *December 2015 Ground Water Contour*
700 *April 2017 Ground Water Contour*

Pond water elevations by others

MARBLE CLIFF QUARRY
COLUMBUS, OHIO

Geotechnical Consultants, Inc.•720 Greencrest Drive•Westerville, Ohio 43081•614-895-1400•FAX 614-895-1171

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EXHIBIT 9

MARBLE CLIFF QUARRY PH II ASSESSMENT LOCATIONS

EXHIBIT 9

0 300 600 1200 Feet
1:500

- EXISTING WATER BODY
- PROPERTY BOUNDARY
- TEST PIT (EXPLORATORY)
- TEST PIT (EXPLORATORY)
- TEST PIT (NO SOLID WASTE VISIBLE)
- TEST PIT (SOLID WASTE VISIBLE)
- SOIL BORE (GEOTECHNICAL)
- SOIL BORE (NON-CONTAMINATED)
- SOIL BORE (CONTAMINATED)
- GROUND WATER MONITORING WELL

VISL Target (ug/M3)

Benzene	120
1,4-Dichlorobenzene	85
Ethylbenzene	374
Tetrachloroethene	1390
Trichloroethene	70
124-Trimethylbenzene	243

DUBLIN ROAD

TRABUE ROAD

SCIOTO RIVER

VW-13
1,4-Dichlorobenzene 385
Ethylbenzene 1500
124-Trimethylbenzene 1330

MP-5
Tetrachloroethene 4220
Trichloroethene 106

GEOTECHNICAL
CONSULTANTS INC.

EXHIBIT 10

Exhibit 10
Soil Vapor Results
MC Quarry

	Lab Sample ID:	L913407-09	L913407-10	L913407-15	L913407-12	L913407-02	L913407-01	L913407-13	L913407-14	L913407-05	L913407-08	L913407-07	L913407-03	L913407-06	L913407-04	L913407-11	L913407-20	L913407-18	L913407-19	L913407-17	L913407-16
	GCI Sample ID:	VW-5	VW-7	VW-8	VW-9	VW-11	VW-13	VW-15	VW-17	VW-18	VW-21	VW-22	VW-24	VW-26	VW-28	VW-29	MP-4	MP-5	MP-6	MP-7	MP-11
	Date Collected:	05/31/2017	05/31/2017	06/01/2017	05/31/2017	05/31/2017	05/31/2017	06/01/2017	06/01/2017	05/31/2017	05/31/2017	05/31/2017	05/31/2017	05/31/2017	05/31/2017	05/31/2017	06/01/2017	06/01/2017	06/01/2017	06/01/2017	06/01/2017
Analyte	VISL Target, Residential	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
1,3,5-TRIMETHYLBENZENE	NA	<0.982	<0.982	<0.982	**238**	<0.982	**342**	<0.982	<0.982	<0.982	<0.982	<0.982	<0.982	<0.982	<0.982	**2.17**	<0.982	<0.982	<0.982	<0.982	<0.982
ACETONE	1077619	**25.8**	**40.3**	<2.97	**14.6**	**3.54**	<74.1	**45.5**	**11.9**	**23.3**	**18.2**	**7.03**	**3.64**	**16.1**	**3.16**	**202**	**3.38**	**4.22**	**13.5**	<2.97	**26.8**
BENZENE	120	<0.639	<0.639	<0.639	**118**	<0.639	**81.3**	<0.639	<0.639	<0.639	<0.639	<0.639	<0.639	<0.639	<0.639	**1.71**	<0.639	<0.639	**6.81**	<0.639	<0.639
BROMOMETHANE	174	<0.776	<0.776	<0.776	<0.776	<0.776	<19.4	<0.776	<0.776	<0.776	<0.776	<0.776	<0.776	<0.776	<0.776	<0.776	<0.776	<0.776	<0.776	<0.776	**1.11**
CARBON DISULFIDE	24333	**3.18**	**3.83**	<0.622	**1.83**	**3.64**	<15.6	<0.622	**0.913**	**10.8**	**2.12**	**1.49**	**6.25**	**1.11**	**2.43**	**2.51**	**16.2**	**0.848**	**0.741**	<0.622	<0.622
CARBON TETRACHLORIDE	156	<1.26	<1.26	<1.26	<1.26	<1.26	<31.5	<1.26	<1.26	<1.26	<1.26	<1.26	<1.26	**18.4**	<1.26	<1.26	<1.26	<1.26	<1.26	<1.26	<1.26
CHLOROBENZENE	1738	<0.924	<0.924	<0.924	**27.1**	**1.48**	**1210**	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924
CHLOROETHANE	NA	<0.528	<0.528	<0.528	**122**	<0.528	**395**	<0.528	<0.528	<0.528	<0.528	<0.528	<0.528	<0.528	<0.528	<0.528	<0.528	<0.528	<0.528	<0.528	<0.528
CHLOROFORM	41	<0.973	<0.973	<0.973	<0.973	<0.973	<24.3	<0.973	<0.973	<0.973	<0.973	<0.973	<0.973	**3.29**	<0.973	<0.973	<0.973	**1.39**	**5.06**	**4.62**	<0.973
CHLOROMETHANE	3129	**0.682**	**0.995**	<0.413	<0.413	<0.413	<10.3	**0.715**	<0.413	**1.05**	<0.413	<0.413	**1.2**	<0.413	<0.413	**1.81**	**0.64**	<0.413	**0.557**	<0.413	**1.19**
1,2-DICHLOROBENZENE	6952	<1.2	<1.2	<1.2	<1.2	<1.2	**418**	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,4-DICHLOROBENZENE	85	<1.2	<1.2	<1.2	**74.9**	**1.68**	**385**	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	**5.01**	<1.2	<1.2
1,1-DICHLOROETHANE	585	<0.802	<0.802	<0.802	**143**	**4.76**	<20	<0.802	<0.802	<0.802	<0.802	<0.802	<0.802	<0.802	<0.802	<0.802	<0.802	<0.802	**1.36**	<0.802	<0.802
1,1-DICHLOROETHENE	6952	<0.793	<0.793	<0.793	**3.98**	<0.793	<19.8	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793
CIS-1,2-DICHLOROETHENE	NA	<0.793	<0.793	<0.793	**33.3**	<0.793	**21.4**	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	**3.83**	**346**	**1.12**	<0.793
TRANS-1,2-DICHLOROETHENE	NA	**1.39**	**1.33**	<0.793	**30.2**	<0.793	**23.6**	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	**4.45**	<0.793	**1.6**	**187**	**1.09**	<0.793
1,4-DIOXANE	187	<0.721	**5.27**	<0.721	<0.721	<0.721	<18	<0.721	<0.721	**1.5**	<0.721	<0.721	<0.721	<0.721	<0.721	<0.721	<0.721	**1.52**	<0.721	<0.721	**2.23**
ETHANOL	NA	**24.3**	**36.9**	**2.31**	**18**	**4.7**	<29.8	**48**	**10.7**	**4.47**	**17.4**	**3.21**	**15.4**	**5.82**	<1.19	**133**	**4.05**	**4.31**	**7.65**	**6.49**	**26.4**
ETHYLBENZENE	374	<0.867	**1.07**	<0.867	**253**	**1.8**	**1500**	**1.71**	<0.867	<0.867	<0.867	<0.867	<0.867	<0.867	<0.867	**10.5**	<0.867	<0.867	<0.867	<0.867	<0.867
TRICHLOROFLUOROMETHANE	NA	**2**	**1.82**	**1.77**	**3**	**185**	<28.1	**2.11**	**7.36**	**378**	**2.46**	**25.9**	**1.76**	**478**	**275**	**1.71**	<1.12	**5.22**	**1.45**	**3.99**	**3.35**
DICHLORODIFLUOROMETHANE	3476	**4.61**	**20.9**	**2.35**	**945**	**151**	**765**	**5.64**	**5.05**	**1540**	**5.26**	**29.7**	**1.59**	**82.5**	**74.4**	**2.8**	**7.09**	**4.12**	**115**	**2.85**	**17.7**
N-HEXANE	24333	**0.987**	**1.3**	<0.705	**458**	<0.705	**599**	**2.17**	<0.705	<0.705	**0.82**	**1.18**	<0.705	<0.705	**2.64**	**11.3**	**23.1**	<0.705	**0.943**	<0.705	**1.05**
ISOPROPYLBENZENE	13905	<0.983	<0.983	<0.983	**128**	<0.983	**406**	<0.983	<0.983	<0.983	<0.983	<0.983	<0.983	<0.983	<0.983	<0.983	<0.983	<0.983	<0.983	<0.983	<0.983
METHYLENE CHLORIDE	20857	**1.17**	**1.77**	<0.694	**13.3**	<0.694	<17.4	**1.14**	<0.694	<0.694	**1.14**	<0.694	<0.694	<0.694	<0.694	**8.99**	<0.694	<0.694	**1.22**	<0.694	**0.878**
2-BUTANONE (MEK)	173810	**9.48**	**15.1**	<3.69	<3.69	<3.69	<92	**29.1**	**5.01**	**3.8**	**12.2**	<3.69	<3.69	<3.69	<3.69	**126**	<3.69	<3.69	<3.69	<3.69	**14.7**
4-METHYL-2-PENTANONE (MIBK)	104286	<5.12	<5.12	<5.12	<5.12	<5.12	<128	<5.12	<5.12	<5.12	<5.12	<5.12	<5.12	<5.12	<5.12	**6.52**	<5.12	<5.12	<5.12	<5.12	<5.12
STYRENE	34762	<0.851	**0.866**	<0.851	<0.851	<0.851	<21.3	**0.914**	<0.851	<0.851	<0.851	<0.851	<0.851	<0.851	<0.851	**9.82**	<0.851	<0.851	<0.851	<0.851	<0.851
TETRACHLOROETHENE	1390	**2.72**	**13.4**	**260**	**73.5**	**122**	<33.9	**3.23**	<1.36	**34.1**	**2.35**	**44.2**	**4.03**	**140**	**25.6**	**12.2**	<1.36	**4220**	**116**	**731**	**24.3**
TOLUENE	173810	**33**	**33.6**	<0.753	**84.9**	<0.753	**124**	**70.9**	**10.8**	<0.753	**31.3**	<0.753	<0.753	<0.753	<0.753	**416**	<0.753	<0.753	**6.37**	<0.753	**36.8**
1,1,1-TRICHLOROETHANE	173810	<1.09	<1.09	<1.09	**5.21**	**78.8**	<27.2	**3.61**	<1.09	<1.09	<1.09	**1.17**	<1.09	**7.03**	**1.55**	<1.09	<1.09	**1.94**	<1.09	**1.44**	<1.09
TRICHLOROETHENE	70	<1.07	<1.07	<1.07	**46.8**	**2.63**	**59.1**	<1.07	<1.07	<1.07	<1.07	<1.07	<1.07	**1.98**	<1.07	<1.07	<1.07	**106**	**28.4**	**6.65**	<1.07
VINYL ACETATE	6952	<0.704	<0.704	<0.704	<0.704	<0.704	<17.6	<0.704	<0.704	<0.704	<0.704	<0.704	<0.704	<0.704	<0.704	**1.6**	<0.704	<0.704	<0.704	<0.704	<0.704
VINYL CHLORIDE	56	<0.511	<0.511	<0.511	**29.3**	<0.511	**53.9**	<0.511	<0.511	<0.511	<0.511	<0.511	<0.511	<0.511	<0.511	<0.511	<0.511	<0.511	**5.65**	<0.511	<0.511
M&P-XYLENE	3476	**2.02**	**2.7**	<1.73	**2660**	**2.1**	**2110**	**10.7**	<1.73	<1.73	<1.73	<1.73	<1.73	<1.73	<1.73	**26.6**	<1.73	<1.73	<1.73	<1.73	**2.42**
O-XYLENE		<0.867	**1.07**	<0.867	**85.8**	<0.867	**223**	**1.8**	<0.867	<0.867	<0.867	<0.867	<0.867	<0.867	**0.886**	**10**	<0.867	<0.867	<0.867	<0.867	**0.96**
1,2,4-TRIMETHYLBENZENE	243	<0.982	**1.41**	<0.982	**177**	**1.96**	**1330**	**1.66**	<0.982	<0.982	<0.982	<0.982	<0.982	<0.982	<0.982	**6.18**	<0.982	<0.982	<0.982	<0.982	<0.982

Notes: all values are ug/M3
VISL Target: US EPA Vapor Intrusion Screening Level
Table displays compounds detected in soil vapor samples.

GEOTECHNICAL
CONSULTANTS INC.

EXHIBIT 11

RAP EXHIBIT 11

MARBLE CLIFF QUARRY PROPERTY

2650 DUBLIN RD., COLUMBUS, FRANKLIN COUNTY, OHIO

PRELIMINARY IMPLEMENTATION SCHEDULE

		2018												2019											
TASK	**DURATION**	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**
Clearing	6 weeks	■	■																						
Site Preparation/Grading	14 weeks		■	■	■	■																			
Dynamic Compaction	50 weeks				■	■	■	■	■	■	■	■	■	■	■	■	■								
Cap Placement	78 weeks						■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Confirmatory Sampling for VAP Certified Lab Analysis	8 weeks																						■	■	
Ground Water Evaluation	4 weeks													■											
Vapor Mitigation Installations where needed	Future Construction																								
Remediation Report	8 weeks																■	■							
Phase I Property Assessment Amendment	4 weeks																	■							
Final Phase II Property Assessment	16 weeks																	■	■	■	■				
Risk Mitigation Plan	4 weeks																				■				
Environmental Covenant	4 weeks																				■				
O&M Plan	8 weeks																						■	■	
O&M Agreement	4 weeks																								■
VAP NFA Letter	8 weeks																						■	■	