

To:  
Grant Trigger

Copies:  
File

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From:  
Buick City Team

Date:  
February 3, 2023

Arcadis Project No.:  
30121887

Subject:  
Building 04 Tracer Injection Test Update  
RACER Buick City Site

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On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, Arcadis of Michigan, LLC (Arcadis) has prepared this summary of the work performed to date in accordance with the *Building 04 Tracer Injection Test Work Plan* dated March 16, 2022 at the Buick City Site (the Site) in Flint, Michigan (**Figure 1**).

The scope of work included installation of injection wells and dose response wells, baseline groundwater sampling of dose response wells and drift wells, tracer injection test equipment set-up, baseline tracer sampling, tracer injection testing, tracer injection monitoring, and continued tracer monitoring and sampling over an estimated six-to-eight-month period, which will be adjusted based on data collected during the drift phase.

Four injection wells were installed prior to beginning the tracer injection test. Two shallow/deep injection well pairs were installed in separate boreholes in the two areas shown on **Figure 2**. The layout of the injection well network is shown in **Figure 3**.

Three phases of the tracer injection test were proposed in the original work plan.

- Phase 1 - push-pull test.
- Phase2 - injection portion of the tracer injection test.

- Phase 3 post-injection monitoring portion of the tracer injection test.

The Phase I push-pull test was cancelled after additional information was obtained indicating that dye is not recommended to perform this type of test. The Phase 2 portion was completed and is described below. The Phase 3 portion is currently active. In addition to these, an injection rate test was performed in June 2022 to select the appropriate pressures and estimate injection volumes in preparation for Phase 2.

### Well Installation

The injection wells were installed using a combination of rotary sonic and mud rotary where subsurface conditions allowed. The wells were constructed in an 8-inch diameter borehole using 4-inch diameter Schedule 80 polyvinyl chloride (PVC) casing with 5-foot wire-wrapped 0.010-inch slotted stainless steel screens. The filter sand pack extended 2 feet above the top of the screen, with a minimum of 1-foot of 00 “choker” sand above the filter sand pack. Neat cement grout was placed above the choker sand to ground surface when conditions allowed. The screen intervals are shown on **Table 1** below. The boring logs are included as **Attachment A**.

Dose response wells were installed upgradient and downgradient of the injection wells in a radial pattern at a range of 5 to 15 feet from the injection well. These wells were constructed of 2-inch diameter Schedule 40 PVC casing with 5-foot long 0.010-inch slotted PVC screens.

Locations of the dose response wells are shown on **Figure 3**. The dose response wells are summarized in **Table 1** below. Drift wells were located downgradient of the injection wells and dose response wells and were selected from existing temporary and permanent monitoring wells in approximately the same depth intervals and the similar lithology (permeable soil) as the injection wells. Relevant boring logs are included as **Appendix A**.

**Table 1: Injection, Dose Response and Drift Wells**

Injection Well	Dose Response Wells	Drift Wells
IW-04-01(7-12)	MW-04-150(8-13), MW-04-151(4-9), MW-04-152(4-9)	SB-04-59(4-9); SB-04-60(4-9) SB-04-25(4-9); SB-04-26(5-10); SB-04-28(5-10); SB-04-81(5-10)
IW-04-02(15-20)	MW-04-150(19-24), MW-04-151(15-20), MW-04-152(15-20)	SB-04-59(12-17); SB-04-60(15-20); SB-04-25(12-17); SB-04-61(11-16); SB-04-28(15-20); SB-04-160(15-22); SB-04-81(19-24); SB-04-49(6.5-11.5)

IW-04-03(4-9)	MW-04-156(9-14), 10), SB-04-5(8-13)	MW-04-157(5- 10)	SB-04-17(5-10); SB-04-34(4-9); SB-04-48(7-12) SB- 04-50(4-9); SB-04-19(8-13); SB-04-47(4-9); SB-04- 18(5-10); 04-04(2.5-12.5); SB-04-20(10-15); SB-04- 46(4-9)
IW-04-04(20-25)	MW-04-156(20-25), 25), SB-04-51(17-22)	MW-04-157(20- 25)	SB-04-17(19-24); SB-04-34(18-23); SB-04-48(20- 25); SB-04-50(15-20); SB-04-47(14-19); SB-04- 49(20-25); SB-04-18(16-21); SB-04-64(19-24)

ft – feet  
bgs -below ground surface

### Baseline Groundwater Sampling and Monitoring

Baseline groundwater monitoring was conducted at all newly installed dose response wells, injection wells, and the existing monitoring wells selected for drift observation. Each baseline groundwater sample was analyzed for PFAS and for each tracer used in the area. Low flow pumping tests were conducted in a subset of existing drift wells in 2021 and the results were used to estimate hydraulic conductivity.

### Injection Rate Test

The injection rate test was completed in June 2022. Each injection well received approximately 60 gallons of clean water from the City of Flint. Each well was injected under pressure, to a maximum injection pressure of 5 pounds per square inch (PSI). Flow totalizer readings were used to verify the gallons injected. Water level data was collected from the three dose response wells associated with each injection area. At each dose response well, water levels were taken before, midway, and after injection. The data was used to calculate the optimal injection pressures to use at each injection well during the dye injection.

### Dye Injection

The following dyes were used during the dye injection (Phase 2):

- **Tracer Injection (shallow)** – Fluorescein was used at the shallow wells in both areas.
- **Tracer injection (deep)** – Rhodamine was used at the deep wells in both areas.

The well column within a dose response well was mixed prior to collecting grab groundwater samples using a bailer and compared visually in the field to a set of serial dilutions to bias which samples were sent to Ozark Underground Laboratory for analysis. In addition to composite grab groundwater samples for tracer evaluation, field parameters (specifically pH, specific conductivity, oxidation reduction potential, dissolved oxygen, and temperature) and manual depths to water were measured during the injection.

Injection in the deep wells (IW-04-02 and IW-04-04) started on September 21, 2022. On September 29 the rhodamine dye was observed in the shallow injection wells. At the time it was first observed in the shallow injection wells, it had not yet been observed in any of the deep dose-response wells. It was concluded that due to site conditions, “short-circuiting” of the dye upward into the shallow wells had occurred. On October

5 the dyed water was observed daylighting near both deep injection wells and injection was stopped. Approximately 1500 gallons had been injected into both wells under approximately 5 psi pressure. It was determined the best path forward was to abandon both of the deep injection wells prior to beginning the injection at the shallow wells. This was communicated to EGLE on October 17, 2022. Both deep injection wells were abandoned by over-drilling and were tremie-grouted to the ground surface.

Injection at the two shallow injection wells (IW-04-01 and IW-04-03) began on October 31 and continued until November 23. Approximately 4000 gallons were injected into IW-04-01 and 3000 gallons were injected into IW-04-03. Injection pressures were kept at 2 psi or lower.

On November 2, 2022, the City of Flint excavated an area near sanitary sewer manhole MH H-1A in Hamilton Ave, adjacent to the tracer test injection site. They were observed placing an unknown quantity of fluorescein dye into the excavation.

### **Drift Phase Monitoring (Phase 3)**

Drift phase monitoring began in December 2022. Carbon samplers were placed at Outfall 010 and 011 storm sewers, and sanitary sewer manhole MH H to capture any potential breakthrough of dye into the sewers. These are being changed out every two weeks and sent to Ozark Underground Laboratory for analysis. However, the addition of the same dye type by the City adjacent to the sanitary sewer means that it will not be possible to attribute any detections of fluorescein dye in the sewers to the tracer test.

Monitoring of a subset of the drift wells is occurring on a bi-weekly basis. Samples are being submitted for analysis based on visual evidence and estimated arrival times.

Critical components of the post-injection monitoring include capturing the initial arrival of tracer and the potentially asymptotic tail of tracer washout as the injected tracer mass passes through the drift well. Therefore, the timing of the post-injection monitoring must extend long enough to capture the potential asymptotic tail, which could be several months post injection. Current estimates suggest that drift phase monitoring will continue until August 2023.

## **FIGURES**

Figure 1 – Site Location Map

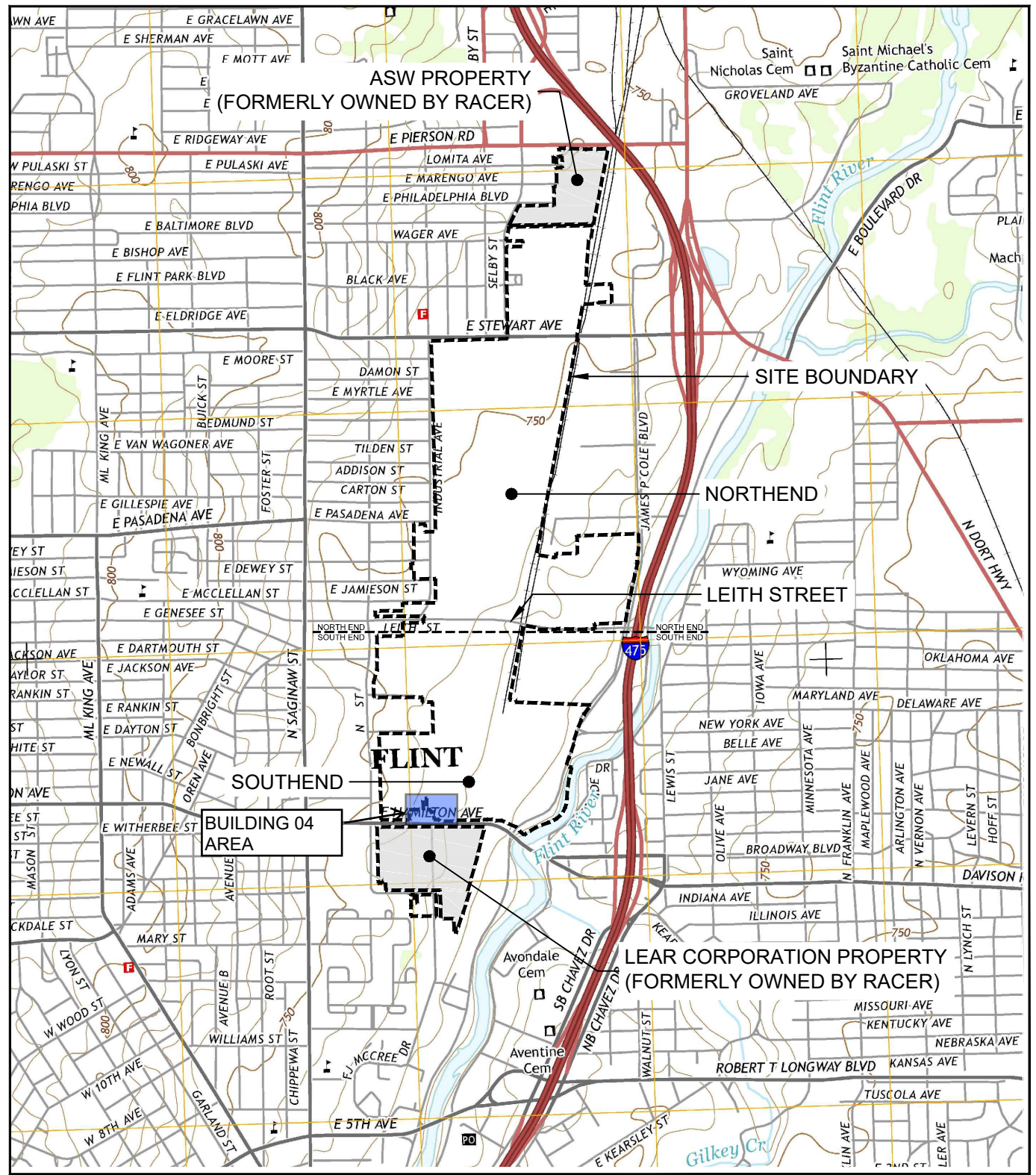
Figure 2 – Tracer Testing Areas

Figure 3 – Tracer Testing Locations

## **ATTACHMENTS**

A – Soil Bring Logs

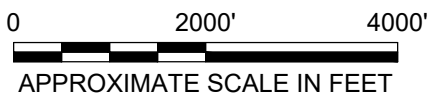
CITY:SYRACUSE-NY DIV:GROUP:ENV DB:A SANCHEZ LD:GMS PIC:CS:PETERS PM:C:KIKER TM:C:KIKER LVR:(P)ON:OFF=REF  
 C:\Users\sanchez01\OneDrive - ARCADIS\BIM\360 Docs\RACER TRUST\12017 Buick City RCRA\20160604\102017\01-DWG\RIBC-F-SITE LOCATION.dwg LAYOUT: 1 SAVED: 4/11/2017 1:35 AM ACADVER: 20.1S (LMS TECH) PAGES: 20 PLOTTED: 1/26/2018 8:52 PM BY: SANCHEZ, ADRIAN



SOURCE: USGS 7.5 MIN., FLINT NORTH QUADRANGLE, FLINT NORTH 2014



AREA LOCATION  
 MICHIGAN



RACER TRUST BUICK CITY FLINT, MICHIGAN	
<b>SITE LOCATION MAP</b>	
	Design & Consultancy for natural and built assets
FIGURE <b>1</b>	



© MICROSOFT CORPORATION © 2021 MAXAR © CNES (2021) DISTRIBUTION AIRBUS DS

**LEGEND:**

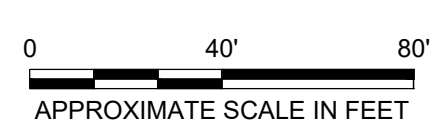
- ▲ SOIL BORING
- ⊗ MONITORING WELL (ACTIVE)
- RACER TRUST PROPERTY
- - - FORMER RACER TRUST PROPERTY



APPROXIMATE GROUNDWATER FLOW DIRECTION



AQUIFER TRACER TEST STUDY AREA



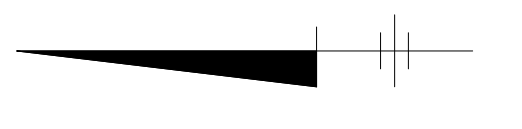
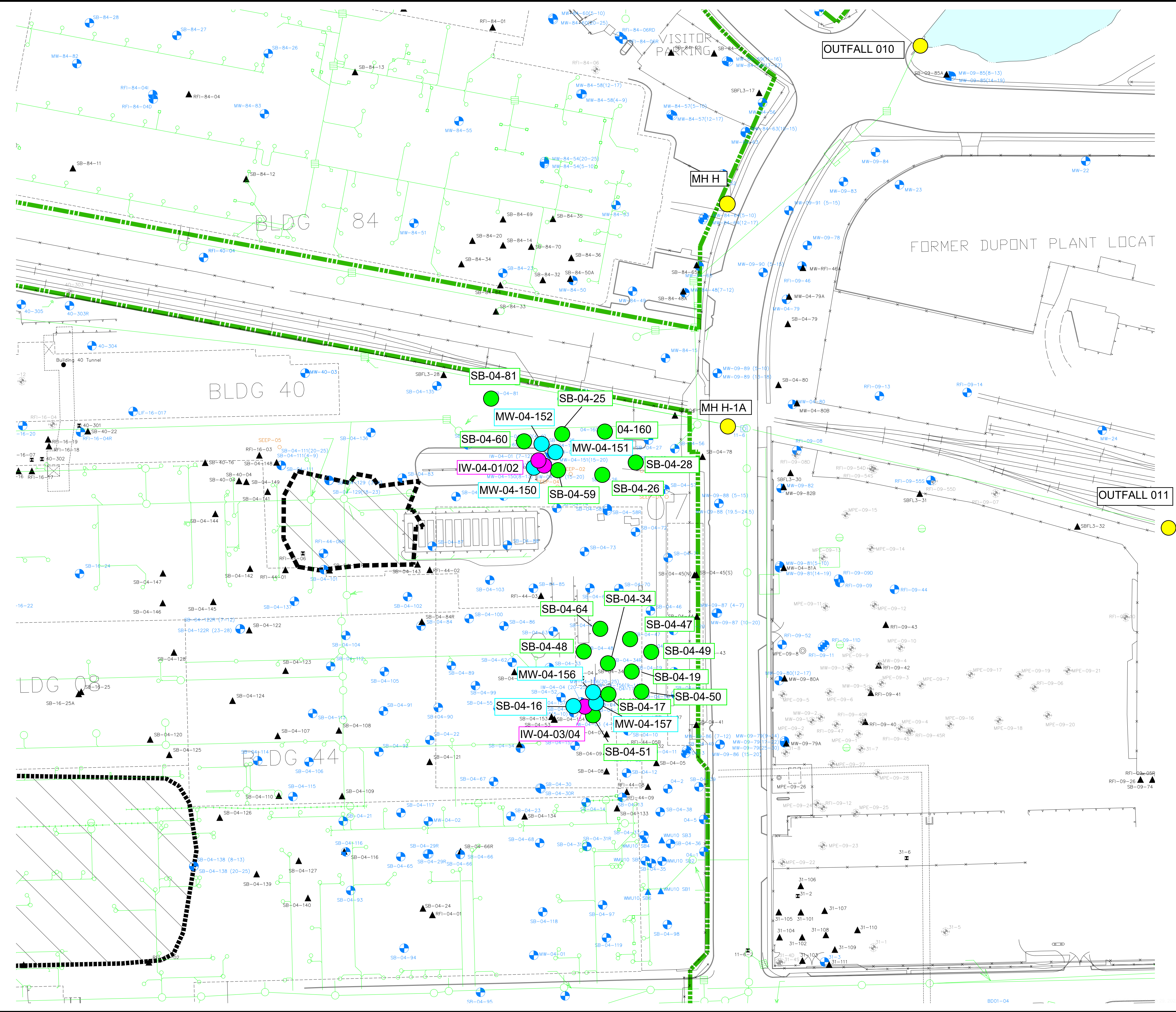
RACER TRUST  
 BUICK CITY  
 FLINT, MICHIGAN

**TRACER TESTING AREAS**



FIGURE  
**2**

C:\Users\rbelander\OneDrive - ARCADIS\BIM 360\Docs\AUS\RACER TRUST\BUICK CITY\FLINT MICHIGAN\DWG\HAMILTON AVE ZOOM.dwg LAYOUT: 1. SAVED: 3/29/2022 11:58 AM ACADVER: 23.1S (LMS TECH) PAGES: 10. PLOTTED: 5/2/2022 1:40 PM BY: OBERLANDER, ROSEANNE



LEGEND:

- ▲ SOIL BORING
- ◉ ABANDONED MONITORING WELL
- MONITORING WELL (ACTIVE)
- ◻ PIEZOMETER
- ◉ RECOVERY WELL
- ◻ OBSERVATION WELL
- ◻ SOIL GAS POINT
- ◻ SUB-SLAB MONITORING POINT
- TRANSECT POINT
- ◉ SURFACE WATER
- ◉ RIVER GAUGE
- ◉ TEST PIT
- ◻ UNABLE TO LOCATE
- STORM SEWER

- INJECTION WELL
- DOSE RESPONSE WELL
- DRIFT WELL
- SEWER MONITORING POINT

0 60' 120'  
APPROXIMATE SCALE IN FEET

RACER TRUST  
BUICK CITY  
FLINT, MICHIGAN

**MONITORING LOCATIONS**

**ARCADIS** Design & Consultancy  
for natural and built assets

FIGURE  
**3**

# Attachment A

## Boring Logs

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 04/05/2022 Logger: M. Olender  
 Project Number: 30121887 Date Completed: 04/05/2022 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 48°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0	(0.0-0.2')	GRASS/TOPSOIL.		
2			60		0.0	(0.2-3.5')	SAND, fine to medium; some coarse sand, subangular to subrounded; little very coarse sand to medium pebbles, subangular to subrounded; little clay (as nodules); poorly sorted; brown (10YR 5/3). FILL.	(0.0-4.0' bgs) Concrete	
3					0.0				
4					0.0	(3.5-4.0')	CONCRETE. Note: Red brick.	(4.0-5.0' bgs) Bentonite	
5					0.0	(4.0-7.0')	CLAY; little silt, medium plasticity, no dilatancy to slow dilatancy; and SAND, very fine to medium; little coarse sand to small pebbles, subangular to subrounded; poorly sorted; moist; medium stiff; very dark brown (10YR 2/2).	(5.0-6.0' bgs) Fine Sand	
6					0.0			(0.0-7.0' bgs) 4" Sch 40 PVC Well Casing (6.0-12.0' bgs) Filter Pack Sand	
7			60		0.0	(7.0-10.0')	SAND, medium to coarse, subangular to subrounded; some very coarse sand to granules, subangular to subrounded; little small to large pebbles, angular to subrounded; poorly sorted; wet; brown (10YR 5/3). Note: Wet from 7.0-12.0' bgs.		
8					0.0				
9					0.0				
10					0.0				
11					0.0	(10.0-11.5')	SILT; some clay, low to medium plasticity, slow dilatancy; little very fine to medium sand; poorly sorted; wet; medium stiff to stiff; gray (10YR 5/1).	(7.0-12.0' bgs) 4" PVC 10-Slot Well Screen	
12			60		0.0	(11.5-12.0')	SILT, low plasticity, rapid dilatancy; wet; medium stiff to stiff; gray (10YR 5/1).		
13					0.0	(12.0-15.0')	CLAY; some silt, medium to high plasticity, no dilatancy; little very fine to medium sand; little granules to medium pebbles, subangular to subrounded; poorly sorted; moist; stiff to very stiff; gray (10YR 5/1).		
14					0.0				
15					0.0				
16					0.0	(15.0-19.0')	SILT, low plasticity, slow to rapid dilatancy; some very fine to medium sand; trace granules to small pebbles, subangular to subrounded; poorly sorted; moist to wet; medium stiff; gray (10YR 5/1). Note: Wet from 15.0-17.0' bgs.	(12.0-25.0' bgs) Bentonite	
17					0.0				
18			60		0.0				
19					0.0				
20					0.0				

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: R. Gordon Sampling Interval: Continuous  
 Drilling Method: Mud Rotary & Sonic Drilling Water Level Start (ft. bgs.): 7.0  
 Drilling Fluid: Water Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; Converted to Well:  Yes  No  
btoc = below top of casing; ft = feet; NM= not measured. Pilot Test location. Mud Rotary was used Surface Elev.: 732.31  
 North Coord.: 560503.21  
 East Coord.: 13305645.46

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 04/05/2022 Logger: M. Olender  
 Project Number: 30121887 Date Completed: 04/05/2022 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 48°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21			60		0.0		(19.0-25.0') CLAY; little silt, medium to high plasticity, no dilatancy; little very fine to medium sand to small pebbles, subangular to subrounded; poorly sorted; dry to moist; very stiff; gray (10YR 5/1).	(12.0-25.0' bgs) Bentonite	
22					0.0				
23					0.0				
24					0.0				
25					0.0				
26							End of this boring location was 12.0' bgs. Lithology presented from 12.0-25.0' bgs is from pilot boring IW-04-02.		
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 04/05/2022 Logger: M. Olender  
 Project Number: 30121887 Date Completed: 04/05/2022 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 48°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
0							(0.0-0.2') GRASS/TOPSOIL.		
1							(0.2-3.5') SAND, fine to medium; some coarse sand, subangular to subrounded; little very coarse sand to medium pebbles, subangular to subrounded; little clay (as nodules); poorly sorted; brown (10YR 5/3). FILL.		
2									
3									
4							(3.5-4.0') CONCRETE. Note: Red brick.	(0.0-4.0' bgs) Concrete	
5							(4.0-7.0') CLAY; little silt, medium plasticity, no dilatancy to slow dilatancy; and SAND, very fine to medium; little coarse sand to small pebbles, subangular to subrounded; poorly sorted; moist; medium stiff; very dark brown (10YR 2/2).		
6									
7									
8							(7.0-10.0') SAND, medium to coarse, subangular to subrounded; some very coarse sand to granules, subangular to subrounded; little small to large pebbles, angular to subrounded; poorly sorted; wet; brown (10YR 5/3). Note: Wet from 7.0-12.0' bgs.		
9									
10									
11							(10.0-11.5') SILT; some clay, low to medium plasticity, slow dilatancy; little very fine to medium sand; poorly sorted; wet; medium stiff to stiff; gray (10YR 5/1).	(11.0-12.0' bgs) Bentonite	
12							(11.5-12.0') SILT, low plasticity, rapid dilatancy; wet; medium stiff to stiff; gray (10YR 5/1).	(12.0-13.0' bgs) Fine Sand	
13							(12.0-15.0') CLAY; some silt, medium to high plasticity, no dilatancy; little very fine to medium sand; little granules to medium pebbles, subangular to subrounded; poorly sorted; moist; stiff to very stiff; gray (10YR 5/1).	(0.0-15.0' bgs) 4" Sch 40 PVC Well Casing (13.0-20.0' bgs) Filter Pack Sand (15.0-20.0' bgs) 4" PVC 10-Slot Well Screen	
14									
15									
16							(15.0-19.0') SILT, low plasticity, slow to rapid dilatancy; some very fine to medium sand; trace granules to small pebbles, subangular to subrounded; poorly sorted; moist to wet; medium stiff; gray (10YR 5/1). Note: Wet from 15.0-17.0' bgs.		
17									
18									
19									
20							(19.0-20.0') CLAY; little silt, medium to high plasticity, no dilatancy; little very fine to medium sand to small pebbles, subangular to subrounded; poorly sorted; dry to moist;		

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: R. Gordon Sampling Interval: Continuous  
 Drilling Method: Mud Rotary & Sonic Drilling Water Level Start (ft. bgs.): 7.0  
 Drilling Fluid: Water Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; Converted to Well:  Yes  No  
btoc = below top of casing; ft = feet; NM= not measured. Pilot Test location. Mud Rotary drilling used to 16.0' bgs. Sonic used from 16.0-20.0' bgs. Surface Elev.: 732.43  
 North Coord.: 560500.67  
 East Coord.: 13305640.28

Mud Rotary kept collapsing.

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 04/05/2022 Logger: M. Olender  
 Project Number: 30121887 Date Completed: 04/05/2022 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 48°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21							very stiff; gray (10YR 5/1). End of boring at 20.0' bgs.	(20.0-25.0' bgs) Bentonite	[REDACTED]
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 04/12/2022 Logger: M. Olender  
 Project Number: 30121887 Date Completed: 04/12/2022 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 63°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					NM		(0.0-2.0') COBBLES, small to large, subangular to subrounded; some medium sand to large pebbles, subangular to subrounded; poorly sorted; dry to moist; light gray (10YR 7/1). FILL. Note: Cobbles are concrete pieces.	(0.0-2.0' bgs) Concrete	
2			45		NM			(2.0-3.0' bgs) Bentonite	
3					0.0		(2.0-5.0') SAND, medium; little coarse sand to medium pebbles, subangular to subrounded; trace medium cobbles, subangular to subrounded; poorly sorted; moist; brown (10YR 5/3). FILL.	(3.0-3.5' bgs) Fine Sand	
4					0.0			(0.0-4.0' bgs) 4" Sch 40 PVC Well Casing (3.5-9.0' bgs) Filter Pack Sand (4.0-9.0' bgs) 4" PVC 10-Slot Well Screen	
5					0.0				
6			60		0.0		(5.0-9.0') SAND, medium; little coarse sand to medium pebbles, subangular to subrounded; little clay (as nodules); little silt; poorly sorted; wet; black (10YR 2/1). FILL. Note: Wet from 5.0-9.0' bgs.		
7					0.0				
8					0.0				
9					0.0				
10					NM		(9.0-11.0') CONCRETE.		
11					NM				
12			60		0.0		(11.0-14.5') CLAY; some silt, medium to high plasticity, no dilatancy; some very fine to medium sand; trace granules to medium pebbles, subangular to subrounded; dry to moist; very stiff; grayish brown (10YR 5/2).		
13					0.0				
14					0.0				
15					0.0		(14.5-17.0') SILT; some clay, low plasticity, rapid dilatancy; little very fine to medium sand; trace small to medium pebbles, subangular to subrounded; poorly sorted; moist; stiff to very stiff; gray (10YR 5/1).	(9.0-25.0' bgs) Bentonite	
16					0.0				
17					0.0				
18			60		0.0		(17.0-20.0') CLAY; some silt, medium to high plasticity, no dilatancy; some very fine to medium sand; trace granules to medium pebbles, subangular to subrounded; dry to moist; very stiff; grayish brown (10YR 5/2).		
19					0.0				
20					0.0				

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: R. Gordon Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): 5.0  
 Drilling Fluid: Water Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; Converted to Well:  Yes  No  
btoc = below top of casing; ft = feet; NM= not measured. Pilot Test location. Unable to hand auger or use mud rotary due to cobbles. Surface Elev.: 734.96  
 North Coord.: 560449.22  
 East Coord.: 13305345.76

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 04/12/2022 Logger: M. Olender  
 Project Number: 30121887 Date Completed: 04/12/2022 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 63°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21			60		0.0		(20.0-25.0') SAND, very fine to medium; some coarse sand to granules; little silt; little small to medium pebbles, subangular to subrounded; poorly sorted; wet; gray (10YR 5/1). Note: Wet from 20.0-25.0' bgs.	(9.0-25.0' bgs) Bentonite	
22					0.0				
23					0.0				
24					0.0				
25					0.0				
26							End of boring location was 9.0' bgs. Lithology presented from 9.0-25.0' bgs is from pilot boring IW-04-04.		
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks:

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# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 04/12/2022 Logger: M. Olender  
 Project Number: 30121887 Date Completed: 04/12/2022 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 63°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1						(0.0-2.0') COBBLES, small to large, subangular to subrounded; some medium sand to large pebbles, subangular to subrounded; poorly sorted; dry to moist; light gray (10YR 7/1). FILL. Note: Cobbles are concrete pieces.			
2						(2.0-5.0') SAND, medium; little coarse sand to medium pebbles, subangular to subrounded; trace medium cobbles, subangular to subrounded; poorly sorted; moist; brown (10YR 5/3). FILL.			
3						(5.0-9.0') SAND, medium; little coarse sand to medium pebbles, subangular to subrounded; little clay (as nodules); little silt; poorly sorted; wet; black (10YR 2/1). FILL. Note: Wet from 5.0-9.0' bgs.			
4									
5									
6									
7									
8								(0.0-16.0' bgs) Concrete	
9						(9.0-11.0') CONCRETE.			
10									
11									
12						(11.0-14.5') CLAY; some silt, medium to high plasticity, no dilatancy; some very fine to medium sand; trace granules to medium pebbles, subangular to subrounded; dry to moist; very stiff; grayish brown (10YR 5/2).			
13									
14									
15						(14.5-17.0') SILT; some clay, low plasticity, rapid dilatancy; little very fine to medium sand; trace small to medium pebbles, subangular to subrounded; poorly sorted; moist; stiff to very stiff; gray (10YR 5/1).		(0.0-20.0' bgs) 4" Sch 40 PVC Well Casing (16.0-17.0' bgs) Bentonite (17.0-18.0' bgs) Fine Sand (18.0-25.0' bgs) Filter Pack Sand	
16									
17									
18						(17.0-20.0') CLAY; some silt, medium to high plasticity, no dilatancy; some very fine to medium sand; trace granules to medium pebbles, subangular to subrounded; dry to moist; very stiff; grayish brown (10YR 5/2).			
19									
20									

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: R. Gordon Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): 5.0  
 Drilling Fluid: Water Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; Converted to Well:  Yes  No  
btoc = below top of casing; ft = feet; NM= not measured. Pilot Test location. Unable to hand Surface Elev.: 734.89  
auger or use mud rotary due to cobbles. North Coor.: 560451.74  
 East Coor.: 13305350.73

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 04/12/2022 Logger: M. Olender  
 Project Number: 30121887 Date Completed: 04/12/2022 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 63°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21							(20.0-25.0') SAND, very fine to medium; some coarse sand to granules; little silt; little small to medium pebbles, subangular to subrounded; poorly sorted; wet; gray (10YR 5/1). Note: Wet from 20.0-25.0' bgs.	(20.0-25.0' bgs) 4" PVC 10-Slot Well Screen	
22									
23									
24									
25									
26							End of boring at 25.0' bgs.		
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# Soil Boring Log

Project Name: RACER Trust - Buick City  
 Project Number: 30121887  
 Project Location: Flint, MI

Date Started: 04/05/2022 Date Completed: 04/05/2022  
 Logger: M. Olender Editor: M. Humphrey  
 Weather Conditions: 39°F, Foggy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1						(0.0-0.5') GRASS/ORGANICS.			
2						(0.5-2.0') GRANULES to large PEBBLES, subangular to subrounded; some small cobbles, subangular to subrounded; little coarse to very coarse sand, subangular to subrounded; poorly sorted; dry to moist; grayish brown (10YR 5/2). FILL.		(0.0-6.0' bgs) Bentonite	
3						(2.0-6.0') CONCRETE.			
4								(0.0-8.0' bgs) 2" Sch 40 PVC Well Casing	
5									
6			156						
7						(6.0-9.5') CLAY; some silt, medium plasticity, no dilatancy; some very fine to medium sand; little coarse sand to medium pebbles, subangular to subrounded; poorly sorted; moist; medium stiff; dark yellowish brown (10YR 3/6).		(6.0-13.0' bgs) Filter Pack Sand	
8									
9									
10						(9.5-11.0') SAND, medium; some coarse sand to granules, subangular to subrounded; little small to large pebbles, subangular to subrounded; poorly sorted; wet; brown (10YR 4/3). Note: Wet from 9.5-12.0' bgs.			
11								(8.0-13.0' bgs) 2" PVC 10-Slot Well Screen	
12						(11.0-12.0') SILT; some clay, low to medium plasticity, slow dilatancy; little very fine to medium sand; poorly sorted; wet; medium stiff to stiff; gray (10YR 5/1).			
13						(12.0-13.0') CLAY; some silt, medium to high plasticity, no dilatancy; little very fine to medium sand; little granules to medium pebbles, subangular to subrounded; poorly sorted; moist; stiff; gray (10YR 5/1).			
14						Location was blind drilled to 13.0' bgs to install a well. Lithology presented here is from soil boring MW-04-150 (19-24).			
15									
16									
17									
18									
19									
20									

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: R. Gordon Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): 9.5  
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; Converted to Well:  Yes  No  
btoc = below top of casing; ft = feet; NM= not measured. Step out location. Well set from 8-13' bgs. Surface Elev.: 733.36  
 North Coord.: 560508.81  
 East Coord.: 13305634.36

# Soil Boring Log

Project Name: RACER Trust - Buick City  
 Project Number: 30121887  
 Project Location: Flint, MI

Date Started: 04/05/2022 Date Completed: 04/05/2022  
 Logger: M. Olender Editor: M. Humphrey  
 Weather Conditions: 39°F, Foggy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0	(0.0-0.5') GRASS/ORGANICS.		(0.0-17.0' bgs) Bentonite	
2			60		0.0	(0.5-2.0') GRANULES to large PEBBLES, subangular to subrounded; some small cobbles, subangular to subrounded; little coarse to very coarse sand, subangular to subrounded; poorly sorted; dry to moist; grayish brown (10YR 5/2). FILL.			
3					0.0	(2.0-6.0') CONCRETE.			
4					0.0			(0.0-19.0' bgs) 2" Sch 40 PVC Well Casing	
6			60		0.0	(6.0-9.5') CLAY; some silt, medium plasticity, no dilatancy; some very fine to medium sand; little coarse sand to medium pebbles, subangular to subrounded; poorly sorted; moist; medium stiff; dark yellowish brown (10YR 3/6).			
7					0.0				
8					0.0			(17.0-25.0' bgs) Filter Pack Sand	
9					0.0	(9.5-11.0') SAND, medium; some coarse sand to granules, subangular to subrounded; little small to large pebbles, subangular to subrounded; poorly sorted; wet; brown (10YR 4/3). Note: Wet from 9.5-12.0' bgs.			
10					0.0	(11.0-12.0') SILT; some clay, low to medium plasticity, slow dilatancy; little very fine to medium sand; poorly sorted; wet; medium stiff to stiff; gray (10YR 5/1).			
11			60		0.0	(12.0-15.0') CLAY; some silt, medium to high plasticity, no dilatancy; little very fine to medium sand; little granules to medium pebbles, subangular to subrounded; poorly sorted; moist; stiff; gray (10YR 5/1).			
12					0.0				
13					0.0				
14					0.0	(15.0-16.0') CLAY; and SILT, medium plasticity, no dilatancy; little very fine to medium sand; trace granules to small pebbles, subangular to subrounded; poorly sorted; moist; stiff; gray (10YR 5/1).			
15					0.0	(16.0-16.5') SILT, low plasticity, rapid dilatancy; moist; stiff; gray (10YR 5/1).			
16					0.0	(16.5-19.0') CLAY; some silt, medium to high plasticity, no dilatancy; little very fine to medium sand; little granules to medium pebbles, subangular to subrounded; poorly sorted; moist; stiff; gray (10YR 5/1).			
17			60		0.0	(19.0-20.0') SILT, low plasticity, slow to rapid dilatancy; some very fine to medium sand; trace granules, subangular to subrounded; moist; medium stiff; gray			
18					0.0				
19					0.0				
20					0.0				

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: R. Gordon Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): 9.5  
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; Converted to Well:  Yes  No  
btoc = below top of casing; ft = feet; NM= not Surface Elev.: 733.36  
measured. Well set from 19-24' bgs, additional well North Coord.: 560507.08  
set in step out location from 8-13' bgs. East Coord.: 13305637.38

# Soil Boring Log

Project Name: RACER Trust - Buick City  
 Project Number: 30121887  
 Project Location: Flint, MI

Date Started: 04/05/2022 Date Completed: 04/05/2022  
 Logger: M. Olender Editor: M. Humphrey  
 Weather Conditions: 39°F, Foggy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21					0.0	(10YR 5/1)	(20.0-22.0') SAND, medium to very coarse, subangular to subrounded; and GRANULES to medium PEBBLES, subangular to subrounded; some large pebbles, subangular to subrounded; little silt; poorly sorted; wet; brown (10YR 5/3).	(19.0-24.0' bgs) 2" PVC 10-Slot Well Screen	
22				0.0					
23				0.0	(22.0-22.5') SILT, low plasticity, slow to rapid dilatancy; some very fine to medium sand; trace granules, subangular to subrounded; wet; medium stiff; gray (10YR 5/1).				
24				0.0	(22.5-25.0') CLAY; little silt, medium to high plasticity, no dilatancy; little very fine sand to granules, subangular to subrounded; trace small to medium pebbles, poorly sorted; dry to moist; very stiff; gray (10YR 5/1).				
25							End of boring at 25.0' bgs.		
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks:

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# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 04/06/2022 Logger: M. Olender  
 Project Number: 30121887 Date Completed: 04/06/2022 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 49°F, Rainy, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1						(0.0-1.0')	CONCRETE.	(0.0-2.0' bgs) Bentonite	
2						(1.0-4.0')	SAND, very fine to medium; some silt; some clay; little coarse sand to medium pebbles, subangular to subrounded; poorly sorted; moist; black (10YR 2/1).	(0.0-4.0' bgs) 2" Sch 40 PVC Well Casing	
3						(4.0-8.0')	SAND, medium to very coarse, subangular to subrounded; some granules; little small to large pebbles; little silt; poorly sorted; wet; brown (10YR 5/3). Note: Wet from 4.0-9.0' bgs.	(2.0-9.0' bgs) Filter Pack Sand	
4			108			(8.0-9.0')	SAND, fine to medium; little coarse sand to granules, subangular to subrounded; poorly sorted; wet; brown (10YR 5/3).	(4.0-9.0' bgs) 2" PVC 10-Slot Well Screen	
5						Location was blind drilled to 9.0' bgs to install a well. Lithology presented here is from soil boring MW-04-151 (15-20).			
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: R. Gordon Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): 4.0  
 Drilling Fluid: Water Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; btoc = below top of casing; ft = feet; NM= not measured. Step out location. Well set from 4-9' bgs. Converted to Well:  Yes  No  
 Surface Elev.: 730.03  
 North Coor.: 560489.65  
 East Coor.: 13305653.29

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 04/06/2022 Logger: M. Olender  
 Project Number: 30121887 Date Completed: 04/06/2022 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 49°F, Rainy, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1						(0.0-1.0')	CONCRETE.	(0.0-2.0' bgs) Bentonite	
2						(1.0-4.0')	SAND, very fine to medium; some silt; some clay; little coarse sand to medium pebbles, subangular to subrounded; poorly sorted; moist; black (10YR 2/1).	(0.0-4.0' bgs) 2" Sch 40 PVC Well Casing	
3						(4.0-8.0')	SAND, medium to very coarse, subangular to subrounded; some granules; little small to large pebbles; little silt; poorly sorted; wet; brown (10YR 5/3). Note: Wet from 4.0-9.0' bgs.	(2.0-9.0' bgs) Filter Pack Sand	
4			108			(8.0-9.0')	SAND, fine to medium; little coarse sand to granules, subangular to subrounded; poorly sorted; wet; brown (10YR 5/3).	(4.0-9.0' bgs) 2" PVC 10-Slot Well Screen	
5						Location was blind drilled to 9.0' bgs to install a well. Lithology presented here is from soil boring MW-04-151 (15-20).			
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: R. Gordon Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): 4.0  
 Drilling Fluid: Water Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; btoc = below top of casing; ft = feet; NM= not measured. Step out location. Well set from 4-9' bgs. Converted to Well:  Yes  No  
 Surface Elev.: 730.03  
 North Coor.: 560489.65  
 East Coor.: 13305653.29

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 04/06/2022 Logger: M. Olander  
 Project Number: 30121887 Date Completed: 04/06/2022 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 49°F, Rainy, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1			12		NM	(0.0-1.0') CONCRETE.			
2			48		0.0	(1.0-4.0') SAND, very fine to medium; some silt; some clay; little coarse sand to medium pebbles, subangular to subrounded; poorly sorted; moist; black (10YR 2/1).	(0.0-13.0' bgs) Bentonite		
3		0.0							
4		0.0							
5			60		0.0	(4.0-8.0') SAND, medium to very coarse, subangular to subrounded; some granules; little small to large pebbles; little silt; poorly sorted; wet; brown (10YR 5/3). Note: Wet from 4.0-9.0' bgs.	(0.0-15.0' bgs) Sch 40 PVC Well Casing		
6		0.0							
7		0.0							
8			60		0.0	(8.0-9.0') SAND, fine to medium; little coarse sand to granules, subangular to subrounded; poorly sorted; wet; brown (10YR 5/3).	(13.0-20.0' bgs) Filter Pack Sand		
9		0.0							
10		0.0							
11			60		0.0	(9.0-12.0') SILT; some clay, low plasticity, rapid dilatancy; little very fine to medium sand; poorly sorted; moist; gray (10YR 5/1).	(15.0-20.0' bgs) 2" PVC 10-Slot Well Screen		
12		0.0							
13		0.0							
14			60		0.0	(12.0-13.0') SILT, low plasticity, rapid dilatancy; moist; stiff; gray (10YR 5/1).			
15		0.0							
16		0.0							
17			60		0.0	(13.0-15.0') CLAY; some silt, medium to high plasticity, no dilatancy; some very fine to medium sand; little coarse sand to medium pebbles, subangular to subrounded; moist; stiff; gray (10YR 5/1).			
18		0.0							
19		0.0							
20		0.0							

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: R. Gordon Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): 4.0  
 Drilling Fluid: Water Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; Converted to Well:  Yes  No  
btoc = below top of casing; ft = feet; NM= not measured. Well set from 15-20' bgs, additional well set in step out location from 4-9' bgs. Surface Elev.: 730.03  
 North Coor.: 560489.00  
 East Coor.: 13305651.60

SOIL BORING LOG - 2013 C:\USERS\HUMPHREY\DESKTOP\NEW BUICK CITY LOGS\BUICK CITY LOGS\BUICK CITY ALL 2022\_011223 LOGS.GPJ ARCADIS\_2013.GDT 11/19/23

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 04/06/2022 Logger: M. Olender  
 Project Number: 30121887 Date Completed: 04/06/2022 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 49°F, Rainy, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21					0.0		(20.0-25.0') CLAY; little silt, medium to high plasticity, no dilatancy; little very fine to medium sand to small pebbles; trace medium to large pebbles, subangular to subrounded; moist; very stiff; gray (10YR 5/1).	(20.0-25.0' bgs) Bentonite	
22					0.0				
23					0.0				
24					0.0				
25					0.0				
26							End of boring at 25.0' bgs.		
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: \_\_\_\_\_

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# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 04/06/2022 Logger: M. Olender  
 Project Number: 30121887 Date Completed: 04/06/2022 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 47°F, Rainy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1						(0.0-1.0') CONCRETE.		(0.0-2.0' bgs) Bentonite	
2						(1.0-3.0') SAND, medium to very coarse, subangular to subrounded; and GRANULES to large PEBBLES, subangular to subrounded; some small to medium cobbles, subangular to subrounded; poorly sorted; moist; black (10YR 2/1).		(0.0-4.0' bgs) 2" Sch 40 PVC Well Casing	
3						(3.0-4.0') CLAY; little silt, medium to high plasticity, no dilatancy to slow dilatancy; and SAND, very fine to medium; little granules to medium pebbles, subangular to subrounded; poorly sorted; moist; black (10YR 5/3).		(2.0-9.0' bgs) Filter Pack Sand	
4			108			(4.0-6.5') SAND, very fine to coarse, subangular to subrounded; little silt; little very coarse sand to granules, subangular to subrounded; trace small to medium pebbles, subangular to subrounded; poorly sorted; wet; brown (10YR 5/3). Note: Wet from 4.0-8.0' bgs.		(4.0-9.0' bgs) 2" PVC 10-Slot Well Screen	
5						(6.5-9.0') CLAY; and SILT, low to medium plasticity, no dilatancy to slow dilatancy; little very fine to medium sand; trace small to medium pebbles, angular to subrounded; poorly sorted; moist to wet; stiff; gray (10YR 5/1).			
6									
7									
8									
9									
10							Location was blind drilled to 9.0' bgs to install a well. Lithology presented here is from soil boring MW-04-152 (15-20).		
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: R. Gordon Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): 4.0  
 Drilling Fluid: Water Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; Converted to Well:  Yes  No  
btoc = below top of casing; ft = feet; NM= not measured. Step out location. Well set from 4-9' bgs. Surface Elev.: 730.06  
 North Coord.: 560500.94  
 East Coord.: 13305661.42

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 04/06/2022 Logger: M. Olender  
 Project Number: 30121887 Date Completed: 04/06/2022 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 47°F, Rainy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					NM	(0.0-1.0')	CONCRETE.	(0.0-13.0' bgs) Bentonite	
2		60		0.0		(1.0-3.0') SAND, medium to very coarse, subangular to subrounded; and GRANULES to large PEBBLES, subangular to subrounded; some small to medium cobbles, subangular to subrounded; poorly sorted; moist; black (10YR 2/1).			
3				0.0		(3.0-4.0') CLAY; little silt, medium to high plasticity, no dilatancy to slow dilatancy; and SAND, very fine to medium; little granules to medium pebbles, subangular to subrounded; poorly sorted; moist; black (10YR 5/3).			
4					0.0		(4.0-6.5') SAND, very fine to coarse, subangular to subrounded; little silt; little very coarse sand to granules, subangular to subrounded; trace small to medium pebbles, subangular to subrounded; poorly sorted; wet; brown (10YR 5/3). Note: Wet from 4.0-8.0' bgs.	(0.0-15.0' bgs) 2" Sch 40 PVC Well Casing	
5				0.0		(6.5-11.0') CLAY; and SILT, low to medium plasticity, no dilatancy to slow dilatancy; little very fine to medium sand; trace small to medium pebbles, angular to subrounded; poorly sorted; moist to wet; stiff; gray (10YR 5/1).			
6		60		0.0		(11.0-13.0') CLAY; some silt, medium to high plasticity, no dilatancy; some very fine to medium sand; trace small to medium pebbles, subangular to subrounded; poorly sorted; moist; stiff; gray (10YR 5/1).			
7					0.0		(13.0-15.0') CLAY; and SILT, low to medium plasticity, no dilatancy to slow dilatancy; little very fine to medium sand; trace small to medium pebbles, angular to subrounded; poorly sorted; moist to wet; stiff; gray (10YR 5/1).	(13.0-20.0' bgs) Filter Pack Sand	
8		60		0.0		(15.0-19.5') SAND, very fine to medium; some coarse to very coarse sand; some silt; little granules to large pebbles, subangular to subrounded; poorly sorted; wet; gray (10YR 5/1). Note: Wet from 15.0-19.5' bgs.			
9				0.0					
10					0.0			(15.0-20.0' bgs) 2" PVC 10-Slot Well Screen	
11				0.0					
12		60		0.0					
13					0.0				
14					0.0				
15					0.0				
16					0.0				
17					0.0				
18					0.0				
19					0.0				
20					0.0				

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: R. Gordon Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): 4.0  
 Drilling Fluid: Water Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; Converted to Well:  Yes  No  
btoc = below top of casing; ft = feet; NM= not Surface Elev.: 730.06  
measured. Well set from 15-20' bgs, additional well North Coord: 560499.65  
set in step out location from 4-9' bgs. East Coord: 13305660.30

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 04/06/2022 Logger: M. Olender  
 Project Number: 30121887 Date Completed: 04/06/2022 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 47°F, Rainy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21			60		0.0		(19.5-25.0') CLAY; little silt, medium to high plasticity, no dilatancy; little very fine to medium sand; trace granules to medium pebbles, subangular to subrounded; dry to moist; very stiff to hard; gray (10YR 5/1).	(20.0-25.0' bgs) Bentonite	
22					0.0				
23					0.0				
24					0.0				
25					0.0				
26							End of boring at 25.0' bgs.		
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks:

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# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 04/07/2022 Logger: M. Olender  
 Project Number: 30121887 Date Completed: 04/07/2022 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 45°F, Partly Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					NM		(0.0-5.0') COBBLES, small to large, subangular to subrounded; some medium to very coarse sand to large pebbles, subangular to subrounded; poorly sorted; moist; grayish brown (10YR 5/2). FILL. Note: Concrete cobbles and pebbles.	(0.0-3.0' bgs) Bentonite	
2				NM					
3		38		NM					
4				NM					
5				NM					
6					NM		(5.0-10.0') SAND, fine to medium; some coarse sand; little silt; little granules to large pebbles, subangular to subrounded; poorly sorted; wet; grayish brown (10YR 5/2). Note: Wet from 5.0-10.0' bgs.	(5.0-10.0' bgs) 2" PVC 10-Slot Well Screen	
7				NM					
8		60		NM					
9				NM					
10				NM					
11					NM		(10.0-13.0') CLAY; and SILT, low to medium plasticity, no dilatancy to slow dilatancy; little very fine to medium sand; little granules to medium pebbles, subangular to subrounded; poorly sorted; dry to moist; stiff; grayish brown (10YR 5/2).	(3.0-12.0' bgs) Filter Pack Sand	
12				NM					
13		60		NM					
14					NM		(13.0-20.0') CLAY; some silt, medium to high plasticity, no dilatancy; little very fine to medium sand; trace granules to medium pebbles, subangular to subrounded; poorly sorted; dry to moist; very stiff; gray (10YR 5/1).	(12.0-25.0' bgs) Bentonite	
15				NM					
16				NM					
17					NM				
18		60		NM					
19				NM					
20				NM					

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: R. Gordon Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): 5.0  
 Drilling Fluid: Water Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; Converted to Well:  Yes  No  
btoc = below top of casing; ft = feet; NM= not measured. Well set from 5-10' bgs. Unable to hand Surface Elev.: 735.19  
auger due to concrete and cobbles. North Coord.: 560460.78  
 East Coord.: 13305337.77

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 04/07/2022 Logger: M. Olender  
 Project Number: 30121887 Date Completed: 04/07/2022 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 45°F, Partly Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21	[Diamond symbol]		60			NM	(20.0-24.0') SAND, very fine to medium; some coarse sand to granules; little silt; little medium to large pebbles, subangular to subrounded; poorly sorted; wet; gray (10YR 5/1). Note: Wet from 20.0-24.0' bgs.	(12.0-25.0' bgs) Bentonite	[Black box]
22									
23									
24									
25							NM		
26						End of boring at 25.0' bgs.			
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 04/13/2022 Logger: M. Olander  
 Project Number: 30121887 Date Completed: 04/13/2022 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 69°F, Rainy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1						(0.0-2.0')	COBBLES, small to large, subangular to subrounded; some small to large pebbles, subangular to subrounded; poorly sorted; dry; gray (10YR 5/1). FILL. Note: Concrete.	(0.0-7.0' bgs) Bentonite	
2						(2.0-5.0')	SAND, medium; little coarse sand; trace granules, subangular; poorly sorted; moist; brown (10YR 5/3).		
3						(5.0-7.5')	CLAY, medium to high plasticity, no dilatancy; and SAND, very fine to medium; trace granules to medium pebbles, subangular to subrounded; poorly sorted; moist; stiff; brown (10YR 5/3).	(0.0-9.0' bgs) 2" Sch 40 PVC Well Casing	
4						(7.5-9.0')	CLAY; little silt, high plasticity, no dilatancy; trace very fine sand to small pebbles, subangular to subrounded; poorly sorted; moist; grayish brown (10YR 5/2) to brown (10YR 5/3).		
5						(9.0-10.0')	SILT; some clay, low plasticity, rapid dilatancy; trace very fine sand to granules, subangular to subrounded; wet; medium stiff to stiff; grayish brown (10YR 5/2). Note: Wet from 9.0-11.5' bgs.	(7.0-14.0' bgs) Filter Pack Sand	
6						(10.0-11.5')	SILT, low plasticity, rapid dilatancy; some very fine to medium sand; little granules to medium pebbles, subangular to subrounded; wet; medium stiff; brown (10YR 5/3).		
7						(11.5-14.0')	CLAY; some silt, medium to high plasticity, no dilatancy; little very fine to medium sand; trace granules to medium pebbles, subangular to subrounded; moist; stiff to very stiff; brown (10YR 5/3) to gray (10YR 5/1).	(9.0-14.0' bgs) 2" PVC 10-Slot Well Screen	
8									
9									
10									
11									
12									
13									
14									
15							Location blind drilled to 14.0' bgs to install a well. Lithology presented here is from MW-04-156 (20-25).		
16									
17									
18									
19									
20									

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: R. Gordon Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): 9.0  
 Drilling Fluid: Water Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; btoc = below top of casing; ft = feet; NM= not measured. Unable to hand auger due to concrete and cobbles. Converted to Well:  Yes  No  
 Surface Elev.: 734.66  
 North Coor.: 560437.78  
 East Coor.: 13305359.65

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 04/13/2022 Logger: M. Olender  
 Project Number: 30121887 Date Completed: 04/13/2022 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 69°F, Rainy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					NM		(0.0-2.0') COBBLES, small to large, subangular to subrounded; some small to large pebbles, subangular to subrounded; poorly sorted; dry; gray (10YR 5/1). FILL. Note: Concrete.	(0.0-18.0' bgs) Bentonite	
2				NM					
3		40			0.0		(2.0-5.0') SAND, medium; little coarse sand; trace granules, subangular; poorly sorted; moist; brown (10YR 5/3).		
4					0.0				
5					0.0				
6					0.0		(5.0-7.5') CLAY, medium to high plasticity, no dilatancy; and SAND, very fine to medium; trace granules to medium pebbles, subangular to subrounded; poorly sorted; moist; stiff; brown (10YR 5/3).	(0.0-20.0' bgs) 2" Sch 40 PVC Well Casing	
7					0.0				
8		60			0.0		(7.5-9.0') CLAY; little silt, high plasticity, no dilatancy; trace very fine sand to small pebbles, subangular to subrounded; poorly sorted; moist; grayish brown (10YR 5/2) to brown (10YR 5/3).		
9					0.0		(9.0-10.0') SILT; some clay, low plasticity, rapid dilatancy; trace very fine sand to granules, subangular to subrounded; wet; medium stiff to stiff; grayish brown (10YR 5/2). Note: Wet from 9.0-11.5' bgs.		
10					0.0		(10.0-11.5') SILT, low plasticity, rapid dilatancy; some very fine to medium sand; little granules to medium pebbles, subangular to subrounded; wet; medium stiff; brown (10YR 5/3).		
11					0.0				
12					0.0		(11.5-14.0') CLAY; some silt, medium to high plasticity, no dilatancy; little very fine to medium sand; trace granules to medium pebbles, subangular to subrounded; moist; stiff to very stiff; brown (10YR 5/3) to gray (10YR 5/1).		
13		60			0.0				
14					0.0		(14.0-15.0') SILT, low plasticity, rapid dilatancy; dry to moist; medium stiff to soft; gray (10YR 5/1).		
15					0.0				
16					0.0		(15.0-20.0') CLAY; and SILT, low to medium plasticity, no dilatancy; little very fine to medium sand to large pebbles, subangular to subrounded; moist; stiff; gray (10YR 5/1).	(18.0-25.0' bgs) Filter Pack Sand	
17					0.0				
18		60			0.0				
19					0.0				
20					0.0				

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: R. Gordon Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): 9.0  
 Drilling Fluid: Water Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; Converted to Well:  Yes  No  
btoc = below top of casing; ft = feet; NM= not measured. Unable to hand auger due to concrete and cobbles. Surface Elev.: 734.66  
 North Coord.: 560437.02  
 East Coord.: 13305361.63

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 04/13/2022 Logger: M. Olender  
 Project Number: 30121887 Date Completed: 04/13/2022 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 69°F, Rainy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21	[Diamond-shaped interval]		60		0.0	[Dotted pattern]	(20.0-25.0') SAND, very fine to medium; some coarse sand to granules, subangular to subrounded; little silt; little small to large pebbles, subangular to subrounded; poorly sorted; wet; gray (10YR 5/1). Note: Wet from 20.0-25.0' bgs.	(20.0-25.0' bgs) 2" PVC 10-Slot Well Screen	[Well diagram]
22					0.0				
23					0.0				
24					0.0				
25					0.0				
26							End of boring at 25.0' bgs.		
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 04/14/2022 Logger: M. Olender  
 Project Number: 30121887 Date Completed: 04/14/2022 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 39°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well	
1							(0-0-2.0') COBBLES, small to large, subangular to subrounded; some coarse sand to large pebbles, subangular to subrounded; little medium sand; poorly sorted; dry to moist; gray (10YR 5/1). FILL. Note: Concrete and metal chunks.	(0.0-3.0' bgs) Bentonite		
2					(2.0-5.0') SAND, medium; little coarse sand to medium cobbles, angular to subrounded; poorly sorted; moist; brown (10YR 5/3).					(0.0-5.0' bgs) 2" Sch 40 PVC Well Casing
3										
4					(5.0-10.0' bgs) 2" PVC 10-Slot Well Screen					
5						Location was blind drilled to 10.0' bgs to install a well. Lithology presented here is from soil boring MW-04-157 (20-25).				
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: R. Gordon Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): 5.0  
 Drilling Fluid: Water Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; btoc = below top of casing; ft = feet; NM= not measured. Unable to hand auger due to cobbles. Converted to Well:  Yes  No  
 Surface Elev.: 734.93  
 North Coor.: 560438.58  
 East Coor.: 13305349.17

# Soil Boring Log

Project Name: RACER Trust - Buick City  
 Project Number: 30121887  
 Project Location: Flint, MI

Date Started: 04/14/2022 Date Completed: 04/14/2022  
 Logger: M. Olender Editor: M. Humphrey  
 Weather Conditions: 39°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well	
1					0.0		(0-0-2.0') COBBLES, small to large, subangular to subrounded; some coarse sand to large pebbles, subangular to subrounded; little medium sand; poorly sorted; dry to moist; gray (10YR 5/1). FILL. Note: Concrete and metal chunks.	(0.0-18.0' bgs) Bentonite		
2				0.0						
3		60			0.0		(2.0-5.0') SAND, medium; little coarse sand to medium cobbles, angular to subrounded; poorly sorted; moist; brown (10YR 5/3).			
4				0.0						
5				0.0						
6					0.0		(5.0-10.0') SAND, fine to medium; little silt; little coarse sand; trace small to large pebbles; poorly sorted; wet; brown (10YR 5/3). Note: Wet from 5.0-10.0' bgs.			(0.0-20.0' bgs) 2" Sch 40 PVC Well Casing
7				0.0						
8		60		0.0						
9				0.0						
10					0.0		(10.0-13.0') CLAY; and SILT, medium plasticity, no dilatancy; little very fine sand to medium pebbles, subangular to subrounded; moist; stiff; brown (10YR 5/3).			
11				0.0						
12				0.0						
13		60			0.0		(13.0-14.5') CLAY; some silt, medium to high plasticity, no dilatancy; little very fine to medium sand to small pebbles, subangular to subrounded; dry to moist; stiff to very stiff; gray (10YR 5/1).			
14				0.0						
15					0.0		(14.5-15.0') SAND, very fine to medium; some silt; dry to moist; well sorted; gray (10YR 5/1).			
16				0.0						
17					0.0		(15.0-17.0') CLAY; and SILT, medium plasticity, no dilatancy; little very fine sand to medium pebbles, subangular to subrounded; moist; stiff; brown (10YR 5/3).			
18		60		0.0						
19				0.0						
20					0.0		(17.0-20.5') CLAY; little silt; and SAND, very fine to medium; little granules to small pebbles, subangular to subrounded; poorly sorted; moist; gray (10YR 5/1).	(18.0-25.0' bgs) Filter Pack Sand		
				0.0						

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: R. Gordon Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): 5.0  
 Drilling Fluid: Water Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; Converted to Well:  Yes  No  
btoc = below top of casing; ft = feet; NM= not measured. Unable to hand auger due to cobbles. Surface Elev.: 734.93  
 North Coord.: 560437.19  
 East Coord.: 13305350.60

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 04/14/2022 Logger: M. Olender  
 Project Number: 30121887 Date Completed: 04/14/2022 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 39°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21	[Diamond symbol]		60		0.0	[Dotted pattern]	(20.5-25.0') SAND, very fine to medium; some silt; some coarse sand; little granules to medium pebbles, subangular to subrounded; poorly sorted; wet; gray (10YR 5/1). Note: Wet from 20.5-25.0' bgs.	(20.0-25.0' bgs) 2" PVC 10-Slot Well Screen	[Well diagram]
22					0.0				
23					0.0				
24					0.0				
25					0.0				
26							End of boring at 25.0' bgs.		
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

<b>Date Start/Finish:</b> 3/9/00 / 3/9/00 <b>Drilling Company:</b> RAU Drilling <b>Driller's Name:</b> Rick Rau <b>Drilling Method:</b> Hollow Stem Auger  <b>Auger Size:</b> 4.25" ID <b>Rig Type:</b> CME 55 <b>Sampling Method:</b> Split Spoon <b>Hammer Weight:</b> 140 lb.	<b>Borehole Depth:</b> 14.0 feet  <b>Geologist:</b> Matt Stuk	<b>Well No:</b> 04-4  <b>Client:</b> General Motors Corporation  <b>Location:</b> GM NAO Flint Site Building 04 Area
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DEPTH	ELEVATION	Sample Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
									<b>GROUND SURFACE</b>		
		(0-2')		3 5 8 10	13	1.67	0.0		Asphalt. Black Sand FILL, dry, no odor.		
		(2-4')		7 11 14 19	25	2.0	0.1				
5		(4-6')		8 13 14 22	27	2.0	7.6				
		(6-8')		6 16 22 28	38	1.67	1.0		Wet.		
		(8-10')		4 6 4 4	10	1.83	0.0		Brown Sandy lean CLAY, some fine to coarse Sand, moist, no odor.		
10		(10-12')		3 2 1 2	3	0.83	0.0		Brown Clayey GRAVEL, wet.		
		(12-14')		8 50 - -	NA	0.33	0.0		Auger refusal at 12.5' bgs.		
5									End of boring at 14.0' bgs.		

	<b>Remarks:</b> bgs - below ground surface. NA - Not Available. Soil sample collected from 4-6' bgs for VOCs, metals, SVOCs, and PCBs.	<b>Water Levels</b>		
		Date / Time	Elevation	Depth

Project Name: GM-NAO FLINT OPERATIONS  
 Project Number: 041057F001  
 Location: T.7N R.7E 7  
           T R SEC QTR QTR  
 Northing: \_\_\_\_\_ Easting: \_\_\_\_\_  
 Ground Surface Elev.: 730.42  
 Property Owner/Contact: GENERAL MOTORS

Date(s) Drilled: 10/10/95  
 Logged By: DARRYL BARRICKLOW  
 Contractor: SOMAT ENGINEERING  
 Drill Rig/Method: HOLLOW STEM AUGER  
 Sampling Method: SPLIT SPOON  
 Borehole Diam.: 8" Drilling Fluid: NONE  
 Depth to Water: 14.02 Total Depth: 22.0'  
 Application: MONITORING WELL INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0-0.6'								ASPHALT AND CONCRETE.
0.7-3.3'							SP	SAND AND CINDER, BLACK/BROWN, DRY TO SLIGHTLY MOIST.
3.3-4.9'							CL	CLAY WITH SOME SILT, TRACE SAND AND GRAVEL, OLIVE/BROWN, SLIGHTLY MOIST.
4.9-6.0'								SAND WITH TRACE SILT AND FINE GRAVEL, BROWN/ORANGE, SLIGHTLY MOIST, FINE GRAINED.
6.0-9.3'							SP	S.A.A.: FINE SAND TO FINE GRAVEL. MOIST TO WET.
9.3-10.2'							CL	CLAY AND SILT, BROWN, SLIGHTLY MOIST.
10.2-12.0'							CH	CLAY WITH VARYING SILT AND SAND LENSES, GRAY, MOIST TO WET.
12.0-16.8'							CL	CLAY WITH SILT TO COARSE GRAVEL, GRAY, DRY, HARD.
16.8-17.8'							SP	SAND (FINE GRAINED) TO COARSE GRAVEL, GRAY, WET.
17.8-18.3'							ML	SILT WITH SOME CLAY, GRAY, SLIGHTLY MOIST.
18.3-19.0'							SM	SILT AND FINE SAND WITH SOME GRAVEL, GRAY, MOIST.
19.0-19.8'							CL	CLAY WITH SOME SILT AND GRAVEL, GRAY, SLIGHTLY MOIST.
19.8-20.0'							SM	SILT WITH SOME SAND, GRAY, WET.
20.0-22.0'							CL	CLAY WITH SOME SILT TO GRAVEL, GRAY, STIFF TO HARD. SILT SEAMS.
								TOTAL DEPTH DRILLED = 22.0 FEET
								WELL SET FROM 15.0 TO 22.0'
								GROUNDWATER SAMPLE COLLECTED FROM 15.0 TO 20.0'

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 05/29/2020 Logger: M. Olender  
 Project Number: 30075935 Date Completed: 05/29/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 67°F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1				SB-04-17(1-1.5) _052920 @ 0820	0.0	(0.0-0.2') TOPSOIL, grass.	(0.0-1.4' bgs) 2" Sch 40 PVC Well Casing (0.3-3.0' bgs) Bentonite (3.0-12.0' bgs) Filter Pack Sand		
2			0.0		(0.2-1.0') CONCRETE.				
3		72		SB-04-17(4.5-5) _052920 @ 0825	0.0	(1.0-4.0') SAND, fine to medium, subangular to subrounded; trace granules to small pebbles, subangular to subrounded; poorly sorted; loose; moist; brown (10YR 5/3). FILL. Note: Little gravel, angular to subangular at 2.0'bgs. FILL.			
4			0.0						
5			0.0						
6				SB-04-17(8-8.5) _052920 @ 0830	0.0	(4.0-7.0') CLAY, medium to high plasticity; some fine to medium sand, subangular to subrounded; little small pebbles, subangular to subrounded; trace gravel, subangular to subrounded; poorly sorted; stiff to very stiff; moist to wet; brown (10YR 5/3) to dark gray (10YR 4/1). Note: Wet from 6-9' bgs.	(5.0-10.0' bgs) 2" PVC 10-Slot Well Screen		
7			0.0						
8		48		SB-04-17(12.5-13) _052920 @0835	0.0	(7.0-8.5') SAND, very fine to medium, subangular to subrounded; trace granules; trace silt, rapid dilatancy; loose to dense; wet; black (10YR 2/1).			
9			0.0						
10				SB-04-17(16.5-17) _052920 @ 0840	0.0	(8.5-13.0') CLAY, high plasticity, no dilatancy; little fine to medium sand, subangular to subrounded; trace granules to small pebbles, subangular to subrounded; medium stiff to stiff; moist to wet; grayish brown (10YR 5/2) to brown (10YR 5/3).			
11			0.0						
12			0.0						
13		60		SB-04-17(18.5-19) _052920 @ 0845	0.0	(13.0-18.5') CLAY, medium plasticity, no dilatancy to slow dilatancy; little silt to very fine to medium sand, subangular to subrounded; trace small to medium pebbles, subangular to subrounded; poorly sorted; medium stiff to very stiff; moist; gray (10YR 5/1).	(12.0-17.0' bgs) Bentonite		
14			0.1						
15				SB-04-17(18.5-19) _052920 @ 0845	0.1				
16			0.0						
17		60		SB-04-17(18.5-19) _052920 @ 0845	0.0	(18.5-19.0') SAND, fine to very coarse; trace granules; loose to medium dense; moist; gray (10YR 5/1).	(17.0-25.0' bgs) Filter Pack Sand		
18			0.0						
19					0.0				
20					0.0				

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: Dave Gordon Sampling Interval: Continuous  
 Drilling Method: Hand Auger / Sonic Drilling Water Level Start (ft. bgs.): 6.0  
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA  
 Remarks: Temporary wells installed. bgs = below ground surface; NA = not applicable; btoc = below top of casing; ft = feet; NM= not measured. Converted to Well:  Yes  No  
 Surface Elev.: 734.3  
 North Coord.: 560421.1  
 East Coord.: 13305359.7

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 05/29/2020 Logger: M. Olender  
 Project Number: 30075935 Date Completed: 05/29/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 67°F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21					0.0	CLAY	(19.0-25.0') CLAY, medium to high plasticity, no to slow dilatancy; little silt; trace fine to medium sand; medium stiff to very stiff; moist to wet; gray (10YR 5/1). Note: Wet from 19.0-24.0' bgs.	(19.0-24.0' bgs) 2" PVC 10-Slot Well Screen	
22			SB-04-17(22-22.5)	0.1					
23		60	_052920 @ 0850	0.1					
24				0.1					
25			SB-04-17(24.5-25)	0.0					
25			_052920 @ 0855						
26							End of boring at 25.0' bgs.		
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: \_\_\_\_\_  
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# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 05/28/2020 Logger: E. Redner  
 Project Number: 30075935 Date Completed: 05/28/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 72°F, Overcast

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1			0				(0.0-1.0') CONCRETE. Note: No recovery.	(0.0-1.4' bgs) 2" Sch 40 PVC Well Casing (0.3-3.0' bgs)	
2			60	SB-04-18(1-1.5) _052820 @ 0950	0.0		(1.0-5.0') SAND, fine to medium, subrounded to subangular; trace granules to small pebbles, subrounded to subangular; well sorted; very loose; dry to moist; black (10YR 2/1). FILL.	Bentonite (3.0-10.5' bgs)	
3					0.0			Filter Pack Sand	
4				SB-04-18(4.5-5) _052820 @ 0955	0.0		Note: Wet at 5.0' bgs.		
5					0.9		(5.0-6.5') SAND, very fine to small PEBBLE, subrounded; some silt; little clay, nonplastic, rapid dilatancy; poorly sorted; moist to wet; black (10YR 2/1). FILL.		
6					2.2				
7			60	SB-04-18(8-8.5) _052820 @ 0958	0.3		(6.5-10.0') SAND, very fine to fine; some silt; some clay, low to medium plasticity, slow to rapid dilatancy; trace granules to small pebbles, subrounded; well sorted; moist to dry; medium dense; dark gray (10YR 4/1) to grayish brown (10YR 5/2). FILL.	(5.0-10.0' bgs) 2" PVC 10-Slot Well Screen	
8					0.5				
9					0.2				
10					0.0		(10-16') CONCRETE.		
11			0		0.0				
12					0.0			(10.5-14.0' bgs) Bentonite	
13					0.0				
14			41		0.0				
15					0.0			(14.0-22.0' bgs) Filter Pack Sand	
16					0.0				
17				SB-04-18(16.5-17) _052820 @ 1020	0.0		(16.0-18.5') SAND, very fine to medium, subrounded to subangular; some silt; little to trace little granules to medium pebble, subrounded; poorly sorted; medium dense; moist to wet; gray (10YR 5/1). Note: Wet at 16.5' bgs.		
18			48	SB-04-18(18.5-19) _052820 @ 1028	0.0			(16.0-21.0' bgs) 2" PVC 10-Slot Well Screen	
19					0.0		(18.5-25.0') SAND, very fine to fine; and SILT; trace granules to medium pebbles, subrounded to rounded; well sorted; dry, very dense; gray (10YR 5/1) to gray (10YR 6/1).		
20					0.0				

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: Dave Gordon Sampling Interval: Continuous  
 Drilling Method: Hand Auger / Sonic Drilling Water Level Start (ft. bgs.): 5.0  
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA  
 Remarks: Temporary wells installed. bgs = below ground surface; NA = not applicable; btoc = below top of casing; ft = feet; NM= not measured. Converted to Well:  Yes  No  
 Surface Elev.: 730.2  
 North Coord.: 560336.7  
 East Coord.: 13305359.6

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 05/28/2020 Logger: E. Redner  
 Project Number: 30075935 Date Completed: 05/28/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 72°F, Overcast

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21					0.0		(18.5-25.0') SAND, very fine to fine; and SILT; trace granules to medium pebbles, subrounded to rounded; well sorted; dry, very dense; gray (10YR 5/1) to gray (10YR 6/1).		
22			SB-04-18(22-22.5)	0.0					
23		60	_052820 @ 1035	0.0					
24				0.0					
25			SB-04-18(24.5-25)	0.0					
				_052820 @ 1040				(22.0-25.0' bgs) Bentonite	
26							End of boring at 25.0' bgs.		
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks:

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# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 05/28/2020 Logger: E. Redner  
 Project Number: 30075935 Date Completed: 05/28/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 78°F, Rainy, overcast

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1			0				(0.0-1.0') CONCRETE.	(0.0-1.4' bgs) 2" Sch 40 PVC Well Casing	
2				SB-04-19(1-1.5) _052820 @1230	0.0		(1.0-2.5') SAND, fine to granules, subangular to subrounded; little small pebbles to medium pebbles, subrounded; dry; loose to medium dense; very dark grayish brown (10YR 3/2) to light brownish gray (10YR 6/2).	(0.3-6.0' bgs) Bentonite	
3			48		0.0		(2.5-7.5') SAND, very fine to coarse, subangular to subrounded; little silt; moist to wet; medium dense; dark grayish brown (10YR 4/2).		
4				SB-04-19(4-4.5) _052820 @1233	0.0				
5					0.0		Note: A little wet at 5.5' bgs		
6					0.0				
7					0.0			(6.0-14.0' bgs) Filter Pack Sand	
8			60	SB-04-19(8-8.5) _052820 @1240	0.0		(7.5-8.5') CLAY, medium plasticity, slow to rapid dilatancy; some silt; little very fine to fine sand; trace granules to small pebbles, subangular to subrounded; moist; stiff; olive brown (2.5YR 4/3). Note: Wet at 8.5' bgs.		
9					0.0		(8.5-10.0') SILT; some very fine to fine sand; little clay; nonplastic to low plasticity, rapid dilatancy; well sorted; wet; medium dense; light olive brown (2.5YR 5/4).	(8.0-13.0' bgs) 2" PVC 10-Slot Well Screen	
10					0.0		(10.0-20.0') SAND, very fine to coarse, subangular; some silt; poorly sorted; moist to wet; loose to dense; gray (10YR 6/1). Note: Wet at 10.5' bgs.		
11					0.0				
12					0.0				
13			60	SB-04-19(12.5-13) _052820 @1255	0.0				
14					0.0				
15					0.0				
16				SB-04-19(16.5-17) _052820 @1258	0.0				
17					0.0				
18			60	SB-04-19(18.5-19) _052820 @1300	0.0			(14.0-25.0' bgs) Bentonite	
19					0.0				
20					0.0				

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: Dave Gordon Sampling Interval: Continuous  
 Drilling Method: Hand Auger / Sonic Drilling Water Level Start (ft. bgs.): 5.5  
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA  
 Remarks: Temporary well installed. bgs = below ground surface; NA = not applicable; btoc = below top of casing; ft = feet; NM= not measured. Converted to Well:  Yes  No  
 Surface Elev.: 731.3  
 North Coord.: 560390.7  
 East Coord.: 13305387.4

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 05/28/2020 Logger: E. Redner  
 Project Number: 30075935 Date Completed: 05/28/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 78°F, Rainy, overcast

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21	[Diamond-shaped interval diagram]		60	SB-04-19(22-22.5) _052820 @1310	0.0		(20.0-25.0') SILT; some very fine to fine sand; some clay, nonplastic, rapid dilatancy; trace granules, subangular; well sorted; dry; very dense; dark gray (10YR 5/4) to gray (10YR 5/1)	(14.0-25.0' bgs) Bentonite	[Shaded area]
22					0.0				
23					0.0				
24					0.0				
25				SB-04-19(24.5-25) _052820 @1315					
26							End of boring at 25.0' bgs.		
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: \_\_\_\_\_  
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# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 05/28/2020 Logger: E. Redner  
 Project Number: 30075935 Date Completed: 05/28/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 72°F

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1			0				(0.0-1.0') CONCRETE. Note: No recovery.	(0.0-1.4' bgs) 2" Sch 40 PVC Well Casing	
2				SB-04-20(1-1.5) _052820 @ 0755	0.0		(1.0-6.5') SAND, fine to medium, subrounded; trace very coarse sand to medium pebble, subrounded; poorly sorted; dry to moist; very loose; black (10YR 2/1).		
3			48		0.0				
4				SB-04-20(4.5-5.0) _052820 @ 0800	0.0			(0.3-8.0' bgs) Bentonite	
5									
6					1.3 0.3				
7					0.1 2.0		(6.5-7.0') SAND, fine to large pebble, subrounded; poorly sorted; dry to moist; loose; very dark gray (10YR 3/1) to white (10YR 8/1).		
8			60	SB-04-20(8-8.5) _052820 @ 0810	0.8		(7.0-7.5') SAND, medium to coarse, subangular, some granules to medium pebbles; wet; black (10YR 2/1). Note: Wet at 7.5' bgs.		
9					0.6 0.2		(7.5-10.0') CLAY, medium to low plasticity, moderate dilatancy; little very fine to very coarse sand, subangular to subrounded; medium stiff; moist; gray (10YR 5/1). Note: Wet at 11.0' bgs.	(8.0-16.0' bgs) Filter Pack Sand	
10									
11					0.0		(10.0-11.0') CLAY, nonplastic to low plasticity, rapid dilatancy; and SAND, very fine to medium, subrounded; poorly sorted; moist to wet; soft to medium stiff; gray (10YR 5/1).		
12					0.0				
13			60	SB-04-20(12.5-13) _052820 @ 0815	0.0		(11.0-16.0') SAND, very fine to coarse, subangular to subrounded; little to some silt, rapid dilatancy; little clay, low plasticity; poorly sorted; moist to wet; loose to medium dense; gray (10YR 6/1).	(10.0-15.0' bgs) 2" PVC 10-Slot Well Screen	
14					0.0				
15					0.0				
16					0.0				
17				SB-04-20(16.5-17.0) _052820 @ 0830	0.0		(16.0-20.0') SAND, very fine to fine; some silt; some clay, nonplastic, rapid dilatancy; trace granules to small pebbles, subrounded to rounded; poorly sorted; dry; dense; gray (10YR 5/1).		
18			60		0.0				
19				SB-04-20(18.5-19) _052820 @ 0835	0.0				
20					0.0			(16.0-25.0' bgs) Bentonite	

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: Dave Gordon Sampling Interval: Continuous  
 Drilling Method: Hand Auger / Sonic Drilling Water Level Start (ft. bgs.): 7.5  
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA  
 Remarks: Temporary well installed. bgs = below ground Converted to Well:  Yes  No  
surface; NA = not applicable; btoc = below top of casing; ft = feet; NM= not measured. Surface Elev.: 730.0  
 North Coord.: 560339.6  
 East Coord.: 13305437.7

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 05/28/2020 Logger: E. Redner  
 Project Number: 30075935 Date Completed: 05/28/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 72°F

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21	-		60	SB-04-20(22-22.5) _052820 @ 0840	0.3	SP	(20.0-21.5') SAND, very fine to fine; and SILT; well sorted; very dense; dry; gray (10YR 6/1).	(16.0-25.0' bgs) Bentonite	█
22					0.7				
23					0.3	SM	(21.5-25.0') SAND, very fine to fine; some silt; little to some clay, nonplastic, rapid dilatancy; trace granule to small pebble, subrounded; well sorted; very dense; dry; gray (10YR 5/1).		
24	0.2								
25				SB-04-20(24.5-25) _052820 @ 0845	0.0				
26							End of boring at 25.0' bgs.		
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks:

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# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 05/27/2020 Logger: M. Olender  
 Project Number: 30075935 Date Completed: 05/27/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 84°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1			18		0.0		(0.0-1.5') CONCRETE.	(0.0-1.4' bgs) 2" Sch 40 PVC Well Casing	
2				SB-04-25(1.5-2.5) _052720 @1505	0.0		(1.5-2.5') SAND, fine to coarse, subangular to subrounded; and GRANULES to medium PEBBLES, subangular to subrounded; some gravel, subangular to subrounded; little large pebbles, subangular to subrounded; poorly sorted; moist; black (10YR 2/1) to gray (10YR 5/1). FILL.	(0.3-3.0' bgs) Bentonite (3.0-10.0' bgs) Filter Pack Sand	
3					0.0				
4			54		0.0		(2.5-8.0') SAND, fine to very coarse, subangular to subrounded; and GRANULES to medium PEBBLES, subangular to subrounded; some small to medium cobbles, subangular to subrounded; trace gravel, subangular to subrounded; trace silt; poorly sorted; moist to wet; very dark grayish brown (10YR 3/2) to brown (10YR 5/3). FILL.		
5				SB-04-25(4.5-6.5) _052720 @1515	0.0				
6					0.0		(8.0-23.0') CLAY, low to medium plasticity; and SILT, slow to medium dilatancy; trace granules to medium pebbles, subangular to subrounded; trace fine to medium sand, subangular to subrounded; stiff to very stiff; moist to wet. FILL. Note: Wet from 6-8' bgs and 10-17' bgs.	(4.0-9.0' bgs) 2" PVC 10-Slot Well Screen	
7					0.0				
8			48		0.0				
9					0.0				
10					0.0				
11					0.0				
12					0.0				
13			60		0.0				
14					0.0				
15					0.0				
16				SB-04-25(15-17) _052720 @1530	0.0				
17					0.0				
18			60		0.0				
19					0.0				
20					0.0			(12.0-17.0' bgs) 2" PVC 10-Slot Well Screen	
								(10.0-11.0' bgs) Bentonite (11.0-19.0' bgs) Filter Pack Sand	
								(19.0-25.0' bgs) Bentonite	

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: Dave Gordon Sampling Interval: Continuous  
 Drilling Method: Hand Auger / Sonic Drilling Water Level Start (ft. bgs.): 6.0  
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA  
 Remarks: Temporary wells installed. bgs = below ground surface; NA = not applicable; btoc = below top of casing; ft = feet; NM= not measured. Converted to Well:  Yes  No  
 Surface Elev.: 729.8  
 North Coord.: 560476.1  
 East Coord.: 13305677.0

# Soil Boring Log

Project Name: RACER Trust - Buick City  
 Project Number: 30075935  
 Project Location: Flint, MI

Date Started: 05/27/2020 Date Completed: 05/27/2020  
 Logger: M. Olender Editor: M. Humphrey  
 Weather Conditions: 84°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21	[Diamond symbol]		60		0.0	[Diagonal hatching]	(8.0-23.0') CLAY, low to medium plasticity; and SILT, slow to medium dilatancy; trace granules to medium pebbles, subangular to subrounded; trace fine to medium sand, subangular to subrounded; stiff to very stiff; moist to wet. FILL. Note: Wet from 6-8' bgs and 10-17' bgs.	(19.0-25.0' bgs) Bentonite	[Black bar]
22					0.0				
23					0.0				
24					0.0	[Dotted pattern]	(23.0-25.0') CONCRETE; and GRAVEL, subangular; gray (10YR 5/1).		
25					0.0				
26						End of boring at 25.0' bgs.			
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: \_\_\_\_\_  
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# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 05/27/2020 Logger: M. Olender  
 Project Number: 30075935 Date Completed: 05/27/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 74°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1			12				(0.0-1.0') CONCRETE.	(0.0-1.4' bgs) 2" Sch 40 PVC Well Casing (0.3-3.0' bgs)	
2			60	SB-04-26(1-2.5) _052720 @0830	0.0		(1.0-4.0') SAND, medium to fine, subangular to subrounded; little granules to small pebbles, subangular to subrounded; trace medium pebbles, subangular; poorly sorted; moist; black (10YR 2/1). Note: Little medium pebbles to small cobbles, subangular to subrounded at 3.0' bgs.	Bentonite (3.0-11.0' bgs) Filter Pack Sand	
3					0.0				
4					0.0				
5				SB-04-26(4.5-6.5) _052720 @1005	0.0		(4.0-6.5') SAND, medium to fine, subangular to subrounded; and GRANULES to medium PEBBLES, subangular to subrounded; some large pebbles, subangular to subrounded; little small cobbles, subangular to subrounded. Note: Wet at 6.0' bgs.		
6					0.0				
7					0.7		(6.5-7.0') SILT, slow dilatancy; some clay, low to medium plasticity; stiff; wet; grayish brown (10YR 5/2).	(5.0-10.0' bgs) 2" PVC 10-Slot Well Screen	
8			45		0.1		(7.0-8.0') SAND, fine to medium, subangular to subrounded; little granules to medium pebbles, subangular to subrounded; trace silt; poorly sorted; wet; black (10YR 2/1) to brown (10YR 5/3). Note: Brick fragments from 8.0-8.2' bgs.		
9					0.1				
10					0.1		(8.0-25.0') CLAY, high plasticity, no dilatancy; some fine to medium sand, subangular; little granules to medium pebbles, subangular to subrounded; poorly sorted; moist to wet; gray (10YR 5/1). Note: Moist at 15.0' bgs.		
11					0.2				
12					0.1				
13			60		0.1				
14					0.1				
15					0.1				
16				SB-04-26(15-17) _052720 @1020	0.1			(11.0-25.0' bgs) Bentonite	
17					0.1				
18			60		0.1				
19					0.1				
20					0.1				

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: Dave Gordon Sampling Interval: Continuous  
 Drilling Method: Hand Auger / Sonic Drilling Water Level Start (ft. bgs.): 6.0  
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA  
 Remarks: Temporary well installed. bgs = below ground surface; NA = not applicable; btoc = below top of casing; ft = feet; NM= not measured. Converted to Well:  Yes  No  
 Surface Elev.: 729.5  
 North Coord.: 560426.6  
 East Coord.: 13305629.2

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 05/27/2020 Logger: M. Olender  
 Project Number: 30075935 Date Completed: 05/27/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 74°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21			60		0.1		(8.0-25.0') CLAY, high plasticity, no dilatancy; some fine to medium sand, subangular; little granules to medium pebbles, subangular to subrounded; poorly sorted; moist to wet; gray (10YR 5/1). Note: Moist at 15.0' bgs.	(11.0-25.0' bgs) Bentonite	
22					0.1				
23					0.1				
24					0.1				
25					0.8				
26							End of boring at 25.0' bgs.		
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: \_\_\_\_\_  
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# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 05/27/2020 Logger: M. Olender  
 Project Number: 30075935 Date Completed: 05/27/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 81°F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1			18		0.0	(0.0-1.5') CONCRETE.	(0.0-1.4' bgs) 2" Sch 40 PVC Well Casing	Well	
2				SB-04-28(1.5-2.5) _052720 @1130	0.0	(1.5-3.0') SAND, fine to very coarse, subrounded to subangular; and large PEBBLES to medium COBBLES, subangular to subrounded; little granules to small pebbles, subangular to subrounded; poorly sorted; moist; black (10YR 2/1) to brown (10YR 5/3).	(0.3-3.0' bgs) Bentonite		
3			10		0.0	(3.0-6.0') SAND, fine to coarse, subangular to subrounded; trace granules to small pebbles, subangular to subrounded; poorly sorted; moist; brown (10YR 5/3). Note: Wet from 5.0 - 17.0' bgs	(3.0-12.0' bgs) Filter Pack Sand	Well	
4			12	SB-04-28(4.5-6.5) _052720 @1135	0.0	(6.0-25.0') CLAY, medium to high plasticity, no dilatancy; little fine to coarse sand, subangular to subrounded; trace granules to medium pebbles, subangular to subrounded; medium stiff to very stiff; wet to moist; gray (10YR 5/1).	(5.0-10.0' bgs) 2" PVC 10-Slot Well Screen		
5					0.0			Well	
6					0.0				
7			48		0.0			Well	
8					0.0				
9					0.0			Well	
10					0.0				
11					0.0			Well	
12					0.0				
13			57		0.0		(12.0-13.0' bgs) Bentonite	Well	
14					0.0		(13.0-22.0' bgs) Filter Pack Sand		
15					0.0			Well	
16				SB-04-27(15-17) _052720 @1140	0.0				
17			60		0.0		(15.0-20.0' bgs) 2" PVC 10-Slot Well Screen	Well	
18					0.0				
19					0.0			Well	
20					0.0				

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: Dave Gordon Sampling Interval: Continuous  
 Drilling Method: Hand Auger / Sonic Drilling Water Level Start (ft. bgs.): 5  
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA  
 Remarks: Temporary wells installed. bgs = below ground surface; NA = not applicable; btoc = below top of casing; ft = feet; NM= not measured. Converted to Well:  Yes  No  
 Surface Elev.: 729.1  
 North Coord.: 560386.3  
 East Coord.: 13305641.9

SOIL BORING LOG - 2013 C:\USERS\HUMPHREY\DESKTOP\NEW BUICK CITY LOGS\BUICK CITY MASTER 4.26.2021.GPJ / ARCADIS - 2013.GDT 4/28/21

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 05/27/2020 Logger: M. Olender  
 Project Number: 30075935 Date Completed: 05/27/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 81°F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21	[Diamond symbol]		60		0.0	[Diagonal lines]	(6.0-25.0') CLAY, medium to high plasticity, no dilatancy; little fine to coarse sand, subangular to subrounded; trace granules to medium pebbles, subangular to subrounded; medium stiff to very stiff; wet to moist; gray (10YR 5/1). Note: Moisture change to dry to moist at 20.0' bgs.	(22.0-25.0' bgs) Bentonite	[Dotted pattern]
22					0.0				[Dotted pattern]
23					0.0				[Dotted pattern]
24					0.0				[Dotted pattern]
25					0.0				[Dotted pattern]
26							End of boring at 25.0' bgs.		
27									
28									
29									
30									
31									
32									
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34									
35									
36									
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41									

Remarks:

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# Soil Boring Log

Project Name: RACER Trust - Buick City  
 Project Number: 30075935  
 Project Location: Flint, MI

Date Started: 07/28/2020 Date Completed: 07/28/2020  
 Logger: M. Olender Editor: M. Humphrey  
 Weather Conditions: 81°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1				SB-04-34(1.5-2.5) _072820 @ 1405	0.0	(0.0-0.2') TOPSOIL/GRASS.	(0.0-1.4' bgs) 2" Sch 40 PVC Well Casing (0.3-2.0' bgs) Bentonite (2.0-10.0' bgs) Filter Pack Sand  (4.0-9.0' bgs) 2" PVC 10-Slot Well Screen  (10.0-16.0' bgs) Bentonite  (16.0-25.0' bgs) Filter Pack Sand  (18.0-23.0' bgs) 2" PVC 10-Slot Well Screen		
2		60	0.0		(0.2-2.5') SAND, fine to medium; and GRAVEL, subangular to subrounded; some small to medium pebbles, subangular to subrounded; little small to medium cobbles, subangular to subrounded; poorly sorted; dry; grayish brown (10YR 5/2). FILL. Note: Plastic/PVC and metal peices observed at 1.0' bgs.				
3			0.0		(2.5-3.0') CONCRETE.				
4			0.0		(3.0-5.0') NO RECOVERY.				
5									
6				SB-04-34(9.5-10) _072820 @ 1410	0.0	(5.0-6.0') SAND, fine to medium; and GRAVEL, subangular to subrounded; some small to medium pebbles, subangular to subrounded; little small to medium cobbles, subangular to subrounded; poorly sorted; wet; grayish brown (10YR 5/2). FILL.			
7		60	0.0		(6.0-7.5') SAND, fine to medium; some clay; poorly sorted; wet; medium stiff; brown (10YR 5/2) to black (10YR 2/1).				
8			0.0		(7.5-9.0') SAND, fine to medium; wet; black (10YR 2/1).				
9					0.0	(9.0-18.5') CLAY, high plasticity; little silt; little pebbles, subangular to subrounded; trace fine to medium sand; poorly sorted; moist; stiff to very stiff; brown (10YR 5/3) to gray (10YR 5/1). Note: Wet from 10.0' to 23.0' bgs.			
10			0.0						
11			0.0						
12			0.0						
13		60	0.0						
14					0.0	(18.5-23.0') SAND, fine to very coarse, subangular to subrounded; little granules to small pebbles, subangular to subrounded; poorly sorted; wet; gray (10YR 5/1).			
15			0.0						
16			0.0						
17		60	0.0						
18			0.0						
19					0.0				
20					0.0				

Drilling Co.: Cascade Sampling Method: 5.0' Macrocore  
 Driller: R. Gordon Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): 5.0  
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; Converted to Well:  Yes  No  
btoc = below top of casing; ft = feet; NM= not measured. Temporary wells screened from 4-9' and 18-23' bgs. Surface Elev.: 734.0  
 North Coord.: 560421.5  
 East Coord.: 13305394.3

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 07/28/2020 Logger: M. Olender  
 Project Number: 30075935 Date Completed: 07/28/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 81°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21	[Diamond symbol]		60	SB-04-34(24.5-25) _072820 @ 1415	0.0	[Dotted pattern]	(18.5-23.0') SAND, fine to very coarse, subangular to subrounded; little granules to small pebbles, subangular to subrounded; poorly sorted; wet; gray (10YR 5/1).	(18.0-23.0' bgs) 2" PVC 10-Slot Well Screen	[Well diagram]
22					0.0	[Diagonal lines pattern]	(23.0-25.0') CLAY, high plasticity; little silt; little pebbles, subangular to subrounded; trace fine to medium sand; poorly sorted; dry; stiff to very stiff; brown (10YR 5/3) to gray (10YR 5/1).		
23					0.0				
24					0.0				
25					0.0				
26						End of boring at 25.0' bgs.			
27									
28									
29									
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Remarks: \_\_\_\_\_  
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# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 01/14/2021 Logger: E. Redner  
 Project Number: 30075935 Date Completed: 01/14/2021 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 36°F, Partly Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1	◆	36		SB-04-34R(0-2)	0.0	[Pattern]	(0.0-0.2') ORGANICS.	(0.0-3.0' bgs) Backfilled with bentonite.	[Shaded]
				011421 @ 1110 and	0.0		(0.2-2.2') SAND, very fine to small cobbles, subangular to rounded; poorly sorted; dry to moist; grayish brown (10YR 5/2). FILL. Note: Backfill, construction material observed from 0.2-3.0' bgs.		
2				1120	0.0		(2.2-2.5') CONCRETE.		
3					0.0		(2.5-3.0') SAND, very fine to small cobbles, subangular to rounded; poorly sorted; dry to moist; very dark gray (10YR 3/1).		
4							End of boring at 3.0' bgs.		
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: Chris Barden Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): NA  
 Drilling Fluid: Water Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; Converted to Well:  Yes  No  
btoc = below top of casing; ft = feet; NM= not Surface Elev.: 734.2  
measured. Hand augering the first 5.0' bgs could not North Coord: 560419.7  
be completed due to concrete cobbles. Shelby tube East Coord: 13305396.5

sample collected from 0-2' bgs.

# Soil Boring Log

Project Name: RACER Trust - Buick City  
 Project Number: 30043300  
 Project Location: Flint, MI

Date Started: 07/30/2020 Date Completed: 07/30/2020  
 Logger: M. Olender Editor: M. Humphrey  
 Weather Conditions: 67°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
0.0 - 0.5			6				(0.0-0.5') CONCRETE.	(0.0-2.0' bgs) 2" Sch 40 PVC Well Casing (2.0-10.0' bgs) Filter Pack Sand	
0.5 - 6.0				SB-04-46(1-1.5) _073020 @ 0825	0.0		(0.5-6.0') SAND, fine to medium; little coarse to very coarse sand, subangular to subrounded; trace granules, subangular to subrounded; poorly sorted; moist; brown (10YR 5/3) to black (10YR 2/1). FILL.		
6.0 - 9.0			54				Note: Wet at 5.5' bgs.	(4.0-9.0' bgs) 2" PVC 10-Slot Well Screen	
9.0 - 10.0				SB-04-46(4-4.5) _073020 @ 0830	0.0		(6.0-9.0') SAND, fine to very coarse, subangular to subrounded; and small to large COBBLES, subangular to subrounded; some granules to large pebbles, subangular to subrounded; little clay; poorly sorted; wet; gray (10YR 5/1). FILL. Note: Concrete chunks observed throughout.		
10.0 - 11.0			60		0.6		(9.0-10.0') CONCRETE.		
11.0 - 14.0							(10.0-11.0') SAND, fine to very coarse, subangular to subrounded; and small to large COBBLES, subangular to subrounded; some granules to large pebbles, subangular to subrounded; little clay; poorly sorted; wet; gray (10YR 5/1). FILL.	(10.0-25.0' bgs) Bentonite	
14.0 - 15.0			60	SB-04-46(14-14.5) _072020 @ 0915	NA		(11.0-14.0') CONCRETE.		
15.0 - 25.0				SB-04-46(16.5-17) _073020 @ 0920	0.0		(14.0-25.0') CLAY, low to medium plasticity; and SAND, fine to medium; little silt; little granules to small pebbles, subangular to subrounded; medium stiff; gray (10YR 5/1).		
17.0 - 18.5			60	SB-04-46(18.5-19) _073020 @ 0925	0.0				
18.5 - 19.0					0.0				
19.0 - 20.0					0.0				

Drilling Co.: Cascade Sampling Method: 5.0' Macrocore  
 Driller: R. Gordon Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): 5.5  
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; Converted to Well:  Yes  No  
btoc = below top of casing; ft = feet; NM= not measured. Temporary well screened from 4-9' bgs. Surface Elev.: 730.7  
 North Coord.: 560367.5  
 East Coord.: 13305461.6

SOIL BORING LOG - 2013 C:\USERS\HUMPHREY\DESKTOP\NEW BUICK CITY LOGS\BUICK CITY MASTER 11.9.2020.GPJ ARCADIS 2019.GDT 11/10/20

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 07/30/2020 Logger: M. Olender  
 Project Number: 30043300 Date Completed: 07/30/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 67°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21			60	SB-04-46(22-22.5)	0.0		(14.0-25.0') CLAY, low to medium plasticity; and SAND, fine to medium; little silt; little granules to small pebbles, subangular to subrounded; medium stiff; gray (10YR 5/1).	(10.0-25.0' bgs) Bentonite	
22				_073020 @ 0930	0.0				
23					0.0				
24				SB-04-46(24.5-25)	0.0				
25				_073030 @ 0935	0.0				
26						End of boring at 25.0' bgs.			
27									
28									
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Remarks: \_\_\_\_\_  
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# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 07/30/2020 Logger: M. Olender  
 Project Number: 30075935 Date Completed: 07/30/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 77°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1			6		0.0		(0.0-0.5') CONCRETE.	(0.0-1.4' bgs) 2" Sch 40 PVC Well Casing	
2				SB-04-47(1-1.5) _073020 @ 1310	0.0		(0.5-3.0') SAND, fine to very coarse, subangular to subrounded; and GRAVEL, subangular to subrounded; poorly sorted; dry to moist; grayish brown (10YR 5/2).	(0.3-205' bgs) Bentonite (2.0-10.0' bgs) Filter Pack Sand	
3			54		0.0		(3.0-5.0') SAND, fine to medium; trace silt; trace coarse sand to granules, subangular to subrounded; poorly sorted; moist; black (10YR 2/1) to brown (10YR 5/3).		
4				SB-04-47(4-4.5) _073030 @ 1315	0.0				
5					0.0		(5.0-6.0') SAND, fine to very coarse, subangular to subrounded; and GRAVEL, subangular to subrounded; poorly sorted; dry to moist; grayish brown (10YR 5/2).	(4.0-9.0' bgs) 2" PVC 10-Slot Well Screen	
6					0.0		(6.0-7.0') SAND, fine to medium; trace silt; trace coarse sand to granules, subangular to subrounded; poorly sorted; moist; black (10YR 2/1) to brown (10YR 5/3). Note: Wood fragments observed. Note: Wet from 6.0-9.0' bgs.		
7					0.0		(7.0-9.0') SAND, fine to very coarse, subangular to subrounded; and GRAVEL, subangular to subrounded; some small pebbles to medium cobbles, subangular to subrounded; poorly sorted; wet; grayish brown (10YR 5/2).		
8			60		0.0		(9.0-15.0') CLAY, low to medium plasticity; and SILT, slow dilatancy; little fine to medium sand; trace granules to small pebbles, subangular to subrounded; poorly sorted; moist; medium stiff to stiff; grayish brown (10YR 5/2).	(10.0-12.0' bgs) Bentonite	
9				SB-04-47(9-9.5) _073020 @ 1320	0.0				
10					0.0				
11					0.0				
12			60		0.0			(12.0-25.0' bgs) Filter Pack Sand	
13					0.0				
14					0.0				
15					0.0				
16					0.0		(15.0-19.0') SAND, fine to coarse, subangular to subrounded; some very coarse sand, subangular to subrounded; trace granules, subangular to subrounded; little silt; poorly sorted.	(14.0-19.0' bgs) 2" PVC 10-Slot Well Screen	
17					0.0				
18			60		0.0				
19					0.0				
20					0.0				

Drilling Co.: Cascade Sampling Method: 5.0' Macrocore  
 Driller: R. Gordon Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): 6.0  
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; Converted to Well:  Yes  No  
btoc = below top of casing; ft = feet; NM= not measured. Temporary wells screened from 4-9' and 14-19' bgs. Surface Elev.: 731.4  
 North Coord.: 560393.4  
 East Coord.: 13305428.1

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 07/30/2020 Logger: M. Olender  
 Project Number: 30075935 Date Completed: 07/30/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 77°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21			60		0.0		(19.0-25.0') CLAY, low to medium plasticity; and SILT, slow dilatancy; little fine to medium sand; trace granules to small pebbles, subangular to subrounded; poorly sorted; moist; medium stiff to stiff; grayish brown (10YR 5/2).		
22				SB-04-47(22-22.5)	0.0				
23				_073020 @ 1335	0.0				
24				SB-04-47(24.5-25)	0.0				
25				_073020 @ 1350	0.0				
26						End of boring at 25.0' bgs.			
27									
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Remarks:

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# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 08/03/2020 Logger: M. Olender  
 Project Number: 30075935 Date Completed: 08/03/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 75°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1				SB-04-48(1.5-2) _080320 @ 1450	0.0	(0.0-0.5') TOPSOIL; grass.	(0.0-1.4' bgs) 2" Sch 40 PVC Well Casing (0.3-5.0' bgs) Bentonite		
2		60	0.0		(0.5-1.0') SAND, fine to coarse, subangular to subrounded; and GRAVEL, angular to subangular; poorly sorted; moist; dark brown (10YR 3/3). FILL.				
3			0.0		(1.0-1.5') CONCRETE.				
4				SB-04-48(4-4.5) _080320 @ 1455	0.0	(1.5-7.5') SAND, fine to medium; little clay; high plasticity; trace coarse sand to granules, subangular to subrounded; poorly sorted; moist to wet; medium stiff; gray (10YR 5/1) to yellowish brown (10YR 5/4).	(5.0-13.0' bgs) Filter Pack Sand		
5			0.0						
6				SB-04-48(8-8.5) _080320 @ 1500	3.6		(7.5-10.0') CLAY, high plasticity; trace fine sand to granules, subangular to subrounded; poorly sorted; moist; stiff; yellowish brown (10YR 5/4).	(7.0-12.0' bgs) 2" PVC 10-Slot Well Screen	
7		60	0.0		Note: Wet from 7.0-7.5' bgs.				
8			0.0						
9				SB-04-48(12.5-13) _080320 @ 1505	0.0	(10.0-12.0') SAND, fine to medium; little clay; high plasticity; trace coarse sand to granules, subangular to subrounded; poorly sorted; moist to wet; medium stiff; gray (10YR 5/1) to yellowish brown (10YR 5/4). Note: Wet from 10.0-12.0' bgs	(13.0-18.0' bgs) Bentonite		
10			0.0						
11				SB-04-48(16.5-17) _080320 @ 080320 @ 1510	0.0	(12.0-14.0') CLAY, high plasticity; trace fine sand to granules, subangular to subrounded; poorly sorted; moist; stiff; yellowish brown (10YR 5/4).	(18.0-20.0' bgs) Filter Pack Sand		
12		60	0.0		(14.0-15.0') CLAY, low to medium plasticity; and SILT, no dilatancy to slow dilatancy; little fine to medium sand; stiff to very stiff; dry; gray (10YR 5/1).				
13			0.0		(15.0-16.0') SAND, fine to medium; little clay; high plasticity; trace coarse sand to granules, subangular to subrounded; poorly sorted; moist to wet; medium stiff; gray (10YR 5/1) to yellowish brown (10YR 5/4).				
14				SB-04-48(18.5-19) _080320 @ 1515	0.0	(16.0-20.0') CLAY, low to medium plasticity; and SILT, no dilatancy to slow dilatancy; little fine to medium sand; stiff to very stiff; dry; gray (10YR 5/1). Note: Reddish brown (5YR 4/3) streak observed from 17.5-18.0' bgs. .			
15			0.0						
16					0.0				
17					0.0				
18					0.0				
19					0.0				
20					0.0				

Drilling Co.: Cascade Sampling Method: 5.0' Macrocore  
 Driller: J. Greer Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): 7  
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; Converted to Well:  Yes  No  
btoc = below top of casing; ft = feet; NM= not measured. Temporary wells screened from 7-12' and 20-25' bgs among the boring and step out location. Surface Elev.: 734.1  
 North Coord.: 560450.5  
 East Coord.: 13305411.0

SOIL BORING LOG - 2013 C:\USERS\HUMPHREY\DESKTOP\NEW BUICK CITY LOGS\BUICK CITY MASTER 4.26.2021.GPJ - ARCADIS - 2019.GDT 4/28/21

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 08/03/2020 Logger: M. Olender  
 Project Number: 30075935 Date Completed: 08/03/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 75°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21			60	SB-04-48(22-22.5)	0.0		(20.0-25.0') CLAY, medium to high plasticity; some fine to medium sand; little silt; trace coarse sand to granules, subangular to subrounded; poorly sorted; moist to wet; medium stiff to very stiff; gray (10YR 5/1).	(20.0-25.0' bgs) 2" PVC 10-Slot Well Screen	
22				_080320 @ 1535	0.0				
23					0.0				
24				SB-04-48(24.5-25)	0.0				
25				_080320 @ 1540	0.0				
26						End of boring at 25.0' bgs.			
27									
28									
29									
30									
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Remarks:

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# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 07/30/2020 Logger: M. Olender  
 Project Number: 30075935 Date Completed: 07/30/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 70°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
0.0			6				(0.0-0.5') CONCRETE.	(0.0-1.4' bgs) 2" Sch 40 PVC Well Casing (0.3-4.5' bgs) Bentonite	
1.0				SB-04-49(1-1.5) _073020 @ 1005	0.0		(0.5-7.0') SAND, fine to medium; little coarse sand to very coarse sand, subangular to subrounded; trace granules, subangular; poorly sorted; moist; very dark brown (10YR 2/2) to black (10YR 2/1). FILL.		
2.0					0.0				
3.0			54		0.0				
4.0				SB-04-49(4-4.5) _073020 @ 1010	0.0				
5.0					0.0				
6.0				SB-04-49(6-6.5) _073020 @ 1015	0.7			(4.5-13.0' bgs) Filter Pack Sand	
7.0					0.8				
8.0			60		14.1		(7.0-8.5') CONCRETE COBBLES, small to medium, subangular to subrounded; some sand, medium to very coarse, subangular to subrounded; some small to medium pebbles, subangular to subrounded; wet; poorly sorted; black (10YR 2/1) to gray (10YR 5/1) to brown (10YR 5/3). FILL.	(6.5-11.5' bgs) 2" PVC 10-Slot Well Screen	
9.0					432				
10.0					35.9		(8.5-10.0') CONCRETE.		
11.0					5.5		(10.0-11.5') CLAY, medium to high plasticity; some medium sand to medium cobbles, subangular to subrounded; poorly sorted; wet; gray (10YR 6/1). FILL. Note: Wood and metal chunks observed from 10-11.5' bgs.		
12.0					629				
13.0			60		0.3		(11.5-15.0') CONCRETE.		
14.0					0.3				
15.0					0.1				
16.0					0.0		(15.0-18.0') SAND, fine to medium; some clay; little coarse sand to granules, subangular to subrounded; poorly sorted; wet; gray (10YR 5/1).	(13.0-18.0' bgs) Bentonite	
17.0					0.2				
18.0					0.0				
19.0				SB-04-49(18.5-19) _073020 @ 1030	0.0		(18.0-20.0') CLAY, low to medium plasticity; some silt, no dilatancy to slow dilatancy; little fine to medium sand; poorly sorted; dry to moist; very stiff; gray (10YR 5/1).	(18.0-25.0' bgs) Filter Pack Sand	
20.0					0.0				

Drilling Co.: Cascade Sampling Method: 5.0' Macrocore  
 Driller: R. Gordon Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): 7.0  
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; btoc = below top of casing; ft = feet; NM= not measured. Temporary wells screened from 6.5-11.5', 13-18', and 20-25' bgs among the boring and step out location. Converted to Well:  Yes  No  
 Surface Elev.: 731.1  
 North Coord.: 560368.0  
 East Coord.: 13305410.1

SOIL BORING LOG - 2013 C:\USERS\HUMPHREY\DESKTOP\NEW BUICK CITY LOGS\BUICK CITY MASTER 4.26.2021.GPJ - ARCADIS - 2019.GDT 4/28/21

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 07/30/2020 Logger: M. Olender  
 Project Number: 30075935 Date Completed: 07/30/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 70°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21					0.0		(20.0-20.5') PEBBLES, small to large, subangular to subrounded; some fine to very coarse sand, subangular to subrounded; wet; poorly sorted; gray (10YR 5/1).	(20.0-25.0' bgs) 2" PVC 10-Slot Well Screen	
22			SB-04-49(22-22.5) _073020 @ 1035	0.0		(20.5-23.0') CLAY, low to medium plasticity; some silt, no dilatancy to slow dilatancy; little fine to medium sand; poorly sorted; dry; very stiff; gray (10YR 5/1).			
23		60		0.0		(23.0-24.0') SAND, fine to coarse, subangular to subrounded; some clay, medium plasticity; poorly sorted; wet; medium stiff; gray (10YR 5/1).			
24			SB-04-49(24.5-25) _073020 @ 1040	0.0		(24.0-25.0') CLAY, low to medium plasticity; some silt, no dilatancy to slow dilatancy; little fine to medium sand; poorly sorted; dry to moist; very stiff; gray (10YR 5/1).			
25					0.0				
26							End of boring at 25.0' bgs.		
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
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41									

Remarks:

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# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 08/03/2020 Logger: M. Olender  
 Project Number: 30075935 Date Completed: 08/03/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 74°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
0.0 - 0.5			6				(0.0-0.5') CONCRETE.	(0.0-1.4' bgs) 2" Sch 40 PVC Well Casing (0.3-2.0' bgs)	
1.0 - 3.0				SB-04-50(1-1.5) _080320 @ 1320	0.0		(0.5-3.0') SAND, fine to very coarse, subangular to subrounded; and GRAVEL, angular to subangular; some granules to small pebbles, subangular to subrounded; poorly sorted; dry to moist; brown (10YR 5/3).		
3.0 - 10.0			54	SB-04-50(4-4.5) _080320 @ 1325	1.8		(3.0-10.0') CLAY, high plasticity; little fine to medium sand; trace granules; poorly sorted; moist to wet; medium stiff to stiff; brown (10YR 5/3) to black (10YR 2/1).	Bentonite (2.0-10.0' bgs) Filter Pack Sand	
10.0 - 13.0			60		9.4		Note: Wet from 6.0-9.0' bgs.	(4.0-9.0' bgs) 2" PVC 10-Slot Well Screen	
13.0 - 16.0				SB-04-50(10.5-11) _080320 @ 1330	1.1		(10.0-14.0') CLAY, low to medium plasticity; and SILT, no dilatancy to slow dilatancy; trace fine to medium sand to granules, subangular to subrounded; moist to wet; medium stiff to stiff; gray (10YR 5/1).	(10.0-13.0' bgs) Bentonite	
16.0 - 14.0			60		1.6		(14.0-14.5') SAND, fine to medium, subangular to subrounded; little silt; trace clay; poorly sorted; wet; gray (10YR 5/1) to dark gray (10YR 4/1).	(15.0-21.0' bgs) Filter Pack Sand	
14.0 - 16.0					36.2		(14.5-16.0') CLAY, low to medium plasticity; and SILT, no dilatancy to slow dilatancy; trace fine to medium sand to granules, subangular to subrounded; moist to wet; medium stiff to stiff; gray (10YR 5/1).		
16.0 - 25.0			60		10.1		(16.0-25.0') SAND, fine to medium; some silt; little clay, slow to rapid dilatancy; little granules to medium cobbles, subangular to subrounded; poorly sorted; wet; gray (10YR 5/1).	(15.0-20.0' bgs) 2" PVC 10-Slot Well Screen	
17.0 - 18.0					6.3				
18.0 - 19.0					578				
19.0 - 20.0					2.1				
20.0 - 21.0					1.4				
21.0 - 22.0					0.4				
22.0 - 23.0					0.5				

Drilling Co.: Cascade Sampling Method: 5.0' Macrocore  
 Driller: J. Greer Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): 6.0  
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; Converted to Well:  Yes  No  
btoc = below top of casing; ft = feet; NM= not measured. Temporary wells screened from 4-9', and Surface Elev.: 731.0  
15-20' bgs among the boring and step out location. North Coord.: 560378.1  
 East Coord.: 13305364.5

SOIL BORING LOG - 2013 C:\USERS\HUMPHREY\DESKTOP\NEW BUICK CITY LOGS\BUICK CITY MASTER 4.26.2021.GPJ ARCADIS - 2019.GDT 4/28/21

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 08/03/2020 Logger: M. Olender  
 Project Number: 30075935 Date Completed: 08/03/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 74°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21			60		1.7		(16.0-25.0') SAND, fine to medium; some silt; little clay, slow to rapid dilatancy; little granules to medium cobbles, subangular to subrounded; poorly sorted; wet; gray (10YR 5/1).	(21.0-25.0' bgs) Bentonite.	
22					0.8				
23					0.4				
24					1.0				
25					0.5				
26							End of boring at 25.0' bgs.		
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
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41									

Remarks:

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# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 07/29/2020 Logger: M. Olender  
 Project Number: 30075935 Date Completed: 07/29/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 80°F, Partly Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1			9.5			(0.0-0.8') CONCRETE.		(0.0-1.4' bgs) 2" Sch 40 PVC Well Casing (0.3-2.0' bgs) Bentonite (2.0-10.0' bgs) Filter Pack Sand	
2				SB-04-59(2-2.5) _072920 @ 1350	0.0	(0.8-3.5') SAND, fine to coarse, subangular to subrounded; some granules to small pebbles, subangular to subrounded; poorly sorted; moist to wet; brown (10YR 5/3). Note: Wet from 0.8-2.0' bgs.			
3			50.5		0.0				
4				SB-04-59(4-4.5) _072920 @ 1355	0.0	(3.5-7.0') SAND, fine to medium; trace coarse sand to granules, subangular to subrounded; moist; poorly sorted; black (10YR 2/1).			
5					4.9				
6					0.0			(4.0-9.0' bgs) 2" PVC 10-Slot Well Screen	
7					0.0		Note: Wet from 6.0-8.0' bgs.		
8			60	SB-04-59(8-8.5) _072920 @ 1400	0.0	(7.0-14.0') CLAY, medium plasticity; some silt, slow dilatancy; little fine to coarse sand to small pebbles, subangular to subrounded; moist to stiff to very stiff; wet; gray (10YR 5/1).			
9					0.0				
10					0.0		Note: Wet from 9.5-18.0' bgs.		
11					0.0			(10.0-11.0' bgs) Bentonite (11.0-18.0' bgs) Filter Pack Sand	
12			60		0.0				
13					0.0				
14					0.0			(12.0-17.0' bgs) 2" PVC 10-Slot Well Screen	
15					0.0	(14.0-18.0') CLAY, medium to high plasticity; some fine to coarse sand, subangular to subrounded; little silt; poorly sorted; medium stiff to stiff; wet; gray (10YR 5/1).			
16					0.0				
17			60		0.0				
18					0.0				
19				SB-04-59(18.5-19) _072920 @ 1405	0.0	(18.0-25.0') CLAY, medium plasticity; some silt, slow dilatancy; little fine to coarse sand to small pebbles, subangular to subrounded; moist to wet; stiff to very stiff; gray (10YR 5/1).		(18.0-25.0' bgs) Bentonite	
20					0.0				

Drilling Co.: Cascade Sampling Method: 5.0' Macrocore  
 Driller: R. Gordon Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): NA  
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; Converted to Well:  Yes  No  
btoc = below top of casing; ft = feet; NM= not measured. Temporary wells screened from 4-9' and 12-17' bgs. Surface Elev.: 730.2  
 North Coord.: 560480.6  
 East Coord.: 13305634.4

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 07/29/2020 Logger: M. Olender  
 Project Number: 30075935 Date Completed: 07/29/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 80°F, Partly Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21			60	SB-04-59(24.5-25) _072920 @ 1410	0.0		(18.0-25.0') CLAY, medium plasticity; some silt, slow dilatancy; little fine to coarse sand to small pebbles, subangular to subrounded; moist to wet; stiff to very stiff; gray (10YR 5/1).	(18.0-25.0' bgs) Bentonite	
22					0.0				
23					0.0				
24					0.0				
25					0.0				
26							End of boring at 25.0' bgs.		
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: \_\_\_\_\_  
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# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 07/29/2020 Logger: M. Olender  
 Project Number: 30075935 Date Completed: 07/29/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 84°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1			6		0.0	(0.0-0.5') CONCRETE.		(0.0-1.4' bgs) 2" Sch 40 PVC Well Casing	
2			54	SB-04-60(2-2.5) _072920 @ 1500	0.0	(0.5-1.0') SAND, fine to coarse, subangular to subrounded; and GRAVEL, subangular to subrounded; poorly sorted; wet; brown (10YR 5/3). (1.0-2.0') SAND, fine to medium; some coarse sand to granules, subangular to subrounded; trace pebbles, subangular; poorly sorted; moist; brown (10YR 5/3). Note: Wet from 1.0-2.0' bgs.	(0.3-2.0' bgs) Bentonite		
3					0.0	(2.0-5.0') CLAY, high plasticity; little sand, fine to medium; trace small pebbles, subangular to subrounded; moist to wet; medium stiff; grayish brown (10YR 5/2). Note: Wet from 4.0-9.0' bgs.	(2.0-10.0' bgs) Filter Pack Sand		
4					0.0				
5					0.0				
6			60	SB-04-60(9.5-10) _072920 @ 1520	0.0	(5.0-7.0') SAND, fine to very coarse, subangular to subrounded; some granules, subangular to subrounded; little small pebbles, subangular to subrounded; poorly sorted; wet; brown (10YR 5/3).	(4.0-9.0' bgs) 2" PVC 10-Slot Well Screen		
7					0.0				
8					0.0	(7.0-16.0') CLAY, medium plasticity; some silt, slow dilatancy; little fine to coarse sand, subangular to subrounded; trace small pebbles, subangular to subrounded; moist to wet; stiff; gray (10YR 5/1). Note: Wet from 10.0-23.0' bgs.	(10.0-13.0' bgs) Bentonite		
9					0.0				
10					0.0				
11					0.0				
12			60		0.0				
13					0.0				
14					0.0				
15					0.0				
16					0.0				
17			60		0.0	(16.0-19.0') SAND, medium to very coarse, subangular to subrounded; some granules to small pebbles, subangular to subrounded; little clay; poorly sorted; wet; gray (10YR 5/1).	(13.0-21.0' bgs) Filter Pack Sand		
18					0.0				
19					0.0				
20					0.0			(15.0-20.0' bgs) 2" PVC 10-Slot Well Screen	

Drilling Co.: Cascade Sampling Method: 5.0' Macrocore  
 Driller: R. Gordon Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): NA  
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; Converted to Well:  Yes  No  
btoc = below top of casing; ft = feet; NM= not measured. Temporary wells screened from 4-9' and 15-20' bgs. Surface Elev.: 730.3  
 North Coord.: 560522.2  
 East Coord.: 13305665.1

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 07/29/2020 Logger: M. Olender  
 Project Number: 30075935 Date Completed: 07/29/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 84°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21			60	SB-04-60(24.5-25) _072920 @ 1525	0.0		(19.0-25.0') CLAY, medium plasticity; some silt, slow dilatancy; little fine to coarse sand, subangular to subrounded; trace small pebbles, subangular to subrounded; poorly sorted; dry to wet; stiff; gray (10YR 5/1).	(21.0-25.0' bgs) Bentonite	
22					0.0				
23					0.0				
24					0.0				
25					0.0				
26							End of boring at 25.0' bgs.		
27									
28									
29									
30									
31									
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34									
35									
36									
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41									

Remarks:

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# Soil Boring Log

Project Name: RACER Trust - Buick City  
 Project Number: 30043300  
 Project Location: Flint, MI

Date Started: 07/28/2020 Date Completed: 07/28/2020  
 Logger: M. Olender Editor: M. Humphrey  
 Weather Conditions: 72°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1			6		0.0		(0.0-0.5') CONCRETE.	(0.0-1.4' bgs) 2" Sch 40 PVC Well Casing	
2			SB-04-61(2-2.5) _072820 @ 0930	0.0		(0.5-3.0') SAND, fine to coarse, subangular to subrounded; and GRAVEL, subangular to subrounded; some very coarse sand to small pebbles, subangular to subrounded; little silt; poorly sorted; moist; black (10YR 2/1) to brown (10YR 5/3).			
3			54	0.0					
4				SB-04-61(4-4.5) _072820 @ 0932	0.0		(3.0-5.0') SAND, medium to coarse, subangular to subrounded; some very coarse sand to granules, subangular to subrounded; little small to medium pebbles, angular to subangular; poorly sorted; moist; brown (10YR 5/3).	(0.3-9.0' bgs) Bentonite	
5				0.0					
6				SB-04-61(8-8.5) _072820 @ 0934	0.0		(5.0-9.0') CLAY, medium to high plasticity; little silt, no dilatancy to slow dilatancy; medium stiff; moist; well sorted; gray (10YR 5/1).	(9.0-17.0' bgs) Filter Pack Sand	
7				0.0					
8			60	0.0					
9				SB-04-61(18.5-19) _072820 @ 0936	0.0		(9.0-9.2') SAND, medium to very coarse, subangular to subrounded; and GRANULES to small PEBBLES, subrounded to subangular; little clay; poorly sorted; moist to wet; gray (10YR 5/1).	(11.0-16.0' bgs) 2" PVC 10-Slot Well Screen	
10				0.0					
11					0.0		(9.2-11.0') CLAY, medium to high plasticity; little silt, no dilatancy to slow dilatancy; medium stiff; moist; well sorted; gray (10YR 5/1).	(17.0-25.0' bgs) Bentonite	
12				0.0					
13			60	0.0					
14					0.0		(11.0-25.0') CLAY, medium plasticity; some silt, no dilatancy to slow dilatancy; little small pebbles, subangular to subrounded; trace fine to medium sand; poorly sorted; wet; gray (10YR 5/1). Note: Wet from 11.0-17.5' bgs. Note: Dry from 19.0-25.0' bgs.		
15					0.0				
16					0.0				
17					0.0				
18					0.0				
19					0.0				
20					0.0				

Drilling Co.: Cascade Sampling Method: 5.0' Macrocore  
 Driller: R. Gordon Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): NA  
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; Converted to Well:  Yes  No  
btoc = below top of casing; ft = feet; NM= not measured. Temporary well screened from 11-16' bgs. Surface Elev.: 729.1  
 North Coord.: 560474.9  
 East Coord.: 13305719.0

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 07/28/2020 Logger: M. Olender  
 Project Number: 30043300 Date Completed: 07/28/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 72°F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21			60	SB-04-61(22-22.5) _072820 @ 0938	0.0		(11.0-25.0') CLAY, medium plasticity; some silt, no dilatancy to slow dilatancy; little small pebbles, subangular to subrounded; trace fine to medium sand; poorly sorted; wet; gray (10YR 5/1). Note: Wet from 11.0-17.5' bgs. Note: Dry from 19.0-25.0' bgs.	(17.0-25.0' bgs) Bentonite	
22					0.0				
23					0.0				
24				SB-04-61(24.5-25) _072820 @ 0940	0.0				
25					0.0				
26						End of boring at 25.0' bgs.			
27									
28									
29									
30									
31									
32									
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34									
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36									
37									
38									
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40									
41									

Remarks:

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# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 08/06/2020 Logger: M. Olender  
 Project Number: 30075935 Date Completed: 08/06/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1				SB-04-64(0-1) _080620 @ 1400	0.0		(0.0-0.2') TOPSOIL; grass.	(0.0-25' bgs) Filter Pack Sand	Well
2				SB-04-64(1-2) _080620 @ 1405	0.0		(0.0-4.0') SAND, fine to coarse, subangular to subrounded; some small pebbles to small cobbles, subangular to subrounded; poorly sorted; dry to moist; brown (10YR 5/3) to light brownish gray (10YR 6/2). FILL.		
3				SB-04-64(2-3) _080620 @ 1410	0.0				
4				SB-04-64(3-4) _080620 @ 1415	0.0				
5				SB-04-64(4-5) _080620 @ 1420	0.0		(4.0-6.0') SAND, fine to medium, subangular to subrounded; trace coarse sand to granules, subangular to subrounded; poorly sorted; moist; black (10YR 2/1). FILL.		
6				SB-04-64(5-6) _080620 @ 1425	0.0				
7				SB-04-64(6-7) _080620 @ 1430	0.0		(6.0-7.0') CLAY, medium to high plasticity; and SAND, fine to coarse, subangular to subrounded; little small pebbles, subangular to subrounded; poorly sorted; moist to wet; medium stiff; gray (10YR 5/1) to black (10YR 2/1). FILL.		
8				SB-04-64(7-8) _080620 @ 1435	8.6		(7.0-8.5') SAND, fine to medium, subangular to subrounded; trace coarse sand to granules, subangular to subrounded; poorly sorted; moist; black (10YR 2/1). FILL.		
9				SB-04-64(8-9) _080620 @ 1440	0.0		(8.5-9.5') SAND, fine to very coarse, subangular to subrounded; some gravel, subangular to subrounded; poorly sorted; moist; very dark brown (10YR 2/2) to black (10YR 2/1). FILL.		
10					0.0		Note: Glass chunks throughout interval.		
11					0.0		(9.5-11.0') CONCRETE as cobbles, small to medium; subangular to subrounded; trace fine to medium sand.		
12					1.7		(11.0-16.0') SAND, fine to medium, subangular to subrounded; and SILT, slow to rapid dilatancy; some clay, medium to high plasticity; trace coarse sand to granules, subangular to subrounded.		
13				SB-04-64(12.5-13) _080620 @ 1445	0.0				
14					0.0				
15					0.0				
16					0.0				
17				SB-04-64(16.5-17) _080620 @ 1450	0.0		(16.0-17.0') SAND, fine to very coarse, subangular to subrounded; and COBBLES, subangular to subrounded; some clay, medium plasticity; poorly sorted; wet; gray (10YR 5/1).		
18					0.0		(17.0-20.0') SAND, fine to medium, subangular to subrounded; and SILT, slow to rapid dilatancy; some clay, medium to high plasticity; trace coarse sand to granules, subangular to subrounded.		
19				SB-04-64(18.5-19) _080620 @1455	0.0				
20					0.0				

Drilling Co.: Cascade Sampling Method: 5.0' Macrocore  
 Driller: J. Greer Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): 6.5  
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; Converted to Well:  Yes  No  
btoc = below top of casing; ft = feet; NM= not measured. Temporary well screened from 19-24' Surface Elev.: 733.5  
bgs. North Coord.: 560429.1  
 East Coord.: 13305439.7

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 08/06/2020 Logger: M. Olender  
 Project Number: 30075935 Date Completed: 08/06/2020 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21				SB-04-64(22-22.5) _080620 @ 1500	0.0		(20.0-24.0') SAND, fine to coarse, subangular to subrounded; some pebbles, subangular to subrounded; small to medium; little silt - clay; poorly sorted; wet; gray (10YR 5/1).	(19.0-24.0' bgs) 2" PVC 10-Slot Well Screen	
22					0.0				
23					0.0				
24				SB-04-64(24.5-25) _080620 @ 1505	0.0		(24.0-25.0') SAND, fine to medium, subangular to subrounded; and SILT, slow to rapid dilatancy; some clay, medium to high plasticity; trace coarse sand to granules, subangular to subrounded.	(24.0-25.0' bgs) Bentonite.	
25					0.0				
26							End of boring at 25.0' bgs.		
27									
28									
29									
30									
31									
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33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks:

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# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 01/08/2021 Logger: E. Redner  
 Project Number: 30075935 Date Completed: 01/08/2021 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 28°F, Overcast

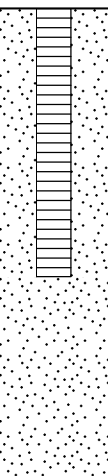
Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1			8		0.0	(0.0-1.0') CONCRETE.		(0.3-4.0' bgs) Bentonite	
2			12		0.0	(1.0-2.0') SAND, very fine to medium; little coarse sand to small pebbles, subangular to subrounded; poorly sorted; moist; black (10YR 2/1). FILL.		(0.0-5.0' bgs) 1" Sch 40 PVC Well Casing	
3					0.0	(2.0-2.5') CONCRETE.			
4					0.0	(2.5-4.0') SAND, fine to medium; trace granules, subangular to subrounded; well sorted; moist; black (10YR 2/1).			
5			40	SB-04-81(4-6) _010821 @ 0810	0.0	(4.0-8.0') SAND, fine to coarse, subangular to rounded; some very coarse sand to large pebbles, subangular to rounded; little silt; little clay, nonplastic to low plasticity, rapid dilatancy; poorly sorted; moist to wet; brownish yellow (10YR 6/6).		(4.0-12.0' bgs) Filter Pack Sand	
6					0.0	Note: Wet at 6.0' bgs.			
7					0.0				
8					0.0			(5.0-10.0' bgs) 1" PVC 10-Slot Well Screen	
9				SB-04-81(9-10) _010821 @ 0820	0.0	(8.0-14.5') CLAY; little silt, high plasticity, slow dilatancy; litte very fine sand to granules, subangular to subrounded; moist to wet; medium stiff to stiff; gray (10YR 6/1).			
10					0.0				
11					0.0				
12			120		0.0	Note: A 2" seam was observed at 11.5' bgs of very fine to coarse sand, subangular to subrounded; moist.			
13					0.0				
14					0.0			(12.0-17.0' bgs) Bentonite	
15				SB-04-81(14-15) _010821 @ 0830	0.0	(14.5-19.5') CLAY; some silt, medium plasticity, rapid dilatancy; little very fine sand to granules, subangular to rounded; dry to moist; medium stiff; gray (10YR 6/1).			
16					0.0				
17					0.0				
18					0.0			(0.0-19.0' bgs) 1" Sch 40 PVC Well Casing	
19					0.0				
20					0.0				

Drilling Co.: Cascade Sampling Method: Core Barrel  
 Driller: Chris Barden Sampling Interval: Continuous  
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): 6.0  
 Drilling Fluid: Water Water Level Finish (ft. btoc.): NA  
 Remarks: bgs = below ground surface; NA = not applicable; Converted to Well:  Yes  No  
btoc = below top of casing; ft = feet; NM= not measured. Hand augering the first 5.0' bgs could not be completed due to concrete and lose sands. Surface Elev.: 730.5  
 North Coord.: 560562.3  
 East Coord.: 13305718.5

Temporary wells screened from 5.0-10.0' and 19-24' bgs.

# Soil Boring Log

Project Name: RACER Trust - Buick City Date Started: 01/08/2021 Logger: E. Redner  
 Project Number: 30075935 Date Completed: 01/08/2021 Editor: M. Humphrey  
 Project Location: Flint, MI Weather Conditions: 28°F, Overcast

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well	
21			120	SB-04-81(19-21) _010821 @ 0840	0.0		(19.5-23.0') SILT; little clay, nonplastic to low plasticity, rapid dilatancy; some fine sand to small pebbles, subangular to subrounded; wet; soft; gray (10YR 6/1). Note: Wet at 19.5' bgs. Note: A 2" seam was observed 21.0' bgs of medium to very coarse sand; subangular; wet.	(19.0-24.0' bgs) 1" PVC 10-Slot Well Screen		
22		0.0								
23		0.0								
24		0.0				(23.0-27.0') CLAY; some silt, medium plasticity, rapid dilatancy; little to trace very fine sand to granules, subangular to subrounded; dry; very stiff to hard; gray (10YR 6/1).				(17.0-27.0' bgs) Filter Pack Sand
25		0.0								
26		0.0								
27		0.0								
28						End of boring at 27.0' bgs.				
29										
30										
31										
32										
33										
34										
35										
36										
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Remarks:

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