MEMORANDUM

TO:	Richard Conforti	cc:	Ms. Nicole Sanabria – MDEQ
FROM:	Clifford Yantz		Mr. John McCabe – MDEQ
RE:	Well Replacement Work Plan		Mr. Joseph Rogers – MDEQ
FILE:	15388/68545/5		Mr. Abiy Mussa - MDHHS
			Mr. James Henry – GCHD
			Mr. William Hough– GCHD
DATE:	March 11, 2019		Mr. Jeffrey Kost - GCHD
			Mr. David Favero – RACER Trust
			Mr. Kevin Schneider – O'Brien & Gere

This work plan has been prepared by O'Brien & Gere (Part of Ramboll) on behalf of the Revitalizing Auto Communities Environmental Response Trust (RACER Trust) to provide a framework for the replacement of the residential well located at 1278 E. Stanley Road located in Genesee Township, Genesee County, Michigan due to the discovery of per- and polyfluorinated alkyl substances (PFAS) in samples collected from this well.

BACKGROUND

PFAS impacts within the regional glacial Drift aquifer and the potential for impacts within residential wells became a high priority once PFAS, in particular perfluorooctanesulfonic acid (PFOS), were detected in Drift aquifer monitoring well B-2D at the RACER Trust Coldwater Road Landfill facility at a concentration of 110 ng/l in the analytical report provided by TestAmerica on July 11, 2018 from the sample collected on June 13, 2018. This result was confirmed on August 10, 2018 when the analytical report for a second sample (a resample) collected on July 19,2018 identified a concentration of PFOS of 99 ng/l (98 ng/l in a duplicate sample). Prior to this time, the available data indicated that PFAS impacts were almost entirely restricted to the shallow perched zone and did not appear to affect the regional Drift aquifer. After conducting further investigations in September and October 2018, it was confirmed that B-2D was compromised and the well was abandoned by over drilling the well and a replacement well (OBG MW-16D) was placed approximately 28 feet from the location of B-2D to monitor the Drift aquifer in this area of the Site. The results from OBG MW-16D were non-detect for PFAS. Furthermore, other than a few trace (<2 ng/l) detections of PFAS, PFAS and in particular PFOS, were not detected within the other Drift aquifer monitoring wells at the Site. Therefore, the Drift aquifer does not appear to be impacted with PFAS, confirming the conclusion that PFAS impacts are restricted to the shallow perched zone at the Site.

After the initial detection of PFAS in B-2D, RACER Trust, the Michigan Department of Environmental Quality (MDEQ), and Genesee County Health Department (GCHD) conducted a search of residential wells within a half mile of the site and identified 10 residential wells in close proximity to the Site and made plans to institute sampling at these residential wells. Attempts were made to contact the residents at these 10 residential well locations, and on September 6, 2018 seven residential wells were sampled by Merit Laboratories under the supervision of MDEQ and GCHD, an eighth well was sampled on September 25, 2018, and a duplicate sample (second sample) of the tap water at 1278 E. Stanley Road was also collected along with pre- and post-treatment system (to remove iron and sulfur, and to soften the water) samples. Of the 8 initial residential wells collected by MDEQ and GCHD, only the sample from the well at 1278 E. Stanley Road contained detectable PFAS with detections of perfluorohexane sulfonic acid (PFHxS) at 4 ng/l and PFOS at 73 ng/l. PFOS exceeded the drinking water criterion of 70 ng/l. The additional testing of the well confirmed the detection of PFOS in the residential well, but at concentrations below the 70 ng/l criterion ranging from 59 ng/l to 69 ng/l (see **Attachment 1**).

Subsequently, an Aquasana brand under the sink carbon filtration system (model AQ5300+R), as recommended by the Michigan Department of Health and Human Services (MDHHS), was installed on October 25, 2018 at 1278 E. Stanley Road to provide a drinking water source at the kitchen sink for residents to use. A post filter sample was collected on October 30, 2018, which indicated that the filtration system removed the PFAS (results were non-detect, see **Attachment 1**).

The only available information concerning the residential well at 1278 E. Stanley Road is provided by the Water Well and Pump Record (*e.g.*, well log) from the MDEQ's Wellogic database (see **Attachment 1**). Based on the well log, the well was installed in 1981 using a 5 inch diameter steel casing to a depth of 231 feet below grade (fbg), with the well obtaining its groundwater from the open bedrock aquifer from 231 fbg to 295 fbg consisting of limestone and sandstone (with shale). The boring log indicates the following geology was encountered during the drilling of the well:

Soil or Rock Type:	Top of Unit	Unit Thickness	Bottom of Unit
Clay	0	25	25
Sand	25	10	35
Gravel & Clay	35	20	55
Sand	55	45	100
Gravel & Clay	100	80	180
Shale	180	30	210
Sandstone	210	20	230
Limestone	230	10	240
Sandstone W/Shale	240	55	295

Five shallow borings (HPT-24, and HPT-27 through HPT-30) were installed at the 1278 E. Stanley Road property and no significant (> 1 foot thick) saturated sand seems were observed down to depths of up to 45 feet, and the groundwater samples from borings HPT-27, HPT-28, and HPT-29 were non-detect (HPT-24 and HPT-30 did not produce enough water to collect a sample from these locations).

In November and December 2018, three additional residential water wells were sampled for PFAS including the wells at 1297, 1302, and 1320 E. Stanley Road. Of these three wells, one located northeast and two houses located east of 1278 E. Stanley Road, only the well at 1320 contained detectable concentrations of PFOS (the only PFAS detected) at 7 ng/l in the sample collected on December 4, 2018 and at 8 ng/l in a re-sample collected on December 18, 2018.

CONCEPTUAL SITE MODEL

The conceptual site model (CSM) for the PFAS impacts observed within the residential well samples collected at 1278 E. Stanley Road is that the shallow perched zone impacts may have migrated laterally (presumably within small, isolated sand seams) to the residential well and are either entering the well annular space and traveling down the borehole to enter the well through either a corrosion hole or a separated casing/failed weld in the casing and cascades down the inside of the well to impact the groundwater within the well, or to enter the well at depth (potentially all the way down to 231 fbg where the 5 inch casing for the well ends) (or a combination of both of these options). This would likely indicate that the lateral migration of impacts would have to occur through small sand seems not encountered during investigation of the immediate vicinity of the residential well or at a depth of greater than 45 feet as that was the maximum depth investigated in the immediate vicinity of the residential well.

Therefore, RACER proposed and MDEQ, MDHHS, and GCHD agreed, it is appropriate to replace the residential well with a properly sealed and cased well to provide a water supply to the residence with acceptable water quality. .

RESIDENTIAL WELL REPLACEMENT

The residential well at 1278 E. Stanley Road will be replaced with a newly drilled and constructed water well in accordance with the MDEQ Water Well Construction and Pump Installation Code (Part 127, Act 368, PA 1978) and Well Construction Code Administrative Rules, and Genesee County water well construction and permitting requirements. OBG plans to subcontract Job Site Services (JSS) to conduct well replacement (and abandonment)

activities. JSS retains registered water well drillers on staff and will conduct the well installation (and abandonment) activities in accordance with licensing and documentation requirements of Part 127, Act 368, PA 1978.

The new residential well will be installed approximately 60 to 70 feet northeast of the current well on the property just (approximately 10 to 15 feet) off the edge of the driveway in the front yard of the residence. The final location will be approved by the property owner. The well will be installed using mud rotary drilling techniques.

The new residential well will be drilled to the required depth (*e.g.*, 295 fbg, or sufficiently deep enough to produce at least 7 and up to 14 gallons per minute [gpm] based on the recommendations provided in MDEQ Water Well Manual for a one to two bathroom house) using at least a 7 7/8-inch outside diameter (O.D.) mud-rotary tricone drilling bit. This diameter of borehole is sufficient to place the well construction materials (*i.e.*, 5-inch nominal casing) pursuant to the Well Construction Code Administrative Rules promulgated under Part 127, Act 368, PA 1978. A thick bentonite slurry will be utilized during drilling to form a bentonite filter cake on the walls of the borehole and a head of slurry rising to the ground surface will be utilized to hold open the borehole and effectively seal off the borehole during drilling. This should be sufficient to prevent cross contamination during drilling and installation of the well to keep any PFAS impacts from affecting the water quality in the new well. Approximately 10 ft of steel conductor casing will be set at the surface of the borehole to maintain the near surface integrity. The conductor casing will be removed after the well is constructed and all backfill materials have been placed. During drilling and well construction, drill cuttings will be separated from the drilling mud using a mud tub. The separated mud is recycled into the drilling process and the cuttings are stored in a roll-off or other suitable DOT container(s).

All drilling equipment and materials, including drilling bits and pipes, drilling mud, and backfill materials, will be either new or cleaned in the field using a high pressure steam cleaner, and will be PFAS free. Clean water supplied from a nearby clean water source (*e.g.*, city water from the Coldwater Road Landfill accumulation building) will be used during drilling and well construction activities. During drilling, the soil/rock type will be logged for lithologic purposes using the Unified Soil Classification System (USCS) by using a strainer to collect mud and cuttings from the mud return.

Once the upper part of the bedrock has been characterized through the shale that caps the underlying limestone and sandstone units, a 5" SDR 17 polyvinyl chloride (PVC) permanent casing will be installed from 1 foot above the ground surface to the base of the shale unit identified during drilling. The PVC casing will be manufactured in compliance with the standards of ASTM specification F 480-90, which is adopted by reference in R 325.1610 promulgated under Part 127, Act 368, PA 1978.

The PVC permanent well casing joints will be formed utilizing a 2-step solvent cementing process that is consistent with the provisions of ASTM specification F 480-90. The pipe ends will be free of burrs, dust, or moisture that might interfere with the solvent weld. A primer or welding solvent will be used before cementing. The primer, welding solvent, and solvent cement will be compatible with the pipe being coupled and the ambient temperature at the time of use and will be in compliance with the provisions of R 325.1640.

Pursuant to the provisions of R 325.1633a, the permanent casing will be grouted with neat cement or bentonite grout over the entire length of the casing. Neat cement will be placed through a grout (tremie) pipe from the bottom of the annular space upward to not less than 20 feet above the top of the bedrock in a continuous operation without interruption. The American Petroleum Institute (API) recommends a water to cement ratio for neat cement grout of 5.2 gallons of water per 94 lb. sack of cement with a maximum recommended water to cement ratio for neat cement of 6 gallons of water per 94 lb. sack of cement. The neat cement grout shall then be extended to a depth of not less than 20 feet above the top of the bedrock (*e.g.*, to a depth of approximately 160 fbg or less based on the existing well log, which will be verified during drilling). Once the casing has been grouted in place at least 20 feet above the top of the bedrock, the remainder of the annular space will be filled with a high solids bentonite grout consisting of more than 20% solids (no more than 24 gallons water per 50 lb.

bag of bentonite – 30% solids equals 14 gallons water per 50 lb. bag of bentonite) placed with a tremie pipe beginning at the top of the neat cement grout and continuing to the ground surface. The bentonite used for the bentonite grout shall be at least 85 percent montmorillonite and meet API specifications standard 13A. The use of at least 20% solids bentonite grout is preferred over using the neat cement grout to the ground surface because bentonite grout is less susceptible to shrinkage and cracking than neat cement grout, especially above saturated subsurface material.

The density of grout flowing from the annular space at the ground surface will be the density of the grout being pumped in. As previously specified, the permanent casing will be installed in a borehole that has a diameter of not less than 2 7/8 inches larger than the nominal casing size.

Once the permanent casing has been installed and allowed to set for 24-hours, a 5 7/8 inch bit will be utilized to complete the drilling of the borehole to the terminus of the well (open bedrock section of the well).

A groundwater sample will be collected following well completion and analyzed for PFAS to determine if the water contains PFAS. The well will be developed once the PFAS results are available, at a pumping rate which equals or exceeds that of the permanent pump, until the water is as clear as is reasonably possible considering the groundwater conditions in the area, and the development water will either be pumped to waste if PFAS concentrations are below the 11 ng/l surface water criteria or containerized for proper management.

A groundwater sample will be collected following well development to verify that the well is acceptable for use by analyzing the sample for PFAS, VOCs, RCRA metals, nitrate, nitrite, total Coliform and E. Coli.

After thoroughly developing the well, the well and pumping equipment will be disinfected with chlorine that is applied to obtain a chlorine concentration and minimum contact period specified in Table 5 of R 325.1661, Disinfection of well and pumping equipment.

Soil cuttings and drilling muds generated during boring advancement will be containerized in appropriate DOT containers (a roll-off or other suitable DOT container[s]), totes, or polyethylene storage tanks. These waste materials will be tested for PFAS and will be disposed accordingly based on the results of the testing with the approval of MDEQ.

Following receipt of the analytical results for the newly installed well, and in consultation with MDEQ and GCHD, the well will be connected to the existing water line outside of the foundation of the house by installing a pitless adaptor on the new well and trenching a service line from the well to the connection point with the existing water line servicing the residence. This line will go over the top of the line connecting the residence to the sanitary sewer that runs along Stanley Road.

Within 60 days of well completion, JSS will provide the home owner with a copy and MDEQ and GCHD, with 2 copies of a record indicating the well owner's name, location of the well, well depth, geologic materials and thicknesses of materials penetrated, amount of casing, static water levels, and any other information which may be required by the rules and construction code promulgated under section 12714 of Part 127 of PA368 of 1978.

RESIDENTIAL WELL ABANDONMENT

In Michigan, the plugging of water wells is regulated under the authority of Part 127, Act 368 PA 1978. The Act authorizes promulgation of rules contained within the Michigan Water Well Construction and Pump Installation Code. OBG plans to subcontract JSS to conduct the well abandonment activities. JSS retains registered water well drillers on staff and will conduct the well abandonment activities in accordance with licensing and documentation requirements of the MDEQ Part 127, Michigan Water Well Construction and Pump Installation Code, 1978 PA 368, as amended (Act 368).

The proposed method for abandonment of the residential well at 1278 E. Stanley Road is to first remove the submersible pumping and drop piping from the well. The drop piping, pump, and well casing will be disposed of or recycled, as appropriate. Following removal of the pump and piping from the well, a downhole camera will be

used to inspect the inside of the well and look for signs of water entering the well from a shallower zone than the bedrock portion of the well. After inspecting the well casing with the downhole camera, the well will be filled with bentonite slurry (similar to that used for mud rotary drilling). The well casing will then be pulled from the borehole followed by reaming the resulting borehole using a 7 7/8-inch O.D. mud-rotary tricone drilling bit to 231 fbg (depth the casing was installed to). Once the borehole has been reamed, the open hole portion of the well will be filled with neat cement grout through a tremie pipe placed at the bottom of the well, as specified in the MDEQ, Water Bureau, Abandoned Well Plugging Rules Summary, R 325.1664 (b) and (c) (Rule 164 (b) and (c)). The API recommends a water to cement ratio for neat cement grout of 5.2 gallons of water per 94 lb. sack of cement with a maximum recommended water to cement ratio for neat cement of 6 gallons of water per 94 lb. sack of cement. The neat cement grout shall then be extended to a depth of not less than 20 feet above the top of the bedrock (*e.g.*, to a depth of 160 fbg or less) in accordance with R 325.1663, Abandoned wells and dry holes; plugging method.

Once the borehole has been filled with cement grout to at least 20 feet above the top of the bedrock, the remainder of the annular space will be filled with a high solids bentonite grout consisting of more than 20% solids (no more than 24 gallons water per 50 lb. bag of bentonite – 30% solids equals 14 gallons water per 50 lb. bag of bentonite) placed with a tremie pipe beginning at the top depth of the neat cement grout and continuing to the ground surface. The bentonite used for the bentonite grout shall be at least 85 percent montmorillonite and meet API specifications standard 13A. The use of at least 20% solids bentonite grout is preferred over using the neat cement grout to the ground surface because bentonite grout is less susceptible to shrinkage and cracking than neat cement grout, especially above the water level, which is approximately 100 fbg from the bedrock.

The bentonite grout will be allowed to settle overnight and if the settlement is less than 10 feet the remainder of the resulting borehole will be topped off with bentonite chips to within 3 fbg, which will be hydrated at 2 foot lifts with 2.5 gallons of water. Should the settlement be greater than 10 feet, then additional bentonite slurry may be added to fill up to 6 fbg, after which hydrated bentonite chips will be added to within 3 fbg. Clean fill soil will be placed above the bentonite chips to within 4 inches of the ground surface to complete the well abandonment with topsoil place from 0.3 fbg to the ground surface to promote establishment of a vegetative cover (grass) over the well abandonment location.

RESTORATION

Following completion of replacing and abandoning the existing residential well, the property will be restored to its original condition (topsoil shall be added, seeded, fertilized, and mulched as needed).

A documentation letter will be prepared summarizing the well installation and abandonment activities, sampling results, and conclusions for submittal to MDEQ, GCHD, MDHHS, and the property owner.

If you have any questions or comments concerning this technical memorandum, please feel free to contact me at 313.333.0211 or Dave Favero at 734.879.9525.

Very truly yours,

O'BRIEN & GERE ENGINEERS, INC.

Clifford S. Yantz, PG
Senior Hydrogeologist

ENCLOSURES:

Attachment 1 – RACER Trust Coldwater Road Residential Water Well Results, January 9, 2019

TABLE 7

RACER Trust - Coldwater Road Landfill & Peregrine Facilities

Per-and Polyfluoroalkyl Substances Sampling Results - Residential Drinking Water Results - 2018 PFAS Investigation

Coldwater Road Landfill - PFAS Investigation - Residential Wells

Perfluorinated Compound	Well/Sample ID:	03124 1139 Stanley Rd	03124 (DUP)	10153 7010 Lewis Rd	03213 6500 N. Dort Hwy	03215 6369 N. Dort Hwy	20653 6466 Lewis Rd	14332 1037 Stanley Rd	1147 Stanley Rd	1302 E. Stanley Rd	1297 E. Stanley Rd	1320 E. Stanley Rd	1320 E. Stanley Rd
	Sample Date:	*9/6/2018*	*9/6/2018*	*9/6/2018*	*9/6/2018*	*9/6/2018*	*9/6/2018*	*9/6/2018*	*9/25/2018*	*11/12/2018*	*11/12/2018*	*12/4/2018*	*12/18/2018*
Perfluorohexanoic Acid (PFHxA)		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Perfluorobutane Sulfonic Acid (PFBS)		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Perfluoroheptanoic Acid (PFHpA)		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Perfluorooctanoic Acid (**PFOA**)		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Perfluorohexane Sulfonic Acid (PFHxS)		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Perfluorononanoic Acid (PFNA)		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Perfluorodecanoic Acid (PFDA)		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Perfluorooctane Sulfonic Acid (**PFOS**)		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**7**	**8**
Perfluoroundecanoic Acid (PFUnDA)		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Perfluorododecanoic Acid (PFDoDA)		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Perfluorotridecanoic Acid (PFTrDA)		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Perfluorotetradecanoic Acid (PFTeDA)		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

TABLE 7

RACER Trust - Coldwater Road Landfill & Peregrine Facilities

Per-and Polyfluoroalkyl Substances Sampling Results - Residential Drinking Water Results - 2018 PFAS Investigation

Coldwater Road Landfill - PFAS Investigation - 1278 E. Stanley Rd Residential Well

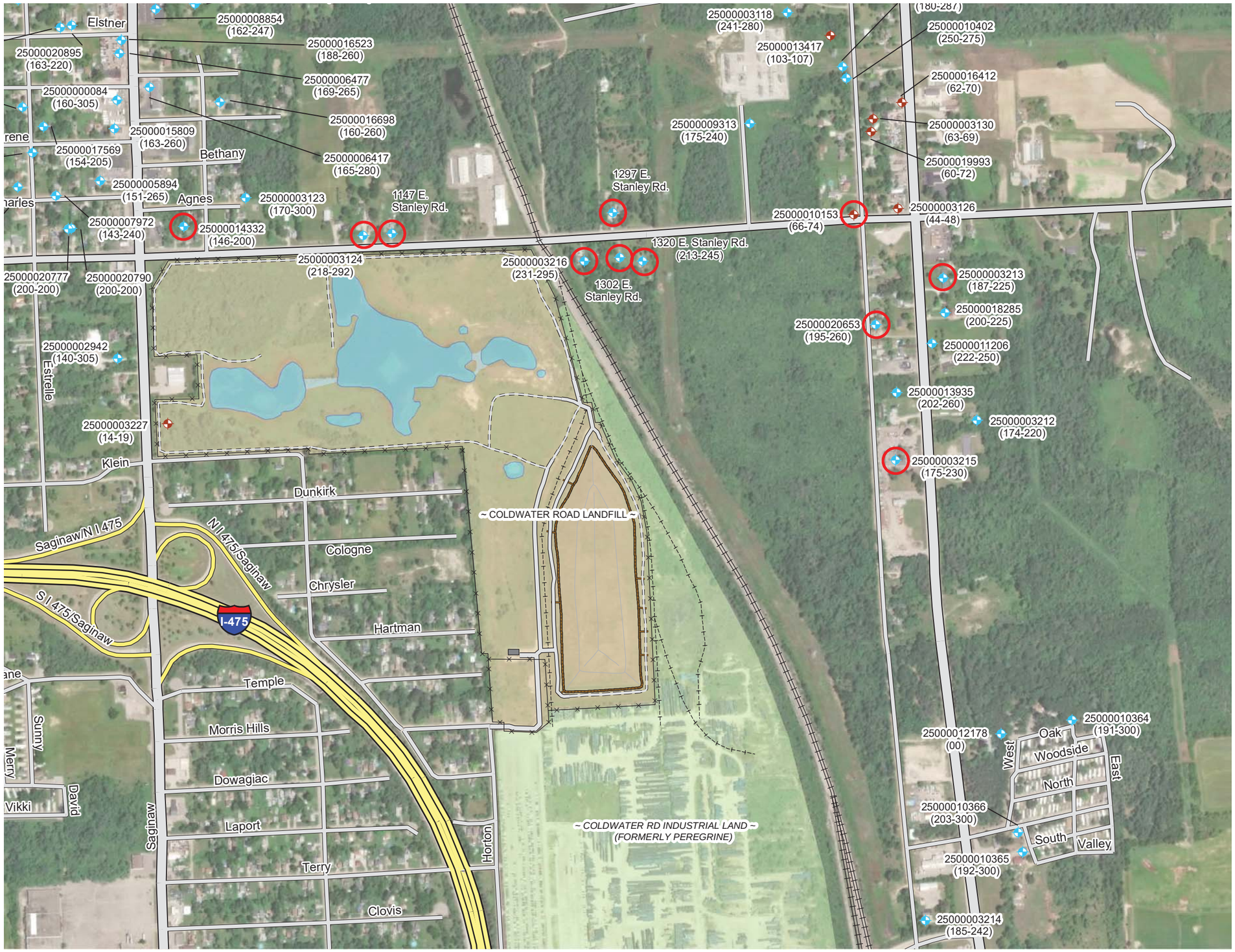
Perfluorinated Compound	Well/Sample ID:	03216 1278 E. Stanley Rd	03216 1278 E. Stanley Rd (Pre Treatment)	03216 1278 E. Stanley Rd (Duplicate)	03216 1278 E. Stanley Rd (Post Treatment)	03216 1278 E. Stanley Rd (Post Filter)
	Sample Date:	*9/6/2018*	*9/25/2018*	*9/25/2018*	*9/25/2018*	*10/30/2018*
Perfluorohexanoic Acid (PFHxA)		<2	<2	<2	<2	<2
Perfluorobutane Sulfonic Acid (PFBS)		<2	<2	<2	<2	<2
Perfluoroheptanoic Acid (PFHpA)		<2	<2	<2	<2	<2
Perfluorooctanoic Acid (**PFOA**)		<2	<2	<2	<2	<2
Perfluorohexane Sulfonic Acid (PFHxS)		**4**	**4**	**4**	**4**	<2
Perfluorononanoic Acid (PFNA)		<2	<2	<2	<2	<2
Perfluorodecanoic Acid (PFDA)		<2	<2	<2	<2	<2
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)		<2	<2	<2	<2	<2
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)		<2	<2	<2	<2	<2
Perfluorooctane Sulfonic Acid (**PFOS**)		**73**	**63**	**59**	**69**	<2
Perfluoroundecanoic Acid (PFUnDA)		<2	<2	<2	<2	<2
Perfluorododecanoic Acid (PFDoDA)		<2	<2	<2	<2	<2
Perfluorotridecanoic Acid (PFTrDA)		<2	<2	<2	<2	<2
Perfluorotetradecanoic Acid (PFTeDA)		<2	<2	<2	<2	<2

Coldwater Road Landfill - PFAS Investigation - Quality Control Samples

Perfluorinated Compound	Well/Sample ID:	Field Blank (03215)	Field Blank (1278 E. Stanley Rd)	FB-01 (1278 E. Stanley Rd)	FB-01 (1297 E. Stanley Rd)	FB-01 (1320 E. Stanley Rd)	FB-02 (1320 E. Stanley Rd)
	Sample Date:	*9/6/2018*	*9/25/2018*	*10/30/2018*	*11/12/2018*	*12/4/2018*	*12/18/2018*
Perfluorohexanoic Acid (PFHxA)		<2	<2	<2	<2	<2	<2
Perfluorobutane Sulfonic Acid (PFBS)		<2	<2	<2	<2	<2	<2
Perfluoroheptanoic Acid (PFHpA)		<2	<2	<2	<2	<2	<2
Perfluorooctanoic Acid (**PFOA**)		<2	<2	<2	<2	<2	<2
Perfluorohexane Sulfonic Acid (PFHxS)		<2	<2	<2	<2	<2	<2
Perfluorononanoic Acid (PFNA)		<2	<2	<2	<2	<2	<2
Perfluorodecanoic Acid (PFDA)		<2	<2	<2	<2	<2	<2
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)		<2	<2	<2	<2	<2	<2
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)		<2	<2	<2	<2	<2	<2
Perfluorooctane Sulfonic Acid (**PFOS**)		<2	<2	<2	<2	<2	<2
Perfluoroundecanoic Acid (PFUnDA)		<2	<2	<2	<2	<2	<2
Perfluorododecanoic Acid (PFDoDA)		<2	<2	<2	<2	<2	<2
Perfluorotridecanoic Acid (PFTrDA)		<2	<2	<2	<2	<2	<2
Perfluorotetradecanoic Acid (PFTeDA)		<2	<2	<2	<2	<2	<2

Notes

1) Concentrations in ng/L.
2) < = Not detected at specified reporting limit.
3) -- = Not analyzed.
4) * Indicates Drift Aquifer monitoring well.
5) Dup = Duplicate sample.
6) B = Compound was found in the blank and the sample.
7) Cl = The peak identified in the data system exhibited chromatographic interference that could not be resolved. There is reason to suspect there may be high bias.
8) H = Sample was Prepped or analyzed beyond the specified holding time.
9) J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
10) JN - Indicates that the traget analyte has been "tentatively identified" as present and the associated numerical value is the estimated concentration in the sample.
11) U - Indicates that the analyte was not detected and the sample RL is presented. This qualifier is alsoused to signify blank excursions.
12) F1 - MS and/or MSD Recovery is outside acceptance limits.
13) Concentrations above the USEPA advisory level (70 ng/L PFOA+PFOS) and/or MDEQ proposed drinking water criteria (70 ng/L PFOA+PFOS) are highlighted in yellow.



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LEGEND

- DRIFT AQUIFER WELL LOCATION
- BEDROCK AQUIFER WELL LOCATION
- (63-69) SCREEN INTERVAL / ROCK INTERVAL
- SAMPLE LOCATIONS

RACER TRUST
COLDWATER ROAD
LANDFILL FACILITY
FLINT, MICHIGAN

WATER WELL LOCATIONS

0 250 500 750 1,000
Feet

DECEMBER 2018
15388/68545/002

O'BRIEN & GERE ENGINEERS, INC.

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID: 25087707009

Tax No:	Permit No:	County: Genesee	Township: Genesee

Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:
08N 07E	7			

Well ID: 25000003124

Elevation: 795 ft.
Latitude: 43.1050841623
Longitude: -83.6889420005
Method of Collection: Interpolation-Map

Distance and Direction from Road Intersection:
Aquifer: SAGINAW Well #: 250110709

Well Owner:

Well Address:
1139 STANLEY
MI

Owner Address:

Drilling Method: Rotary
Well Depth: 292.00 ft. **Well Use:** Household
Well Type: Replacement **Date Completed:** 7/21/1986

Casing Type: Unknown **Height:** 0.00 ft. below grade
Casing Joint: Unknown
Casing Fitting: None

Diameter: 5.00 in. to 218.00 ft. depth

Borehole:

Pump Installed: Yes **Pump Installation Only:** No
Pump Installation Date: **HP:**
Manufacturer: Other **Pump Type:** Submersible
Model Number: **Pump Capacity:** 0 GPM
Drop Pipe Length: 180.00 ft. **Pump Voltage:**
Drop Pipe Diameter: **Drilling Record ID:**
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Relief Valve Installed: No

Static Water Level: 102.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Unknown
Pumping level 185.00 ft. after 1.00 hrs. at 18 GPM

Screen Installed: No **Intake:** Unknown

Formation Description	Thickness	Depth to Bottom
Clay	78.00	78.00
Sand & Gravel	30.00	108.00
Clay	107.00	215.00
Limestone	20.00	235.00
Limestone W/Sand	57.00	292.00

Well Grouted: Yes **Grouting Method:** Unknown

Grouting Material	Bags	Additives	Depth
Other	0.00	None	0.00 ft. to 0.00 ft.

Geology Remarks:

Wellhead Completion: Pitless adapter

Nearest Source of Possible Contamination:

Type	Distance	Direction
None		

Drilling Machine Operator Name:
Employment: Unknown

Contractor Type: Unknown **Reg No:** 25-1242
Business Name:
Business Address:

Abandoned Well Plugged: No
Reason Not Plugged:

Water Well Contractor's Certification

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor **Date**

General Remarks:

Other Remarks: Grouting Material 1:Listed as other in Wellkey, Pump Manufacturer:Pump Manufacturer unknown

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID: 25087717007

Tax No:	Permit No:	County: Genesee	Township: Genesee

Well ID: 25000003213

Elevation: 790 ft.
Latitude: 43.1040532459
Longitude: -83.675041896
Method of Collection: Interpolation-Map

Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:
08N 07E	17			

Distance and Direction from Road Intersection:
Aquifer: SAGINAW Well #: 250111707

Well Owner:

Well Address:
6500 N. DORT
MI

Owner Address:

Drilling Method: Rotary
Well Depth: 225.00 ft. **Well Use:** Household
Well Type: Replacement **Date Completed:** 7/20/1979

Casing Type: Unknown **Height:**
Casing Joint: Unknown
Casing Fitting: None

Diameter: 4.00 in. to 187.00 ft. depth

Borehole:

Pump Installed: Yes **Pump Installation Only:** No
Pump Installation Date: **HP:**
Manufacturer: Other **Pump Type:** Submersible
Model Number: **Pump Capacity:** 0 GPM
Drop Pipe Length: 176.00 ft. **Pump Voltage:**
Drop Pipe Diameter: **Drilling Record ID:**
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Relief Valve Installed: No

Static Water Level: 60.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Unknown
Pumping level 225.00 ft. after 4.00 hrs. at 10 GPM

Screen Installed: No **Intake:** Unknown

Formation Description	Thickness	Depth to Bottom
Clay	30.00	30.00
Gravel	25.00	55.00
Clay	125.00	180.00
Sandstone	45.00	225.00

Well Grouted: Yes **Grouting Method:** Unknown

Grouting Material	Bags	Additives	Depth
Other	0.00	None	0.00 ft. to 0.00 ft.

Geology Remarks:

Wellhead Completion: Pitless adapter

Nearest Source of Possible Contamination:

Type	Distance	Direction
None		South

Drilling Machine Operator Name:
Employment: Unknown

Contractor Type: Unknown **Reg No:**
Business Name:
Business Address:

Abandoned Well Plugged: No
Reason Not Plugged:

Water Well Contractor's Certification

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor **Date**

General Remarks:

Other Remarks: Grouting Material 1:Listed as other in Wellkey, Pump Manufacturer:Pump Manufacturer unknown

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID: 25087717009

Tax No:	Permit No:	County: Genesee	Township: Genesee

Well ID: 25000003215

Elevation: 777 ft.
Latitude: 43.1008693651
Longitude: -83.6763040062
Method of Collection: Interpolation-Map

Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:
08N 07E	17			

Distance and Direction from Road Intersection:
Aquifer: SAGINAW Well #: 250111709

Well Owner:

Well Address:
6369 N. DORT
MI

Owner Address:

Drilling Method: Rotary
Well Depth: 230.00 ft. **Well Use:** Household
Well Type: Replacement **Date Completed:** 8/9/1985
Casing Type: Unknown **Height:**
Casing Joint: Unknown
Casing Fitting: None

Diameter: 5.00 in. to 175.00 ft. depth

Borehole:

Pump Installed: No
Pressure Tank Installed: No
Pressure Relief Valve Installed: No

Static Water Level: 80.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Unknown
Pumping level 150.00 ft. after 2.00 hrs. at 20 GPM

Screen Installed: No **Intake:** Unknown

Formation Description	Thickness	Depth to Bottom
Clay	53.00	53.00
Sand & Gravel	37.00	90.00
Clay	78.00	168.00
Sandstone	12.00	180.00
Limestone	8.00	188.00
Sandstone	42.00	230.00

Well Grouted: Yes **Grouting Method:** Unknown

Grouting Material	Bags	Additives	Depth
Other	0.00	None	0.00 ft. to 0.00 ft.

Geology Remarks:

Wellhead Completion: Other, 12 inches above grade

Nearest Source of Possible Contamination:

Type	Distance	Direction
None		

Drilling Machine Operator Name:
Employment: Unknown

Contractor Type: Unknown **Reg No:** 25-0169
Business Name:
Business Address:

Abandoned Well Plugged: No
Reason Not Plugged:

Water Well Contractor's Certification

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor **Date**

General Remarks:
Other Remarks: Grouting Material 1:Listed as other in Wellkey, Wellhead Completion:12 inch Above Grade

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID: 25087718001

Tax No:	Permit No:	County: Genesee	Township: Genesee

Well ID: 25000003216

Elevation: 792 ft.
Latitude: 43.1045275157
Longitude: -83.6836455432
Method of Collection: Interpolation-Map

Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:
08N 07E	18			

Distance and Direction from Road Intersection:
Aquifer: SAGINAW Well #: 250111801

Well Owner:

Well Address:
1278 E. STANLEY
MI

Owner Address:

Drilling Method: Rotary
Well Depth: 295.00 ft. **Well Use:** Household
Well Type: Replacement **Date Completed:** 5/1/1981

Casing Type: Unknown **Height:**
Casing Joint: Unknown
Casing Fitting: None

Diameter: 5.00 in. to 231.00 ft. depth

Borehole:

Pump Installed: Yes **Pump Installation Only:** No
Pump Installation Date: **HP:**
Manufacturer: Other **Pump Type:** Submersible
Model Number: **Pump Capacity:** 0 GPM
Drop Pipe Length: 180.00 ft. **Pump Voltage:**
Drop Pipe Diameter: **Drilling Record ID:**
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Relief Valve Installed: No

Static Water Level: 100.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Unknown
Pumping level 293.00 ft. after 3.00 hrs. at 13 GPM

Screen Installed: No **Intake:** Unknown

Formation Description	Thickness	Depth to Bottom
Clay	25.00	25.00
Sand	10.00	35.00
Gravel & Clay	20.00	55.00
Sand	45.00	100.00
Gravel & Clay	80.00	180.00
Shale	30.00	210.00
Sandstone	20.00	230.00
Limestone	10.00	240.00
Sandstone W/Shale	55.00	295.00

Well Grouted: Yes **Grouting Method:** Unknown

Grouting Material	Bags	Additives	Depth
Other	0.00	None	0.00 ft. to 0.00 ft.

Geology Remarks:

Wellhead Completion: Pitless adapter

Nearest Source of Possible Contamination:

Type	Distance	Direction
None		

Drilling Machine Operator Name:
Employment: Unknown

Contractor Type: Unknown **Reg No:** 25-0032
Business Name:
Business Address:

Abandoned Well Plugged: No
Reason Not Plugged:

Water Well Contractor's Certification

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor **Date**

General Remarks:

Other Remarks: Grouting Material 1:Listed as other in Wellkey, Pump Manufacturer:Pump Manufacturer unknown

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Wellogic

Import ID:

Tax No:	Permit No: 08280	County: Genesee	Township: Genesee

Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:
08N 07E	7	Active		

Well ID: 25000010153

Elevation:

Latitude: 43.10521497

Longitude: -83.67714199

Method of Collection: Address Matching-House Number

Distance and Direction from Road Intersection:
200' N OF STANLEY RD 100' E OF LEWIS RD

Well Owner: JESSIE OTIS

Well Address:	Owner Address:
7010 LEWIS RD MT MORRIS, MI 48458	7010 LEWIS RD MT MORRIS, MI 48458

Drilling Method: Rotary
Well Depth: 74.00 ft. **Well Use:** Household
Well Type: Replacement **Date Completed:** 10/18/2002

Casing Type: PVC plastic **Height:** 1.50 ft. above grade
Casing Joint: Unknown
Casing Fitting: None

Diameter: 5.00 in. to 60.00 ft. depth

Borehole: 8.00 in. to 74.00 ft. depth

Pump Installed: Yes **Pump Installation Only:** No
Pump Installation Date: **HP:** 0.50
Manufacturer: F.E. Myers **Pump Type:** Submersible
Model Number: 2NFL52 **Pump Capacity:** 12 GPM
Drop Pipe Length: 60.00 ft. **Pump Voltage:**
Drop Pipe Diameter: **Drilling Record ID:**
Draw Down Seal Used: No

Pressure Tank Installed: Yes
Pressure Tank Type: Unknown
Manufacturer: Perma-Air
Model Number: PAD31 **Tank Capacity:** 31.0 Gallons
Pressure Relief Valve Installed: No

Static Water Level: 30.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Air
Pumping level 60.00 ft. after 3.00 hrs. at 30 GPM

Formation Description	Thickness	Depth to Bottom
Clay	44.00	44.00
Sand Water Bearing	30.00	74.00

Screen Installed: Yes **Filter Packed:** No
Screen Diameter: 4.00 in. **Blank:** 3.00 ft. Above
Screen Material Type: Stainless steel-wire wrapped

Slot	Length	Set Between
12.00	4.00 ft.	66.00 ft. and 74.00 ft.

Fittings: Neoprene packer

Well Grouted: Yes **Grouting Method:** Unknown

Grouting Material	Bags	Additives	Depth
Bentonite slurry	4.00	None	0.00 ft. to 60.00 ft.

Wellhead Completion: Pitless adapter

Geology Remarks:

Nearest Source of Possible Contamination:

Type	Distance	Direction
Sewer line	10 ft.	West

Abandoned Well Plugged: Yes

Casing Removed:

Drilling Machine Operator Name: MIKE KUREK
Employment: Employee

Contractor Type: Water Well Drilling Contractor **Reg No:** 44-1902
Business Name: METAMORA WATER SERVICE
Business Address:

Water Well Contractor's Certification

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor **Date**

General Remarks:

Other Remarks:

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID:

Tax No:	Permit No: 12530	County: Genesee	Township: Genesee

Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:
08N 07E	7	Active		

Well ID: 25000014332

Elevation: 771 ft.
Latitude: 43.105332
Longitude: -83.693251
Method of Collection: Interpolation-Map

Distance and Direction from Road Intersection:
BETWEEN SAGINAW & DORT HWY OFF STANLEY RD

Well Owner: RANDY MCCLURE

Well Address:
1037 STANLEY RD
MI

Owner Address:
2536 COLE RD
LAKE ORION, MI 48362

Drilling Method: Rotary
Well Depth: 200.00 ft. **Well Use:** Household
Well Type: Replacement **Date Completed:** 5/12/2005

Casing Type: PVC plastic **Height:**
Casing Joint: Unknown
Casing Fitting: Shale packer/trap

Diameter: 5.00 in. to 146.00 ft. depth

Borehole: 8.00 in. to 146.00 ft. depth
4.50 in. to 200.00 ft. depth

Pump Installed: Yes **Pump Installation Only:** No
Pump Installation Date: **HP:** 0.75
Manufacturer: Baron **Pump Type:** Submersible
Model Number: 712BGT22 **Pump Capacity:** 12 GPM
Drop Pipe Length: 120.00 ft. **Pump Voltage:**
Drop Pipe Diameter: **Drilling Record ID:**
Draw Down Seal Used: No

Pressure Tank Installed: Yes
Pressure Tank Type: Unknown
Manufacturer: Challenger
Model Number: 122 **Tank Capacity:** 32.0 Gallons
Pressure Relief Valve Installed: No

Static Water Level: 80.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Air
Pumping level 180.00 ft. after 2.00 hrs. at 30 GPM

Screen Installed: No **Intake:** Bedrock Well

Formation Description	Thickness	Depth to Bottom
Clay	70.00	70.00
Clay & Gravel	30.00	100.00
Clay	20.00	120.00
Gravel	5.00	125.00
Clay	15.00	140.00
Sandstone	53.00	193.00
Limestone	7.00	200.00

Well Grouted: Yes **Grouting Method:** Unknown

Grouting Material	Bags	Additives	Depth
Bentonite slurry	7.00	None	1.00 ft. to 146.00 ft.

Geology Remarks:

Wellhead Completion: Pitless adapter

Nearest Source of Possible Contamination:

Type	Distance	Direction
Sewer line	18 ft.	West

Drilling Machine Operator Name: MIKE MUNSELL
Employment: Employee

Contractor Type: Water Well Drilling Contractor **Reg No:** 25-1886
Business Name: LYONS WELL DRLG INC
Business Address:

Abandoned Well Plugged: No
Reason Not Plugged: Other

Water Well Contractor's Certification

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor **Date**

General Remarks:

Other Remarks: Not Plugged Reason:COULD NOT LOCATE

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID:

Tax No: 11-17-100-009	**Permit No:** W19304	**County:** Genesee		**Township:** Genesee
Town/Range: 08N 07E	**Section:** 17	**Well Status:** Active	**WSSN:**	**Source ID/Well No:**

Well ID: 25000020653

Elevation: 813 ft.
Latitude: 43.10327
Longitude: -83.67669
Method of Collection: GPS Std Positioning Svc SA Off

Distance and Direction from Road Intersection:
Between Stanley Rd. & Coldwater Rd. South off Stanley. East side.

Well Owner: Michelle Hillaker

Well Address:
6466 Lewis Rd
Mt. Morris, MI 48458

Owner Address:
409 Peninsula Dr.
Columbiaville, MI 48421

Drilling Method: Rotary
Well Depth: 260.00 ft. **Well Use:** Household
Well Type: Replacement **Date Completed:** 6/5/2014

Casing Type: PVC plastic **Height:** 1.00 ft. above grade
Casing Joint: Solvent welded/glued
Casing Fitting:

Diameter: 5.00 in. to 175.00 ft. depth SDR: 21.00
5.00 in. to 195.00 ft. depth SDR: 17.00

Borehole: 8.00 in. to 195.00 ft. depth
4.75 in. to 260.00 ft. depth

Pump Installed: Yes **Pump Installation Only:** No
Pump Installation Date: 6/9/2014 **HP:** 0.75
Manufacturer: AquaDuty **Pump Type:** Submersible
Model Number: FP10752302 **Pump Capacity:** 10 GPM
Drop Pipe Length: 150.00 ft. **Pump Voltage:** 230
Drop Pipe Diameter: 1.00 in. **Drilling Record ID:**
Draw Down Seal Used: No

Pressure Tank Installed: Yes
Pressure Tank Type: Diaphragm/bladder
Manufacturer: Challenger
Model Number: PC66 **Tank Capacity:** 20.0 Gallons
Pressure Relief Valve Installed: Yes

Static Water Level: 90.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Air
Pumping level 160.00 ft. after 2.00 hrs. at 20 GPM

Screen Installed: No **Intake:** Bedrock Well

Formation Description	Thickness	Depth to Bottom
Clay	50.00	50.00
Gravel Brown	35.00	85.00
Clay Stoney	85.00	170.00
Shale	20.00	190.00
Limestone & Sandstone	70.00	260.00

Well Grouted: Yes **Grouting Method:** Grout pipe outside casing

Grouting Material	Bags	Additives	Depth
Bentonite slurry	12.00	Retarder	0.00 ft. to 190.00 ft.

Geology Remarks:

Wellhead Completion: Pitless adapter, 12 inches above grade

Nearest Source of Possible Contamination:

Type	Distance	Direction
Sewer line	35 ft.	West

Drilling Machine Operator Name: Tad Kurek
Employment: Employee
Pump Installer: Kevin Schultz

Contractor Type: Water Well Drilling Contractor **Reg No:** 44-1800
Business Name: The Well Doctor
Business Address: 2327 S Lapeer Rd, Lapeer, MI, 48446

Abandoned Well Plugged: Yes

Latitude: 43.10329 **Longitude:** -83.67672
Casing Diameter: 2 in. **Casing Removed:** Yes
Plugging Material: Bentonite chips/pellets
No. of Bags: 6.00 **Well Depth:** 262 ft.

Water Well Contractor's Certification

This well/pump was constructed under my supervision and I hereby certify that the work complies with Part 127 Act 368 PA 1978 and the well code.

Signature of Registered Contractor **Date**

General Remarks: Casing reduced to 4' below grade
Other Remarks:

GEOLOGICAL SURVEY NO.

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

WATER WELL AND PUMP RECORD

PERMIT NUMBER

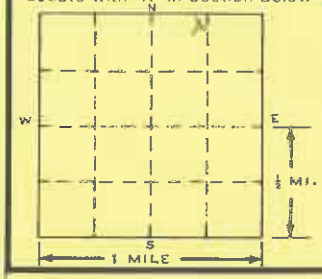
1 LOCATION OF WELL

County	Township Name	Fraction	Section Number	Town Number	Range Number
Genesee	Genesee	NE¼ NW¼ NE¼	10	6 N/S	7 E/W

Distance And Direction From Road Intersection: ¾ mile east of Saginaw on the South side of Stanley

Street Address & City of Well Location: 1320 E Stanley Rd (Stanley)

Locate with "X" in Section Below



Sketch Map:

3 OWNER OF WELL

C. Bishop

Address: 1320 E Stanley Rd Grand Blanc, MI.

Address Same As Well Location? ☒ Yes ☐ No

4 WELL DEPTH (completed)

245 ft

Date of Completion: 5-20-87

5

☐ Cable tool ☒ Rotary ☐ Driven ☐ Dug
☐ Hollow rod ☐ Auger ☐ Jetted ☐ ____

6 USE

☒ Domestic ☐ Type I Public ☐ Type III Public
☐ Irrigation ☐ Type IIa Public ☐ Heat pump
☐ Test Well ☐ Type IIb Public ☐ ____

7 CASING

Diameter: ☐ Steel ☐ Threaded ☒ Plastic ☐ Welded

5 in. to 213 ft. depth
____ in. to ____ ft. depth

Grouted Drill Hole Diameter
5¼ in. to 213 ft. depth
4½ in. to 245 ft. depth

Height: Above/Below Surface 1 ft

Weight ____ lbs /ft.

Drive Shoe ☐ Yes ☒ No

8 SCREEN

☒ Not Installed

Type ____ Diameter ____

Slot/Gauze ____ Length ____

Set between ____ ft and ____ ft

FITTINGS ☐ K-Packer ☐ Lead Packer ☐ Bremer Check

☐ Blank above screen ____ ft Other ____

9 STATIC WATER LEVEL

90 ft. below land surface ☐ Flow

10 PUMPING LEVEL below land surface

Abt 240 ft. after 1 hrs. pumping at 20 G.P.M.

____ ft. after ____ hrs. pumping at ____ G.P.M.

11 WELL HEAD COMPLETION

☒ Pitless adapter ☐ 12" above grade
☐ Basement offset ☐ Approved pit

12 WELL GROUTED?

☐ No ☒ Yes From 0 to 245 ft

☐ Neat cement ☒ Bentonite ☐ Other ____

No. of bags of cement ____ Additives ____

13 Nearest source of possible contamination

Type Septic Distance 25 ft. Direction N

Well disinfected upon completion? ☒ Yes ☐ No

14 PUMP

☐ Not Installed ☐ Pump Installation Only

Manufacturer's name Flint

Model number 4F10EE-301 HP ¼ Volts 230

Length of Drop Pipe 140 ft. capacity 10 G.P.M.

TYPE: ☒ Submersible ☐ Jet ____

PRESSURE TANK

Manufacturer's name Amtrol (Owners)

Model number 302 Capacity 4-5 Gallons

2 FORMATION DESCRIPTION

FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Sand	7	7
Clay	163	170
Gravel	10	180
Clay	27	207
Sand Rock	15	222
Sandy Shale	5	227
Sand Rock	18	245

USE A 2ND SHEET IF NEEDED

15 Remarks, elevation, source of data, etc.

16. WATER WELL CONTRACTOR'S CERTIFICATION

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

C.J. Patterson Well Drilling (10) 166

REGISTERED BUSINESS NAME REGISTRATION NO.

Address 10101 Fenton Rd. Holly

Signed Donald Patterson Date 5-20-87

AUTHORIZED REPRESENTATIVE

D67d 2/84

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

LOCAL HEALTH DEPT. COPY