Data Summary Report
2018 Supplemental Remedial Investigation Activities
Fulton (Ontario St.) Former MGP Site
NYSDEC Site #738050
Fulton, Oswego County, New York

Prepared for
Niagara Mohawk Power Corporation d/b/a
National Grid, Syracuse, New York
April 2019

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Niagara Mohawk Power Corporation d/b/a National Grid

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April 2019

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April 5, 2019

Mr. Matthew King
New York State Department of Environmental Conservation
Division of Environmental Remediation, Remedial Bureau C, Section A
625 Broadway, 11th Floor
Albany, NY 12233-7014

Re: Data Summary Report, 2018 Supplemental Remedial Investigation Activities
Fulton (Ontario St.) Former MGP Site
Fulton, Oswego County, New York
NYSDEC Site No. 738050

Dear Mr. King:

Please find enclosed a Data Summary Report (DSR) prepared by Brown and Caldwell Associates (BC) on behalf of Niagara Mohawk Power Corporation, doing business as National Grid, for the 2018 Supplemental Remedial Investigation (SRI) activities at the Fulton (Ontario St.) Former Manufactured Gas Plant (MGP) Site in Fulton, New York (hereinafter referred to as the "Site"). The SRI activities were conducted in accordance with the "Supplemental Remedial Investigation Work Plan Addendum, Fulton (North Ontario St.) Former MGP" (BC, March 2018), which was approved by the New York State Department of Environmental Conservation (NYSDEC) in a letter dated May 15, 2018. This DSR was prepared per the March 2018 SRI work plan to present the Remedial Investigation (RI) findings to-date with the NYSDEC.

Provided below is: a discussion of the Site setting and site stratigraphy; a discussion of the results and findings from the 2018 SRI and previous investigation activities; and conclusions and recommendations related to the RI findings for the Site.

Site Setting

The Site is located at 0 Ontario Street in the City of Fulton, Oswego County, New York. Latitude and longitude coordinates for the property are approximately 43° 19' 41.2" north latitude and 76° 25' 0.8" west longitude. The location of the property is shown on Figure 1.

According to the City of Fulton Assessors Office's records, the 0 Ontario Street address is comprised of one parcel owned by Mirabito Holdings, Inc. of Binghamton, New York (formerly owned by Drake Petroleum Company, Inc., successor by merger to Mid-Valley Oil Company, Inc). The property is identified as Parcel 1-06 on Assessors Office's Map 236.47 and occupies approximately ¾ acre. The 0 Ontario Street property is zoned for commercial use.

The 0 Ontario Street property is abutted to the north by Ontario Street; to the west by Hubbard Street; to the south by another property owned by the Mirabito Holdings, Inc. that is currently occupied by a Sunoco service station; and to the east by New York State (NYS) Route 481.

A portion of the off-site property west of the area of known former MGP operations was owned by the owner of the MGP during the period of MGP operations, but where no MGP operations were known to have taken place. This portion of the off-site property to the west is referred to herein as the Parcel C Area. The off-site property (including the Parcel C Area) is zoned for industrial use.

The topography of the majority of the Site is generally flat but with a slight decline to the northwest. The ground surface near the western and northern boundaries of the Site slopes sharply downward to Hubbard Street and Ontario Street, respectively. The elevation of the Site varies from approximately 330 feet, National Geodetic Vertical Datum (NGVD) on the eastern portion of the property to approximately 320 feet NGVD along the western property boundary. On the off-site property west of the Site, the ground surface is relatively flat, with a variation in elevation from approximately 318 to 321 feet NGVD.

The United States Geological Survey (USGS) 7.5 Minute Series Fulton Quadrangle Topographic Map indicates the area in the vicinity of the Site is part of the eastern slope of the floodplain for the Oswego River. The June 2013 Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map indicates the on-site area is designated as an "Other Area within Zone X" (areas determined to be outside the 0.2% annual chance floodplain), and the off-site area to the west is designated as an "Other Flood Area within Zone X" (areas of 0.2% annual chance flood and areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile). The Oswego River is located approximately 400 feet west of the Site.

Historical MGP Operations

According to the "Historical and Statistical Gazetteer of New York State", which was published by Heart of the Lakes Publishing in 1980, the Fulton Gas Light Company (FGLC) was organized on June 12, 1858. The first "Brown's Directory of American Gas Companies", published in 1887, indicated the FGLC manufactured coal gas. The only schematic of the plant that has been found is shown on an 1890 Sanborn® Fire Insurance Map. This Sanborn Map shows the plant to be located on the northern portion of the current 0 Ontario Street property. However, the plant was identified as being vacant on the 1890 Sanborn® Map indicating that by 1890, the former MGP was no longer in operation. Figure 2 shows the structures identified on the 1890 Sanborn® Map transposed onto a current Site map. The FGLC plant appears to only have operated for approximately 30 years. The results of gas chromatograph-flame ionization detector (GC-FID) fingerprint analyses performed on non-aqueous phase liquid (NAPL)-impacted soils collected during previous RI activities indicate it was derived from the coal carbonization processes of gas manufacturing. This is consistent with the types of plant facilities indicated on the 1890 Sanborn® Map.

A full discussion of the review of historical Fulton drawings and Sanborn® fire insurance maps was previously presented in the in further detail in Appendix D of the RI Data Summary Report (BC, May 2013), entitled "Phase IA Cultural Resources Investigation at the Former Manufactured Gas Plant (MGP) Site, Ontario Street, City of Fulton, Oswego County, New York " (Panamerican Consultants, Inc., March 2013).

Objectives

The specific objectives of the 2018 SRI activities are listed below.

1. Further evaluate the extent of NAPL/tar in overburden on the off-site property west of the Site.
2. Further evaluate the extent of NAPL/tar in bedrock.
3. Further evaluate the extent of MGP-related constituents in off-site subsurface soil above applicable Soil Cleanup Objectives (SCOs) as set forth in 6 NYCRR Subpart 375-6.
4. Further evaluate the lateral extent of dissolved-phase, MGP-related constituents in overburden groundwater on south side of the Site and on the off-site property west of the Site.
5. Further evaluate the extent of dissolved-phase, MGP-related constituents in bedrock groundwater.

Field investigation elements of the March 2018 SRI work plan were completed during the period from July 2, 2018 through November 15, 2018. Investigation sample locations from these 2018 SRI activities and from the previous RI and Site Characterization (SC) activities are listed in Table 1 and their locations are shown on Figure 2.

Findings

Findings from the SRI and prior investigation activities (previous RI and SC activities) performed at the Site are summarized below.

Subsurface Deposits & Stratigraphy

The geologic materials encountered on the Site generally consist in ascending order of sandstone bedrock, glacial till, and anthropogenic fill (see Figures 3 through 6, geologic cross-sections A-A', B-B', C-C', and D-D'). Boring and well construction logs for locations completed during the 2018 SRI activities are provided in Appendix A; these logs present descriptions of subsurface deposits encountered during the completion of the soil borings and boring locations intended for well installation.

The overburden at the Site generally consists of several feet of fill material overlying glacial till deposits. The fill varies in thickness, but is typically 11-feet thick on-site and approximately 5-feet thick in the off-site area west of the Site (i.e., across Hubbard Street from the parcel that comprises the former MGP). In the area of the former gas holder, the fill extends to a depth of over 20 feet below ground surface (bgs). The fill is also locally thicker under Hubbard and Ontario Streets where native deposits were apparently excavated for installation of sewers, and subsequently filled (see Figures 4 and 5, geologic cross-sections B-B' and C-C'). In general, the fill is composed of various materials including sand, gravel, coal, and demolition debris (e.g., brick and concrete). Finer-grained material (silt and clay), where present in the fill, is typically not the predominant component. Soil descriptions indicate the glacial till is composed of poorly sorted sand with varying amounts of silt and gravel, and is moderately dense. The glacial till deposits are, in general, reddish brown in color.

The bedrock beneath the Site can generally be described as a red-brown thin to medium bedded, fine to medium-grained sandstone, with occasional thin finer-grained layers of shale, mudstone or siltstone, and thin zones of conglomeratic sandstone in which relatively large clasts of mudstone are abundant (e.g., "rip-up clasts" or "clay galls"). This is consistent with regional information, which indicates that the bedrock formation directly underlying the Site is the Queenston Formation. The sediment that now comprises the Queenston Formation was deposited during the Late Ordovician Period (approximately 450 million years ago). Based on available bedrock geologic mapping including the "Geologic Map of New York, Finger Lakes Sheet" (Rickard, L.V. and Fisher, D.V., 1970), the area of the Site is shown to be within the area mapped as the "Undifferentiated Medina Group and Queenston Formation". The Medina Group and the Queenston Formation are commonly mapped together because they are difficult to differentiate without substantial outcrop exposure. In the vicinity of the Site, the Medina Group is represented by the Lower Silurian Grimsby Formation. Both the Grimsby Formation and the Queenston Formation contain red shale, siltstone, and sandstone, and both were deposited in shallow lagoons or bordering tidal flats (Patchen, 1966). Red color of the Queenston and Grimsby sediments are likely the result of exposure to an aerobic environment during and after deposition, which allowed iron within the unit to oxidize. Based on the above, the bedrock underlying the Site could be identified as either the Grimsby Formation or Queenston Formation; however, upon further review of available geologic literature associated these formations, it was determined that the bedrock underlying the Site is that of the Queenston Formation. The following documents were reviewed prior to arriving at this conclusion.

- Patchen, D.G., 1966, Petrology of the Oswego, Queenston, and Grimsby Formations, Oswego County, New York: unpubl. Master's thesis, SUNY Binghamton, 191 p.
- Lumsden, D.N. and Pelletier, B.R., 1969, Petrology of the Grimsby Sandstone (Lower Silurian) of Ontario and New York: Journal of Sedimentary Petrology, v. 39, no. 2, p. 521-530.

During the field work completed as part of a master's thesis prepared by Douglas G. Patchen at the State University of New York (SUNY) Binghamton, the top of Grimsby Formation of the Medina Group, which lies unconformably below the Oneida Conglomerate of the Clinton Group (Rickard, L.V. and Fisher, D.V., 1970), was mapped at a location along the Oswego River south of the Site. This outcrop was examined during the SRI activities and the lithologic contact identified by Patchen was observed at an elevation of approximately 358 feet NGVD. Review of additional literature indicated that the Grimsby Formation in Fulton is relatively thin (7 feet 4 inches) (Lumsden, D.M. and Pelletier, B.R., 1969). Based on the above, it can be inferred that the base of the Grimsby Formation in Fulton would be positioned at an elevation of approximately 350 feet NGVD in the vicinity of the outcrop. Bedrock surface elevations across the Site range from approximately 309 feet NGVD in the southern portion of the on-site property to a low of 296 feet NGVD on the property immediately north of the Site. Given that outcrop observations and regional mapping indicate that the bedding of the rock units in this area have a generally horizontal to sub-horizontal dip, the top of rock surface beneath the Site is at a stratigraphic position approximately 40 feet below the base of the Grimsby Formation.

Moreover, as indicated in the reviewed literature, the Queenston Formation is devoid of fossils in New York State, whereas although the Grimsby Formation is relatively barren of fossils, it does contain Arthrophycus alleghaniensis (worm burrow) throughout the formation (Patchen, 1966). Arthrophycus alleghaniensis was not identified in rock core samples or nearby outcrops, thereby further providing support that the bedrock directly underlying the Site is part of the Queenston Formation.

In summary, based on the review of available geologic literature related to the Grimsby and Queenston Formations, inspection of outcrops located in the vicinity of the Site, and examination of core samples collected during the RI field activities, the sandstones and siltstones encountered beneath the Site are part of the Queenston Formation.

Based on the relative ease of drilling and observations from split-spoon samples, the upper few inches of the bedrock surface is weathered to some degree. Samples of the uppermost part of the sandstone that were recovered in split-spoons were capable of being disaggregated by hand (i.e., friable), thus indicating that the cement matrix (e.g., clays, calcite, silica, etc.), which binds the sand grains together was previously weathered and degraded.

The surface of the top of bedrock underlying the Site is somewhat undulatory, as depicted on the top of bedrock structural contour map (Figure 7) and in the geologic cross-sections (Figures 3 through 6).

Hydrogeology

Groundwater Occurrence and Flow

As part of the 2018 SRI activities, groundwater levels were measured on September 17, 2018, November 5, 2018, and November 14, 2018 (water table wells only) (Table 2). On-site, the water table is generally encountered within the till, at approximately 9 to 13 feet bgs. In the areas immediately to the west and north of the Site where the ground surface is at a lower elevation, the water table is encountered at shallower depths (approximately 5 to 7 feet bgs). Water table elevation contours for September 17, 2018 and November 14, 2018 (Figures 8 and 9) indicate that shallow overburden groundwater at the Site flows generally from southeast to the west and northwest across the Site and off-site property and likely discharges to the Oswego River. The water elevation measured in the Oswego River at staff gauge SG-1 prior to both sampling rounds was slightly greater than the nearest water table well (MW-122S). However, previous continuous water level monitoring in the Oswego River at a similar staff gauge location indicates the level of the river can fluctuate approximately ½ foot over a short period of time, which may account for the level in the river being slightly higher than the groundwater elevation in MW-122S at the time of the manual measurements. Additional data is required to confirm groundwater flow conditions in the shallow overburden.

The vertical hydraulic gradients from locations with both shallow and deep overburden wells have been observed to be variable in direction. Based on previous continuous water level monitoring, this may be due in part, to influence of nearby utilities (e.g., sewer lift station located near the intersection of Hubbard and Ontario Streets). Additional data is required to further assess vertical gradients in the overburden deposits. Distribution of groundwater elevations measured in wells with screened intervals positioned in the deep overburden deposits indicate a similar flow direction to the flow direction observed in the shallow overburden. In general, water level data from locations with both a deep overburden monitoring well and a shallow bedrock monitoring well indicate an upward vertical hydraulic gradient, and thus an upward component of groundwater flow from the bedrock to the deep overburden deposits.

As described in the section above on "Subsurface Deposits and Stratigraphy", the bedrock formation underlying the vicinity of the Site, the Queenston Formation, is composed of red-brown thin to medium bedded, fine to medium-grained sandstone, with occasional intervals containing grey and red-brown mudstone clasts (flat pebble conglomerate) throughout. Examination of nearby outcrops, rock cores, along with review of regional mapping conducted by others (Patchen, D.G., 1966), indicate the bedding is oriented with either a nearly horizontal or very shallow dip. Outcrop and core examinations also indicate that open bedding plane parallel fractures do occur, often where there is a contact between variations in lithology within the formation. The bedding plane parallel fractures appear to be the most continuous fractures on an outcrop scale. It is likely that open, generally continuous bedding plane parallel fractures impart a large degree of influence on lateral groundwater flow in the bedrock at the Site based on our understanding of the Queenston Formation, adjacent bedrock strata from regional information, and other sites in the Erie-Ontario Lowlands of New York where groundwater flow in shallow to horizontal dipping sedimentary bedrock units has been examined, as well as on the examination of nearby rock outcrops, on-site rock cores and borehole geophysical logs. A stratigraphic horizon (aka, a "marker bed") was identified and correlated across the site using natural gamma logging during the 2018 SRI field work; this marker bed coincides with the position of a bedding plane parallel water-bearing fracture zone that was found to be continuous across the study area. As described below, hydraulic responses observed in nearby wells during drilling indicate a high degree of hydraulic connectivity between wells that are screened across this zone. Groundwater elevation data from the well locations screened across the identified marker bed indicate that groundwater within this water-bearing fracture zone appears in general, to flow towards the Oswego River (see elevation data plotted on Figure 9), as the groundwater elevation in the closest shallow bedrock well to the river is consistently lower than the elevations measured in the bedrock wells to the east. However, there is some uncertainty regarding more localized flow patterns due to potential influence of nearby utilities on groundwater levels in the shallow bedrock wells (e.g., nearby utilities may cause short-term fluctuation in water levels in these wells). Additional data is required to evaluate this potential influence. The screened intervals for the bedrock wells installed prior to the 2018 SRI activities (MW-109R, MW-111R, MW-117R, and BRB-1) are positioned within the shallow bedrock, but at shallower stratigraphic intervals than the above-described marker bed. Groundwater elevations in these wells are consistently higher than the elevations in the wells screened across the marker bed, indicating a component of downward groundwater flow within the shallow bedrock zone. Based on the groundwater elevation data collected at the one location (MW-122RD cluster) where both a shallow and deep bedrock well were installed, there is a downward vertical gradient from the shallow bedrock water-bearing zone to the water-bearing fracture encountered in the deeper bedrock at MW-122RD.

During the 2018 SRI activities, the upper portion of the bedrock (i.e., upper ±30 feet below the top of rock), was evaluated at six locations (MW-120R, MW-121R, MW-122R, MW-123R, MW-124R, MW-125) using several assessment techniques including rock coring, packer pressure testing and borehole geophysical logging. In addition, during the bedrock drilling processes at MW-124R and MW-122RD (i.e., bedrock coring and packer pressure testing), continuous monitoring of water level changes was conducted in nearby, available, bedrock wells (BRB-1, MW-111R, MW-121R, and MW-125R), using pressure transducers with automatic data loggers (i.e., In-Situ LevelTROLLS®); these data support the assessment of hydraulic connectivity of water-bearing fractures in the upper bedrock. Data loggers were installed in the bedrock wells mentioned above to monitor changes in water level during drilling and packer pressure testing of bedrock at locations MW-124R and MW-122RD. During bedrock coring and packer pressure testing performed at MW-124R and during drilling/packer pressure testing of the shallow bedrock at MW-122RD, increases in water levels were observed in BRB-1/MW-111R, MW-121R, and MW-125 during both processes (see Figures 10 and 11). This evaluation supports the conclusion that the shallow bedrock interval evaluated during the RI activities completed to-date contains interconnected water-bearing fractures where lateral groundwater flow likely predominates; the water-bearing fractures encountered during the SRI appear to be part of a water-bearing zone in the shallow bedrock.

Additionally, during the 2018 SRI activities, a deeper portion of the bedrock was evaluated at MW-122RD. An isolation casing was installed at MW-122RD at 55 feet bgs (approximately 34 feet below top of rock surface). Rock coring, packer pressure testing, and borehole geophysical logging continued from below the casing to 100 feet bgs (approximately 79 feet below top of rock surface). Using the above assessment techniques, a deep water-bearing fracture was encountered at approximately 86 to 96 feet bgs (approximately 65 to 75 feet below top of rock surface), separated from the shallow water-bearing zone by approximately 25 to 30 feet of lower permeability bedrock. The continuous water level monitoring in nearby wells during drilling (see Figure 11) does not indicate hydraulic communication between the shallow bedrock water-bearing zone and the deep bedrock water-bearing fracture.

Summary tables presenting the results of the packer pressure testing are provided in Appendix B, while borehole geophysical logs generated during the 2018 SRI activities are presented as Appendix C.

A summary of the estimated K_h values from slug tests conducted on monitoring wells installed during the 2018 SRI activities and previous investigations is provided in Table 3. The slug test results are summarized as follows:

- Shallow overburden: The estimated geometric mean horizontal hydraulic conductivity (K_h) of the shallow overburden deposits (saturated portion of upper ±15 feet of overburden deposits comprised primarily of glacial till and locally by fill) based on slug tests 7.6 x 10^{-4} centimeters per second (cm/sec); the estimated values range from 5.3 x 10^{-3} cm/sec to 1.2 x 10^{-4} cm/sec.
- Deep overburden: The estimated geometric mean K_h of the deep overburden deposits comprised of glacial till (approximately 15 feet bgs to approximately 28 feet bgs) based on slug tests is 2.1 x 10^{-3} cm/sec, with a range from 1.5 x 10^{-2} cm/sec, to as low as 2.1 x 10^{-5} cm/sec.
- Shallow bedrock: Slug tests were conducted on the wells that are screened in the bedrock to estimate K_h. K_h values from slug tests on these wells are representative of the bedrock intersected by water-bearing fractures, not the bedrock matrix itself, which has much lower hydraulic conductivity based on its physical characteristics. The estimated geometric mean K_h of the shallow bedrock (upper ±20 to ±30 feet of rock) based on slug tests is 1.8 x 10^{-3} cm/sec. Estimated K_h values in the shallow bedrock range from 2.9 x 10^{-5} cm/sec to 1.6 x 10^{-2} cm/sec.
- Deep bedrock: A slug test was conducted on MW-122RD, which is screened in the deep bedrock, to estimate K_h. As described for shallow bedrock, the K_h value from this slug test is representative of the bedrock intersected by water-bearing fractures, not the bedrock matrix itself, which has much lower hydraulic conductivity based on its physical characteristics. The estimate K_h of the deep bedrock (approximately 65 to 75 feet below top of rock surface) based on this slug test is 1.2 x 10^{-3} cm/sec.

In-situ hydraulic conductivity plots for the tests performed during the SRI activities are provided in Appendix D.

Visual/Olfactory Indications of Impact

Overburden

Figure 12 provides a plan view of locations where visual/olfactory observations indicative of potential impacts including NAPL and indications of potential purifier waste material have been observed in overburden soil through the course of the SC and RI field activities. Table 4 provides a description for these observations. The vertical positions of the observations are shown on the geologic cross-sections (Figures 3 through 6).

In general, the NAPL encountered occurs as a viscous, tacky tar-like material or as a semi-solid material that may have initially been a NAPL (observed at TP-103 and B-129). In the subsurface, the viscous NAPL/tar is observed as: partially to fully saturating the soils, as a coating on coarser-grained material, or as a seam within the soil matrix. Viscous NAPL/tar was observed within area of the former gas holder at depths ranging from approximately 22 to 27 feet bgs, and outside the area of the former holder at shallower depths (8 feet bgs). In the area of the former gas holder, NAPL/tar was observed on top of the bedrock surface. Most of the NAPL/tar observations exhibited tar-like odors and thus, NAPL/tar at these locations is likely associated with former MGP operations. However, based on observations and odor noted at B-119, B-121, B-123B, MW-103D, MW-111D, MW-112D, and MW-124R, some of the impacts encountered appeared to be petroleum-based and are not likely associated with former MGP operations. At locations B-119, B-123B, MW-103D, and MW-111D, visual/olfactory observations indicate potential petroleum and MGP impacts at same location. Environmental forensic results from samples of NAPL-impacted soils with olfactory observations indicative of MGP-related impacts (e.g., tar-like odors) collected from on-site location B-117 and off-site location MW-111D during the 2012 RI field work indicate that coal carbonization was likely the process used at the MGP, which did not require petroleum as a feedstock.

NAPL/tar was identified in soil within and near the off-site Parcel C Area at several locations and at various depths (see Figure 12). Typically, the NAPL/tar occurs as a thin seam or blotches of viscous, tacky tar-like material and is encountered immediately above the top of rock surface. These observations were documented at locations B-127, MW-111D, MW-111R, and MW-113D ranging in depth from approximately 19.5 5 to 20.6 feet bgs. However, NAPL has also been observed at shallower depths on the off-site property (at a depth of 10.5 feet bgs in boring B-106 and from approximately 9 to 18.8 feet bgs at B-127). The NAPL encountered at B-127 was described as having an oil-like consistency and heavily coating/saturating the sand and gravel deposits. Additionally, the impacted soils from this interval exhibited tar-like odors and thus, are likely, at least in part, MGP-related.

NAPL has not been observed in overburden monitoring wells during NAPL gauging events conducted during the RI activities. However, as a screening process to further assess the potential presence of NAPL at the Site, the concentrations of constituents in groundwater were compared to aqueous solubility of those constituents. A concentration that is above one percent of the solubility limit is considered an indicator that the constituent is potentially present in NAPL form in the vicinity of the well. Concentrations of naphthalene in groundwater samples from well MW-111D during the 2018 sampling events (950 µg/L in September and 1,100 µg/L in November) were above one percent of the aqueous solubility limit for naphthalene (310 µg/L). NAPL/tar was identified the soil adjacent to the well screen at MW-111D.

In summary, NAPL/tar was encountered in the overburden deposits on-site within the area of former MGP operations, primarily in the area of the former gas holder. This NAPL/tar is in close proximity to the bedrock surface and is generally described as being viscous in nature. NAPL was also identified in the overburden at several locations within and near the off-site Parcel C Area. The NAPL/tar observed at these locations was described as either being viscous in nature and positioned on top of rock surface or at shallower intervals with the NAPL having an oil-like consistency and heavily coating/saturating the sand and gravel deposits.

Indications of potential purifier waste material (i.e., degraded wood material with burnt/sulfur-like odor) were observed in the interval from approximately 14 to 23 feet bgs at soil boring locations B-117, B-118, and MW-117R, which are in the area of the former gas holder. Potential purifier waste material (i.e., wood chips with slight burnt-like odor) was also encountered at approximately 9 feet bgs at soil boring B-129. Analysis of soil samples collected from these locations from similar depth intervals did not indicate significant concentrations of cyanide, which is sometimes associated with purifier waste.

Bedrock

Figure 13 provides a plan view of locations where NAPL/tar has been observed in bedrock core samples and/or within bedrock monitoring wells throughout the course of the RI field activities completed to-date. Table 4 provides a description for these observations, while the vertical positions of the observations are shown on the geologic cross sections (Figures 3 through 6).

NAPL/tar was observed in rock core samples at bedrock well locations MW-117R and BRB-1 during the 2015/2016 SRI activities. Both of these locations are in the area of the former gas holder. At MW-117R, NAPL/tar was observed discontinuously across the depth interval from 26.8 to 29.2 feet bgs. The NAPL/tar at MW-117R was generally observed as black tacky, viscous NAPL/tar coatings along near-horizontal fracture surfaces with a tar-like odor. At BRB-1, black viscous, tacky NAPL/tar with a tar-like odor was observed coating a bedding plane parting surface on a core at a depth of approximately 43.6 feet bgs, which is positioned approximately 17.6 feet below the top of rock at this location. During the 2018 SRI activities, black viscous blebs of NAPL/tar were observed at MW-121R on a horizontal fracture surface in a rock core at a depth of approximately 40.3 feet bgs, which is positioned approximately 18.3 feet below the top of rock at this location.

Observations were also made during the 2015/2016 SRI activities at MW-109R and MW-111R and during the 2018 SRI activities at MW-121R, that were indicative of NAPL in bedrock. For instance, upon removal of geophysical tools from the corehole at MW-109R, blotches of NAPL/tar were sporadically observed on the tools. Similarly, spots of NAPL/tar were observed sporadically on the geophysical tools and partially coating ends of the tools following removal of the tools from the corehole at MW-111R and MW-121R.

In summary, NAPL/tar has been identified in bedrock at locations within the area encompassing the former gas holder (MW-117R and BRB-1), the western property boundary (MW-109R), and the eastern portion of the off-site property including the Parcel C Area (MW-111R and

MW-121R). Bedrock monitoring wells were installed at each of these locations; NAPL/tar has only been identified in wells MW-117R and MW-109R. Stratigraphically, the deepest elevation of NAPL/tar observed in bedrock based on core sample observations is approximately 280.7 feet NGVD (approximately 40.3 feet bgs) at location MW-121R. No NAPL/tar was observed in the deeper bedrock evaluated at MW-122RD (approximately 30 to 80 feet below the top of rock [approximately 50 to 100 feet bgs]), although this well was completed west of the area of where NAPL/tar was observed in bedrock.

The concentrations of naphthalene in wells BRB-1, MW-111R, MW-121R, MW-122R, MW-124R, and MW-125R were above one percent of the aqueous solubility limit, a threshold that is used as an indicator of the potential presence of NAPL to be present in the vicinity of a well. These wells are within or proximal to the area where NAPL was identified.

NAPL/tar has been found within bedrock monitoring well MW-117R each time the well was gauged following installation. The NAPL/tar was encountered at the base of the well, below the water column, indicating that the NAPL is denser than water and thus is considered a dense NAPL, or DNAPL. Following identification of NAPL/tar in the well MW-117R, a periodic NAPL gauging and removal program was initiated. Throughout the RI activities completed to-date, 36 gauging and 29 removal events have been performed and future gauging and removal events are currently planned. Over the course of the NAPL removal events, approximately 4.51 gallons of highly viscous NAPL/tar have been removed from this well location. Refer to Table 5 for a summary of NAPL monitoring and removal data, including approximate volumes of NAPL/tar removed per removal event. Initially, weekly gauging and removal events were conducted; however, based on a significant reduction in NAPL/tar accumulation in the well over time, the gauging/removal frequency was subsequently decreased to monthly and is currently performed on a quarterly basis. Approximately 0.10 feet of NAPL/tar was also measured at the base of the bedrock monitoring well MW-109R during the November 2018 NAPL gauging and groundwater monitoring activities (see Table 2). Gauging of this location during the previous RI activities yielded similar approximate NAPL thickness measurements from this location. NAPL/tar has not been encountered in any of the other bedrock monitoring wells.

Based on available data, the lateral extent of NAPL/tar in bedrock is delineated with the exception of south of MW-121R.

Subsurface Soil Analytical Results

A total of ten (10) subsurface soil samples from four (4) locations (B-134, B-135, MW-121D, and MW-124R) were collected and submitted for laboratory analyses during the 2018 SRI activities. The samples were analyzed for benzene, toluene, ethylbenzene and isomers of xylene (BTEX), polycyclic aromatic hydrocarbons (PAHs), and total cyanide. Additionally, samples collected from MW-124R were also analyzed for methyl tert-butyl ether (MTBE). The results of these analyses were compared to the New York State Subpart 375-6 SCOs for Protection of Public Health for industrial use, Protection of Ecological Resources, and/or Protection of Groundwater. Table 6 presents the soil quality data from the soil samples analyzed during the 2018 SRI activities that were collected from properties zoned for industrial use. Figure 14 depicts the subsurface soil quality data from the RI and SC activities. At a location, if a concentration of one or more constituents exceeded any one of the above noted SCOs, it is depicted with a red symbol. Locations where no exceedances were identified are depicted with a green symbol.

Laboratory reports associated with the 2018 SRI soil samples are included on the DVD provided in Appendix F. These laboratory results were forwarded to a data validator for the preparation of a Data Usability Summary Reports (DUSR). The DUSR presents a summary of data usability, including a discussion of qualified data. As described in the DUSR, the data were considered by the validator to be valid and usable. The DUSR associated with the soil samples collected during the SRI is provided in Appendix G. Following receipt of the validated data from the SRI activities, the validated data was incorporated into a comprehensive analytical database for the project. These data were then formatted to the NYSDEC's environmental data submission requirements that are detailed on the NYSDEC's website http://www.dec.ny.gov/chemical/62440.html). This included:
1) populating the NYSDEC Electronic Data Deliverable (EDD) with the analytical data;
2) validating the EDD using the database software application EQuIS™ from EarthSoft®, Inc.; and
3) submitting the validated EDD to the NYSDEC. An EDD that contains the supplemental RI data set is provided in Appendix H.

Subsurface soil samples collected during the 2018 SRI were intended to further evaluate the extent of MGP-related constituents in the off-site subsurface soil above applicable Soil Cleanup Objectives SCOs) as set forth in 6 NYCRR Subpart 375-6. During previous work, delineation was complete except for one or more BTEX compounds and several PAHs north of location B-127 and south and west of locations B-128 and MW-113D. Provided below is a summary of the findings of the subsurface soil quality data collected during the SRI activities.

The distribution of BTEX and PAHs in subsurface soils is depicted on Figure 14. BTEX and PAHs were either not detected or detected at concentrations below applicable SCOs in the samples collected from locations B-134 and MW-121D, located west and south of MW-113D and B-128, and thus, the southern and western extents of MGP-related soil impacts are delineated. At locations B-135 and MW-124R, positioned north of B-127, detected PAH concentrations are below applicable SCOs. A low level of benzene (0.46 mg/kg) was detected at a concentration above the lowest of the applicable SCOs (i.e., the Protection of Groundwater SCO [0.06 mg/kg]) in the 5 to 7 foot sample interval from B-135, yet at a much lower concentration than previously encountered at soil boring located to the south (B-127). Further north, xylene concentrations were detected above the lowest of the applicable SCOs (i.e., the Protection of Ecological Resources SCO [0.26 mg/kg]) in the 5 to 7 foot and 7 to 9 foot sample intervals from MW-124R (0.81 mg/kg and 0.3 mg/kg, respectively), but benzene concentrations were below the applicable SCOs. Trace amounts of sheen and discolored soils exhibiting tar-like odors were observed in the interval sampled for B-135 (5 to 7 feet bgs); however, fuel-like odors were noted in the sample intervals from MW-124R (5 to 7 and 7 to 9 feet bgs) and thus, are likely attributable to another source.

Total Cyanide was not detected at concentrations above applicable SCOs in any of the 2018 SRI subsurface soil samples. Figure 14 depicts the results of the concentrations of total cyanide in soil from the RI and SC activities.

Based on the findings from the RI activities, the lateral and vertical extents of MGP-related impacts to soils have been adequately characterized for the purposes of the RI.

Groundwater Analytical Results

Two comprehensive rounds of groundwater sampling were conducted during the 2018 SRI (September 2018 and November 2018). Field data sheets from the two sampling rounds are provided in Appendix E. In accordance with the March 2018 work plan, no groundwater samples were collected from MW-109R and MW-117R during either sampling round because NAPL was detected in these monitoring wells during NAPL gauging performed prior to sampling. The groundwater samples were analyzed for BTEX compounds, PAHs, and total cyanide. Results of the analyses were compared to the 6 NYCRR Part 703 groundwater standards for Class GA water (groundwater) or, where no such standard exists, the corresponding guidance value from Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1; collectively, these are referred to herein as the Class GA criteria. Table 7 presents the groundwater quality data from samples collected in September and November 2018, including a comparison to the Class GA criteria.

Laboratory reports associated with the SRI groundwater samples are included on the DVD provided in Appendix F. These laboratory results were forwarded to a data validator for the preparation of DUSR. The DUSR presents a summary of data usability, including a discussion of qualified data. As described in the DUSR, the data were considered by the validator to be valid and usable. The DUSR associated with the groundwater samples collected during the SRI is provided in Appendix G. Following receipt of the validated data from the 2018 SRI activities, the validated data was incorporated into a comprehensive analytical database for the project. These data were then formatted to the NYSDEC's environmental data submission requirements that are detailed on the NYSDEC's website (http://www.dec.ny.gov/chemical/62440.html). This included: 1) populating the NYSDEC EDD with the analytical data; 2) validating the EDD using the database software application EQuIS™ from EarthSoft®, Inc.; and 3) submitting the validated EDD to the NYSDEC. An EDD that contains the supplemental RI data set is provided in Appendix H.

Provided below is a summary of the findings of the overburden and bedrock groundwater quality data collected during the September and November 2018 groundwater sampling events.

Overburden Groundwater Quality

Concentrations of BTEX, naphthalene and total cyanide in overburden groundwater for the sampling rounds conducted to-date are posted on Figure 15. Concentrations that are above the Class GA criteria are shown in bold type.

The most prevalent constituents detected in overburden groundwater at concentrations above the Class GA criteria were BTEX compounds and naphthalene. These constituents are often associated with MGP-related residuals, but can also be related to non-MGP sources. These constituents are used as indicators for evaluating dissolved-phase impacts in overburden groundwater at the Site. During the sampling rounds completed as part of the 2018 SRI activities, both one or more BTEX compounds and naphthalene were detected at concentrations above the Class GA criteria in samples collected from deep overburden wells MW-109D, MW-110D, MW-111D, MW-113D, and MW-114D. The base of the screens for these wells is positioned immediately above or slightly below the top of bedrock surface. In the shallow overburden groundwater, one or more BTEX compounds were also detected at concentrations above the Class GA criteria in shallow overburden wells MW-108 and MW-111S. Of note, benzene was detected at concentrations below the criterion in the September 2018 sample collected from MW-108.

Moreover, benzene is the only compound that has been detected at concentrations above Class GA criteria at this location and exceedances were only observed 2 out of the 7 sampling events performed between 2007 and 2018.

PAHs that are somewhat lower in solubility than naphthalene were also detected in samples from the deep overburden wells listed above. At MW-111D concentration of acenaphthene, fluorene, and phenanthrene exceeded the Class GA criteria. Acenaphthene was also reported above the Class GA criteria in samples collected from deep overburden wells MW-109D, MW-110D, MW-113D, and MW-114D and in samples collected from MW-111S, which is screened across the water table. Other PAH compounds including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, and indeno(1,2,3-c,d)pyrene were detected above the Class GA criteria in samples collected from MW-103D and MW-111D, as presented in Table 7. However, elevated levels of these other PAH compounds, which have very low solubilities compared to naphthalene, acenaphthene, fluorene, and phenanthrene, may be related to suspended particulates or turbidity entrained in the sample.

At deep overburden well MW-121D, only the benzene concentration was slightly above the Class GA criterion during the November 2018 sampling event, however, benzene was not detected in the September 2018 samples collected from this location.

Total Cyanide was not detected above its applicable Class GA criterion at any location.

In summary, exceedances of Class GA criteria are most prevalent in the deep overburden wells located in the vicinity of the off-site Parcel C Area. In the deep overburden groundwater, the highest concentrations are at MW-111D within the Parcel C Area; the shallow overburden well at same location (MW-111S) has much lower concentrations and only exceeds for benzene. At deep overburden wells MW-114D and MW-113D, located downgradient and sidegradient, respectively, concentrations decrease but are still above Class GA criteria. At deep overburden wells further sidegradient (MW-121D) and downgradient (MW-122D), concentrations decrease to below Class GA criteria. The only other Class GA criteria exceedances identified during the 2018 SRI activities were for benzene at deep overburden well MW-103D and shallow overburden well MW-108, located south and west of the former gas holder, respectively. At MW-103D, the benzene concentrations ranged from 12 to 17 µg/L. At MW-108, benzene concentrations ranged from 0.9 J (below class GA criterion) to 3 µg/L.

The extents of dissolved-phase BTEX and PAH concentrations above the Class GA criteria in overburden groundwater have been adequately characterized for the purposes of the RI.

Bedrock Groundwater Quality

Concentrations of BTEX, naphthalene and total cyanide in bedrock groundwater are posted on Figure 16. Concentrations that are above the Class GA criteria are shown in bold type. NAPL/tar in the overburden and in bedrock is the source of MGP-related dissolved-phase organic compounds in the bedrock groundwater. As described above, NAPL/tar has been detected in bedrock monitoring wells MW-109R and MW-117R during NAPL gauging performed prior to sampling.

BTEX and naphthalene were detected above Class GA criteria within shallow bedrock groundwater in 8 of the 10 shallow bedrock wells; these constituents were either not detected or were detected at concentrations below the Class GA Criteria in shallow bedrock wells MW-120R and MW-123R, located to the east and south of the former MGP structures. Acenaphthene, which has a somewhat lower solubility than naphthalene, was also detected above its Class GA criterion in samples from several shallow bedrock wells (BRB-1, MW-111R, MW-122R, MW-124R, and MW-125R). At BRB-1 and MW-111R were exceedances of other lower solubility PAHs, as presented in Table 7. However, elevated levels of these other PAH compounds, which have very low solubilities compared to naphthalene and acenaphthene, may be related to suspended particulates or turbidity entrained in the sample.

As part of the 2018 SRI activities, groundwater quality conditions in the deeper bedrock was evaluated at MW-122RD. This well is completed in the first potential water-bearing zone below the section of lower permeability rock (potential aquitard) beneath the shallow bedrock zone, as indicated by activities conducted during drilling at MW-122RD (e.g., coring, packer testing, continuous water level monitoring in adjacent wells, and vertical gradient)] Dissolved-phase MGP-related constituents were either not detected or detected at concentrations below Class GA criteria in samples collected from MW-122RD, indicating that groundwater impacts in the bedrock appear to be limited to the shallow bedrock interval.

Total Cyanide was not detected above its applicable Class GA in samples collected from any of the bedrock monitoring wells sampled during the 2018 SRI activities.

Based on the results of the 2018 SRI groundwater sampling activities, the eastern and southern extents of dissolved-phase BTEX and naphthalene concentrations in shallow on-site bedrock groundwater have been adequately delineated for the purposes of the RI. However, further evaluation of the extent of dissolved-phase MGP-related constituents on the off-site properties is required.

Conclusions and Recommendations

Based on previous investigation findings and the data discussed herein, the evaluation of the nature and extent of MGP-related impacts at the Fulton (Ontario St.) Former MGP Site for the purposes of the RI is not yet complete and additional RI activities are required.

Provided below is a summary of conclusions associated with the RI and recommendations for further evaluating the nature and extent of MGP-related impacts at the Site.

Conclusions

Conclusions based on the RI data collected to-date, are as follows:

Hydrostratigraphy and Groundwater Flow

- Three water-bearing zones have been identified at the Site where lateral groundwater flow is predominantly over vertical flow, including:
  - Overburden water-bearing zone: although part of the same water-bearing zone, this unit has been subdivided as follows:
    - Shallow overburden deposits: the uppermost saturated unconsolidated deposits (fill and glacial till);
    - Deep overburden deposits: the lower five feet of unconsolidated glacial till deposits positioned above the top of rock surface.

  - Shallow bedrock water-bearing zone: a water-bearing zone within the shallow bedrock (upper ±30 feet below the top of bedrock) that is controlled to a large degree by approximately horizontal, open bedding plane fractures;
  - Deep bedrock water-bearing fracture: a water-bearing fracture within the deeper bedrock (approximately 65 to 75 feet below the top of bedrock), separated from the shallow bedrock water-bearing zone by approximately 25 to 30 feet of lower permeability rock. The lateral continuity of this fracture has not been evaluated.
- Overburden groundwater generally flows from southeast to the west and northwest across the Site and across the off-site property to the west, and likely discharges to the Oswego River. The vertical hydraulic gradients from locations with both shallow and deep overburden wells have been observed to be variable in direction. Additional data is required to confirm groundwater flow conditions and to further assess hydraulic gradients in the overburden deposits.
- In the shallow bedrock water-bearing zone, the overall groundwater flow direction is towards the Oswego River. However, there is some uncertainty regarding more localized flow patterns due to potential influence of nearby utilities on groundwater levels in the shallow bedrock wells (e.g., nearby utilities may cause short-term fluctuation in water levels in these wells). Additional data is required to evaluate this potential influence. Water level data from locations with both a deep overburden monitoring well and a shallow bedrock monitoring well generally indicate an upward vertical hydraulic gradient, and thus an upward component of groundwater flow from the bedrock to the overburden deposits. At the MW-122 cluster, where both a shallow and deep bedrock well were installed, there is a downward vertical hydraulic gradient from the shallow bedrock water-bearing zone to the deeper water-bearing fracture.

Extent of NAPL/Tar

- During previous RI activities, NAPL/tar in overburden encountered on the on-site property was encountered within the area of former MGP operations, primarily in the area of the former gas holder. This NAPL/tar is often in close proximity to the bedrock surface and is generally viscous. NAPL/tar was also identified in the overburden on the off-site property west of the Site within and near the Parcel C Area. In this area, the NAPL/tar is positioned at the top of rock surface is viscous, while NAPL in shallower intervals has an oil-like consistency and coats or saturates the sand and gravel deposits. As a result of the 2018 SRI activities, delineation of NAPL/tar in overburden is complete.
- NAPL/tar has been identified in bedrock at locations within the area encompassing the former gas holder (MW-117R and BRB-1), the western property boundary (MW-109R), and the eastern portion of the off-site property including the Parcel C Area (MW-111R and MW-121R). The lateral extent of NAPL/tar in bedrock is delineated with the exception of south of MW-121R, located on the western off-site property. No NAPL was observed in the deeper bedrock evaluated at MW-122RD (approximately 30 to 80 feet below the top of rock [approximately 50 to 100 feet bgs]), although this well was completed west of the area of where NAPL was observed in bedrock.

Subsurface Quality

- MGP-related exceedances of applicable SCOs are present on site, in the general vicinity of the former MGP structures, and in the easternmost part of the western off-site property, west of the former MGP structures. The exceedances generally correspond to the area where NAPL/tar were identified in the overburden. The lateral and vertical extents of MGP-related impacts to soils have been adequately characterized and delineated for the purposes of the RI.

Groundwater Quality

- In overburden groundwater, concentrations of MGP-related constituents above Class GA criteria are most prevalent in the deep overburden wells located in the vicinity of the off-site Parcel C area. Downgradient and sidegradient of the Parcel C Area, concentrations in the deep overburden groundwater decrease to below Class GA criteria. The only other Class GA criteria exceedances identified during the 2018 SRI activities were for benzene in the shallow overburden within the Parcel C Area (MW-111S), and west and south of the former gas holder at deep overburden well MW-103D and shallow overburden well MW-108. The extent of dissolved-phase MGP-related constituents above the Class GA criteria in overburden groundwater has been adequately characterized for the purposes of the RI.
- Dissolved-phase MGP-related constituents have been identified in groundwater within the shallow bedrock water-bearing zone at concentrations exceeding above Class GA criteria; these exceedances are associated with and/or in close proximity to where indications of NAPL/tar have been identified in bedrock. The eastern and southern extents of dissolved-phase MGP-related constituents in the shallow bedrock water-bearing zone on the Site and have been adequately delineated for the purposes of the RI. However, further evaluation of the extents of dissolved-phase MGP-related constituents in shallow bedrock groundwater on the off-site properties is required.
- In the deep bedrock water-bearing fracture encountered at MW-122RD, positioned between the Site and the Oswego River, dissolved-phase MGP-related constituents were either not detected in groundwater or detected at concentrations below Class GA criteria.

Recommendations

Based on the RI data discussed herein, the evaluation of the nature and extent of MGP-related impacts at the Fulton (Ontario St.) Former MGP is not yet complete and additional RI activities are required. However, further assessment of groundwater flow directions, vertical hydraulic gradients and groundwater discharge areas is needed to facilitate siting of additional monitoring well locations and ultimately to adequately assess contaminant distribution and migration pathways. As indicated in the discussions above, nearby utilities (e.g., sewer lift station) potentially influence groundwater levels and flow directions in overburden and shallow bedrock to some degree and thus, there is some uncertainty regarding localized flow patterns. To further resolve this potential influence, the following tasks are planned:

- <u>Information Request</u> - The City of Fulton's Department of Public Works (DPW) will be contacted to obtain available information (e.g., as-built drawing, operational data, etc.) related to the sewer lift station that is located near the intersection of Hubbard and Ontario Streets.
- <u>Continuous Water Level Monitoring</u> - Continuous monitoring of water levels in select overburden and bedrock wells, in the sewer lift station, and in a staff gauge installed in the

Oswego River will be conducted over an extended period (± 1 to 2 weeks). Specific locations for monitoring will be selected following review of information received from the City of Fulton. The continuous monitoring will be conducted with pressure transducers equipped with automatic data loggers (e.g., In-Situ LevelTROLLS®). The automatic data loggers will be set to record water levels from the pressure transduces every minute for the monitoring period. A manual water level meter will also be used to measure water levels in the monitoring wells at the beginning and end of the continuous monitoring period. Hourly barometric pressure data and precipitation data for the monitoring period will be obtained from the National Oceanic and Atmospheric Administration (NOAA) meteorological measurement station located closest to the Site. Additionally, barometric pressure will be measured at the Site using a pressure transducer and automatic data logger configured to measure and record barometric pressure (e.g., In-Situ BaroTROLL®).

The results and findings from the above-described tasks will then be used to assist in the development of a work plan that will propose activities to meet the following objectives:

1. Further evaluate the southern extent of NAPL/tar in bedrock on the off-site property west of the Site;
2. Further evaluate the extent of dissolved-phase, MGP-related constituents in bedrock groundwater on the off-site property west of the Site.

Schedule

Efforts to obtain available information from the City of Fulton will be initiated following submittal of this deliverable. It is anticipated that the continuous water level monitoring task will be conducted within the next couple of months (April or May 2019). Following evaluation of the collected data, the work plan proposing additional RI activities will be developed and submitted to the NYSDEC for review and approval.

Please review this submittal at your earliest convenience and do not hesitate to contact me at 315-428-5652 to discuss any questions or comments you may have.

Sincerely,

for

Steven P. Stucker, C.P.G.
Senior Environmental Engineer

Attachments
cc: R. Jones, NYSDOH
C. Rooney, National Grid (w/out enclosure)
J. Marolda, Brown and Caldwell

Section 1

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Tables

TABLE 1
SUMMARY OF BACKGROUND INFORMATION FOR INVESTIGATORY SAMPLE LOCATIONS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Location ID	Installation Date	Survey Coordinates NY State Plane - NAD 83		Ground Surface Elevation[1]	Depth to Bedrock	Bedrock Elevation	Screened Interval		Screened Interval		Total Depth	
		Northing	Easting	(ft., NGVD)	(ft., BGS)	(ft., NGVD)	Top (ft., BGS)	Bottom (ft., BGS)	Top (ft., NGVD)	Bottom (ft., NGVD)	(ft. , BGS)	(ft., NGVD)
Soil Borings												
B-104	11/16/2004	1212669.50	864405.49	326.81	28	298.81	--	--	--	--	28.2	298.61
B-105	11/16/2004	1212639.09	864421.94	328.27	--	--	--	--	--	--	16	312.27
B-106	9/12/2007	1212690.42	864301.49	319.46	--	--	--	--	--	--	12	307.46
B-107	9/12/2007	1212669.11	864264.75	319.38	--	--	--	--	--	--	10	309.38
B-114	11/27/2012	1212714.46	864350.66	320.51	22.0	298.51	--	--	--	--	22.1	298.41
B-115	11/13/2012	1212644.90	864415.48	328.00	24.6	303.40	--	--	--	--	24.8	303.20
B-116	11/13/2012	1212676.36	864407.45	326.93	26.0	300.93	--	--	--	--	26.3	300.63
B-117	11/19/2012	1212665.47	864372.38	325.68	26.0	299.68	--	--	--	--	26.2	299.48
B-118	11/19/2012	1212666.57	864381.36	325.59	26.0	299.59	--	--	--	--	26.1	299.49
B-119	11/15/2012	1212633.51	864339.99	321.19	18.5	302.69	--	--	--	--	20.2	300.99
B-120	11/14/2012	1212612.52	864372.82	327.44	--	--	--	--	--	--	13.2	314.24
B-121	11/15/2012	1212744.94	864405.96	321.90	--	--	--	--	--	--	13.2	308.70
B-122	11/14/2012	1212607.43	864438.35	329.06	--	--	--	--	--	--	13.5	315.56
B-123A	11/26/2012	1212664.52	864344.03	320.80	--	--	--	--	--	--	10.8	310.00
B-123B	11/26/2012	1212670.08	864344.41	320.93	20.0	300.93					20.2	300.73
B-124	11/27/2012	1212706.77	864283.95	319.32	--	--	--	--	--	--	17.5	301.82
B-125	9/29/2015	1212706.27	864267.13	319.35	24.5	294.85	--	--	--	--	24.5	294.85
B-126	9/30/2015	1212691.36	864282.56	319.21	20.4	298.81	--	--	--	--	20.4	298.81
B-127	9/28/2015	1212699.92	864309.03	319.69	21.0	298.69	--	--	--	--	21	298.69
B-128	9/25/2015	1212645.67	864302.92	320.35	21.7	298.65	--	--	--	--	21.7	298.65
B-129	10/5/2015	1212579.58	864411.99	328.53	19.3	309.23	--	--	--	--	19.3	309.23
B-130	10/5/2015	1212589.91	864462.68	330.06	21.3	308.76	--	--	--	--	21.5	308.56
B-131	10/5/2015	1212625.52	864486.16	330.79	24.5	306.29	--	--	--	--	24.5	306.29
B-132	10/2/2015	1212670.24	864511.65	330.99	24.0	306.99	--	--	--	--	24	306.99
B-133	10/1/2015	1212605.05	864337.52	321.72	19.5	302.22	--	--	--	--	19.5	302.22
B-134	7/11/2018	1212636.78	864226.28	319.42	20.0	299.42	--	--	--	--	20	299.42
B-135	7/11/2018	1212715.84	864301.95	319.74	--	--	--	--	--	--	21	298.74
Shallow Overburden Monitoring Wells												
MW-101	11/12/2004	1212678.06	864491.70	329.76	--	--	8.0	18.0	321.76	311.76	25	304.76
MW-102	11/15/2004	1212715.74	864398.29	324.81	--	--	6.0	16.0	318.81	308.81	16.5	308.31
MW-103	11/15/2004	1212635.39	864378.78	327.29	--	--	9.0	19.0	318.29	308.29	20	307.29
MW-108	9/12/2007	1212665.90	864344.24	320.81	20.0	300.81	6.0	16.0	314.81	304.81	20.2	300.61

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		Northing	Easting	(ft., NGVD)	(ft., BGS)	(ft., NGVD)	Top (ft., BGS)	Bottom (ft., BGS)	Top (ft., NGVD)	Bottom (ft., NGVD)	(ft. , BGS)	(ft., NGVD)
MW-109S	9/11/2007	1212707.12	864350.14	320.46	--	--	5.0	15.0	315.46	305.46	15	305.46
MW-110S	9/10/2007	1212744.56	864409.18	322.00	--	--	5.0	15.0	317.00	307.00	15	307.00
MW-111S	11/21/2012	1212673.92	864294.46	319.67	--	--	6.0	14.0	313.67	305.67	14	305.67
MW-112S	11/20/2012	1212756.33	864294.76	319.66	--	--	4.0	12.0	315.66	307.66	12	307.66
MW-118	9/29/2015	1212665.79	864314.83	320.35	--	--	9.0	15.0	311.35	305.35	15	305.35
MW-119	9/28/2015	1212663.91	864321.37	320.63	21.5	299.13	9.0	15.0	311.63	305.63	21.5	299.13
MW-121S	7/12/2018	1212585.03	864276.01	321.42	--	--	7.5	12.5	313.92	308.92	12.5	308.92
MW-122S	8/9/2018	1212678.19	864121.84	319.17	--	--	8.0	14.0	311.17	305.17	14	305.17
Deep Overburden Monitoring Wells												
MW-102D	11/14/2012	1212708.08	864405.35	325.92	23.0	302.92	20.0	25.0	305.92	300.92	25	300.92
MW-103D	11/16/2012	1212636.03	864374.15	327.44	26.3	301.14	21.3	26.3	306.14	301.14	26.3	301.14
MW-109D	9/11/2007	1212710.40	864351.11	320.43	21.0	299.43	17.0	22.0	303.43	298.43	22.2	298.23
MW-110D	9/10/2007	1212745.05	864403.85	321.77	22.8	298.97	18.0	23.0	303.77	298.77	24.4	297.37
MW-111D	11/21/2012	1212674.38	864300.86	319.77	20.5	299.27	16.0	21.0	303.77	298.77	21	298.77
MW-112D	11/20/2012	1212755.38	864299.74	319.59	18.0	301.59	14.0	19.0	305.59	300.59	19	300.59
MW-113D	10/2/2015	1212643.91	864279.14	319.81	20.1	299.71	15.5	20.5	304.31	299.31	21.2	298.61
MW-114D	9/30/2015	1212673.74	864251.55	319.23	21.4	297.83	16.4	21.4	302.83	297.83	21.4	297.83
MW-115D	10/1/2015	1212787.68	864386.79	321.22	25.5	295.72	20.5	25.5	300.72	295.72	25.5	295.72
MW-116D	10/6/2015	1212709.37	864455.99	330.88	28.5	302.38	23.5	28.5	307.38	302.38	28.5	302.38
MW-120D	8/16/2018	1212570.12	864374.71	325.96	--	--	15.0	21.0	310.96	304.96	21	304.96
MW-121D	7/12/2018	1212586.02	864286.62	321.21	18.4	302.81	13.5	18.5	307.71	302.71	24	297.21
MW-122D	8/14/2018	1212671.76	864121.54	319.26	21.4	297.86	16.0	21.0	303.26	298.26	21.4	297.86
Shallow Bedrock Monitoring Wells												
BRB-1	9/23/2015	1212641.70	864375.41	327.10	26.0	301.10	33.9	43.9	293.20	283.20	43.9	283.20
MW-109R	9/24/2015	1212702.18	864349.76	320.70	20.0	300.70	28.0	38.0	292.70	282.70	42.5	278.20
MW-111R	9/18/2015	1212677.13	864297.68	319.71	20.5	299.21	29.5	35.5	290.21	284.21	36.7	283.01
MW-117R	9/15/2015	1212666.13	864378.97	326.08	25.0	301.08	26.5	32.5	299.58	293.58	35.8	290.28
MW-120R	8/16/2018	1212570.18	864377.82	326.0	22.5	303.52	40.0	52.0	286.0	274.0	56.0	270.0
MW-121R	7/12/2018	1212575.34	864275.23	321.0	21.6	299.38	34.0	44.0	287.0	277.0	47.0	274.0
MW-122R	8/13/2018	1212665.04	864122.01	319.3	22.0	297.33	37.0	49.0	282.3	270.3	49.0	270.3
MW-123R	8/22/2018	1212658.67	864486.60	330.0	26.0	304.01	48.0	55.0	282.0	275.0	59.0	271.0
MW-124R	7/25/2018	1212754.72	864305.70	319.8	32.0	287.78	35.0	45.0	284.8	274.8	49.0	270.8
MW-125R	7/19/2018	1212715.98	864230.86	319.3	26.0	293.27	34.0	44.0	285.3	275.3	47.0	272.3

TABLE 1
SUMMARY OF BACKGROUND INFORMATION FOR INVESTIGATORY SAMPLE LOCATIONS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Location ID	Installation Date	Survey Coordinates NY State Plane - NAD 83 Northing	Easting	Ground Surface Elevation[1] (ft., NGVD)	Depth to Bedrock (ft., BGS)	Bedrock Elevation (ft., NGVD)	Screened Interval Top (ft., BGS)	Screened Interval Bottom (ft., BGS)	Screened Interval Top (ft., NGVD)	Screened Interval Bottom (ft., NGVD)	Total Depth (ft. , BGS)	Total Depth (ft., NGVD)
Deep Bedrock Monitoring Wells												
MW-122RD	8/9/2018	1212658.49	864122.15	319.36	21	298.36	86	96	233.36	223.36	100	219.36
Test Pits												
TP-101	11/11/2004	1212684.71	864389.50	326.37	--	--	--	--	--	--	12.5	313.87
TP-102	11/11/2004	1212646.89	864411.38	327.97	--	--	--	--	--	--	9.5	318.47
TP-103	11/10/2004	1212636.89	864448.25	329.11	--	--	--	--	--	--	8.5	320.61
TP-104	11/10/2004	1212677.83	864452.32	328.61	--	--	--	--	--	--	8.5	320.11
TP-105	11/19/2012	1212694.82	864299.94	319.54	--	--	--	--	--	--	5.5	314.04
TP-106	11/19/2012	1212685.86	864289.52	319.76	--	--	--	--	--	--	7.5	312.26
TP-107	11/19/2012	1212706.07	864426.43	326.86	--	--	--	--	--	--	7.5	319.36
TP-108	11/19/2012	1212681.90	864434.77	328.39	--	--	--	--	--	--	7	321.39
Surface Soil Sample Locations												
SS-1	12/6/2012	1212673.71	864399.25	326.54	--	--	--	--	--	--	0.5	326.04
SS-2	12/6/2012	1212660.43	864456.37	328.94	--	--	--	--	--	--	0.5	328.44
SS-3	12/6/2012	1212638.72	864429.99	328.52	--	--	--	--	--	--	0.5	328.02
SS-4	12/6/2012	1212617.52	864382.18	327.55	--	--	--	--	--	--	0.5	327.05
SS-5	12/6/2012	1212617.80	864455.32	329.47	--	--	--	--	--	--	0.5	328.97
SS-6	12/6/2012	1212594.67	864411.69	328.28	--	--	--	--	--	--	0.5	327.78
SS-7	12/6/2012	1212555.06	864373.26	326.79	--	--	--	--	--	--	0.5	326.29
SS-8	12/6/2012	1212550.85	864450.29	331.89	--	--	--	--	--	--	0.5	331.39
BG-SS-1	12/6/2012	1212897.79	864418.89	328.91	--	--	--	--	--	--	0.5	328.41
BG-SS-2	12/6/2012	1212788.10	864391.25	321.33	--	--	--	--	--	--	0.5	320.83
BG-SS-3	12/7/2012	1212787.66	864453.42	326.70	--	--	--	--	--	--	0.5	326.20
BG-SS-4	12/7/2012	1212708.36	864637.44	331.40	--	--	--	--	--	--	0.5	330.90
BG-SS-5	12/7/2012	1212477.55	864614.64	334.86	--	--	--	--	--	--	0.5	334.36

Notes:
(1) -For monitoring wells, value presented reflects ground surface elevation at time of installation.
-- Data not available or not applicable
NGVD - National Geodetic Vertical Datum 1929
BGS -Below Ground Surface

TABLE 2
WATER ELEVATIONS AND NAPL MONITORING DATA
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

			11/15/2006				9/24/2007				12/11/2012			
Location ID	Top of Casing Elevation (ft., NGVD)	Screened Interval (ft., BGS)	Depth to Water (ft., BTOC)	Water Elevation (ft., NGVD)	Depth to NAPL (ft., BTOC)	Total Depth (ft., BTOC)	Depth to Water (ft., BTOC)	Water Elevation (ft., NGVD)	Depth to NAPL (ft., BTOC)	Total Depth (ft., BTOC)	Depth to Water (ft., BTOC)	Water Elevation (ft., NGVD)	Depth to NAPL (ft., BTOC)	Total Depth (ft., BTOC)
MW-101	329.61	8-18	11.32	318.29	ND	16.59	12.98	316.63	ND	16.65	11.81	317.80	ND	16.60
MW-102	324.63	6-16	9.84	314.79	ND	15.59	11.55	313.08	ND	15.63	9.62	315.01	ND	15.50
MW-102D	325.49	20-25	--	--	--	--	--	--	--	--	10.56	314.93	ND	24.10
MW-103	327.06	9-19	12.51	314.55	ND	18.69	13.82	313.24	ND	18.68	12.72	314.34	ND	18.70
MW-103D	327.13	21.3-26.3	--	--	--	--	--	--	--	--	12.90	314.23	ND	26.10
MW-108	320.49	6-16	--	--	--	--	8.01	312.48	ND	16.00	6.67	313.82	ND	15.70
MW-109S	320.03	5-15	--	--	--	--	7.52	312.51	ND	14.64	6.06	313.97	ND	11.50
MW-109D	320.00	17-22	--	--	--	--	7.50	312.50	ND	21.61	6.12	313.88	ND	14.55
MW-110S	321.64	5-15	--	--	--	--	8.94	312.70	ND	14.56	6.83	314.81	ND	14.40
MW-110D	321.41	18-23	--	--	--	--	8.85	312.56	ND	23.18	7.36	314.05	ND	23.10
MW-110D(1)	321.56	18-23	--	--	--	--	--	--	--	--	--	--	--	--
MW-111S	319.17	6-14	--	--	--	--	--	--	--	--	5.04	314.13	ND	13.40
MW-111D	319.41	16-21	--	--	--	--	--	--	--	--	5.61	313.80	ND	20.55
MW-112S	319.21	4-12	--	--	--	--	--	--	--	--	4.67	314.54	ND	11.60
MW-112D	319.15	14-19	--	--	--	--	--	--	--	--	5.16	313.99	ND	19.01
MW-113D	319.24	15.5-20.5	--	--	--	--	--	--	--	--	--	--	--	--
MW-114D	318.87	16.4-21.4	--	--	--	--	--	--	--	--	--	--	--	--
MW-115D	320.70	20.5-25.5	--	--	--	--	--	--	--	--	--	--	--	--
MW-116D	333.43	23.5-28.5	--	--	--	--	--	--	--	--	--	--	--	--
MW-118	319.97	9-15	--	--	--	--	--	--	--	--	--	--	--	--
MW-119	320.25	9-15	--	--	--	--	--	--	--	--	--	--	--	--
MW-120D	327.24	15-21	--	--	--	--	--	--	--	--	--	--	--	--
MW-121S	321.02	7.5-12.5	--	--	--	--	--	--	--	--	--	--	--	--
MW-121D	320.8	13.5-18.5	--	--	--	--	--	--	--	--	--	--	--	--
MW-122S	318.77	8-14	--	--	--	--	--	--	--	--	--	--	--	--
MW-122D	319	16-21	--	--	--	--	--	--	--	--	--	--	--	--
BRB-1	328.90	33.9-43.9	--	--	--	--	--	--	--	--	--	--	--	--
MW-109R	320.13	28-38	--	--	--	--	--	--	--	--	--	--	--	--
MW-111R	319.26	29.5-35.5	--	--	--	--	--	--	--	--	--	--	--	--
MW-117R	327.72	26.5-32.5	--	--	--	--	--	--	--	--	--	--	--	--
MW-120R	327.75	40-52	--	--	--	--	--	--	--	--	--	--	--	--
MW-121R	320.57	34-44	--	--	--	--	--	--	--	--	--	--	--	--
MW-122R	319.07	37-49	--	--	--	--	--	--	--	--	--	--	--	--
MW-122RD	319.1	86-96	--	--	--	--	--	--	--	--	--	--	--	--
MW-123R	329.74	48-55	--	--	--	--	--	--	--	--	--	--	--	--
MW-124R	319.5	35-45	--	--	--	--	--	--	--	--	--	--	--	--
MW-125R	319.03	34-44	--	--	--	--	--	--	--	--	--	--	--	--
SG-1(2)	313.29	--	--	--	--	--	--	--	--	--	--	--	--	--
SG-1(3)	313.80	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2
WATER ELEVATIONS AND NAPL MONITORING DATA
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Location ID	Top of Casing Elevation (ft., NGVD)	Screened Interval (ft., BGS)	11/15/2006 Depth to Water (ft., BTOC)	11/15/2006 Water Elevation (ft., NGVD)	11/15/2006 Depth to NAPL (ft., BTOC)	11/15/2006 Total Depth (ft., BTOC)	9/24/2007 Depth to Water (ft., BTOC)	9/24/2007 Water Elevation (ft., NGVD)	9/24/2007 Depth to NAPL (ft., BTOC)	9/24/2007 Total Depth (ft., BTOC)	12/11/2012 Depth to Water (ft., BTOC)	12/11/2012 Water Elevation (ft., NGVD)	12/11/2012 Depth to NAPL (ft., BTOC)	12/11/2012 Total Depth (ft., BTOC)
PZ-1	329.65	NA	10.39	319.26	ND	14.71	12.89	316.76	ND	14.76	10.87	318.78	ND	14.91
PZ-2	329.38	NA	9.83	319.55	ND	14.60	11.99	317.39	ND	14.62	10.24	319.14	ND	16.05
PZ-3	327.06	NA	11.99	315.07	ND	13.31	12.90	314.16	ND	13.33	11.42	315.64	ND	13.30

TABLE 2
WATER ELEVATIONS AND NAPL MONITORING DATA
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Location ID	Top of Casing Elevation (ft., NGVD)	Screened Interval (ft., BGS)	3/19/2013 Depth to Water (ft., BTOC)	3/19/2013 Water Elevation (ft., NGVD)	3/19/2013 Depth to NAPL (ft., BTOC)	3/19/2013 Total Depth (ft., BTOC)	10/19/2015 Depth to Water (ft., BTOC)	10/19/2015 Water Elevation (ft., NGVD)	10/19/2015 Depth to NAPL (ft., BTOC)	10/19/2015 Total Depth (ft., BTOC)	3/14/2016 Depth to Water (ft., BTOC)	3/14/2016 Water Elevation (ft., NGVD)	3/14/2016 Depth to NAPL (ft., BTOC)	3/14/2016 Total Depth (ft., BTOC)
MW-101	329.61	8-18	11.09	318.52	ND	16.60	12.88	316.73	ND	16.50	11.38	318.23	ND	16.53
MW-102	324.63	6-16	9.55	315.08	ND	15.58	9.95	314.68	ND	15.52	8.79	315.84	ND	15.49
MW-102D	325.49	20-25	10.48	315.01	ND	24.20	10.89	314.60	ND	23.95	9.72	315.77	ND	24.04
MW-103	327.06	9-19	12.46	314.60	ND	18.70	13.08	313.98	ND	18.63	12.09	314.97	ND	18.60
MW-103D	327.13	21.3-26.3	12.48	314.65	ND	26.10	13.21	313.92	ND	25.96	12.20	314.93	ND	26.07
MW-108	320.49	6-16	6.38	314.11	ND	15.95	6.69	313.80	ND	15.76	5.87	314.62	ND	15.64
MW-109S	320.03	5-15	5.83	314.20	ND	14.50	6.02	314.01	ND	12.43	4.95	315.08	ND	12.91
MW-109D	320.00	17-22	5.78	314.22	ND	21.50	6.12	313.88	ND	19.71	5.00	315.00	ND	19.52
MW-110S	321.64	5-15	6.72	314.92	ND	14.45	7.03	314.61	ND	14.40	5.81	315.83	ND	14.86
MW-110D	321.41	18-23	7.17	314.24	ND	23.15	7.42	313.99	ND	22.80	6.23	315.18	ND	22.83
MW-110D(1)	321.56	18-23	--	--	--	--	--	--	--	--	--	--	--	--
MW-111S	319.17	6-14	4.63	314.54	ND	13.40	6.10	313.07	ND	13.28	5.37	313.80	ND	13.33
MW-111D	319.41	16-21	5.60	313.81	ND	20.55	5.87	313.54	ND	20.43	5.52	313.89	ND	20.44
MW-112S	319.21	4-12	4.36	314.85	ND	11.65	5.86	313.35	ND	11.53	4.95	314.26	ND	11.59
MW-112D	319.15	14-19	4.92	314.23	ND	19.15	5.81	313.34	ND	19.00	5.00	314.15	ND	19.04
MW-113D	319.24	15.5-20.5	--	--	--	--	6.10	313.14	ND	20.85	5.37	313.87	ND	NM
MW-114D	318.87	16.4-21.4	--	--	--	--	6.04	312.83	ND	21.82	5.29	313.58	ND	21.80
MW-115D	320.70	20.5-25.5	--	--	--	--	6.59	314.11	ND	24.86	5.26	315.44	ND	24.87
MW-116D	333.43	23.5-28.5	--	--	--	--	17.77	315.66	ND	30.48	16.36	317.07	ND	30.49
MW-118	319.97	9-15	--	--	--	--	6.63	313.34	ND	14.75	5.91	314.06	ND	14.82
MW-119	320.25	9-15	--	--	--	--	6.81	313.44	ND	14.59	5.65	314.60	ND	14.62
MW-120D	327.24	15-21	--	--	--	--	--	--	--	--	--	--	--	--
MW-121S	321.02	7.5-12.5	--	--	--	--	--	--	--	--	--	--	--	--
MW-121D	320.8	13.5-18.5	--	--	--	--	--	--	--	--	--	--	--	--
MW-122S	318.77	8-14	--	--	--	--	--	--	--	--	--	--	--	--
MW-122D	319	16-21	--	--	--	--	--	--	--	--	--	--	--	--
BRB-1	328.90	33.9-43.9	--	--	--	--	15.79	313.11	ND	45.30	14.33	314.57	ND	45.28
MW-109R	320.13	28-38	--	--	--	--	6.99	313.14	ND	39.68	5.50	314.63	39.68	39.76
MW-111R	319.26	29.5-35.5	--	--	--	--	6.19	313.07	ND	35.82	4.71	314.55	ND	35.91
MW-117R	327.72	26.5-32.5	--	--	--	--	13.51	314.21	(4)	NM	12.36	315.36	24.00	NM
MW-120R	327.75	40-52	--	--	--	--	--	--	--	--	--	--	--	--
MW-121R	320.57	34-44	--	--	--	--	--	--	--	--	--	--	--	--
MW-122R	319.07	37-49	--	--	--	--	--	--	--	--	--	--	--	--
MW-122RD	319.1	86-96	--	--	--	--	--	--	--	--	--	--	--	--
MW-123R	329.74	48-55	--	--	--	--	--	--	--	--	--	--	--	--
MW-124R	319.5	35-45	--	--	--	--	--	--	--	--	--	--	--	--
MW-125R	319.03	34-44	--	--	--	--	--	--	--	--	--	--	--	--
SG-1(2)	313.29	--	--	--	--	--	4.15	309.14	ND	NA	--	--	--	--
SG-1(3)	313.80	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2
WATER ELEVATIONS AND NAPL MONITORING DATA
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Location ID	Top of Casing Elevation (ft., NGVD)	Screened Interval (ft., BGS)	3/19/2013 Depth to Water (ft., BTOC)	3/19/2013 Water Elevation (ft., NGVD)	3/19/2013 Depth to NAPL (ft., BTOC)	3/19/2013 Total Depth (ft., BTOC)	10/19/2015 Depth to Water (ft., BTOC)	10/19/2015 Water Elevation (ft., NGVD)	10/19/2015 Depth to NAPL (ft., BTOC)	10/19/2015 Total Depth (ft., BTOC)	3/14/2016 Depth to Water (ft., BTOC)	3/14/2016 Water Elevation (ft., NGVD)	3/14/2016 Depth to NAPL (ft., BTOC)	3/14/2016 Total Depth (ft., BTOC)
PZ-1	329.65	NA	10.37	319.28	ND	14.94	12.45	317.20	ND	14.83	10.65	319.00	ND	14.72
PZ-2	329.38	NA	9.62	319.76	ND	16.50	11.76	317.62	ND	NM	Dry	≥316.05	ND	13.33
PZ-3	327.06	NA	11.75	315.31	ND	13.88	(5)	NA	NA	(5)	(5)	NA	NA	(5)

TABLE 2
WATER ELEVATIONS AND NAPL MONITORING DATA
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Location ID	Top of Casing Elevation (ft., NGVD)	Screened Interval (ft., BGS)	9/17/2018 Depth to Water (ft., BTOC)	9/17/2018 Water Elevation (ft., NGVD)	9/17/2018 Depth to NAPL (ft., BTOC)	9/17/2018 Total Depth (ft., BTOC)	11/5/2018 Depth to Water (ft., BTOC)	11/5/2018 Water Elevation (ft., NGVD)	11/5/2018 Depth to NAPL (ft., BTOC)	11/5/2018 Total Depth (ft., BTOC)	11/14/2018 Depth to Water (ft., BTOC)	11/14/2018 Water Elevation (ft., NGVD)	11/14/2018 Depth to NAPL (ft., BTOC)	11/14/2018 Total Depth (ft., BTOC)
MW-101	329.61	8-18	14.80	314.81	ND	16.64	13.21	316.40	ND	16.52	13.01	316.60	NM	NM
MW-102	324.63	6-16	11.81	312.82	ND	15.49	10.33	314.30	ND	15.47	10.31	314.32	NM	NM
MW-102D	325.49	20-25	12.53	312.96	ND	24.10	11.22	314.27	ND	24.03	NM	NM	NM	NM
MW-103	327.06	9-19	14.62	312.44	ND	18.70	13.26	313.80	ND	18.60	13.28	313.78	NM	NM
MW-103D	327.13	21.3-26.3	14.73	312.40	ND	26.10	13.41	313.72	ND	25.05	NM	NM	NM	NM
MW-108	320.49	6-16	8.62	311.87	ND	15.86	7.46	313.03	ND	15.59	7.50	312.99	NM	NM
MW-109S	320.03	5-15	8.16	311.87	ND	14.80	6.96	313.07	ND	14.79	7.02	313.01	NM	NM
MW-109D	320.00	17-22	8.07	311.93	ND	22.00	6.88	313.12	ND	21.93	NM	NM	NM	NM
MW-110S	321.64	5-15	9.14	312.50	ND	14.25	7.45	314.19	ND	14.21	7.46	314.18	NM	NM
MW-110D	321.41	18-23	--	--	--	--	--	--	--	--	--	--	--	--
MW-110D[1]	321.56	18-23	9.39	312.17	ND	22.52	7.91	313.65	ND	22.44	NM	NM	NM	NM
MW-111S	319.17	6-14	7.38	311.79	ND	13.30	6.28	312.89	ND	13.31	6.34	312.83	NM	NM
MW-111D	319.41	16-21	7.59	311.82	ND	20.47	7.68	311.73	ND	20.48	NM	NM	NM	NM
MW-112S	319.21	4-12	7.42	311.79	ND	11.50	6.12	313.09	ND	11.55	6.12	313.09	NM	NM
MW-112D	319.15	14-19	7.45	311.70	ND	19.03	6.10	313.05	ND	18.48	NM	NM	NM	NM
MW-113D	319.24	15.5-20.5	7.32	311.92	ND	20.96	6.28	312.96	ND	20.91	NM	NM	NM	NM
MW-114D	318.87	16.4-21.4	7.23	311.64	ND	21.83	6.22	312.65	ND	21.79	NM	NM	NM	NM
MW-115D	320.70	20.5-25.5	8.42	312.28	ND	24.84	6.95	313.75	ND	24.85	NM	NM	NM	NM
MW-116D	333.43	23.5-28.5	19.18	314.25	ND	30.80	17.49	315.94	ND	30.48	NM	NM	NM	NM
MW-118	319.97	9-15	8.06	311.91	ND	14.76	6.93	313.04	ND	14.80	7.00	312.97	NM	NM
MW-119	320.25	9-15	8.33	311.92	ND	14.65	7.25	313.00	ND	14.60	7.24	313.01	NM	NM
MW-120D	327.24	15-21	14.40	312.84	ND	22.51	13.12	314.12	ND	22.50	NM	NM	NM	NM
MW-121S	321.02	7.5-12.5	8.47	312.55	ND	12.05	7.65	313.37	ND	12.03	7.78	313.24	NM	NM
MW-121D	320.8	13.5-18.5	8.73	312.07	ND	18.17	7.88	312.92	ND	18.23	NM	NM	NM	NM
MW-122S	318.77	8-14	9.90	308.87	ND	13.50	6.46	312.31	ND	13.52	6.58	312.19	NM	NM
MW-122D	319	16-21	8.10	310.90	ND	21.20	6.83	312.17	ND	21.09	NM	NM	NM	NM
BRB-1	328.90	33.9-43.9	16.63	312.27	ND	44.90	14.88	314.02	ND	44.92	NM	NM	NM	NM
MW-109R	320.13	28-38	7.82	312.31	39.75	NM	6.06	314.07	39.66	--	NM	NM	NM	NM
MW-111R	319.26	29.5-35.5	7.03	312.23	ND	35.96	5.26	314.00	ND	35.90	NM	NM	NM	NM
MW-117R	327.72	26.5-32.5	14.62	313.10	35.60	NM	NM	NM	NM	NM	NM	NM	NM	NM
MW-120R	327.75	40-52	16.05	311.70	ND	53.84	14.00	313.75	ND	53.74	NM	NM	NM	NM
MW-121R	320.57	34-44	8.91	311.66	ND	43.48	7.24	313.33	ND	43.40	NM	NM	NM	NM
MW-122R	319.07	37-49	8.05	311.02	ND	48.82	5.77	313.30	ND	48.76	NM	NM	NM	NM
MW-122RD	319.1	86-96	14.11	304.99	ND	96.50	12.03	307.07	ND	95.87	NM	NM	NM	NM
MW-123R	329.74	48-55	17.91	311.83	ND	54.85	15.88	313.86	ND	54.75	NM	NM	NM	NM
MW-124R	319.5	35-45	7.57	311.93	ND	44.97	5.80	313.70	ND	44.87	NM	NM	NM	NM
MW-125R	319.03	34-44	6.93	312.10	ND	44.00	5.10	313.93	ND	43.59	NM	NM	NM	NM
SG-1[2]	313.29	--	--	--	--	--	--	--	--	--	NM	NM	NM	NM
SG-1[3]	313.80	--	4.73	309.07	ND	--	--	--	--	--	1.42	312.38	NM	NM

TABLE 2
WATER ELEVATIONS AND NAPL MONITORING DATA
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Location ID	Top of Casing Elevation (ft., NGVD)	Screened Interval (ft., BGS)	9/17/2018 Depth to Water (ft., BTOC)	9/17/2018 Water Elevation (ft., NGVD)	9/17/2018 Depth to NAPL (ft., BTOC)	9/17/2018 Total Depth (ft., BTOC)	11/5/2018 Depth to Water (ft., BTOC)	11/5/2018 Water Elevation (ft., NGVD)	11/5/2018 Depth to NAPL (ft., BTOC)	11/5/2018 Total Depth (ft., BTOC)	11/14/2018 Depth to Water (ft., BTOC)	11/14/2018 Water Elevation (ft., NGVD)	11/14/2018 Depth to NAPL (ft., BTOC)	11/14/2018 Total Depth (ft., BTOC)
PZ-1	329.65	NA	--	--	--	--	--	--	--	--	--	--	--	--
PZ-2	329.38	NA	--	--	--	--	--	--	--	--	--	--	--	--
PZ-3	327.06	NA	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
NGVD - National Geodetic Vertical Datum 1929
BGS - Below Ground Surface
BTOC - Below Top of Casing
NAPL - Non Aqueous Phase Liquid
-- Monitoring well not installed at time of measurements
NA - Not Available. PZ-1, PZ-2, and PZ-3 were installed previously by another party.
ND - Not detected with oil/water interface probe.
NM - Not measured.
(1) - MW-110D was repaired and resurvyed in 2018.
(2) - 2015 Staff gauge location was established within the Oswego River, however, was subsequently destroyed.
(3) - 2018 Staff gauge location established within the Oswego River.
(4) - NAPL gauging at location completed using a bailer. Upon removal of bailer, black viscous, tacky tar-like material observed coating bottom of bailer. Strong tar-like odor.
(5) - Obstruction in piezometer.

TABLE 3
SUMMARY OF IN-SITU HYDRAULIC CONDUCTIVITY TEST RESULTS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Location ID	Screened Interval (ft., BGS)	Saturated Formation Adjacent To Screen	Test Date	Hydraulic Conductivity (cm/sec)
Shallow Overburden Wells				
MW-101	8-18	Glacial Till	11/15/2006	1.5E-04
MW-102	6-16	Fill/Glacial Till	11/15/2006	1.2E-04
MW-103	9-19	Glacial Till	11/16/2006	7.7E-04
MW-108	6-16	Glacial Till	9/13/2007	2.2E-04
MW-109S	5-15	Fill	9/13/2007	2.0E-03
MW-110S	5-15	Glacial Till	9/24/2007	1.8E-04
MW-111S	6-14	Glacial Till	3/22/2013	7.3E-04
MW-112S	4-12	Fill/Glacial Till	3/22/2013	4.1E-04
MW-118	9-15	Glacial Till	11/2/2015	5.3E-03 (1)
MW-119	9-15	Glacial Till	11/2/2015	1.4E-03
MW-121S	7.5-12.5	Glacial Till	11/15/2018	3.1E-03
MW-122S	8-14	Glacial Till	11/14/2018	5.1E-03
			Geometric Mean	**7.6E-04**
Deep Overburden Wells				
MW-102D	20-25	Glacial Till/Weathered Rock	3/22/2013	1.1E-03
MW-103D	21.3-26.3	Glacial Till	3/22/2013	1.4E-03
MW-109D	17-22	Glacial Till	9/24/2007	6.6E-03
MW-110D	18-23	Glacial Till	9/13/2007	8.3E-03
MW-111D	16-21	Glacial Till	3/22/2013	2.1E-05
MW-112D	14-19	Glacial Till	3/22/2013	8.1E-03
MW-113D	15.5-20.5	Glacial Till	11/3/2015	1.5E-02
MW-114D	16.4-21.4	Glacial Till	11/3/2015	1.1E-03
MW-115D	20.5-25.5	Glacial Till	11/2/2015	1.9E-03 (1)
MW-116D	23.5-28.5	Glacial Till	11/2/2015	7.3E-03 (1)
MW-120D	15-21	Glacial Till	11/15/2018	1.2E-03
MW-121D	13.5-18.5	Glacial Till	11/15/2018	2.3E-03
MW-122D	16-21	Glacial Till	11/14/2018	1.2E-03
			Geometric Mean	**2.1E-03**
Shallow Bedrock Wells				
BRB-1	33.9-43.9	Bedrock	11/2/2015	9.5E-03
MW-109R	28-38	Bedrock	11/3/2015	3.4E-03
MW-111R	29.5-35.5	Bedrock	11/2/2015	1.6E-02
MW-120R	40-52	Bedrock	11/15/2018	1.2E-03
MW-121R	34-44	Bedrock	11/15/2018	1.3E-03
MW-122R	37-49	Bedrock	11/15/2018	2.9E-05
MW-123R	48-55	Bedrock	11/15/2018	1.0E-03
MW-124R	35-45	Bedrock	11/15/2018	2.3E-03
MW-125R	34-44	Bedrock	11/15/2018	3.6E-03
			Geometric Mean	**1.8E-03**
Deep Bedrock Wells				
MW-122RD	86-96	Bedrock	11/14/2018	1.2E-03

Notes:
(1) - Value is representative of the average estimated horizontal hydraulic conductivity based on two separate in-situ tests performed at well location.

BGS - Below ground surface
cm/sec - centimeters per second

TABLE 4
SUMMARY OF VISUAL/OLFACTORY FIELD OBSERVATIONS IN SOIL AND BEDROCK
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Location	Date of Observation	Total Depth of Boring/Test Pit	Depth of Observation (ft., BGS)	Description
SOIL BORINGS				
B-104	11/16/2004	28.2	14-14.4	Moderate tar-like odor.
	11/16/2004		18-18.7	Slight tar-like odor.
	11/16/2004		20-20.2	Slight indistinct odor.
	11/16/2004		22.4-22.9	Brown-black, viscous NAPL, strong tar-like odor.
	11/16/2004		24.5-24.7	Brown-black NAPL, highly viscous, strong sheen.
	11/16/2004		25-25.3	Brown-black NAPL, highly viscous, strong sheen.
	11/16/2004		26.1-26.2	Staining.
	11/16/2004		26.2-27	Saturated with water and NAPL, sheen.
	11/16/2004		28-28.2	Sheen on water in split-spoon, strong tar-like odor.
B-105	11/16/2004	16	--	No observations or odor indicative of MGP-related or other impacts.
B-106	9/12/2007	12	10.5	Brown-black NAPL coating grains (fill), moderate fuel-like odor - *see Note 1.*
B-107	9/12/2007	10	--	No observations or odor indicative of MGP-related or other impacts.
B-114	11/27/2012	22.1	18.8-20.8	Slight tar-like odor.
	11/27/2012		20.8-21.6	Sporadic black staining, slight tar-like odor.
B-115	11/13/2012	24.8	12-19	Slight mothball-like odor.
B-116	11/13/2012	26.3	6.5-8.8	Slight mothball-like odor.
	11/13/2012		14-14.6	Slight to moderate mothball-like odor.
B-117	11/19/2012	26.2	14-20.5	Degraded wood shavings, burnt-like odor.
	11/19/2012		22-22.4	Degraded wood shavings, moderate sheen, moderate tar-like odor.
	11/19/2012		24-25.6	Black stringy/viscous tar, strong tar-like odor - *see Note 2* .
	11/19/2012		25.6-25.8	Slight tar-like odor.
B-118	11/19/2012	26.1	8.8-9.7	Burnt-like odor.
	11/19/2012		14-19.2	Degraded wood shavings, moderate burnt/fuel-like odor.
	11/19/2012		22-22.8	Droplets of NAPL partially coating wood surfaces, strong tar-like odor.
	11/19/2012		24-24.2	Thin tar seam running through matrix.

TABLE 4
SUMMARY OF VISUAL/OLFACTORY FIELD OBSERVATIONS IN SOIL AND BEDROCK
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Location	Date of Observation	Total Depth of Boring/Test Pit	Depth of Observation (ft., BGS)	Description
B-119	11/15/2012	20.2	14.5-15.1	Black staining, slight fuel-like odor.
	11/15/2012		16-17.2	Black staining, slight fuel/tar-like odor.
	11/15/2012		18-18.5	Slight/faint fuel-like odor.
	11/15/2012		20-20.2	Moderate tar-like odor.
B-120	11/14/2012	13.2	--	No observations or odor indicative of MGP-related or other impacts.
B-121	11/15/2012	13.2	6-6.8	Slight fuel-like odor.
B-122	11/14/2012	13.5	--	No observations or odor indicative of MGP-related or other impacts.
B-123A	11/26/2012	10.8	--	No observations or odor indicative of MGP-related or other impacts.
B-123B	11/26/2012	20.2	18.3-18.7	Slight fuel/tar-like odor.
	11/26/2012		20-20.2	Moderate mothball-like odor.
B-124	11/27/2012	17.5	--	No observations or odor indicative of MGP-related or other impacts.
B-125	9/29/2015	24.5	19.9-24.4	Slight tar-like odor.
B-126	9/30/2015	20.4	19-21.4	Very slight tar-like odor.
B-127	9/28/2015	21	9-16.6	Sand and gravel saturated with NAPL (oil-like consistency) and groundwater, sheen, strong tar-like odor.
	9/28/2015		17-18.8	Sand and gravel heavily coated with NAPL (oil-like consistency), sheen, strong tar-like odor.
	9/28/2015		19-20.5	Black discoloration, strong tar-like odor, slight sheen.
	9/28/2015		20.5-20.6	Thin seam of black viscous, tacky tar-like material, strong tar-like odor.
	9/28/2015		20.6-21	Slight tar-like odor.
B-128	9/25/2015	21.7	21-21.7	Slight tar-like odor.
B-129	10/5/2015	19.3	5.5	Black semi-solid tar-like material.
	10/5/2015		9.4	Dark discoloration, wood chips, slight burnt-like odor.
B-130	10/5/2015	21.5	17.5	Slight dark discoloration around soil grains.
	10/5/2015		19.5-20	Slight discoloration around gravel.

TABLE 4
SUMMARY OF VISUAL/OLFACTORY FIELD OBSERVATIONS IN SOIL AND BEDROCK
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Location	Date of Observation	Total Depth of Boring/Test Pit	Depth of Observation (ft., BGS)	Description
B-131	10/5/2015	24.5	--	No observations or odor indicative of MGP-related or other impacts.
B-132	10/2/2015	24	--	No observations or odor indicative of MGP-related or other impacts.
B-133	10/1/2015	19.5	--	No observations or odor indicative of MGP-related or other impacts.
B-134	7/11/2018	20	--	No observations or odor indicative of MGP-related or other impacts.
B-135	7/11/2018	21	5.4-5.8	Discolored soils (black) with tar-like odors, discolored soils adhere to Ziploc® bag, trace amount of sheen observed on Ziploc® bag;
			11-13	Faint mothball-like odor.
			13-20.4	Moderate to strong mothball-like odor.
SOIL BORINGS INTENDED FOR MONITORING WELLS				
MW-101	11/12/2004	25	18-19	Slight sheen on bubbles on water in split-spoon.
MW-102	11/15/2004	16.5	6-7.2	Moderate tar-like odor.
	11/15/2004		8-8.8	Moderate tar-like odor.
	11/15/2004		10-11.2	Stained throughout, strong tar-like odor.
	11/15/2004		11.2-12	Slight tar-like odor.
	11/15/2004		12-14	Black staining, strong tar-like odor in stained areas.
	11/15/2004		14-14.6	Little staining.
MW-102D	11/14/2012	25	--	No observations or odor indicative of MGP-related or other impacts.
MW-103	11/15/2004	20	--	No observations or odor indicative of MGP-related or other impacts.
MW-103D	11/16/2012	26.3	23.3-23.6	Slight to moderate fuel-like odor.
	11/16/2012		24-24.9	Moderate tar-like odor.
	11/16/2012		24.9-25.4	Moderate mothball-like odor.
	11/16/2012		26-26.2	Slight sheen, moderate mothball-like odor.
MW-108	9/12/2007	20.2	--	No observations or odor indicative of MGP-related or other impacts.
MW-109S	9/11/2007	15	--	No observations or odor indicative of MGP-related or other impacts.

TABLE 4
SUMMARY OF VISUAL/OLFACTORY FIELD OBSERVATIONS IN SOIL AND BEDROCK
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Location	Date of Observation	Total Depth of Boring/Test Pit	Depth of Observation (ft., BGS)	Description
MW-109D	9/11/2007	22.2	21	Black staining, indistinct odor.
MW-110S	9/10/2007	15	--	No observations or odor indicative of MGP-related or other impacts.
MW-110D	9/10/2007	24.4	--	No observations or odor indicative of MGP-related or other impacts.
MW-111S	11/21/2012	14	--	Split-spoon samples not collected. Refer to MW-111D for descriptions of observations.
MW-111D	11/21/2012	21	18.2-18.4	Moderate fuel-like odor.
	11/21/2012		20-20.5	Thin seam/band of stringy/viscous tar through matrix - *see Note 2* .
	11/21/2012		20.5-20.7	Strong tar-like odor.
	11/21/2012		--	Viscous NAPL/tar and sheen observed within end of auger head upon removal from borehole.
MW-112S	11/20/2012	12	--	Split-spoon samples not collected. Refer to MW-112D for descriptions of observations.
MW-112D	11/20/2012	19	0.4-5	Slight to moderate fuel-like odor.
	11/20/2012		5-5.3	Slight fuel-like odor.
MW-113D	10/2/2015	21.2	15-17	Slight tar-like odor
	10/2/2015		17.15-17.8	Strong tar-like odor, gray discoloration throughout.
	10/2/2015		19-19.8	Strong tar-like odor.
	10/2/2015		19.8-20.1	Occurrences of black viscous tacky tar-like material coating sand, strong tar-like odor.
MW-114D	9/30/2015	21.4	19-20.2	Slight tar-like odor.
	9/30/2015		21-21.4	Black discoloration, slight tar-like odor.
MW-115D	10/1/2015	25.5	--	No observations or odor indicative of MGP-related or other impacts.
MW-116D	10/6/2015	28.5	11-11.3	Slight dark discoloration.
	10/6/2015		13.4-14.7	Slight dark discoloration around soil grains.
	10/6/2015		27.8-28.5	Blotches of orange discoloration.
MW-118	9/29/2015	15	--	No observations or odor indicative of MGP-related or other impacts.
MW-119	9/28/2015	21.5	15-16	Very slight tar-like odor.
	9/28/2015		17-17.8	Very slight tar-like odor, slight black discoloration.

TABLE 4
SUMMARY OF VISUAL/OLFACTORY FIELD OBSERVATIONS IN SOIL AND BEDROCK
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Location	Date of Observation	Total Depth of Boring/Test Pit	Depth of Observation (ft., BGS)	Description
MW-120D	8/16/2018	21	11-11.6	Faint mothball-like odor.
	8/16/2018		13-13.2	Discoloration (black), sheen and strong mothball-like odor.
	8/16/2018		15.2-15.7	Discoloration (black), metallic luster, strong mothball-like odor.
	8/16/2018		17-17.3	Discoloration (black), sub-metallic/metallic luster, strong mothball-like odor.
MW-121S	7/12/2018	12.5	--	No observations or odor indicative of MGP-related or other impacts.
MW-121D	7/11/2018	24	10.5-18.4	Slight mothball-like odor.
MW-122S	8/9/2018	14	--	No observations or odor indicative of MGP-related or other impacts.
MW-122D	8/14/2018	21	--	No observations or odor indicative of MGP-related or other impacts.
BRB-1	9/4/2015	43.9	15-20.3	Slight/faint mothball-like odor.
Top of Rock: 26' BGS	9/8/2015		23-23.6	Slight mothball-like odor.
	9/8/2015		23.6-23.7	Sand and gravel slightly discolored, moderate mothball-like odor.
	9/8/2015		25-25.7	Sporadic dark grey discoloration, moderate tar/mothball-like odor.
	9/8/2015		25.7-25.85	Black discoloration and blotches of viscous black tar-like material throughout, moderate/strong tar-like odor.
	9/8/2015		26-26.1	Thin band of tar/NAPL.
	9/9/2015		27.5-32	Slight mothball-like odor from drilling return water, slight mothball-like odor observed throughout core run.
	9/9/2015		29.2	Specks of sheen on ~25% of parting surface.
	9/9/2015		34-37	Specks of sheen on ~5% of parting surface.
	9/9/2015		37-42	Moderate mothball-like odor from drilling return water, NAPL blebs and droplets observed on surface of return water following completion of core run.
	9/9/2015		37.9-42	Sporadic specks of sheen on fracture surfaces, moderate mothball-like odor.
	9/9/2015		43.6	Black viscous, tacky tar-like material coating ~50% of parting surface, sheen, strong tar-like odor.
	9/9/2015		42-43.9	NAPL/tar droplets/globules on outside of core.

TABLE 4
SUMMARY OF VISUAL/OLFACTORY FIELD OBSERVATIONS IN SOIL AND BEDROCK
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Location	Date of Observation	Total Depth of Boring/Test Pit	Depth of Observation (ft., BGS)	Description
MW-109R	9/21/2015	42.5	17.6-17.7	Black discoloration, moderate tar-like odor.
Top of Rock: 20' BGS	9/21/2015		19.4-19.5	Black discoloration, moderate tar-like odor.
	9/21/2015		19.5-19.7	Slight tar-like odor.
	9/22/2015		21.5-26.5	Slight mothball-like odor.
	9/22/2015		24.55-25.7	Weathered parting with black discoloration, slight tar-like odor.
	9/22/2015		32.25-33.5	Sporadic sheen on outside of core.
	9/22/2015		36.5-41.5	Sheen on surface of core.
	9/22/2015		40-40.1	Sporadic sheen on parting surfaces, slight mothball-like odor.
	9/22/2015		--	Blotches of NAPL/tar sporadically observed on geophysical tools upon removal from corehole.
MW-111R	9/15/2015	36.7	7-8.6	Slight mothball-like odor.
Top of Rock: 20.5' BGS	9/15/2015		9-10.1	Slight mothball-like/tar-like odor.
	9/15/2015		11-12.1	Moderate to strong tar-like odor.
	9/15/2015		13-14.1	Moderate to strong tar-like odor and slight sporadic sheen on water in split-spoon.
	9/15/2015		15-15.8	Strong tar-like odor and slight sporadic sheen on water in split-spoon.
	9/16/2015		17-18.3	Strong tar-like odor and slight sheen on water in spoon.
	9/16/2015		17.45	Thin band of black discoloration.
	9/16/2015		17.65-18.3	Black discoloration.
	9/16/2015		19-20.2	Strong tar-like odor and sheen, black discoloration throughout.
	9/16/2015		19.5-20.2	Black discoloration throughout, blotches of viscous black tar-like material, strong tar-like odor.
	9/17/2015		21-21.8	Sheen on parting surfaces of weathered bedrock and strong tar-like odor.
	9/17/2015		31.7	NAPL observed on inflatable packer following removal of packer assembly from corehole after packer pressure test conducted on 31.7-36.7' interval.
	9/17/2015		--	Spots of NAPL/tar observed sporadically on geophysical tools and partially coating ends of tools following removal from corehole.

TABLE 4
SUMMARY OF VISUAL/OLFACTORY FIELD OBSERVATIONS IN SOIL AND BEDROCK
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Location	Date of Observation	Total Depth of Boring/Test Pit	Depth of Observation (ft., BGS)	Description
MW-117R	9/10/2015	35.8	9.4-9.85	Moderate sulfur-like and tar-like odor.
Top of Rock: 24.5' BGS	9/10/2015		11-11.9	Moderate tar-like odor.
	9/10/2015		13-13.7	Slight tar-like odor.
	9/10/2015		19.4-19.7	Strong sulfur-like odor.
	9/10/2015		21-22	Sporadic sheen observed on gravel surfaces, moderate tar/sulfur-like odor.
	9/10/2015		23-23.25	Sporadic sheen observed and strong tar-like odor.
	9/10/2015		23.25-23.4	Black viscous NAPL/tar coating woodchip-like material, strong tar-like odor.
	9/10/2015		23.4-24.2	Black discoloration throughout, viscous NAPL/tar coating fracture surfaces of weathered bedrock, strong tar-like odor.
	9/10/2015		25-25.4	Black discoloration on outside of sample and split-spoon, sheen on water in split-spoon with NAPL specks throughout, moderate tar-like odor.
	9/14/2015		25.8-30.8	Blebs of NAPL observed on surface of drilling return water, nodules of black tacky, viscous tar observed on inside base of container for drilling return water after contents of container were transferred to polyethylene storage tank.
	9/14/2015		26.8	Sheen on fracture surface, black discoloration and sporadic specks of NAPL on weathered bedrock fragments.
	9/14/2015		29	Angular fracture with black tacky, viscous tar coating ~60% of fracture surface, strong tar-like odor.
	9/14/2015		29.2	Sporadic sheen and NAPL on ~80 of near horizontal parting.
	9/14/2015		30.4	Sheen on ~5% of parting surface.
	9/14/2015		30.8-35.8	Sporadic specks of black tacky, viscous NAPL/tar on outside of core, moderate sheen on outside of core.
	9/14/2015		32.6	Few blebs of NAPL and slight sheen observed on center of parting (potentially introduced during drilling).
	9/14/2015		33.5	Few blebs of NAPL and slight sheen observed on center of parting (potentially introduced during drilling).
	9/14/2015		33.7	Slight sheen on ~30% of fracture surface.
	9/14/2015		34	Sheen on ~50% of fracture surface.
	9/14/2015		34.8	Heavy sheen on ~80% of fracture surface.
	9/14/2015		35.2	Heavy sheen with sporadic specks of NAPL on fracture surface (potentially introduced during drilling).
	9/14/2015		35.5	Heavy sheen with sporadic specks of NAPL on fracture surface (potentially introduced during drilling).
MW-120R	8/14/2018	56	14	Discolored soils (black), strong mothball-like odors observed upon removal of augers.
Top of Rock 24' BGS			18	Discolored soils (black), strong mothball-like odors observed upon removal of augers.
MW-121R	7/18/2018	47	37-47	Moderate mothball-like odor observed in drilling return water.
Top of Rock 22' BGS	7/18/2018		37-37.5	Abundant sheen.
	7/18/2018		40.3	Abundant sheen and two black viscous NAPL blebs on horizontal parting, moderate mothball-like odor.
	7/18/2018		42-47	Sporadic sheen observed on outside of core, not observed on fracture surfaces, slight to moderate mothball-like odor, single bleb of NAPL observed on surface of drilling return water.
	7/18/2018		--	Spots of NAPL observed sporadically on geophysical tools following removal from corehole.

TABLE 4
SUMMARY OF VISUAL/OLFACTORY FIELD OBSERVATIONS IN SOIL AND BEDROCK
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Location	Date of Observation	Total Depth of Boring/Test Pit	Depth of Observation (ft., BGS)	Description
MW-122R	8/13/2018	49	24.15-24.3	Faint fuel-like odor.
Top of Rock 24' BGS			24.9-25.1	Faint fuel-like odor.
MW-123R	8/15/2018	59	7-14.4	Marbled discolored soils (black), faint mothball like odor.
Top of Rock 26' BGS				
MW-124R	7/23/2018	49	5-5.7	Fuel-like odor.
Top of Rock 32' BGS	7/23/2018		7.2-7.9	Fuel-like odor.
	7/23/2018		9-9.6	Fuel-like odor.
	7/23/2018		11-11.5	Fuel-like odor.
	7/23/2018		17-17.4	Sheen observed on surface of water in split-spoon, faint mothball-like odor.
	7/23/2018		17.4-17.6	Discolored soils (black), faint mothball-like odor.
	7/23/2018		17.6-18.7	Faint mothball-like odor.
	7/23/2018		19-19.7	Sporadic discolored soils (black), sheen observed on surface of water in split-spoon, faint mothball-like odor.
	7/24/2018		32.1	Near horizontal parting with sporadic spots of black discoloration, faint mothball-like odor.
	7/24/2018		32-33.9	Faint mothball-like odors throughout core run.
MW-125R	7/12/2018	47	17-21	Faint mothball-like odor
Top of Rock 26' BGS	7/12/2018		23-26	Faint mothball-like odor
	7/19/2018		28	Trace NAPL blebs and sheen observed on surface of drilling return water, faint mothball-like odor.
MW-122RD	7/26/2018	100	28-28.1	Near horizontal parting with strong fuel-like odor.
Top of Rock 21' BGS	7/26/2018		42.3-42.6	Near horizontal parting with fuel-like odor.
TEST PITS				
TP-101	11/11/2004	12.5	--	No observations or odor indicative of MGP-related or other impacts.
TP-102	11/11/2004	9.5	8	Viscous tar coating on piece of brick.
TP-103	11/10/2004	8.5	1.5	Black staining.
			3.5	Hardened tar adhering to piece of wood.
TP-104	11/10/2004	8.5	--	No observations or odor indicative of MGP-related or other impacts.
TP-105	11/19/2012	5.5	--	No observations or odor indicative of MGP-related or other impacts.

TABLE 4
SUMMARY OF VISUAL/OLFACTORY FIELD OBSERVATIONS IN SOIL AND BEDROCK
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Location	Date of Observation	Total Depth of Boring/Test Pit	Depth of Observation (ft., BGS)	Description
TP-106	11/19/2012	7.5	4	Slight sulfur-like odor.
TP-107	11/19/2012	7.5	--	No observations or odor indicative of MGP-related or other impacts.
TP-108	11/19/2012	7	--	No observations or odor indicative of MGP-related or other impacts.

Notes:
(1) - A sample of the fill material from B-106 was collected and submitted for gas chromatography-flame ionization detection (GC-FID) fingerprint analysis; this analysis indicated potential coal tar impacts to the sample. There was insufficient sample recovery for conducting other laboratory analyses.
(2) - Sample collected from this interval analyzed by GC/FID (EPA 8100M) for fingerprinting and by GC/MS/SIM (EPA 8270M) for mono- and polycyclic aromatic hydrocarbons (MAHs and PAHs), alkyl PAH homologues and other selected compounds; this analysis indicated coal tar impacts to the sample.

BGS - Below ground surface

TABLE 5
SUMMARY OF DNAPL MONITORING AND REMOVAL DATA - MW-117R
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Location ID	Ground Surface Elevation[1] (ft., NGVD)	Reference Elevation[2] (ft., NGVD)	Depth to Bedrock (ft., BGS)	Base of Steel Casing (ft., BGS)	Screened Interval Top (ft., BGS)	Screened Interval Bottom (ft., BGS)	Sump Interval Top (ft., BGS)	Sump Interval Bottom (ft., BGS)	Total Depth (ft. , BGS)
MW-117R	326.06	327.72	24.5	25.8	26.5	32.5	32.5	34.5	35.8

	3/14/16	4/5/16	4/6/16	4/20/16	5/3/16	5/4/16	5/10/16	5/11/16	5/17/16
Initial Depth to Resistance (ft., BGS)[3]	24.3	27.8	30.3	29.7	29.4	30.9	30.7	30.8	30.6
Depth to Resistance after DNAPL Removal (ft., BGS)[3]	(4)	30.7	NA	NA	31.1 (5)	NA	31.1	NA	31.1
Volume of DNAPL Removed (gallons)	≥ 0.57 (6)	0.47	NA	NA	0.28	NA	0.07	NA	0.08

Notes and Abbreviations:
(1) -Value presented reflects ground surface elevation at time of installation.
(2) - Top of PVC well casing.
(3) - Depth to resistance measured using three-foot long threaded rod attached to downhole tape. The measurement is interpreted as being the approximate top of level of DNAPL in well. Depths to resistance were initially measured from the top of casing (reference elevation), but were adjusted in this table to be referenced to ground surface.
(4) - Depth to resistance not measured following DNAPL removal efforts on this date.
(5) - Unable to advance bailer past 31.1 feet BGS.
(6) - This is the minimum volume removed on 3/14/16 assuming the initial depth to resistance on 4/5/16 is the depth to resistance following DNAPL removal.
(7) - Following sediment removal efforts conducted on 6/10/16, the total depth of the well is now consistent with the constructed well bottom.
NA - Not applicable. Gauging of level of DNAPL conducted only. Removal activities were not performed.
DNAPL - Dense Non-Aqueous Phase Liquid
NGVD - National Geodetic Vertical Datum 1929

TABLE 5
SUMMARY OF DNAPL MONITORING AND REMOVAL DATA - MW-117R
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Location ID	Ground Surface Elevation[1] (ft., NGVD)	Reference Elevation[2] (ft., NGVD)	Depth to Bedrock (ft., BGS)	Base of Steel Casing (ft., BGS)	Screened Interval Top (ft., BGS)	Screened Interval Bottom (ft., BGS)	Sump Interval Top (ft., BGS)	Sump Interval Bottom (ft., BGS)	Total Depth (ft. , BGS)		5/18/16	5/23/16	5/24/16	6/9/16	6/10/16	6/17/16	6/24/16	7/1/16	7/8/16	7/14/16
										Initial Depth to Resistance (ft., BGS)[3]										
MW-117R	326.06	327.72	24.5	25.8	26.5	32.5	32.5	34.5	35.8		31.0	30.8	31.2	31.1	31.3	33.3	33.3	33.5	33.8	33.8
										Depth to Resistance after DNAPL Removal (ft., BGS)[3]	NA	31.2	NA	31.3	NA	34.5[7]	34.5	34.5	34.5	34.5
										Volume of DNAPL Removed (gallons)	NA	0.06	NA	0.03	NA	0.20	0.19	0.17	0.11	0.11

Notes and Abbreviations:
(1) -Value presented reflects ground surface elevation at time of installation.
(2) - Top of PVC well casing.
(3) - Depth to resistance measured using three-foot long threaded rod attached to downhole tape. The measurement is interpreted as being the approximate top of level of DNAPL in well. Depths to resistance were initially measured from the top of casing (reference elevation), but were adjusted in this table to be referenced to ground surface.
(4) - Depth to resistance not measured following DNAPL removal efforts on this date.
(5) - Unable to advance bailer past 31.1 feet BGS.
(6) - This is the minimum volume removed on 3/14/16 assuming the initial depth to resistance on 4/5/16 is the depth to resistance following DNAPL removal.
(7) - Following sediment removal efforts conducted on 6/10/16, the total depth of the well is now consistent with the constructed well bottom.
NA - Not applicable. Gauging of level of DNAPL conducted only. Removal activities were not performed.
DNAPL - Dense Non-Aqueous Phase Liquid
NGVD - National Geodetic Vertical Datum 1929

TABLE 5
SUMMARY OF DNAPL MONITORING AND REMOVAL DATA - MW-117R
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Location ID	Ground Surface Elevation[1] (ft., NGVD)	Reference Elevation[2] (ft., NGVD)	Depth to Bedrock (ft., BGS)	Base of Steel Casing (ft., BGS)	Screened Interval Top (ft., BGS)	Screened Interval Bottom (ft., BGS)	Sump Interval Top (ft., BGS)	Sump Interval Bottom (ft., BGS)	Total Depth (ft., BGS)
MW-117R	326.06	327.72	24.5	25.8	26.5	32.5	32.5	34.5	35.8

	7/26/16	8/25/16	9/27/16	10/27/16	11/29/16	12/28/16	1/31/17	2/28/17	3/28/17
Initial Depth to Resistance (ft., BGS)[3]	33.7	33.6	33.4	33.5	33.3	33.9	33.6	33.6	33.4
Depth to Resistance after DNAPL Removal (ft., BGS)[3]	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5
Volume of DNAPL Removed (gallons)	0.14	0.16	0.18	0.17	0.20	0.11	0.16	0.15	0.18

Notes and Abbreviations:
(1) -Value presented reflects ground surface elevation at time of installation.
(2) - Top of PVC well casing.
(3) - Depth to resistance measured using three-foot long threaded rod attached to downhole tape. The measurement is interpreted as being the approximate top of level of DNAPL in well. Depths to resistance were initially measured from the top of casing (reference elevation), but were adjusted in this table to be referenced to ground surface.
(4) - Depth to resistance not measured following DNAPL removal efforts on this date.
(5) - Unable to advance bailer past 31.1 feet BGS.
(6) - This is the minimum volume removed on 3/14/16 assuming the initial depth to resistance on 4/5/16 is the depth to resistance following DNAPL removal.
(7) - Following sediment removal efforts conducted on 6/10/16, the total depth of the well is now consistent with the constructed well bottom.
NA - Not applicable. Gauging of level of DNAPL conducted only. Removal activities were not performed.
DNAPL - Dense Non-Aqueous Phase Liquid
NGVD - National Geodetic Vertical Datum 1929

TABLE 5
SUMMARY OF DNAPL MONITORING AND REMOVAL DATA - MW-117R
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Location ID	Ground Surface Elevation[1] (ft., NGVD)	Reference Elevation[2] (ft., NGVD)	Depth to Bedrock (ft., BGS)	Base of Steel Casing (ft., BGS)	Screened Interval Top (ft., BGS)	Screened Interval Bottom (ft., BGS)	Sump Interval Top (ft., BGS)	Sump Interval Bottom (ft., BGS)	Total Depth (ft. , BGS)
MW-117R	326.06	327.72	24.5	25.8	26.5	32.5	32.5	34.5	35.8

	4/25/17	5/31/17	8/1/17	10/17/17	1/3/18	3/14/18	6/5/18	10/30/18
Initial Depth to Resistance (ft., BGS)[3]	34.3	34.0	34.0	33.5	33.7	34.2	34.3	33.9
Depth to Resistance after DNAPL Removal (ft., BGS)[3]	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5
Volume of DNAPL Removed (gallons)	0.04	0.09	0.09	0.17	0.13	0.06	0.03	0.10

Total Volume Removed: ≥ 4.51

Notes and Abbreviations:
(1) -Value presented reflects ground surface elevation at time of installation.
(2) - Top of PVC well casing.
(3) - Depth to resistance measured using three-foot long threaded rod attached to downhole tape. The measurement is interpreted as being the approximate top of level of DNAPL in well. Depths to resistance were initially measured from the top of casing (reference elevation), but were adjusted in this table to be referenced to ground surface.
(4) - Depth to resistance not measured following DNAPL removal efforts on this date.
(5) - Unable to advance bailer past 31.1 feet BGS.
(6) - This is the minimum volume removed on 3/14/16 assuming the initial depth to resistance on 4/5/16 is the depth to resistance following DNAPL removal.
(7) - Following sediment removal efforts conducted on 6/10/16, the total depth of the well is now consistent with the constructed well bottom.
NA - Not applicable. Gauging of level of DNAPL conducted only. Removal activities were not performed.
DNAPL - Dense Non-Aqueous Phase Liquid
NGVD - National Geodetic Vertical Datum 1929

TABLE 6
SUBSURFACE SOIL ANALYTICAL RESULTS: OFF-SITE LOCATIONS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	B-134 9-11 7/11/2018	B-134 19-20 7/11/2018	B-135 5-7 7/11/2018	B-135 9-11 7/11/2018	B-135 19-21 7/11/2018	B-135 DUP 19-21 7/11/2018
Volatile Organic Compounds (VOCs)										
BTEX										
Benzene	89	70	0.06	mg/kg	0.002 J	0.003 J	**0.46 J**	0.0007 J	0.019	0.011 J
Toluene	1000	36	0.7	mg/kg	0.0008 U	0.011	0.034 J+	0.001 U	0.002 J	0.001 J
Ethylbenzene	780	NE	1	mg/kg	0.0008 U	0.07	0.002 J	0.001 U	0.0009 U	0.0009 U
Xylenes, total	1000	0.26	1.6	mg/kg	0.0008 U	0.13	0.013 J+	0.001 U	0.0009 U	0.0009 U
Total BTEX	NE	NE	NE	mg/kg	0.002 J	0.21	0.51 J	0.0007 J	0.02	0.01 J
tert-Butyl methyl ether (MTBE)					--	--	--	--	--	--
Semi-volatile Organic Compounds (SVOCs)										
Polycyclic Aromatic Hydrocarbons (PAHs)										
Acenaphthene	1000	20	98	mg/kg	0.004 U	0.23	0.011 J	0.004 J	0.015 J	0.017 J
Acenaphthylene	1000	NE	107	mg/kg	0.004 U	0.19	0.027	0.004 U	0.019 J	0.019
Anthracene	1000	NE	1000	mg/kg	0.004 U	0.37	0.042	0.004 U	0.056	0.043
Benzo(a)anthracene	11	NE	1	mg/kg	0.004 U	0.27	0.042	0.004 U	0.022	0.018 J
Benzo(a)pyrene	1.1	2.6	22	mg/kg	0.007 U	0.2	0.03	0.008 U	0.01 J	0.007 J
Benzo(b)fluoranthene	11	NE	1.7	mg/kg	0.004 U	0.25	0.037	0.004 U	0.009 J	0.008 J
Benzo(g,h,i)perylene	1000	NE	1000	mg/kg	0.007 U	0.07	0.014 J	0.008 U	0.007 U	0.007 U
Benzo(k)fluoranthene	110	NE	1.7	mg/kg	0.004 U	0.095	0.022	0.004 U	0.006 J	0.005 J
Chrysene	110	NE	1	mg/kg	0.004 U	0.19	0.04	0.004 U	0.023 J	0.014 J
Dibenz(a,h)anthracene	1.1	NE	1000	mg/kg	0.004 U	0.022	0.005 J	0.004 U	0.004 U	0.004 U
Fluoranthene	1000	NE	1000	mg/kg	0.004 U	0.69	0.09	0.004 U	0.062	0.073
Fluorene	1000	30	386	mg/kg	0.004 U	0.38	0.043	0.004 J	0.044	0.036
Indeno(1,2,3-c,d)pyrene	11	NE	8.2	mg/kg	0.007 U	0.071	0.013 J	0.008 U	0.007 U	0.007 U
Naphthalene	1000	NE	12	mg/kg	0.007 U	0.36	1.1	0.008 U	0.12 J	0.061 J
Phenanthrene	1000	NE	1000	mg/kg	0.004 U	1.1	0.15	0.009 J	0.11 J	0.079 J
Pyrene	1000	NE	1000	mg/kg	0.004 U	0.48	0.078	0.006 J	0.074	0.076
Total PAHs	NE	NE	NE	mg/kg	ND	5.0	1.7	0.02 J	0.58	0.46

TABLE 6
SUBSURFACE SOIL ANALYTICAL RESULTS: OFF-SITE LOCATIONS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[(a)]	Protection of Ecological Resources	Protection of Groundwater	Units	B-134 9-11 7/11/2018	B-134 19-20 7/11/2018	B-135 5-7 7/11/2018	B-135 9-11 7/11/2018	B-135 19-21 7/11/2018	B-135 DUP 19-21 7/11/2018
Inorganic Constituents										
Cyanide, total	10000	NE	40	mg/kg	0.20 U	0.22 U	0.22 U	0.22 U	0.20 U	0.21 U

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
J+ - Analyte present. Reported value may be biased high. Result is estimated high.

NE - Not established.
ND - Not detected.
(a) - Industrial Zoning Classification per City of Fulton Tax Assessment Department

Boxed concentrations are greater than one or more of the New York State Subpart 375 Soil Cleanup Objectives for: Protection of Public Health for Industrially Zoned Properties, Protection of Ecological Resources, and/or Protection of Groundwater.

TABLE 6
SUBSURFACE SOIL ANALYTICAL RESULTS: OFF-SITE LOCATIONS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	MW-121D 9-11 7/11/2018	MW-121D 18-18.4 7/11/2018	MW-124R 5-7 7/23/2018	MW-124R 7-9 7/23/2018	MW-124R 19-20 7/23/2018
Volatile Organic Compounds (VOCs)									
BTEX									
Benzene	89	70	0.06	mg/kg	0.0004 U	0.001 J	0.046 J	0.021 U	0.016 U
Toluene	1000	36	0.7	mg/kg	0.0008 U	0.002 J	0.1 J	0.041 U	0.031 U
Ethylbenzene	780	NE	1	mg/kg	0.0008 U	0.003 J	0.19 J	0.063 J	0.04 J
Xylenes, total	1000	0.26	1.6	mg/kg	0.0008 U	0.008	**0.81**	**0.3**	0.19
Total BTEX	NE	NE	NE	mg/kg	ND	0.014	1.1	0.4	0.2
tert-Butyl methyl ether (MTBE)					--	--	0.024 U	0.021 U	0.016 U
Semi-volatile Organic Compounds (SVOCs)									
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	1000	20	98	mg/kg	0.004 U	0.004 U	0.27 J	0.18 U	0.16 J
Acenaphthylene	1000	NE	107	mg/kg	0.004 U	0.004 U	0.17 U	0.18 U	0.091 U
Anthracene	1000	NE	1000	mg/kg	0.004 U	0.004 U	0.2 J	0.18 U	0.14 J
Benzo(a)anthracene	11	NE	1	mg/kg	0.009 J	0.004 U	0.51 J	0.29 J	0.33 J
Benzo(a)pyrene	1.1	2.6	22	mg/kg	0.009 J	0.007 U	0.6 J	0.37 U	0.46 J
Benzo(b)fluoranthene	11	NE	1.7	mg/kg	0.012 J	0.004 U	0.68 J	0.26 J	0.42 J
Benzo(g,h,i)perylene	1000	NE	1000	mg/kg	0.007 U	0.007 U	0.5 J	0.37 U	0.39 J
Benzo(k)fluoranthene	110	NE	1.7	mg/kg	0.007 J	0.004 U	0.32 J	0.18 U	0.25 J
Chrysene	110	NE	1	mg/kg	0.012 J	0.004 U	0.59 J	0.41 J	0.45 J
Dibenz(a,h)anthracene	1.1	NE	1000	mg/kg	0.004 J	0.004 U	0.17 U	0.19 J	0.091 U
Fluoranthene	1000	NE	1000	mg/kg	0.015 J	0.004 U	0.88	0.38 J	0.56
Fluorene	1000	30	386	mg/kg	0.004 U	0.004 U	0.18 J	0.18 U	0.1 J
Indeno(1,2,3-c,d)pyrene	11	NE	8.2	mg/kg	0.007 U	0.007 U	0.45 J	0.37 U	0.26 J
Naphthalene	1000	NE	12	mg/kg	0.007 U	0.011 J	0.34 U	0.37 U	0.36 J
Phenanthrene	1000	NE	1000	mg/kg	0.014 J	0.005 J	0.5 J	0.33 J	0.39 J
Pyrene	1000	NE	1000	mg/kg	0.015 J	0.004 U	0.91	0.58 J	0.69
Total PAHs	NE	NE	NE	mg/kg	0.10 J	0.02 J	7	2 J	4.3

TABLE 6
SUBSURFACE SOIL ANALYTICAL RESULTS: OFF-SITE LOCATIONS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Constituent	Soil Cleanup Objectives [6 NYCRR Subpart 375-6] Protection of Public Health - Industrial Zoning[a]	Protection of Ecological Resources	Protection of Groundwater	Units	MW-121D 9-11 7/11/2018	MW-121D 18-18.4 7/11/2018	MW-124R 5-7 7/23/2018	MW-124R 7-9 7/23/2018	MW-124R 19-20 7/23/2018
Inorganic Constituents									
Cyanide, total	10000	NE	40	mg/kg	0.38 J	0.20 U	0.19 U	0.20 U	0.19 U

Notes:
U - The analyte was analyzed for, but was not detected. Value shown is representative of the method detection limit for the analyzed constituent.
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
J+ - Analyte present. Reported value may be biased high. Result is estimated high.

NE - Not established.
ND - Not detected.
(a) - Industrial Zoning Classification per City of Fulton Tax Assessment Department

Boxed concentrations are greater than one or more of the New York State Subpart 375 Soil Cleanup Objectives for: Protection of Public Health for Industrially Zoned Properties, Protection of Ecological Resources, and/or Protection of Groundwater.

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[1] Standard	Location ID Sample Date Units	BRB-1 9/26/2018	BRB-1 11/13/2018	MW-101 9/20/2018	MW-101 11/7/2018	MW-102 9/20/2018	MW-102 11/8/2018	MW-102D 9/20/2018	MW-102D DUP 9/20/2018	MW-102D 11/8/2018
Volatile Organic Compounds (VOCs)												
BTEX												
Benzene	NE	1	µg/L	**13**	**2 J+**	0.2 U	0.2 U	0.4 J	0.2 U	0.2 U	0.2 U	0.2 U
Toluene	NE	5	µg/L	**85**	**20**	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Ethylbenzene	NE	5	µg/L	**93**	**34**	0.4 U	0.4 U	0.5 J	0.4 U	0.4 U	0.4 U	0.4 U
Xylenes, total	NE	5	µg/L	**340**	**120**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total BTEX	NE	NE	µg/L	531	176	ND	ND	1.1 J	ND	ND	ND	ND
Semi-volatile Organic Compounds (SVOCs)												
Polycyclic Aromatic Hydrocarbons (PAHs)												
Acenaphthene	20	NE	µg/L	**49**	**30**	0.1 U	0.1 U	3	0.8	5	6	5
Acenaphthylene	NE	NE	µg/L	41	16	0.1 U	0.1 U	7	2	1	1	0.9
Anthracene	50	NE	µg/L	22	9	0.1 U	0.1 U	1	0.7	0.8	0.9	0.7
Benzo(a)anthracene	0.002	NE	µg/L	**23**	**4**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(a)pyrene	NE	ND	µg/L	**17**	**3**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(b)fluoranthene	0.002	NE	µg/L	**17**	**4**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(g,h,i)perylene	NE	NE	µg/L	5	1	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(k)fluoranthene	0.002	NE	µg/L	**9**	**1**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Chrysene	0.002	NE	µg/L	**16**	**3**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Dibenz(a,h)anthracene	NE	NE	µg/L	2	1 J	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Fluoranthene	50	NE	µg/L	49	11	0.1 U	0.1 U	1.0	0.8	0.3 J	0.4 J	0.3 J
Fluorene	50	NE	µg/L	49	26 J-	0.1 U	0.1 U	1	0.4 J	3	3	2
Indeno(1,2,3-c,d)pyrene	0.002	NE	µg/L	**7**	**1**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Naphthalene	10	NE	µg/L	**650**	**42**	0.1 U	0.1 U	0.3 J	1	1	1	0.9
Phenanthrene	50	NE	µg/L	**74**	20	0.1 U	0.1 U	0.4 J	0.1 U	5	6	4
Pyrene	50	NE	µg/L	31	8	0.1 U	0.1 U	0.6	0.6	0.5 J	0.6	0.5 J
Total PAHs	NE	NE	µg/L	1061	180	ND	ND	14	6	16	19	14

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703(1) Standard	Location ID Sample Date Units	BRB-1 9/26/2018	BRB-1 11/13/2018	MW-101 9/20/2018	MW-101 11/7/2018	MW-102 9/20/2018	MW-102 11/8/2018	MW-102D 9/20/2018	MW-102D DUP 9/20/2018	MW-102D 11/8/2018
Inorganic Constituents												
Cyanide, total	NE	200	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	23	24	5.0 U	5.0 U	5.0 U

Notes:
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
J+ - Analyte present. Reported value may be biased high. Result is estimated high.
J- - Analyte present. Reported value may be biased low. Result is estimated low.
U - The analyte was analyzed for, but was not detected. Value shown is representative of the practical quantitation limit for the analyzed constituent.
UJ - The analyte was not detected above the reported sample quantitation limit. However, based on data validation, the reported method detection limit is approximate and may or may not represent the actual limit of the quantitation necessary to accurately and precisely measure the analyte in the sample.

NE - Standard and/or guidance value not established.
ND - Not detected

Boxed concentrations are greater than New York State Class GA Groundwater Standards or Guidance values.

(1) - Notes applicable to NYS Part 703 Standards:
(a) - Any detected concentration for Benzo(a)pyrene is considered above the Part 703 Standard.

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703(1) Standard	Location ID / Sample Date / Units	MW-103 9/21/2018	MW-103 11/8/2018	MW-103D 9/24/2018	MW-103D 11/8/2018	MW-103D DUP 11/8/2018	MW-108 9/19/2018	MW-108 11/6/2018
Volatile Organic Compounds (VOCs)										
BTEX										
Benzene	NE	1	µg/L	0.2 U	0.2 U	**12**	**17**	**17**	0.9 J	**3**
Toluene	NE	5	µg/L	0.2 U	0.2 U	0.3 J	2	2	0.2 U	0.5 J
Ethylbenzene	NE	5	µg/L	0.4 U	0.4 U	2	2	2	0.4 U	0.4 U
Xylenes, total	NE	5	µg/L	1 U	1 U	3 J	4 J	4 J	1 U	1 U
Total BTEX	NE	NE	µg/L	ND	ND	17.3	25	25	0.9 J	3.5
Semi-volatile Organic Compounds (SVOCs)										
Polycyclic Aromatic Hydrocarbons (PAHs)										
Acenaphthene	20	NE	µg/L	0.4 J	0.4 J	3	2	1	0.1 J	0.6
Acenaphthylene	NE	NE	µg/L	0.1 U	0.1 U	0.7	0.7	0.5 J	0.3 J	1
Anthracene	50	NE	µg/L	0.1 U	0.1 U	0.1 J	0.3 J	0.1 J	0.1 U	0.1 U
Benzo(a)anthracene	0.002	NE	µg/L	0.1 U	0.1 U	**0.3 J**	**0.8**	**0.6**	0.1 U	0.1 U
Benzo(a)pyrene	NE	ND	µg/L	0.1 U	0.1 U	**0.4 J**	**1**	**0.6**	0.1 U	0.1 U
Benzo(b)fluoranthene	0.002	NE	µg/L	0.1 U	0.1 U	**0.4 J**	**1**	**0.7**	0.1 U	0.1 U
Benzo(g,h,i)perylene	NE	NE	µg/L	0.1 U	0.1 U	0.1 J	0.3 J	0.2 J	0.1 U	0.1 U
Benzo(k)fluoranthene	0.002	NE	µg/L	0.1 U	0.1 U	**0.2 J**	**0.5 J**	**0.3 J**	0.1 U	0.1 U
Chrysene	0.002	NE	µg/L	0.1 U	0.1 U	**0.3 J**	**0.6**	**0.4 J**	0.1 U	0.1 U
Dibenz(a,h)anthracene	NE	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 J	0.10 U	0.1 U	0.1 U
Fluoranthene	50	NE	µg/L	0.1 U	0.1 U	0.5	1.0	0.7	0.1 U	0.1 U
Fluorene	50	NE	µg/L	0.1 U	0.1 U	0.6	0.5	0.4 J	0.1 U	0.1 U
Indeno(1,2,3-c,d)pyrene	0.002	NE	µg/L	0.1 U	0.1 U	**0.2 J**	**0.4 J**	**0.3 J**	0.1 U	0.1 U
Naphthalene	10	NE	µg/L	0.1 U	0.1 U	4	3	2	0.1 U	0.1 U
Phenanthrene	50	NE	µg/L	0.1 U	0.1 U	0.2 J	0.3 J	0.2 J	0.1 U	0.1 U
Pyrene	50	NE	µg/L	0.1 J	0.1 J	0.9	1.0	0.9	0.1 U	0.1 U
Total PAHs	NE	NE	µg/L	0.5 J	0.5 J	12	14	9 J	0.4	1.6

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[1] Standard	Location ID / Sample Date / Units	MW-103 9/21/2018	MW-103 11/8/2018	MW-103D 9/24/2018	MW-103D 11/8/2018	MW-103D DUP 11/8/2018	MW-108 9/19/2018	MW-108 11/6/2018
Inorganic Constituents										
Cyanide, total	NE	200	µg/L	19	19	23	18	19	16	8.5 J

<u>Notes:</u>
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
J+ - Analyte present. Reported value may be biased high. Result is estimated high.
J- - Analyte present. Reported value may be biased low. Result is estimated low.
U - The analyte was analyzed for, but was not detected. Value shown is representative of the practical quantitation limit for the analyzed constituent.
UJ - The analyte was not detected above the reported sample quantitation limit. However, based on data validation, the reported method detection limit is approximate and may or may not represent the actual limit of the quantitation necessary to accurately and precisely measure the analyte in the sample.

NE - Standard and/or guidance value not established.
ND - Not detected

Boxed concentrations are greater than New York State Class GA Groundwater Standards or Guidance values.

(1) - Notes applicable to NYS Part 703 Standards:
(a) - Any detected concentration for Benzo(a)pyrene is considered above the Part 703 Standard.

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

	Class GA Groundwater Criteria		Location ID	MW-109S	MW-109S	MW-109D	MW-109D DUP	MW-109D	MW-110S	MW-110S	MW-110D	MW-110D
	TOGS 1.1.1	NYS Part 703[(1)]	Sample Date	9/24/2018	11/8/2018	9/26/2018	9/26/2018	11/13/2018	9/20/2018	11/7/2018	9/24/2018	11/8/2018
Constituent	Guidance	Standard	Units									
Volatile Organic Compounds (VOCs)												
BTEX												
Benzene	NE	1	µg/L	0.2 U	0.2 U	1	1	0.4 J	0.2 U	0.2 U	0.3 J	0.4 J
Toluene	NE	5	µg/L	0.2 U	0.2 U	0.5 J	0.5 J	0.5 J	0.2 U	0.2 U	2	2
Ethylbenzene	NE	5	µg/L	0.4 U	0.4 U	**7**	**7**	3	0.4 U	0.4 U	**10**	**9**
Xylenes, total	NE	5	µg/L	1 U	1 U	**7**	**7**	4 J	1 U	1 U	**27**	**25**
Total BTEX	NE	NE	µg/L	ND	ND	15.5	15.5	7.9	ND	ND	39.3	36.4
Semi-volatile Organic Compounds (SVOCs)												
Polycyclic Aromatic Hydrocarbons (PAHs)												
Acenaphthene	20	NE	µg/L	0.1 U	0.1 U	**24**	**22**	12	0.1 U	0.1 U	**21**	16
Acenaphthylene	NE	NE	µg/L	0.1 U	0.1 J	6	6	3	0.1 U	0.1 U	8	7
Anthracene	50	NE	µg/L	0.1 U	0.1 U	0.5	0.4 J	0.6	0.1 U	0.1 U	2	1
Benzo(a)anthracene	0.002	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**0.1 J**	**0.1 J**
Benzo(a)pyrene	NE	ND	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(b)fluoranthene	0.002	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(g,h,i)perylene	NE	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(k)fluoranthene	0.002	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Chrysene	0.002	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Dibenz(a,h)anthracene	NE	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Fluoranthene	50	NE	µg/L	0.1 U	0.1 U	0.8	0.8	0.8	0.1 U	0.1 U	2.0	1.0
Fluorene	50	NE	µg/L	0.1 U	0.1 U	4	4	4 J-	0.1 U	0.1 U	11	8
Indeno(1,2,3-c,d)pyrene	0.002	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Naphthalene	10	NE	µg/L	0.1 U	0.1 U	**20**	**18**	10	0.1 U	0.1 U	**130**	**98**
Phenanthrene	50	NE	µg/L	0.1 U	0.1 U	1	1	2	0.1 U	0.1 U	11	8
Pyrene	50	NE	µg/L	0.1 U	0.1 U	0.5 J	0.5 J	0.6	0.1 U	0.1 U	1.0	0.9
Total PAHs	NE	NE	µg/L	ND	0.1 J	57	53	33	ND	ND	186	140

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703(1) Standard	Location ID / Sample Date / Units	MW-109S 9/24/2018	MW-109S 11/8/2018	MW-109D 9/26/2018	MW-109D DUP 9/26/2018	MW-109D 11/13/2018	MW-110S 9/20/2018	MW-110S 11/7/2018	MW-110D 9/24/2018	MW-110D 11/8/2018
Inorganic Constituents												
Cyanide, total	NE	200	µg/L	5.0 U	5.0 U	7.9 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Notes:
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
J+ - Analyte present. Reported value may be biased high. Result is estimated high.
J- - Analyte present. Reported value may be biased low. Result is estimated low.
U - The analyte was analyzed for, but was not detected. Value shown is representative of the practical quantitation limit for the analyzed constituent.
UJ - The analyte was not detected above the reported sample quantitation limit. However, based on data validation, the reported method detection limit is approximate and may or may not represent the actual limit of the quantitation necessary to accurately and precisely measure the analyte in the sample.

NE - Standard and/or guidance value not established.
ND - Not detected

Boxed concentrations are greater than New York State Class GA Groundwater Standards or Guidance values.

(1) - Notes applicable to NYS Part 703 Standards:
(a) - Any detected concentration for Benzo(a)pyrene is considered above the Part 703 Standard.

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[1] Standard	Location ID / Sample Date / Units	MW-111S 9/24/2018	MW-111S 11/8/2018	MW-111D 9/26/2018	MW-111D 11/13/2018	MW-111R 9/26/2018	MW-111R 11/13/2018	MW-112S 9/19/2018	MW-112S 11/7/2018
Volatile Organic Compounds (VOCs)											
BTEX											
Benzene	NE	1	µg/L	**6**	**29**	**67**	**52**	**11**	**5**	0.2 U	0.2 U
Toluene	NE	5	µg/L	0.2 U	1	**120**	**180**	**66**	**43**	0.2 U	0.2 U
Ethylbenzene	NE	5	µg/L	0.4 U	**9**	**200**	**330**	**92**	**66**	0.4 U	0.4 U
Xylenes, total	NE	5	µg/L	1 U	**10**	**710**	**1000**	**290**	**200**	1 U	1 U
Total BTEX	NE	NE	µg/L	6	49	1097	1562	459	314	ND	ND
Semi-volatile Organic Compounds (SVOCs)											
Polycyclic Aromatic Hydrocarbons (PAHs)											
Acenaphthene	20	NE	µg/L	11	**57**	**73**	**69**	**54**	**31**	0.1 U	0.1 U
Acenaphthylene	NE	NE	µg/L	4	15	150	130	32	8	0.1 U	0.1 U
Anthracene	50	NE	µg/L	0.1 J	0.9	14	13	7	4	0.1 U	0.1 U
Benzo(a)anthracene	0.002	NE	µg/L	0.1 U	0.1 U	**1.0**	**1.0**	**0.4 J**	**0.2 J**	0.1 U	0.1 U
Benzo(a)pyrene	NE	ND	µg/L	0.1 U	0.1 U	**0.8**	**0.9**	**0.2 J**	**0.1 J**	0.1 U	0.1 U
Benzo(b)fluoranthene	0.002	NE	µg/L	0.1 U	0.1 U	**0.8**	**1.0**	**0.2 J**	**0.1 J**	0.1 U	0.1 U
Benzo(g,h,i)perylene	NE	NE	µg/L	0.1 U	0.1 U	0.3 J	0.3 J	0.1 U	0.1 J	0.1 U	0.1 U
Benzo(k)fluoranthene	0.002	NE	µg/L	0.1 U	0.1 U	**0.4 J**	**0.5**	0.1 U	0.1 U	0.1 U	0.1 U
Chrysene	0.002	NE	µg/L	0.1 U	0.1 U	**1.0**	**1.0**	**0.3 J**	**0.2 J**	0.1 U	0.1 U
Dibenz(a,h)anthracene	NE	NE	µg/L	0.1 U	0.1 U	0.1 J	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Fluoranthene	50	NE	µg/L	0.6	1.0	11	10	5.0	4.0	0.1 U	0.1 U
Fluorene	50	NE	µg/L	0.2 J	1	**73**	**63 J-**	40	17 J-	0.1 U	0.1 U
Indeno(1,2,3-c,d)pyrene	0.002	NE	µg/L	0.1 U	0.1 U	**0.4 J**	**0.5 J**	0.1 U	0.1 U	0.1 U	0.1 U
Naphthalene	10	NE	µg/L	0.1 U	5	**950**	**1100**	**700**	**17**	0.1 U	0.1 U
Phenanthrene	50	NE	µg/L	0.1 U	0.3 J	**61**	**53**	33	5	0.1 U	0.1 U
Pyrene	50	NE	µg/L	0.4 J	1.0	7.0	6.0	3.0	2.0	0.1 U	0.1 U
Total PAHs	NE	NE	µg/L	16	81	1344	1449	875	89	ND	ND

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

	Class GA Groundwater Criteria		Location ID	MW-111S	MW-111S	MW-111D	MW-111D	MW-111R	MW-111R	MW-112S	MW-112S
	TOGS 1.1.1	NYS Part 703(1)	Sample Date	9/24/2018	11/8/2018	9/26/2018	11/13/2018	9/26/2018	11/13/2018	9/19/2018	11/7/2018
Constituent	Guidance	Standard	Units								
Inorganic Constituents											
Cyanide, total	NE	200	µg/L	6.8 J	7.4 J	27	16	5.0 U	5.0 U	5.0 U	5.0 U

Notes:
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
J+ - Analyte present. Reported value may be biased high. Result is estimated high.
J- - Analyte present. Reported value may be biased low. Result is estimated low.
U - The analyte was analyzed for, but was not detected. Value shown is representative of the practical quantitation limit for the analyzed constituent.
UJ - The analyte was not detected above the reported sample quantitation limit. However, based on data validation, the reported method detection limit is approximate and may or may not represent the actual limit of the quantitation necessary to accurately and precisely measure the analyte in the sample.

NE - Standard and/or guidance value not established.
ND - Not detected

Boxed concentrations are greater than New York State Class GA Groundwater Standards or Guidance values.

(1) - Notes applicable to NYS Part 703 Standards:
(a) - Any detected concentration for Benzo(a)pyrene is considered above the Part 703 Standard.

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[1] Standard	Location ID / Sample Date / Units	MW-112D 9/19/2018	MW-112D 11/7/2018	MW-113D 9/26/2018	MW-113D 11/12/2018	MW-114D 9/26/2018	MW-114D 11/13/2018	MW-115D 9/18/2018	MW-115D 11/6/2018
Volatile Organic Compounds (VOCs)											
BTEX											
Benzene	NE	1	µg/L	0.2 U	0.2 U	**12**	**22**	**12**	**26**	0.2 U	0.2 U
Toluene	NE	5	µg/L	0.2 U	0.2 U	0.2 U	4	**17**	**77**	0.2 U	0.2 U
Ethylbenzene	NE	5	µg/L	0.4 U	0.4 U	2	**25**	**29**	**120**	0.4 U	0.4 U
Xylenes, total	NE	5	µg/L	1 U	1 U	1 U	**15**	**57**	**250**	1 U	1 U
Total BTEX	NE	NE	µg/L	ND	ND	14.2	66	115	473	ND	ND
Semi-volatile Organic Compounds (SVOCs)											
Polycyclic Aromatic Hydrocarbons (PAHs)											
Acenaphthene	20	NE	µg/L	0.1 U	0.1 U	**31**	**59**	**43**	**72**	0.1 UJ	0.1 U
Acenaphthylene	NE	NE	µg/L	0.1 U	0.1 U	7	10	14	21	0.1 UJ	0.1 U
Anthracene	50	NE	µg/L	0.1 U	0.1 U	0.7	2	0.5 J	1	0.1 UJ	0.1 U
Benzo(a)anthracene	0.002	NE	µg/L	0.1 U	0.1 U	**0.2 J**	**0.1 J**	0.1 U	0.1 U	0.1 UJ	0.1 U
Benzo(a)pyrene	NE	ND	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U
Benzo(b)fluoranthene	0.002	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U
Benzo(g,h,i)perylene	NE	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U
Benzo(k)fluoranthene	0.002	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U
Chrysene	0.002	NE	µg/L	0.1 U	**0.1 J**	**0.1 J**	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U
Dibenz(a,h)anthracene	NE	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U
Fluoranthene	50	NE	µg/L	0.1 U	0.1 J	5.0	6.0	0.9	2.0	0.1 UJ	0.1 U
Fluorene	50	NE	µg/L	0.1 U	0.1 U	1	6 J-	2	8 J-	0.1 UJ	0.1 U
Indeno(1,2,3-c,d)pyrene	0.002	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U
Naphthalene	10	NE	µg/L	0.1 U	0.1 U	0.3 J	3	**51**	**200**	0.1 UJ	0.1 J
Phenanthrene	50	NE	µg/L	0.1 U	0.1 U	0.4 J	1	2	5	0.1 UJ	0.1 U
Pyrene	50	NE	µg/L	0.3 J	0.3 J	3.0	5.0	0.4 J	0.8	0.1 UJ	0.1 U
Total PAHs	NE	NE	µg/L	0.3 J	0.5 J	49	92	114	310	ND	0.1 J

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703(1) Standard	Location ID Sample Date Units	MW-112D 9/19/2018	MW-112D 11/7/2018	MW-113D 9/26/2018	MW-113D 11/12/2018	MW-114D 9/26/2018	MW-114D 11/13/2018	MW-115D 9/18/2018	MW-115D 11/6/2018
Inorganic Constituents											
Cyanide, total	NE	200	µg/L	5.0 U	5.0 U	17	5.7 J	5.0 U	5.0 U	5.0 U	5.0 U

Notes:
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
J+ - Analyte present. Reported value may be biased high. Result is estimated high.
J- - Analyte present. Reported value may be biased low. Result is estimated low.
U - The analyte was analyzed for, but was not detected. Value shown is representative of the practical quantitation limit for the analyzed constituent.
UJ - The analyte was not detected above the reported sample quantitation limit. However, based on data validation, the reported method detection limit is approximate and may or may not represent the actual limit of the quantitation necessary to accurately and precisely measure the analyte in the sample.

NE - Standard and/or guidance value not established.
ND - Not detected

Boxed concentrations are greater than New York State Class GA Groundwater Standards or Guidance values.

(1) - Notes applicable to NYS Part 703 Standards:
(a) - Any detected concentration for Benzo(a)pyrene is considered above the Part 703 Standard.

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[1] Standard	Location ID / Sample Date / Units	MW-116D 9/19/2018	MW-116D 11/6/2018	MW-119 9/19/2018	MW-119 11/7/2018	MW-120D 9/18/2018	MW-120D 11/6/2018	MW-120R 9/18/2018	MW-120R 11/6/2018
Volatile Organic Compounds (VOCs)											
BTEX											
Benzene	NE	1	µg/L	0.2 U	0.2 U	0.2 U	0.2 J	0.2 U	0.2 U	1	0.2 U
Toluene	NE	5	µg/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.7 J	0.2 U
Ethylbenzene	NE	5	µg/L	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	2	0.4 U
Xylenes, total	NE	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	3 J	1 U
Total BTEX	NE	NE	µg/L	ND	ND	ND	0.2 J	ND	ND	6.7	ND
Semi-volatile Organic Compounds (SVOCs)											
Polycyclic Aromatic Hydrocarbons (PAHs)											
Acenaphthene	20	NE	µg/L	0.1 U	0.1 U	0.1 U	0.3 J	0.1 U	0.1 U	1	0.4 J
Acenaphthylene	NE	NE	µg/L	0.1 U	0.1 U	0.1 U	0.2 J	0.1 U	0.1 U	0.2 J	0.1 U
Anthracene	50	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.2 J	0.1 U
Benzo(a)anthracene	0.002	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(a)pyrene	NE	ND	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(b)fluoranthene	0.002	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(g,h,i)perylene	NE	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(k)fluoranthene	0.002	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Chrysene	0.002	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Dibenz(a,h)anthracene	NE	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Fluoranthene	50	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 J	0.1 U
Fluorene	50	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.9	0.3 J
Indeno(1,2,3-c,d)pyrene	0.002	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Naphthalene	10	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	4	0.4 J
Phenanthrene	50	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 J	0.1 U	1	0.4 J
Pyrene	50	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Total PAHs	NE	NE	µg/L	ND	ND	ND	0.5 J	0.1 J	ND	7	2 J

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703(1) Standard	Location ID / Sample Date / Units	MW-116D 9/19/2018	MW-116D 11/6/2018	MW-119 9/19/2018	MW-119 11/7/2018	MW-120D 9/18/2018	MW-120D 11/6/2018	MW-120R 9/18/2018	MW-120R 11/6/2018
Inorganic Constituents											
Cyanide, total	NE	200	µg/L	5.5 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Notes:
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
J+ - Analyte present. Reported value may be biased high. Result is estimated high.
J- - Analyte present. Reported value may be biased low. Result is estimated low.
U - The analyte was analyzed for, but was not detected. Value shown is representative of the practical quantitation limit for the analyzed constituent.
UJ - The analyte was not detected above the reported sample quantitation limit. However, based on data validation, the reported method detection limit is approximate and may or may not represent the actual limit of the quantitation necessary to accurately and precisely measure the analyte in the sample.

NE - Standard and/or guidance value not established.
ND - Not detected

Boxed concentrations are greater than New York State Class GA Groundwater Standards or Guidance values.

(1) - Notes applicable to NYS Part 703 Standards:
(a) - Any detected concentration for Benzo(a)pyrene is considered above the Part 703 Standard.

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[1] Standard	Location ID / Sample Date / Units	MW-121S 9/20/2018	MW-121S 11/7/2018	MW-121D 9/20/2018	MW-121D 11/7/2018	MW-121R 9/25/2018	MW-121R 11/12/2018	MW-122S 9/25/2018	MW-122S 11/9/2018
Volatile Organic Compounds (VOCs)											
BTEX											
Benzene	NE	1	µg/L	0.2 U	0.2 U	0.2 U	**3**	**4**	**2**	0.2 U	0.2 U
Toluene	NE	5	µg/L	0.2 U	0.2 U	0.2 U	0.2 U	**21**	3	0.2 U	0.2 U
Ethylbenzene	NE	5	µg/L	0.4 U	0.4 U	0.4 U	0.4 U	**50**	**14**	0.4 U	0.4 U
Xylenes, total	NE	5	µg/L	1 U	1 U	1 U	1 U	**150**	**24**	1 U	1 U
Total BTEX	NE	NE	µg/L	ND	ND	ND	3	225	43	ND	ND
Semi-volatile Organic Compounds (SVOCs)											
Polycyclic Aromatic Hydrocarbons (PAHs)											
Acenaphthene	20	NE	µg/L	0.1 U	0.1 UJ	0.1 U	0.8	20	9	0.1 U	0.1 U
Acenaphthylene	NE	NE	µg/L	0.1 U	0.1 UJ	0.1 U	0.2 J	13	1	0.1 U	0.1 U
Anthracene	50	NE	µg/L	0.1 U	0.1 UJ	0.1 U	0.1 U	2	0.9	0.1 U	0.1 U
Benzo(a)anthracene	0.002	NE	µg/L	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(a)pyrene	NE	ND	µg/L	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(b)fluoranthene	0.002	NE	µg/L	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(g,h,i)perylene	NE	NE	µg/L	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(k)fluoranthene	0.002	NE	µg/L	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Chrysene	0.002	NE	µg/L	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Dibenz(a,h)anthracene	NE	NE	µg/L	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Fluoranthene	50	NE	µg/L	0.1 U	0.1 UJ	0.1 U	0.1 U	1.0	0.8	0.1 U	0.1 U
Fluorene	50	NE	µg/L	0.1 U	0.1 UJ	0.1 U	0.1 U	13	5 J-	0.1 U	0.1 U
Indeno(1,2,3-c,d)pyrene	0.002	NE	µg/L	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Naphthalene	10	NE	µg/L	0.1 U	0.1 UJ	0.1 U	0.2 J	**380**	**43**	0.1 J	0.1 U
Phenanthrene	50	NE	µg/L	0.1 U	0.1 UJ	0.1 U	0.1 U	12	3	0.1 U	0.1 U
Pyrene	50	NE	µg/L	0.1 U	0.1 UJ	0.1 U	0.1 U	0.8	0.5 J	0.1 U	0.1 U
Total PAHs	NE	NE	µg/L	ND	ND	ND	1	442	63	0.1 J	ND

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703(1) Standard	Location ID / Sample Date / Units	MW-121S 9/20/2018	MW-121S 11/7/2018	MW-121D 9/20/2018	MW-121D 11/7/2018	MW-121R 9/25/2018	MW-121R 11/12/2018	MW-122S 9/25/2018	MW-122S 11/9/2018
Inorganic Constituents											
Cyanide, total	NE	200	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Notes:
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
J+ - Analyte present. Reported value may be biased high. Result is estimated high.
J- - Analyte present. Reported value may be biased low. Result is estimated low.
U - The analyte was analyzed for, but was not detected. Value shown is representative of the practical quantitation limit for the analyzed constituent.
UJ - The analyte was not detected above the reported sample quantitation limit. However, based on data validation, the reported method detection limit is approximate and may or may not represent the actual limit of the quantitation necessary to accurately and precisely measure the analyte in the sample.

NE - Standard and/or guidance value not established.
ND - Not detected

Boxed concentrations are greater than New York State Class GA Groundwater Standards or Guidance values.

(1) - Notes applicable to NYS Part 703 Standards:
(a) - Any detected concentration for Benzo(a)pyrene is considered above the Part 703 Standard.

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703[1] Standard	Location ID / Sample Date / Units	MW-122D 9/25/2018	MW-122D 11/9/2018	MW-122R 9/25/2018	MW-122R 11/9/2018	MW-122RD 9/18/2018	MW-122RD 11/12/2018	MW-123R 9/18/2018	MW-123R 11/6/2018
Volatile Organic Compounds (VOCs)											
BTEX											
Benzene	NE	1	µg/L	0.6 J	0.2 U	**12**	**15 J+**	0.2 U	0.2 U	0.2 U	0.2 U
Toluene	NE	5	µg/L	0.2 U	0.2 U	**9**	**18 J+**	0.2 J	0.2 U	0.2 J	0.2 U
Ethylbenzene	NE	5	µg/L	0.6 J	0.4 U	**32**	**49 J+**	0.4 U	0.4 U	0.5 J	0.4 U
Xylenes, total	NE	5	µg/L	1 U	1 U	**190**	**170**	1 U	1 U	1 U	1 U
Total BTEX	NE	NE	µg/L	1.4 J	ND	243	252	0.2	ND	0.7 J	ND
Semi-volatile Organic Compounds (SVOCs)											
Polycyclic Aromatic Hydrocarbons (PAHs)											
Acenaphthene	20	NE	µg/L	0.6	0.2 J	**50**	**44**	0.1 U	0.1 U	0.1 J	0.1 J
Acenaphthylene	NE	NE	µg/L	0.2 J	0.1 U	2	2	0.1 U	0.1 U	0.1 U	0.1 U
Anthracene	50	NE	µg/L	0.1 U	0.1 U	1	1	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(a)anthracene	0.002	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ	0.1 U	0.1 U
Benzo(a)pyrene	NE	ND	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(b)fluoranthene	0.002	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(g,h,i)perylene	NE	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(k)fluoranthene	0.002	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Chrysene	0.002	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ	0.1 U	0.1 U
Dibenz(a,h)anthracene	NE	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Fluoranthene	50	NE	µg/L	0.1 U	0.1 U	0.3 J	0.4 J	0.1 U	0.1 U	0.1 U	0.1 U
Fluorene	50	NE	µg/L	0.3 J	0.1 U	12	16	0.1 U	0.1 UJ	0.1 U	0.1 U
Indeno(1,2,3-c,d)pyrene	0.002	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Naphthalene	10	NE	µg/L	0.3 J	0.1 U	0.8	**400**	0.1 U	0.1 J	2	0.9
Phenanthrene	50	NE	µg/L	0.1 U	0.1 U	2	9	0.1 U	0.1 U	0.1 U	0.1 U
Pyrene	50	NE	µg/L	0.1 U	0.1 U	0.2 J	0.2 J	0.1 UJ	0.1 UJ	0.1 U	0.1 U
Total PAHs	NE	NE	µg/L	1 J	0.2 J	68	473	ND	0.1	2	1

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

	Class GA Groundwater Criteria		Location ID	MW-122D	MW-122D	MW-122R	MW-122R	MW-122RD	MW-122RD	MW-123R	MW-123R
	TOGS 1.1.1	NYS Part 703(1)	Sample Date	9/25/2018	11/9/2018	9/25/2018	11/9/2018	9/18/2018	11/12/2018	9/18/2018	11/6/2018
Constituent	Guidance	Standard	Units								
Inorganic Constituents											
Cyanide, total	NE	200	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Notes:
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
J+ - Analyte present. Reported value may be biased high. Result is estimated high.
J- - Analyte present. Reported value may be biased low. Result is estimated low.
U - The analyte was analyzed for, but was not detected. Value shown is representative of the practical quantitation limit for the analyzed constituent.
UJ - The analyte was not detected above the reported sample quantitation limit. However, based on data validation, the reported method detection limit is approximate and may or may not represent the actual limit of the quantitation necessary to accurately and precisely measure the analyte in the sample.

NE - Standard and/or guidance value not established.
ND - Not detected

Boxed concentrations are greater than New York State Class GA Groundwater Standards or Guidance values.

(1) - Notes applicable to NYS Part 703 Standards:
(a) - Any detected concentration for Benzo(a)pyrene is considered above the Part 703 Standard.

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703(1) Standard	Location ID / Sample Date / Units	MW-124R 9/25/2018	MW-124R 11/12/2018	MW-125R 9/25/2018	MW-125R 11/12/2018	MW-125R DUP 11/12/2018
Volatile Organic Compounds (VOCs)								
BTEX								
Benzene	NE	1	µg/L	**4**	**8**	**11**	**5 J+**	**5**
Toluene	NE	5	µg/L	**18**	**26**	**75**	**38 J+**	**37**
Ethylbenzene	NE	5	µg/L	**33**	**77**	**100**	**63 J+**	**62**
Xylenes, total	NE	5	µg/L	**80**	**160**	**350**	**180 J+**	**180**
Total BTEX	NE	NE	µg/L	135	271	536	286 J+	284
Semi-volatile Organic Compounds (SVOCs)								
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	20	NE	µg/L	**22**	**38**	**47**	**29**	**29**
Acenaphthylene	NE	NE	µg/L	6	6	28	11	10
Anthracene	50	NE	µg/L	1	2	5	3	3
Benzo(a)anthracene	0.002	NE	µg/L	0.1 U	0.1 U	**0.2 J**	**0.1 J**	**0.1 J**
Benzo(a)pyrene	NE	ND	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(b)fluoranthene	0.002	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(g,h,i)perylene	NE	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(k)fluoranthene	0.002	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Chrysene	0.002	NE	µg/L	0.1 U	0.1 U	**0.1 J**	0.1 U	0.1 U
Dibenz(a,h)anthracene	NE	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Fluoranthene	50	NE	µg/L	0.7	0.5 J	3.0	3.0	2.0
Fluorene	50	NE	µg/L	10	19 J-	33	19 J	20 J
Indeno(1,2,3-c,d)pyrene	0.002	NE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Naphthalene	10	NE	µg/L	**230**	**410**	**810**	**210 J**	**130 J**
Phenanthrene	50	NE	µg/L	8	13	28	6 J	9 J
Pyrene	50	NE	µg/L	0.5 J	0.3 J	2.0	2.0	2.0
Total PAHs	NE	NE	µg/L	278	489	956	283	205

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

	Class GA Groundwater Criteria		Location ID	MW-124R	MW-124R	MW-125R	MW-125R	MW-125R DUP
	TOGS 1.1.1	NYS Part 703(1)	Sample Date	9/25/2018	11/12/2018	9/25/2018	11/12/2018	11/12/2018
Constituent	Guidance	Standard	Units					
Inorganic Constituents								
Cyanide, total	NE	200	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

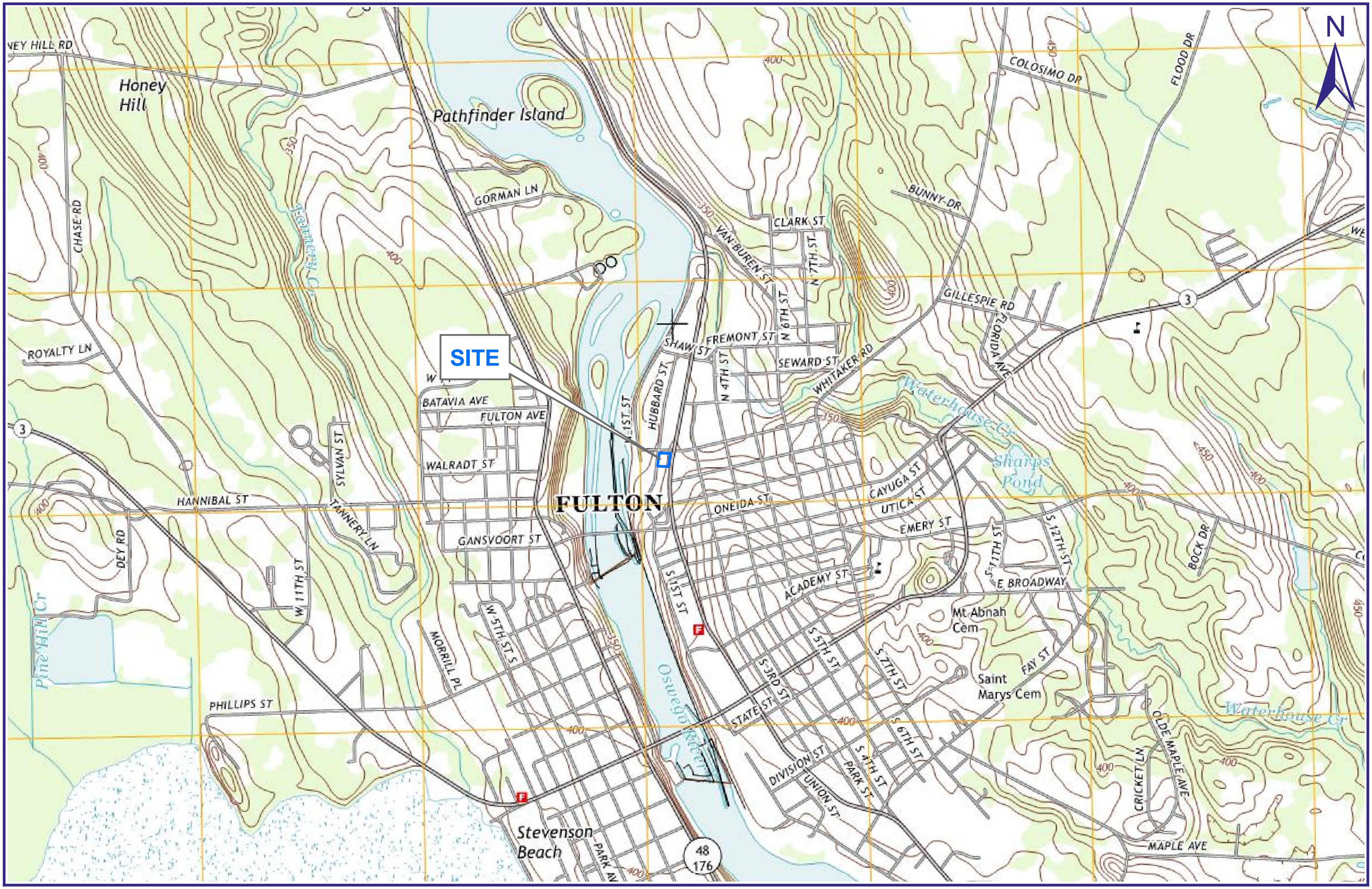
Notes:
J - Estimated concentration. The result is below the quantitation limit but above the method detection limit.
J+ - Analyte present. Reported value may be biased high. Result is estimated high.
J- - Analyte present. Reported value may be biased low. Result is estimated low.
U - The analyte was analyzed for, but was not detected. Value shown is representative of the practical quantitation limit for the analyzed constituent.
UJ - The analyte was not detected above the reported sample quantitation limit. However, based on data validation, the reported method detection limit is approximate and may or may not represent the actual limit of the quantitation necessary to accurately and precisely measure the analyte in the sample.

NE - Standard and/or guidance value not established.
ND - Not detected

Boxed concentrations are greater than New York State Class GA Groundwater Standards or Guidance values.

(1) - Notes applicable to NYS Part 703 Standards:
(a) - Any detected concentration for Benzo(a)pyrene is considered above the Part 703 Standard.

Figures



Source: USGS 7.5 Minute Topographic Map
Fulton Quadrangle (2013)

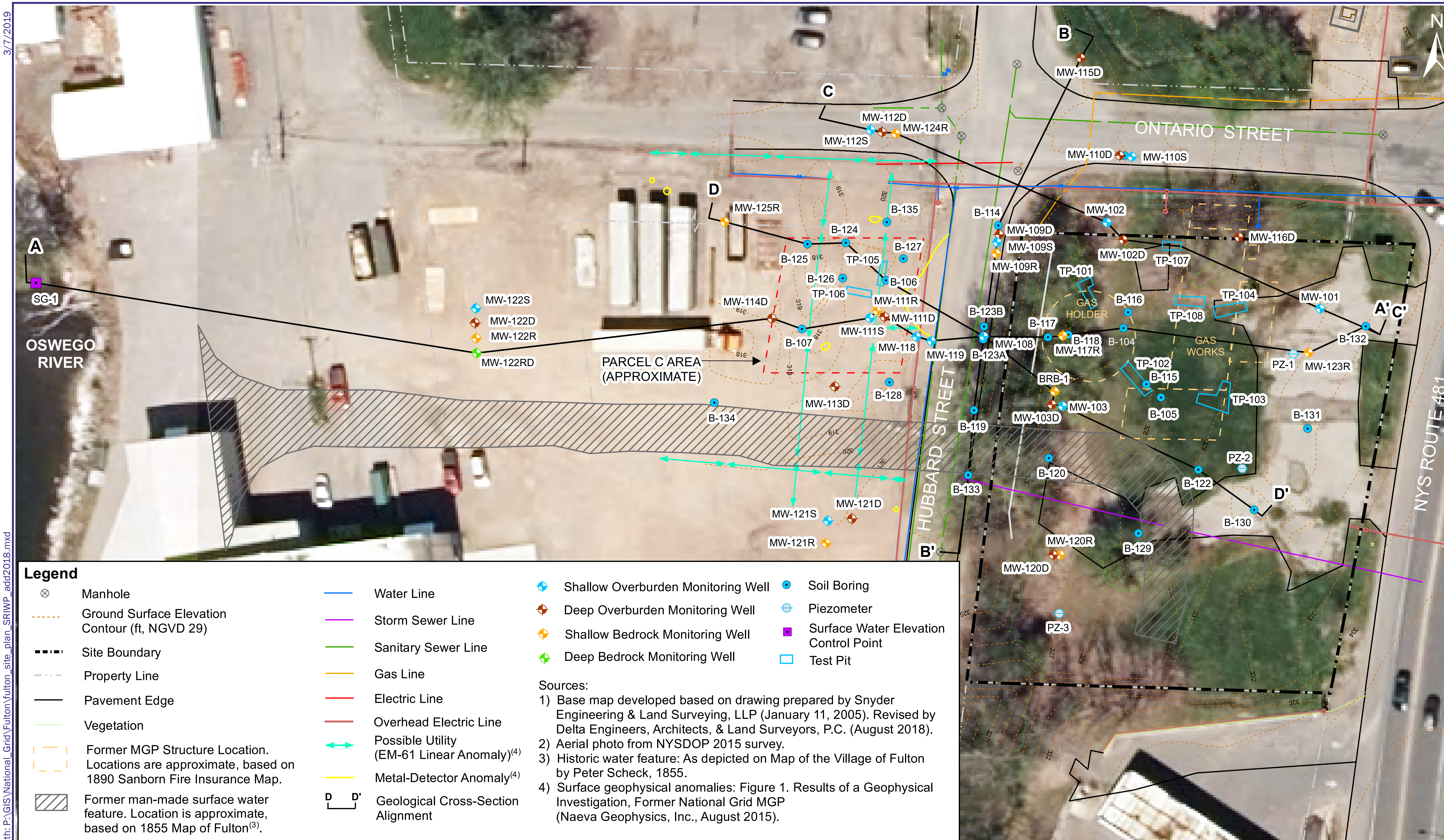
0 1,000 2,000
Feet

FIGURE 1
SITE LOCATION
NATIONAL GRID
FULTON (ONTARIO ST.) FORMER MGP SITE, FULTON, NEW YORK

Brown AND Caldwell

1/10/2019
Author: BFTaylor Path: P:\GIS\National_Grid\Fulton\Fulton_Site_Location.mxd

3/7/2019



Brown AND Caldwell

FIGURE 2
SITE PLAN
NATIONAL GRID
FULTON (ONTARIO ST.) FORMER MGP SITE, FULTON, NEW YORK

Author: BFTaylor Path: P:\GIS\National_Grid\Fulton\fulton_site_plan_SRIWP_add2018.mxd

LEGEND:

TP-104 — MONITORING WELL/SOIL BORING TEST PIT IDENTIFICATION AND APPROXIMATE LOCATION

GENERALIZED GROUND SURFACE

277/4895 — TOTAL BTEX/TOTAL PAH(mg/kg) CONCENTRATION WITHIN SAMPLE INTERVAL. BOLD VALUE INDICATES ONE OR MORE CONSTITUENT CONCENTRATIONS ABOVE NYS PART 375 SOIL CLEANUP OBJECTIVES (PROTECTION OF PUBLIC HEALTH-COMMERCIAL OR INDUSTRIAL ZONING [DEPENDING ON LOCATION] PROTECTION OF ECOLOGICAL RESOURCES, AND/OR PROTECTION OF GROUNDWATER)

WELL SCREEN INTERVAL

PVC SUMP

TOTAL DEPTH OF BOREHOLE

NON-AQUEOUS PHASE LIQUID (NAPL) OBSERVED WITHIN WELL DURING GAUGING EVENTS

WATER TABLE, SEPTEMBER 17, 2018

(313.07) — GROUNDWATER ELEVATION, SEPTEMBER 17, 2018

FILL

GLACIAL TILL

BEDROCK

VISUAL/OLFACTORY INDICATIONS OF IMPACTS (SEE NOTE 1):

- TAR SATURATED
- COATED MATERIAL, LENSES
- BLEBS, GLOBS, SHEEN
- STAINING, ODOR
- PETROLEUM IMPACTS STAINING & ODORS
- PURIFIER WASTE AND ODOR
- NO OBSERVED IMPACTS

ABBREVIATIONS:

BTEX	BENZENE, TOLUENE, ETHYLBENZENE AND XYLENE ISOMERS
PAHS	TOTAL POLYCYCLIC AROMATIC HYDROCARBONS
CN	TOTAL CYANIDE
ND	NOT DETECTED
J	ESTIMATED CONCENTRATION
R	RESULT REJECTED AS DETERMINED BY DATA VALIDATOR
NS	NOT SAMPLED. NAPL IN WELL

GEOPHYSICAL ANOMALIES ASSOCIATED WITH MARKER BED

TEMP.	FLUID TEMPERATURE
F-RES.	FLUID RESISTIVITY
CAL.	CALIPER

NATURAL GAMMA OUTPUT (Gamma 0 cps 150)

MW-111S	Dec-12	Mar-13
BTEX	ND	ND
PAHs	**0.9 J**	ND
CN	ND	ND

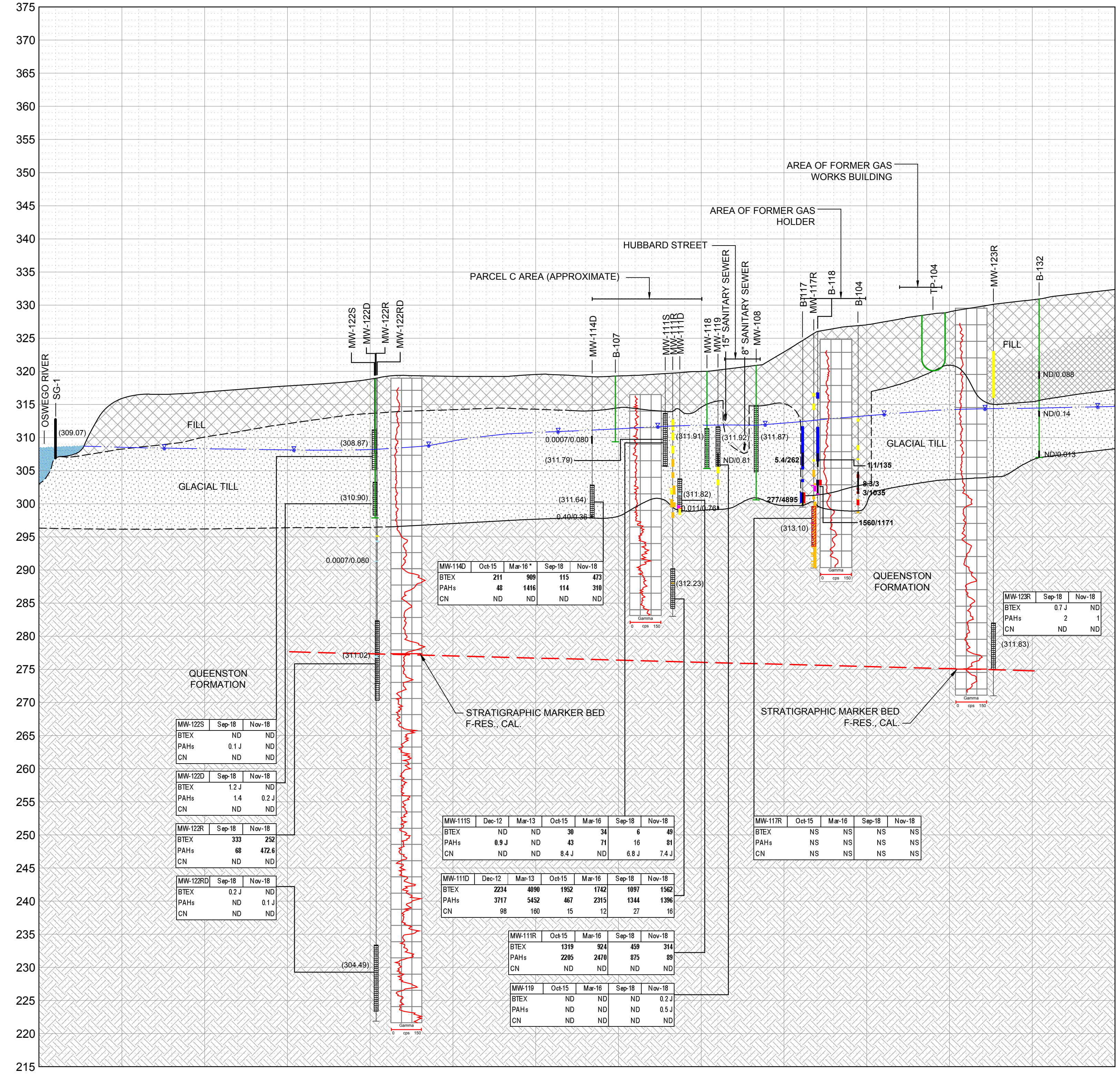
GROUNDWATER QUALITY DATA. VALUES REPORTED IN MICROGRAMS PER LITER (µg/L) BOLD VALUE INDICATES ONE OR MORE CONSTITUENTS ARE ABOVE CLASS GA CRITERIA

* HIGHEST CONCENTRATION FROM ORIGINAL GROUNDWATER AND DUPLICATE GROUNDWATER SAMPLE IS POSTED.

** DUPLICATE SAMPLE COLLECTED

NOTE:

1. NYSDEC'S STANDARD COLORS AND ASSOCIATED DESCRIPTORS FOR REPORTING MGP IMPACTS WERE USED TO DEPICT INTERVALS WHERE IMPACTS WERE OBSERVED IN SOIL SAMPLES, BEDROCK CORE SAMPLES, OR DURING DRILLING PROCESSES INCLUDING PACKER PRESSURE TESTING AND BOREHOLE GEOPHYSICS.



MW-122S	Sep-18	Nov-18
BTEX	ND	ND
PAHs	0.1 J	ND
CN	ND	ND

MW-122D	Sep-18	Nov-18
BTEX	1.2 J	ND
PAHs	1.4	0.2 J
CN	ND	ND

MW-122R	Sep-18	Nov-18
BTEX	**333**	**252**
PAHs	**68**	**472.6**
CN	ND	ND

MW-122RD	Sep-18	Nov-18
BTEX	0.2 J	ND
PAHs	ND	0.1 J
CN	ND	ND

MW-114D	Oct-15	Mar-16 *	Sep-18	Nov-18
BTEX	**211**	**909**	**115**	**473**
PAHs	**48**	**1416**	**114**	**310**
CN	ND	ND	ND	ND

MW-111S	Dec-12	Mar-13	Oct-15	Mar-16	Sep-18	Nov-18
BTEX	ND	ND	**30**	**34**	**6**	**49**
PAHs	**0.9 J**	ND	**43**	**71**	16	**81**
CN	ND	ND	8.4 J	ND	6.8 J	7.4 J

MW-111D	Dec-12	Mar-13	Oct-15	Mar-16	Sep-18	Nov-18
BTEX	**2234**	**4090**	**1952**	**1742**	**1097**	**1562**
PAHs	**3717**	**5452**	**467**	**2315**	**1344**	**1396**
CN	98	160	15	12	27	16

MW-111R	Oct-15	Mar-16	Sep-18	Nov-18
BTEX	**1319**	**924**	**459**	**314**
PAHs	**2205**	**2470**	**875**	**89**
CN	ND	ND	ND	ND

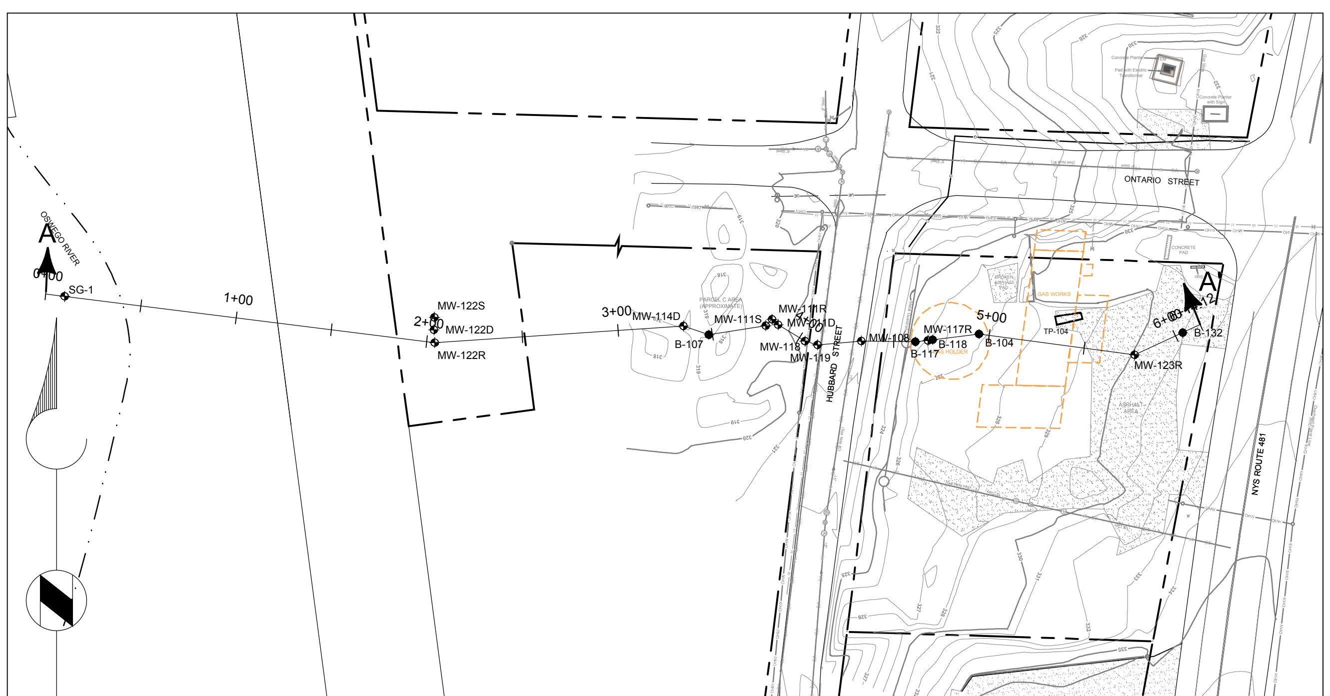
MW-119	Oct-15	Mar-16	Sep-18	Nov-18
BTEX	ND	ND	ND	0.2 J
PAHs	ND	ND	ND	0.5 J
CN	ND	ND	ND	ND

MW-117R	Oct-15	Mar-16	Sep-18	Nov-18
BTEX	NS	NS	NS	NS
PAHs	NS	NS	NS	NS
CN	NS	NS	NS	NS

MW-123R	Sep-18	Nov-18
BTEX	0.7 J	ND
PAHs	2	1
CN	ND	ND

PROFILE

SCALE H: 1" = 80'
V: 1" = 20'



PARTIAL PLAN

SCALE: 1" = 100'

0 100 200

SCALE IN FEET

Brown AND Caldwell

DATE: March 11, 2019

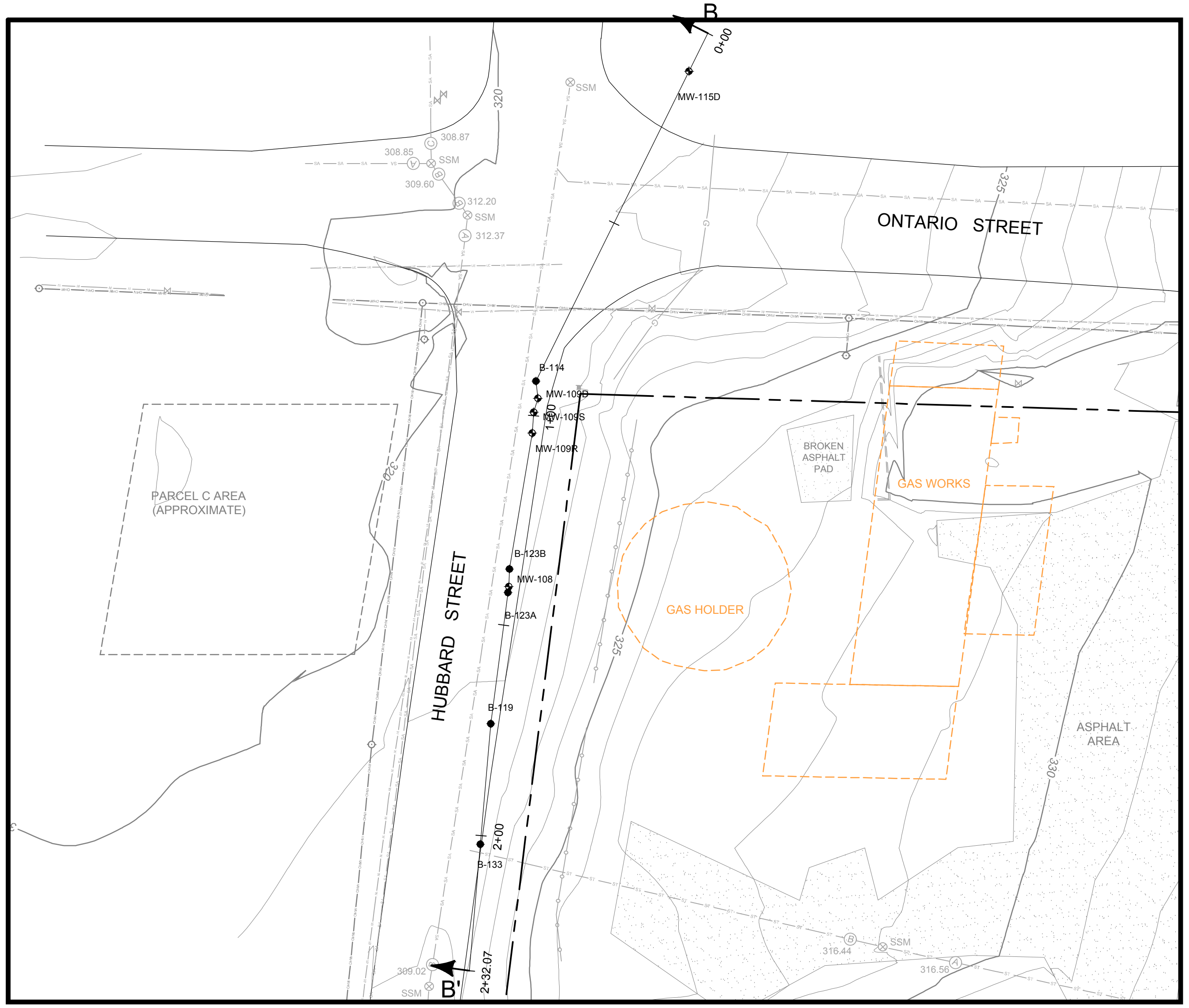
NATIONAL GRID
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

GEOLOGICAL CROSS SECTION A-A'

FIGURE 3

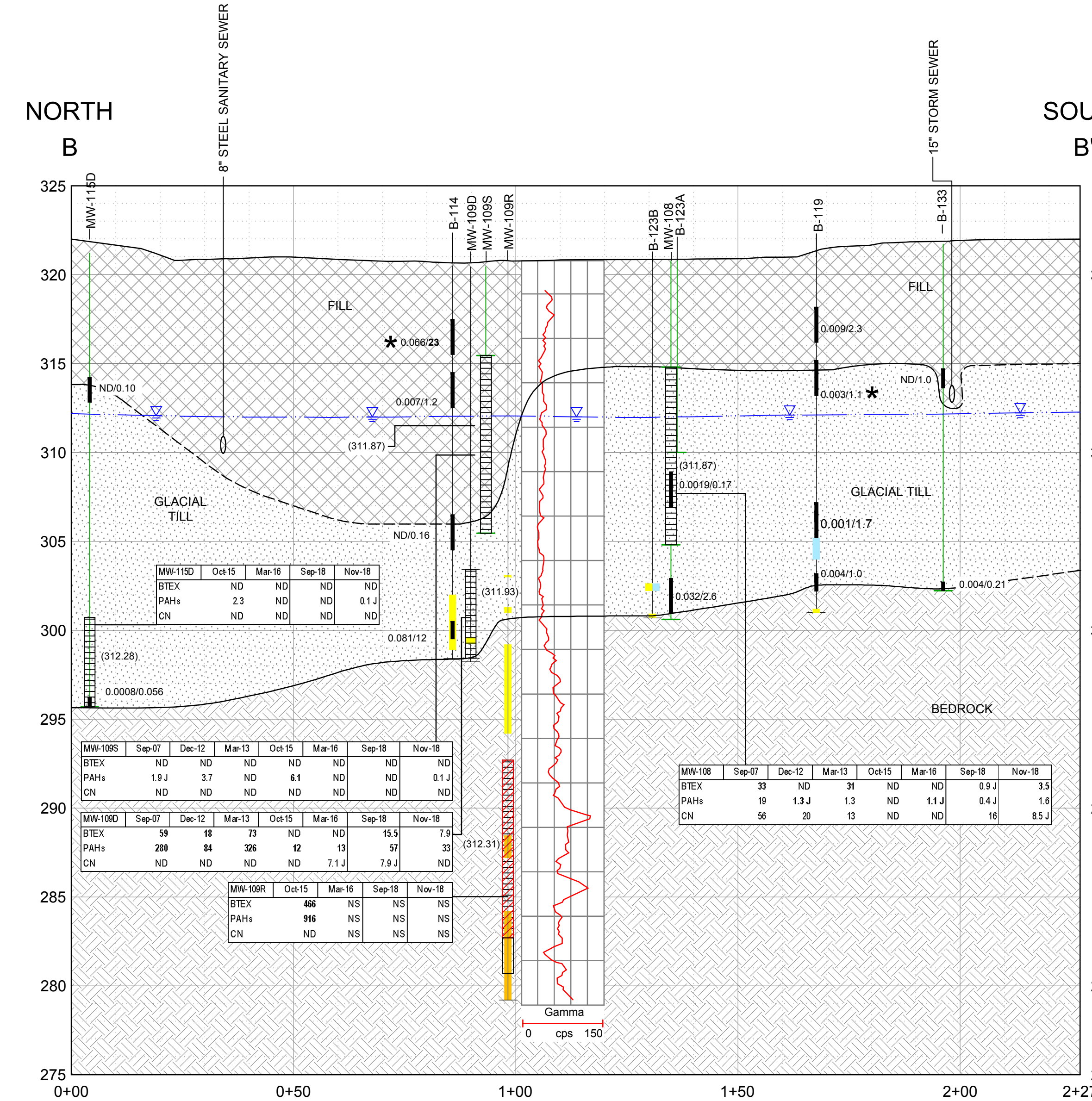
Path: P:\National_Grid\Fulton(N_Ontario_St)\152206 - Fulton SRI Addendum _RI Report_CAD\2-SHEETS\B-GEOTECHNICAL File Name: FIG-3-(Section-A-A)_Rev-11-27-18 Plot Date: March 11, 2019 1:03 PM Cadd User: Robert Near

Path: P:\National_Grid\Fulton(N_Ontario_St)\152206 - Fulton SRI Addendum _RI Report_CAD\2-SHEETS\B-GEOTECHNICAL File Name: FIG-4-(Section-B-B)_Rev-1-3-19 Plot Date: March 11, 2019 1:08 PM Cadd User: Robert Near



PARTIAL PLAN
SCALE: 1" = 40'

0 40 80
SCALE IN FEET



MW-115D	Oct-15	Mar-16	Sep-18	Nov-18
BTEX	ND	ND	ND	ND
PAHs	2.3	ND	ND	0.1 J
CN	ND	ND	ND	ND

MW-109S	Sep-07	Dec-12	Mar-13	Oct-15	Mar-16	Sep-18	Nov-18
BTEX	ND	ND	ND	ND	ND	ND	ND
PAHs	1.9 J	3.7	ND	**6.1**	ND	ND	0.1 J
CN	ND	ND	ND	ND	ND	ND	ND

MW-109D	Sep-07	Dec-12	Mar-13	Oct-15	Mar-16	Sep-18	Nov-18
BTEX	**59**	**18**	**73**	ND	ND	**15.5**	7.9
PAHs	**280**	**84**	**326**	**12**	**13**	**57**	33
CN	ND	ND	ND	ND	7.1 J	7.9 J	ND

MW-109R	Oct-15	Mar-16	Sep-18	Nov-18
BTEX	**466**	NS	NS	NS
PAHs	**916**	NS	NS	NS
CN	ND	NS	NS	NS

MW-108	Sep-07	Dec-12	Mar-13	Oct-15	Mar-16	Sep-18	Nov-18
BTEX	**33**	ND	**31**	ND	ND	0.9 J	**3.5**
PAHs	19	**1.3 J**	1.3	ND	**1.1 J**	0.4 J	1.6
CN	56	20	13	ND	ND	16	8.5 J

PROFILE
SCALE H: 1" = 40'
V: 1" = 10'

LEGEND:

TP-104

GENERALIZED GROUND SURFACE

0.066/**23** TOTAL BTEX/TOTAL PAH(mg/kg) CONCENTRATION WITHIN SAMPLE INTERVAL. BOLD VALUE INDICATES ONE OR MORE CONSTITUENT CONCENTRATIONS ABOVE NYS PART 375 SOIL CLEANUP OBJECTIVES (PROTECTION OF PUBLIC HEALTH-COMMERCIAL OR INDUSTRIAL ZONING [DEPENDING ON LOCATION], PROTECTION OF ECOLOGICAL RESOURCES, AND/OR PROTECTION OF GROUNDWATER)

* HIGHEST CONCENTRATION FROM ORIGINAL SOIL AND DUPLICATE SOIL SAMPLE IS POSTED.

WELL SCREEN INTERVAL

PVC SUMP

TOTAL DEPTH OF BOREHOLE

NON-AQUEOUS PHASE LIQUID (NAPL) OBSERVED WITHIN WELL DURING GAUGING EVENTS

WATER TABLE, SEPTEMBER 17, 2018

(314.01) GROUNDWATER ELEVATION, SEPTEMBER 17, 2018

FILL

GLACIAL TILL

BEDROCK

VISUAL/OLFACTORY INDICATIONS OF IMPACTS (SEE NOTE 1):

BLEBS, GLOBS, SHEEN

STAINING, ODOR

PETROLEUM IMPACTS STAINING & ODORS

NO OBSERVED IMPACTS

ABBREVIATIONS:

BTEX	BENZENE, TOLUENE, ETHYLBENZENE AND XYLENE ISOMERS
PAHS	POLYCYCLIC AROMATIC HYDROCARBONS
CN	TOTAL CYANIDE
ND	NOT DETECTED
J	ESTIMATED CONCENTRATION
NS	NOT SAMPLED. NAPL IN WELL

Gamma
0 cps 150
NATURAL GAMMA OUTPUT

MW-108	Sep-07	Dec-12
BTEX	**33**	ND
PAHs	19	**1.3 J**
CN	56	20

GROUNDWATER QUALITY DATA. VALUES REPORTED IN MICROGRAMS PER LITER (µg/L)
BOLD VALUE INDICATES ONE OR MORE CONSTITUENTS ARE ABOVE CLASS GA CRITERIA

NOTE:
1. NYSDEC'S STANDARD COLORS AND ASSOCIATED DESCRIPTORS FOR REPORTING MGP IMPACTS WERE USED TO DEPICT INTERVALS WHERE IMPACTS WERE OBSERVED IN SOIL SAMPLES, BEDROCK CORE SAMPLES, OR DURING DRILLING PROCESSES INCLUDING PACKER PRESSURE TESTING AND BOREHOLE GEOPHYSICS.

Brown AND Caldwell

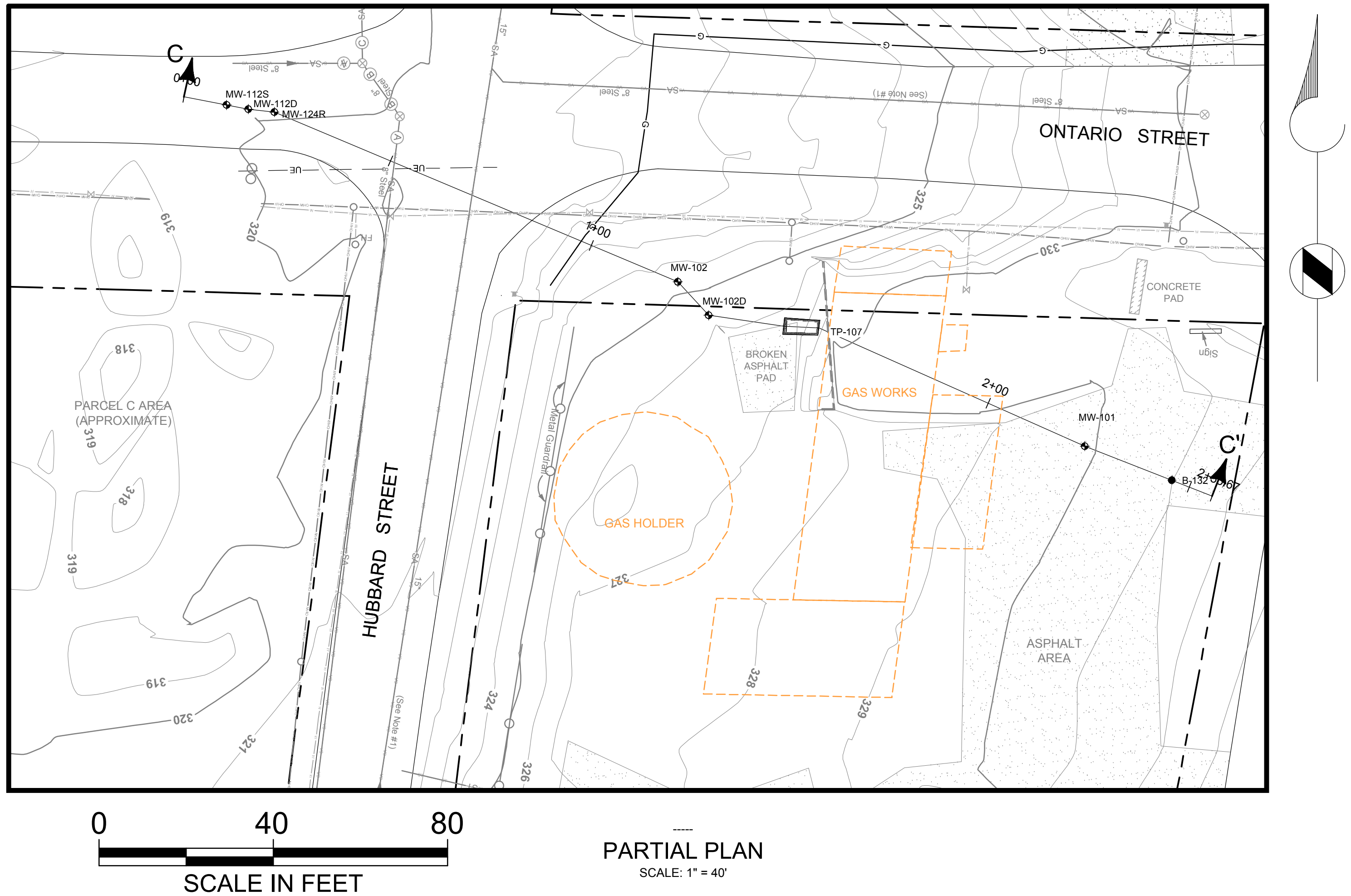
DATE: March 11, 2019

NATIONAL GRID
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

GEOLOGICAL CROSS SECTION B-B'

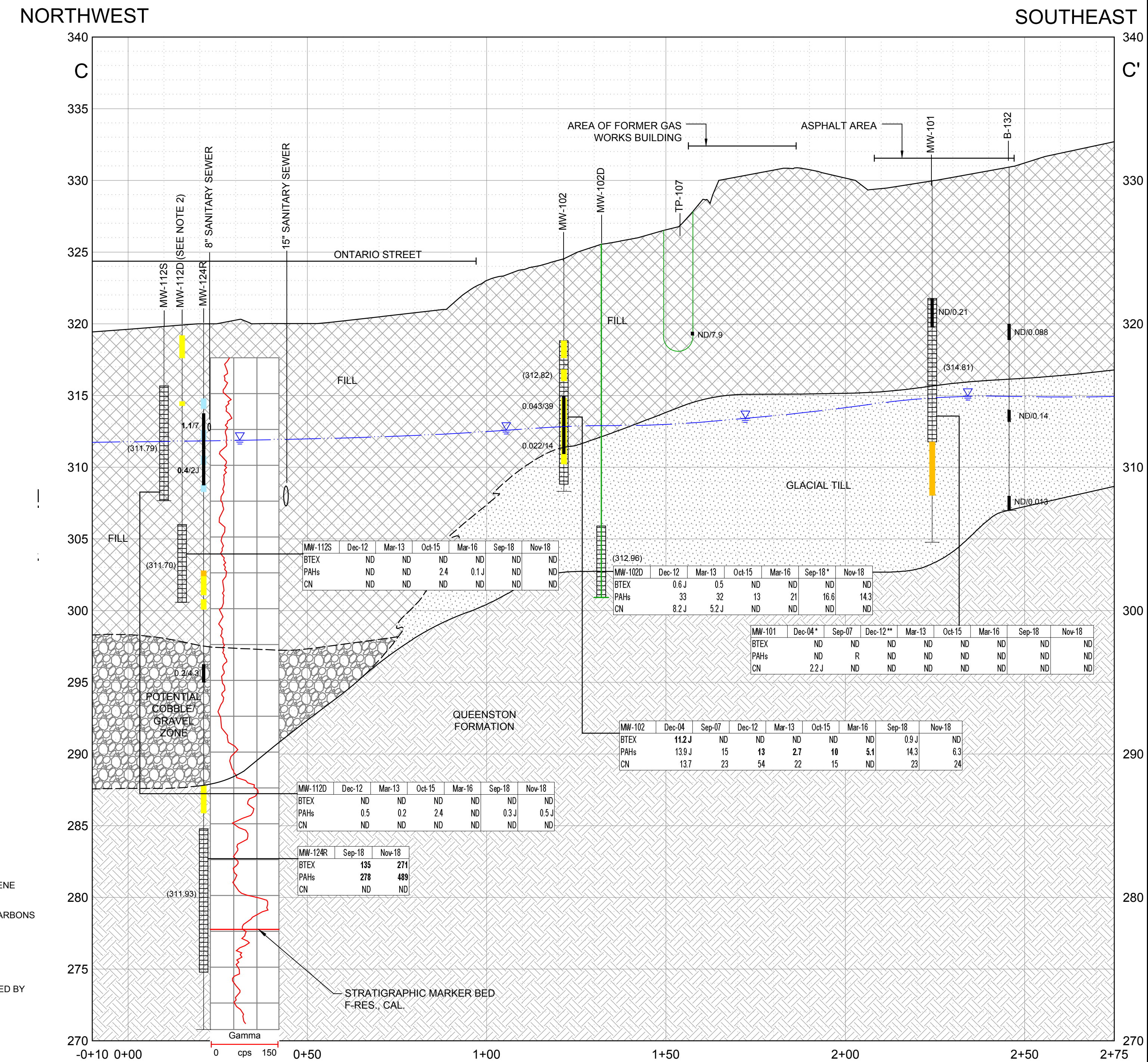
FIGURE
4

Path: P:\National_Grid\Fulton(N_Ontario_St)\152206 - Fulton SRI Addendum_RI Report_CAD\2-SHEETS\B-GEOTECHNICAL File Name: FIG-5-(Section-C-C)_Rev-10-10-18 Plot Date: March 14, 2019 2:09 PM Cadd User: Robert Near



PARTIAL PLAN

SCALE: 1" = 40'



MW-112S	Dec-12	Mar-13	Oct-15	Mar-16	Sep-18	Nov-18
BTEX	ND	ND	ND	ND	ND	ND
PAHs	ND	ND	2.4	0.1 J	ND	ND
CN	ND	ND	ND	ND	ND	ND

MW-102D	Dec-12	Mar-13	Oct-15	Mar-16	Sep-18 *	Nov-18
BTEX	0.6 J	0.5	ND	ND	ND	ND
PAHs	33	32	13	21	16.6	14.3
CN	8.2 J	5.2 J	ND	ND	ND	ND

MW-101	Dec-04 *	Sep-07	Dec-12 **	Mar-13	Oct-15	Mar-16	Sep-18	Nov-18
BTEX	ND	ND	ND	ND	ND	ND	ND	ND
PAHs	ND	R	ND	ND	ND	ND	ND	ND
CN	2.2 J	ND	ND	ND	ND	ND	ND	ND

MW-102	Dec-04	Sep-07	Dec-12	Mar-13	Oct-15	Mar-16	Sep-18	Nov-18
BTEX	**11.2 J**	ND	ND	ND	ND	ND	0.9 J	ND
PAHs	13.9 J	15	**13**	**2.7**	**10**	**5.1**	14.3	6.3
CN	13.7	23	54	22	15	ND	23	24

MW-112D	Dec-12	Mar-13	Oct-15	Mar-16	Sep-18	Nov-18
BTEX	ND	ND	ND	ND	ND	ND
PAHs	0.5	0.2	2.4	ND	0.3 J	0.5 J
CN	ND	ND	ND	ND	ND	ND

MW-124R	Sep-18	Nov-18
BTEX	**135**	**271**
PAHs	**278**	**489**
CN	ND	ND

PROFILE

SCALE H: 1" = 40'
V: 1" = 10'

LEGEND:

TP-104	MONITORING WELL/SOIL BORING TEST PIT IDENTIFICATION AND APPROXIMATE LOCATION
	GENERALIZED GROUND SURFACE
277/4895	TOTAL BTEX/TOTAL PAH(mg/kg) CONCENTRATION WITHIN SAMPLE INTERVAL. BOLD VALUE INDICATES ONE OR MORE CONSTITUENT CONCENTRATIONS ABOVE NYS PART 375 SOIL CLEANUP OBJECTIVES (PROTECTION OF PUBLIC HEALTH-COMMERCIAL OR INDUSTRIAL ZONING [DEPENDING ON LOCATION], PROTECTION OF ECOLOGICAL RESOURCES, AND/OR PROTECTION OF GROUNDWATER)
	WELL SCREEN INTERVAL
	TOTAL DEPTH OF BOREHOLE
	WATER TABLE, SEPTEMBER 17, 2018
(313.35)	GROUNDWATER ELEVATION, SEPTEMBER 17, 2018

FILL

GLACIAL TILL

BEDROCK

VISUAL/OLFACTORY INDICATIONS OF IMPACTS (SEE NOTE 1):

BLEBS, GLOBS, SHEEN

STAINING, ODOR

PETROLEUM IMPACTS STAINING & ODORS

NO OBSERVED IMPACTS

ABBREVIATIONS:

BTEX	BENZENE, TOLUENE, ETHYLBENZENE AND XYLENE ISOMERS
PAHS	POLYCYCLIC AROMATIC HYDROCARBONS
CN	TOTAL CYANIDE
ND	NOT DETECTED
J	ESTIMATED CONCENTRATION
R	RESULT REJECTED AS DETERMINED BY DATA VALIDATOR

GEOPHYSICAL ANOMALIES ASSOCIATED WITH MARKER BED

TEMP.	FLUID TEMPERATURE
F-RES.	FLUID RESISTIVITY
CAL.	CALIPER
Gamma 0 cps 150	NATURAL GAMMA OUTPUT

MW-112D	Dec-12	Mar-13
BTEX	ND	ND
PAHs	0.5	0.2
CN	ND	ND

GROUNDWATER QUALITY DATA. VALUES REPORTED IN MICROGRAMS PER LITER (µg/L)
BOLD VALUE INDICATES ONE OR MORE CONSTITUENTS ARE ABOVE CLASS GA CRITERIA

*	HIGHEST CONCENTRATION FROM ORIGINAL GROUNDWATER AND DUPLICATE GROUNDWATER SAMPLE IS POSTED.
**	DUPLICATE SAMPLE COLLECTED

NOTES:

1. NYSDEC'S STANDARD COLORS AND ASSOCIATED DESCRIPTORS FOR REPORTING MGP IMPACTS WERE USED TO DEPICT INTERVALS WHERE IMPACTS WERE OBSERVED IN SOIL SAMPLES.
2. BORING LOG INDICATES GLACIAL TILL FROM 6.5 TO 18 FEET BGS. THIS MATERIAL MAY BE FILL.

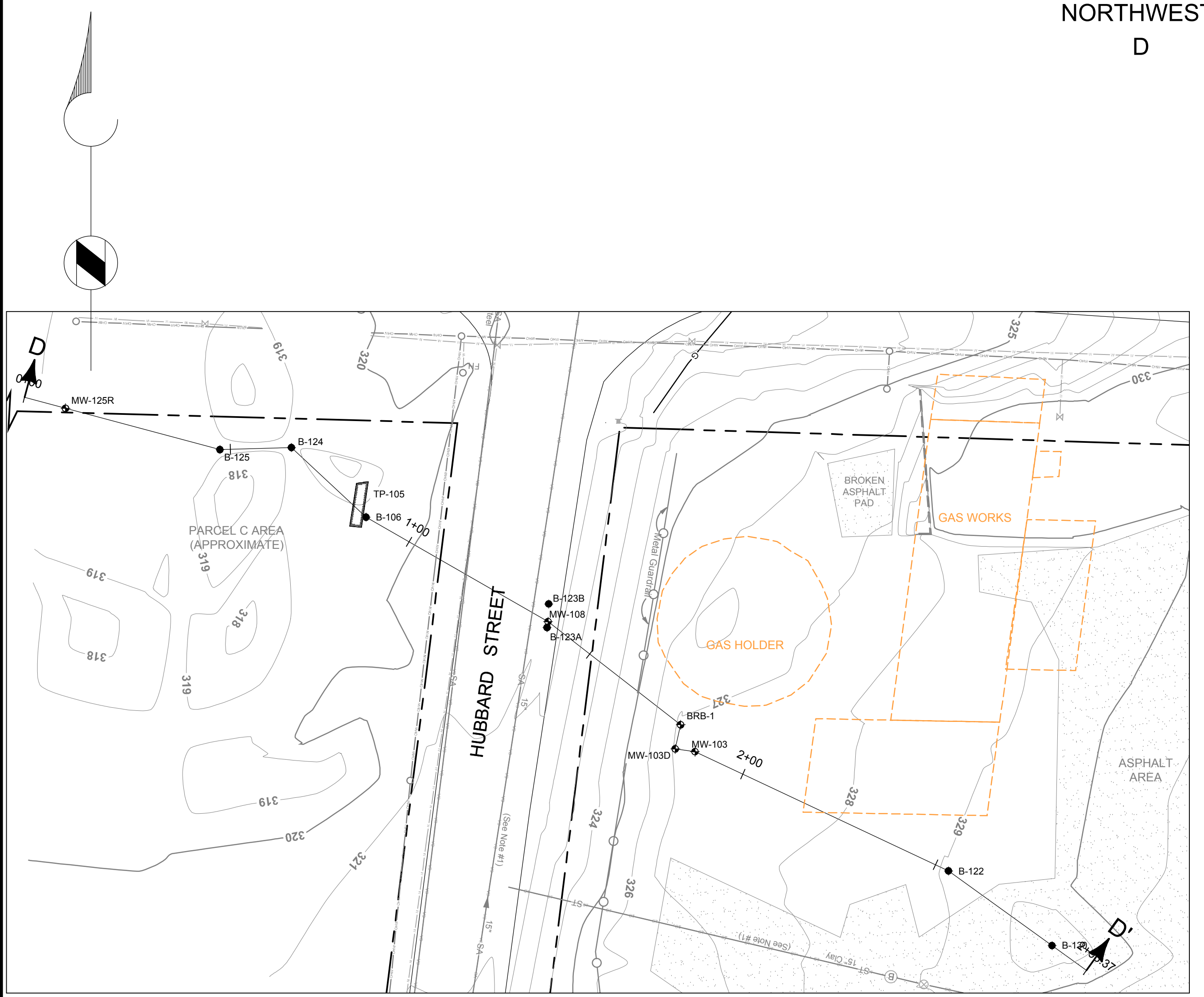
Brown AND Caldwell

DATE: March 14, 2019

NATIONAL GRID
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

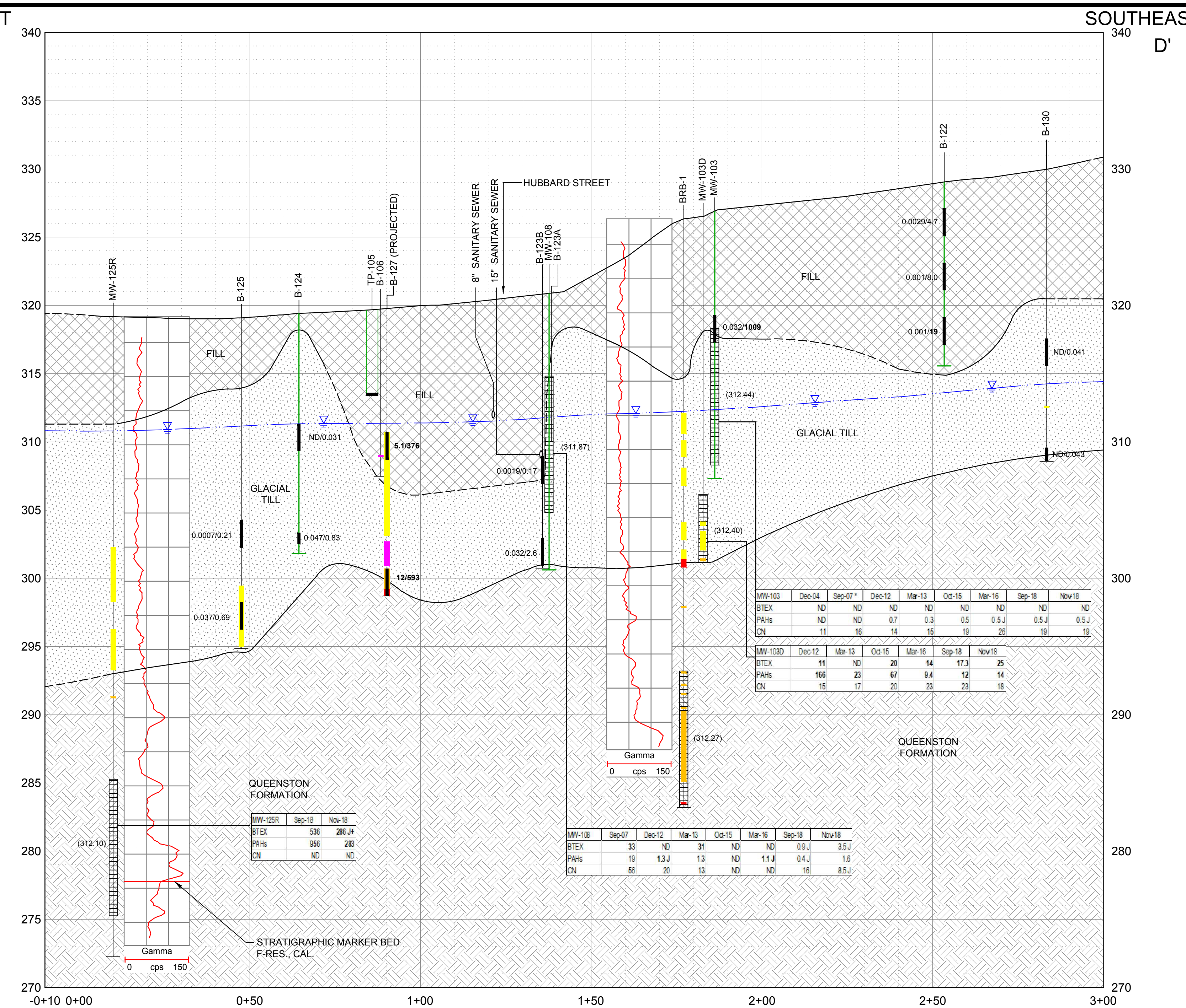
GEOLOGICAL CROSS SECTION C-C'

FIGURE
5



PARTIAL PLAN
SCALE: 1" = 40'

0 40 80
SCALE IN FEET



MW-125R	Sep-18	Nov-18
BTEX	536	286 J+
PAHs	956	283
CN	ND	ND

MW-108	Sep-07	Dec-12	Mar-13	Oct-15	Mar-16	Sep-18	Nov-18
BTEX	**33**	ND	**31**	ND	ND	0.9 J	3.5 J
PAHs	19	**1.3 J**	1.3	ND	**1.1 J**	0.4 J	1.6
CN	56	20	13	ND	ND	16	8.5 J

MW-103	Dec-04	Sep-07 *	Dec-12	Mar-13	Oct-15	Mar-16	Sep-18	Nov-18
BTEX	ND	ND	ND	ND	ND	ND	ND	ND
PAHs	ND	ND	0.7	0.3	0.5	0.5 J	0.5 J	0.5 J
CN	11	16	14	15	19	26	19	19

MW-103D	Dec-12	Mar-13	Oct-15	Mar-16	Sep-18	Nov-18
BTEX	**11**	ND	**20**	**14**	**17.3**	**25**
PAHs	**166**	**23**	**67**	9.4	**12**	**14**
CN	15	17	20	23	23	18

PROFILE
SCALE H: 1" = 40'
V: 1" = 10'

LEGEND:

TP-104 — MONITORING WELL/SOIL BORING TEST PIT IDENTIFICATION AND APPROXIMATE LOCATION

GENERALIZED GROUND SURFACE

0.001/**19** — TOTAL BTEX/TOTAL PAH(mg/kg) CONCENTRATION WITHIN SAMPLE INTERVAL. BOLD VALUE INDICATES ONE OR MORE CONSTITUENT CONCENTRATIONS ABOVE NYS PART 375 SOIL CLEANUP OBJECTIVES (PROTECTION OF PUBLIC HEALTH-COMMERCIAL OR INDUSTRIAL ZONING [DEPENDING ON LOCATION], PROTECTION OF ECOLOGICAL RESOURCES, AND/OR PROTECTION OF GROUNDWATER)

WELL SCREEN INTERVAL

TOTAL DEPTH OF BOREHOLE

WATER TABLE, SEPTEMBER 17, 2018

(313.98) GROUNDWATER ELEVATION, SEPTEMBER 17, 2018

FILL

GLACIAL TILL

BEDROCK

VISUAL/OLFACTORY INDICATIONS OF IMPACTS (SEE NOTE 1):

- TAR SATURATED
- COATED MATERIAL, LENSES
- BLEBS, GLOBS, SHEEN
- STAINING, ODOR
- PETROLEUM IMPACTS STAINING & ODORS
- NO OBSERVED IMPACTS

ABBREVIATIONS:

BTEX	BENZENE, TOLUENE, ETHYLBENZENE AND XYLENE ISOMERS
PAHS	POLYCYCLIC AROMATIC HYDROCARBONS
CN	TOTAL CYANIDE
ND	NOT DETECTED
J	ESTIMATED CONCENTRATION
J+	ANALYTE PRESENT. REPORTED VALUE MAY BE BIASED HIGH. RESULT IS ESTIMATED HIGH.

GEOPHYSICAL ANOMALIES ASSOCIATED WITH MARKER BED

TEMP.	FLUID TEMPERATURE
F-RES.	FLUID RESISTIVITY
CAL.	CALIPER

Gamma
0 cps 150
NATURAL GAMMA OUTPUT

MW-103D	Dec-12	Mar-13
BTEX	11	ND
PAHs	166	23
CN	15	17

GROUNDWATER QUALITY DATA. VALUES REPORTED IN MICROGRAMS PER LITER (µg/L)
BOLD VALUE INDICATES ONE OR MORE CONSTITUENTS ARE ABOVE CLASS GA CRITERIA

* HIGHEST CONCENTRATION FROM ORIGINAL GROUNDWATER AND DUPLICATE GROUNDWATER SAMPLE IS POSTED.

NOTE:
1. NYSDEC'S STANDARD COLORS AND ASSOCIATED DESCRIPTORS FOR REPORTING MGP IMPACTS WERE USED TO DEPICT INTERVALS WHERE IMPACTS WERE OBSERVED IN SOIL SAMPLES, BEDROCK CORE SAMPLES, OR DURING DRILLING PROCESSES INCLUDING PACKER PRESSURE TESTING AND BOREHOLE GEOPHYSICS.

Brown AND Caldwell

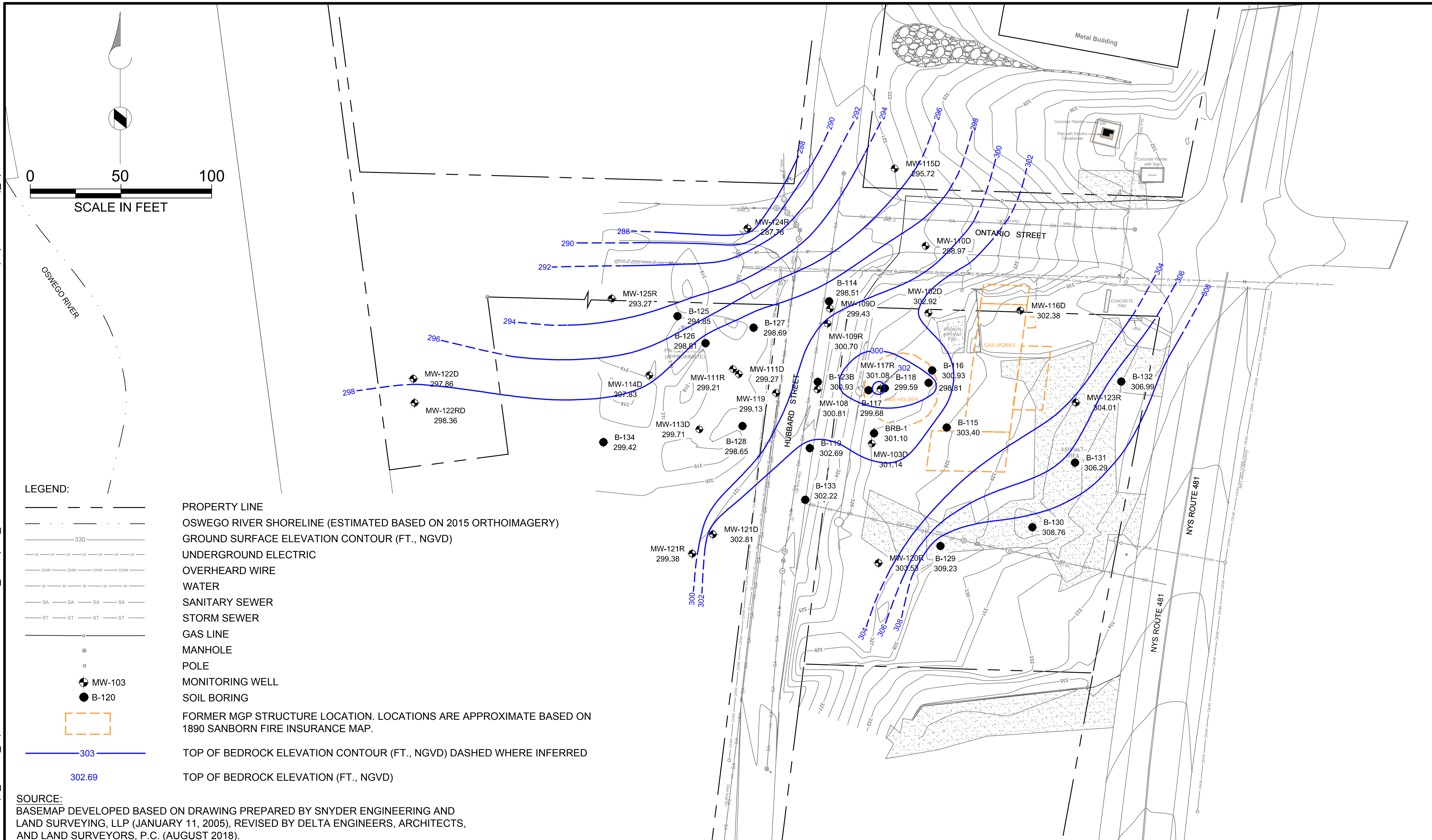
DATE: March 14, 2019

NATIONAL GRID
FULTON (ONTARIO ST.) FORMER MGP SITE
FULTON, NEW YORK

GEOLOGICAL CROSS SECTION D-D'

FIGURE 6

Path: P:\National_Grid\Fulton(N_Ontario_St)\152206 - Fulton SRI Addendum _RI Report_CAD\2-SHEETS\B-GEOTECHNICAL File Name: FIG-6-(Section-D-D)_Rev-10-10-18 Plot Date: March 14, 2019 1:40 PM Cadd User: Robert Near

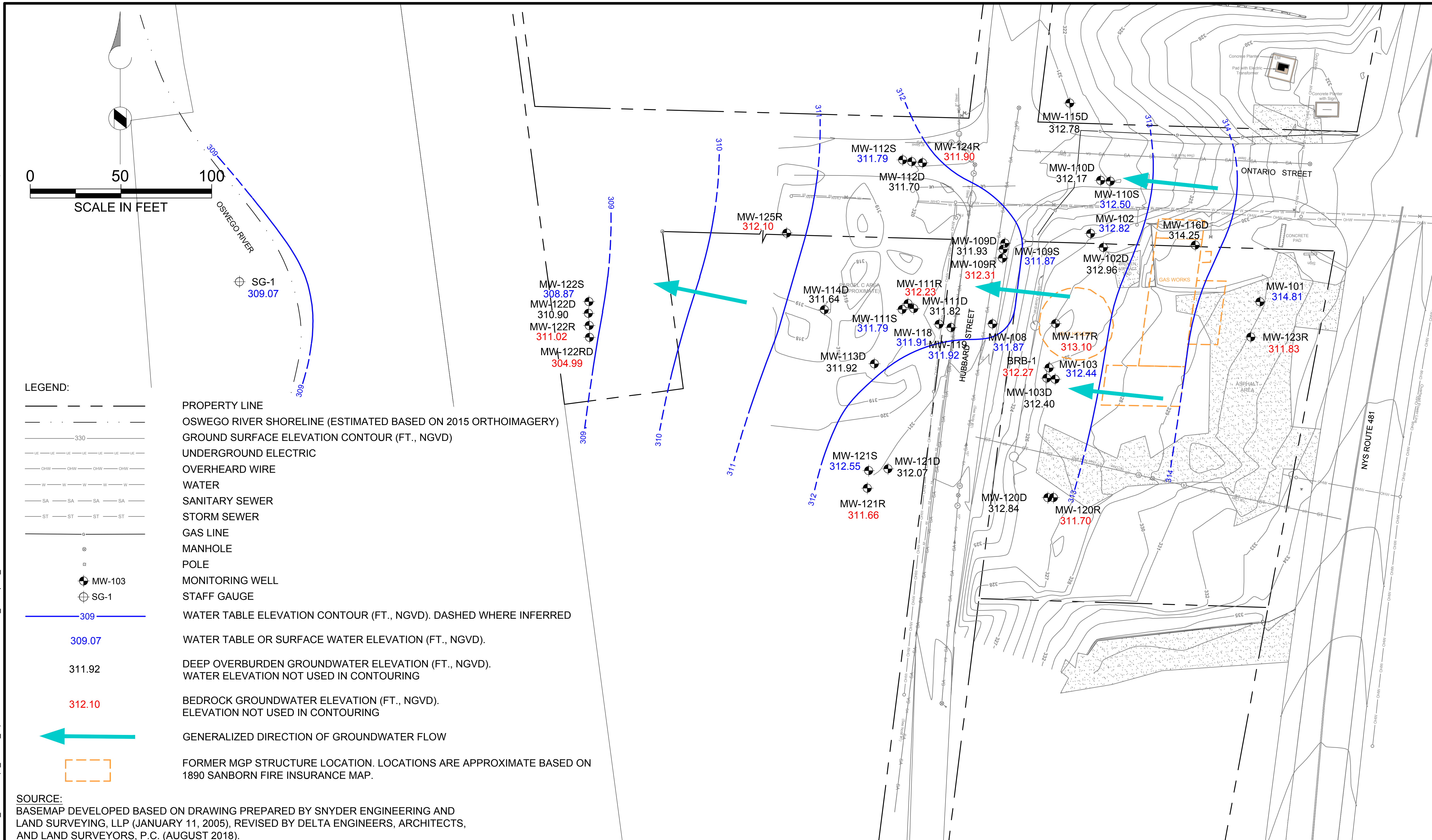


LEGEND:

PROPERTY LINE
OSWEGO RIVER SHORELINE (ESTIMATED BASED ON 2015 ORTHOIMAGERY)
330 GROUND SURFACE ELEVATION CONTOUR (FT., NGVD)
UNDERGROUND ELECTRIC
OVERHEARD WIRE
WATER
SANITARY SEWER
STORM SEWER
GAS LINE
MANHOLE
POLE
MW-103 MONITORING WELL
B-120 SOIL BORING
FORMER MGP STRUCTURE LOCATION. LOCATIONS ARE APPROXIMATE BASED ON 1890 SANBORN FIRE INSURANCE MAP.
303 TOP OF BEDROCK ELEVATION CONTOUR (FT., NGVD) DASHED WHERE INFERRED
302.69 TOP OF BEDROCK ELEVATION (FT., NGVD)

SOURCE:
BASEMAP DEVELOPED BASED ON DRAWING PREPARED BY SNYDER ENGINEERING AND LAND SURVEYING, LLP (JANUARY 11, 2005), REVISED BY DELTA ENGINEERS, ARCHITECTS, AND LAND SURVEYORS, P.C. (AUGUST 2018).

Brown AND Caldwell	SCALE: 1" = 50' DATE: October 8, 2018	NATIONAL GRID FULTON (ONTARIO ST.) FORMER MGP SITE FULTON, NEW YORK	TOP OF BEDROCK SURFACE CONTOUR MAP	FIGURE 7



LEGEND:

	PROPERTY LINE
	OSWEGO RIVER SHORELINE (ESTIMATED BASED ON 2015 ORTHOIMAGERY)
330	GROUND SURFACE ELEVATION CONTOUR (FT., NGVD)
UE	UNDERGROUND ELECTRIC
OHW	OVERHEAD WIRE
W	WATER
SA	SANITARY SEWER
ST	STORM SEWER
	GAS LINE
	MANHOLE
	POLE
MW-103	MONITORING WELL
SG-1	STAFF GAUGE
309	WATER TABLE ELEVATION CONTOUR (FT., NGVD). DASHED WHERE INFERRED
309.07	WATER TABLE OR SURFACE WATER ELEVATION (FT., NGVD).
311.92	DEEP OVERBURDEN GROUNDWATER ELEVATION (FT., NGVD). WATER ELEVATION NOT USED IN CONTOURING
312.10	BEDROCK GROUNDWATER ELEVATION (FT., NGVD). ELEVATION NOT USED IN CONTOURING
	GENERALIZED DIRECTION OF GROUNDWATER FLOW
	FORMER MGP STRUCTURE LOCATION. LOCATIONS ARE APPROXIMATE BASED ON 1890 SANBORN FIRE INSURANCE MAP.

SOURCE:
BASEMAP DEVELOPED BASED ON DRAWING PREPARED BY SNYDER ENGINEERING AND LAND SURVEYING, LLP (JANUARY 11, 2005), REVISED BY DELTA ENGINEERS, ARCHITECTS, AND LAND SURVEYORS, P.C. (AUGUST 2018).

Brown AND Caldwell

SCALE: 1" = 50'

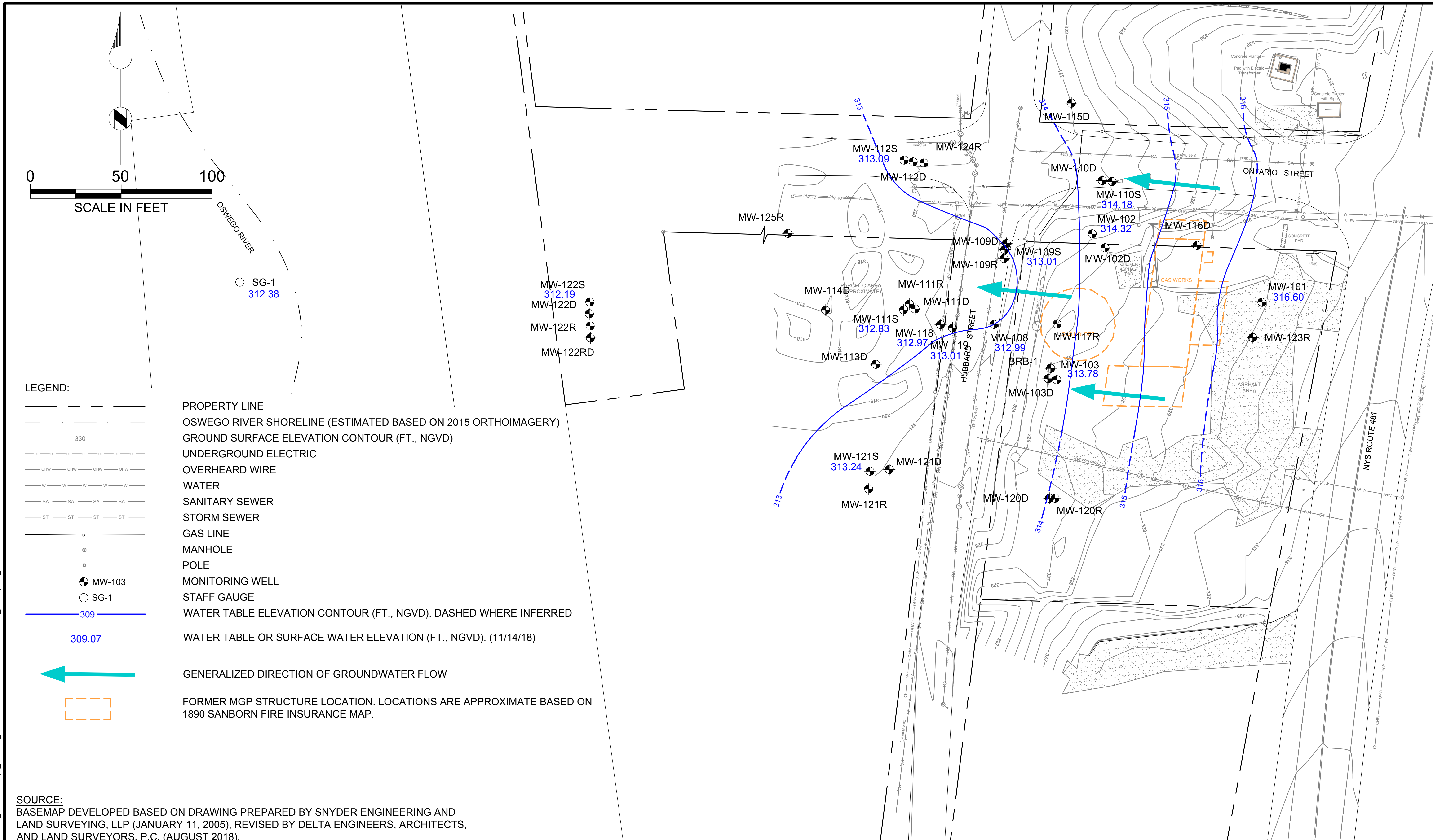
DATE: October 8, 2018

NATIONAL GRID
FULTON (ONTARIO ST.)
FORMER MGP SITE
FULTON, NEW YORK

WATER TABLE CONTOUR MAP
SEPTEMBER 17, 2018

FIGURE
8

Path: \\bcusfp01\projects\National_Grid\Fulton(N_Ontario_St)\152206 - Fulton SRI Addendum _RI Report_CAD\2-SHEETS\B-GEOTECHNICAL File Name: WATER TABLE CONTOUR MAP 9-17-18 Plot Date: March 11, 2019 10:30 AM Cadd User: Robert Near



LEGEND:

PROPERTY LINE

OSWEGO RIVER SHORELINE (ESTIMATED BASED ON 2015 ORTHOIMAGERY)

330 GROUND SURFACE ELEVATION CONTOUR (FT., NGVD)

UE UNDERGROUND ELECTRIC

OHW OVERHEARD WIRE

W WATER

SA SANITARY SEWER

ST STORM SEWER

GAS LINE

MANHOLE

POLE

MW-103 MONITORING WELL

SG-1 STAFF GAUGE

309 WATER TABLE ELEVATION CONTOUR (FT., NGVD). DASHED WHERE INFERRED

309.07 WATER TABLE OR SURFACE WATER ELEVATION (FT., NGVD). (11/14/18)

GENERALIZED DIRECTION OF GROUNDWATER FLOW

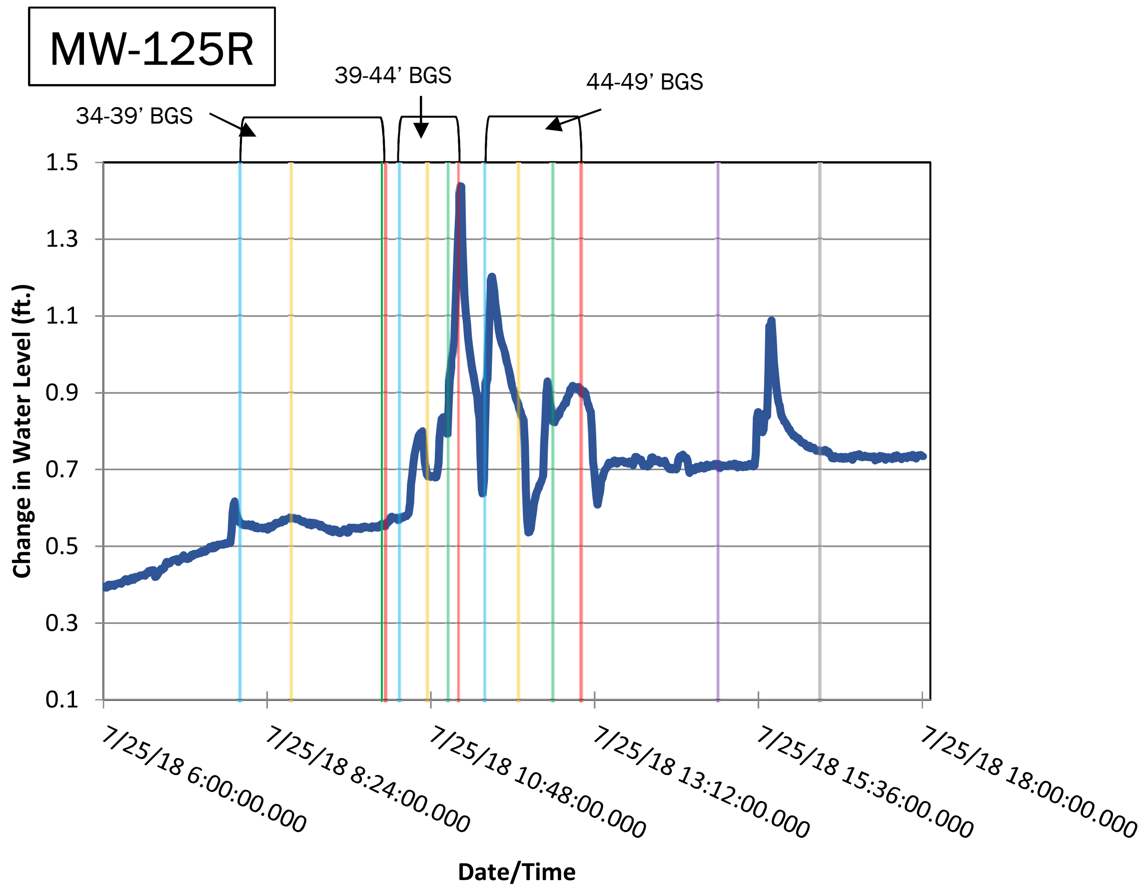
FORMER MGP STRUCTURE LOCATION. LOCATIONS ARE APPROXIMATE BASED ON 1890 SANBORN FIRE INSURANCE MAP.

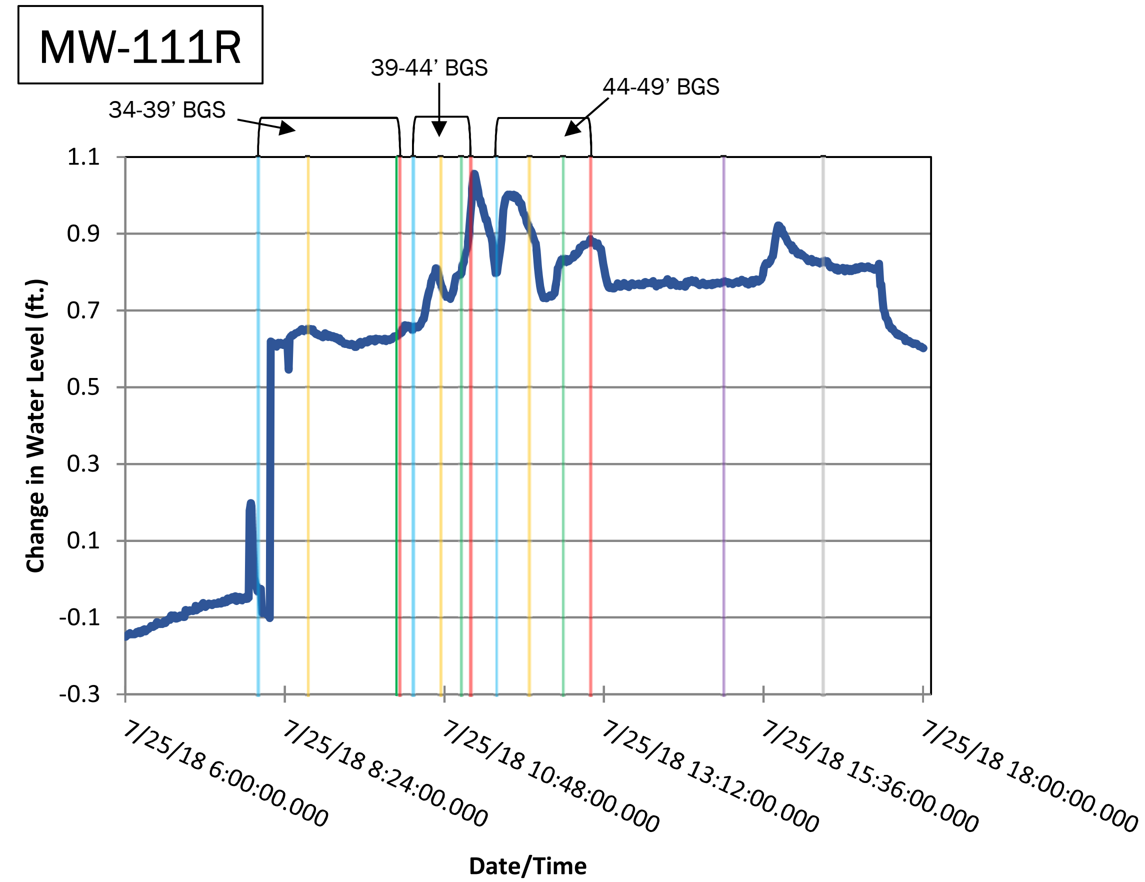
SOURCE:
BASEMAP DEVELOPED BASED ON DRAWING PREPARED BY SNYDER ENGINEERING AND LAND SURVEYING, LLP (JANUARY 11, 2005), REVISED BY DELTA ENGINEERS, ARCHITECTS, AND LAND SURVEYORS, P.C. (AUGUST 2018).

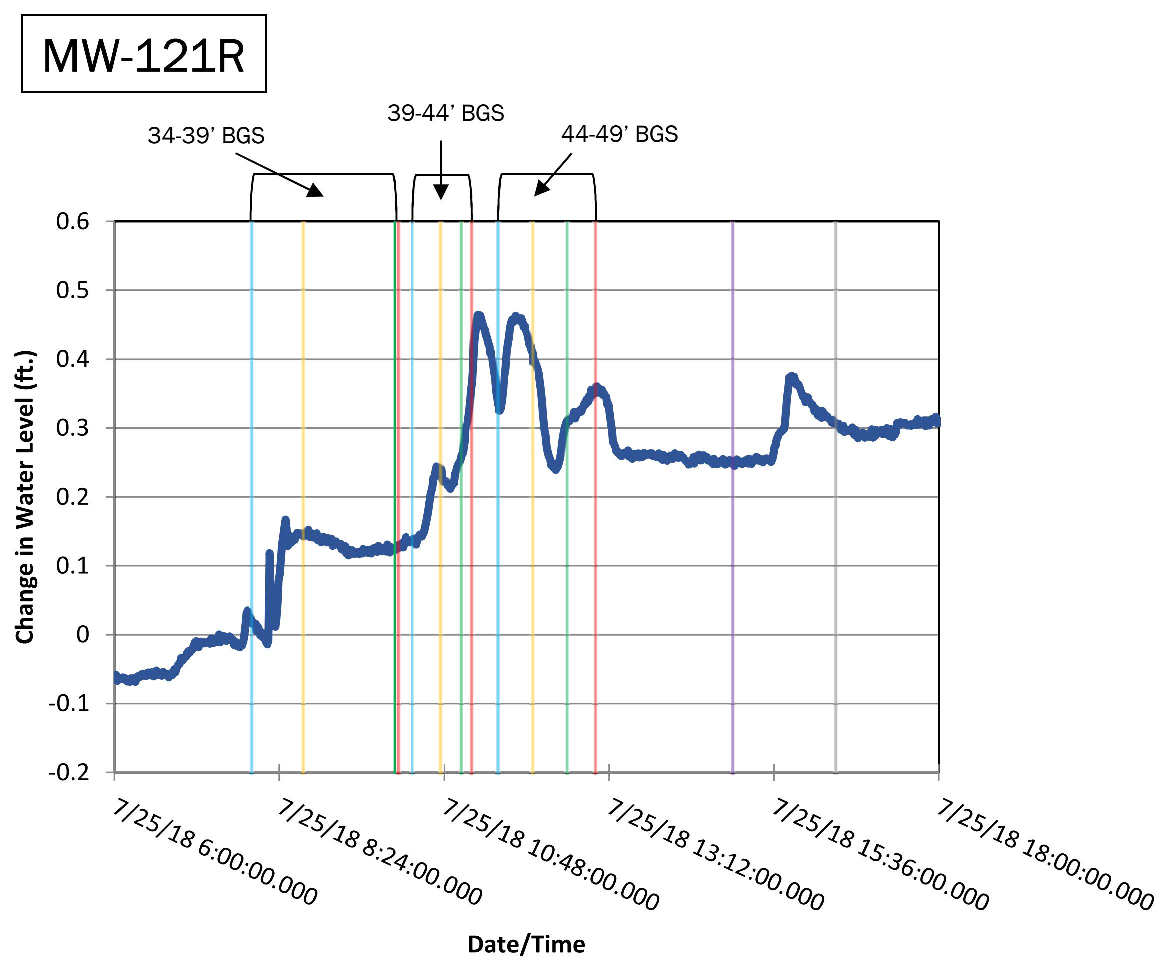
Path: \\bcusfp01\projects\National_Grid\Fulton(N_Ontario_St)\152206 - Fulton SRI Addendum _RI Report_CAD\2-SHEETS\B-GEOTECHNICAL File Name: WATER TABLE CONTOUR MAP 11-14-18 Plot Date: March 11, 2019 10:35 AM Cadd User: Robert Near

Brown AND Caldwell	SCALE: 1" = 50' DATE: October 8, 2018	NATIONAL GRID FULTON (ONTARIO ST.) FORMER MGP SITE FULTON, NEW YORK	WATER TABLE CONTOUR MAP NOVEMBER 14, 2018	FIGURE 9

152206







Legend:

- Begin Coring at MW-124R
- End Coring at MW-124R
- Begin Packer Pressure Testing at MW-124R
- End Packer Pressure Testing at MW-124R
- Begin Installation of MW-124R
- Finish Installation of MW-124R

Well ID	Water Bearing Zone	Distance from MW-124R (ft.)
MW-111R	Shallow Bedrock	75
MW-125R	Shallow Bedrock	81
MW-121R	Shallow Bedrock	176

FIGURE 10

Changes in Water Levels in Nearby Bedrock Wells During Coring and Packer Pressure Testing at MW-124R (July 25, 2018)

NATIONAL GRID
FULTON (ONTARIO ST.) FORMER MGP SITE – FULTON, NEW YORK

Brown AND Caldwell

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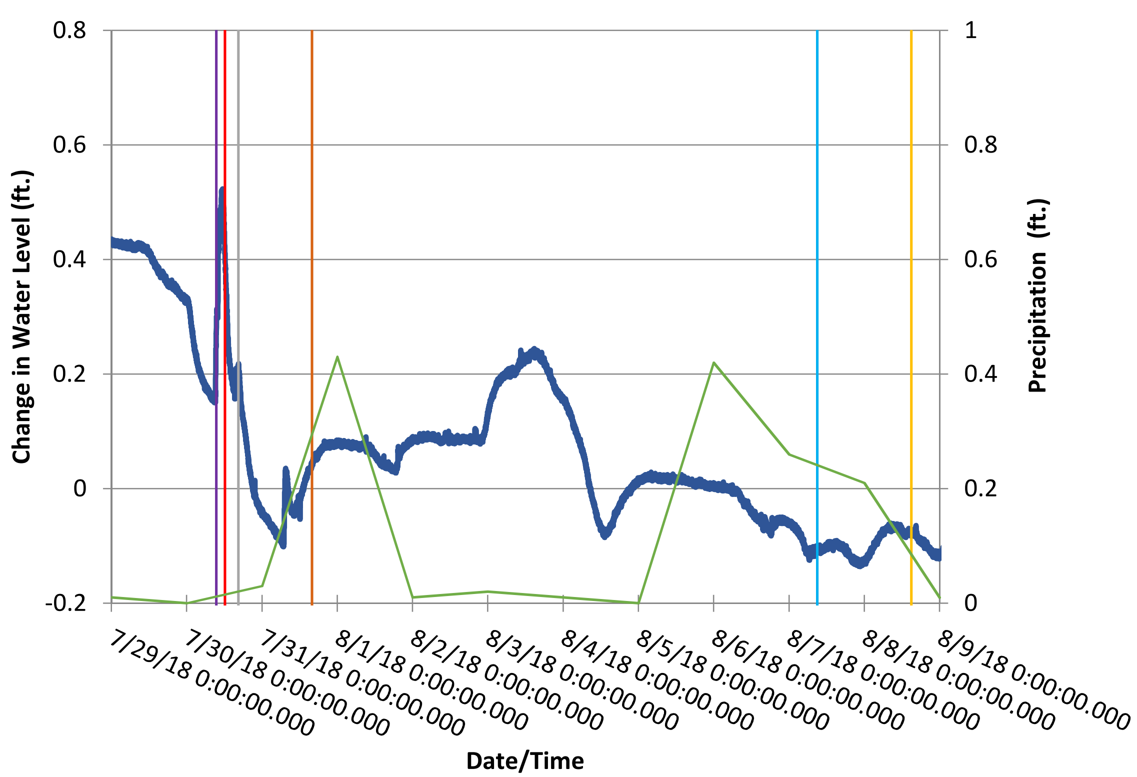
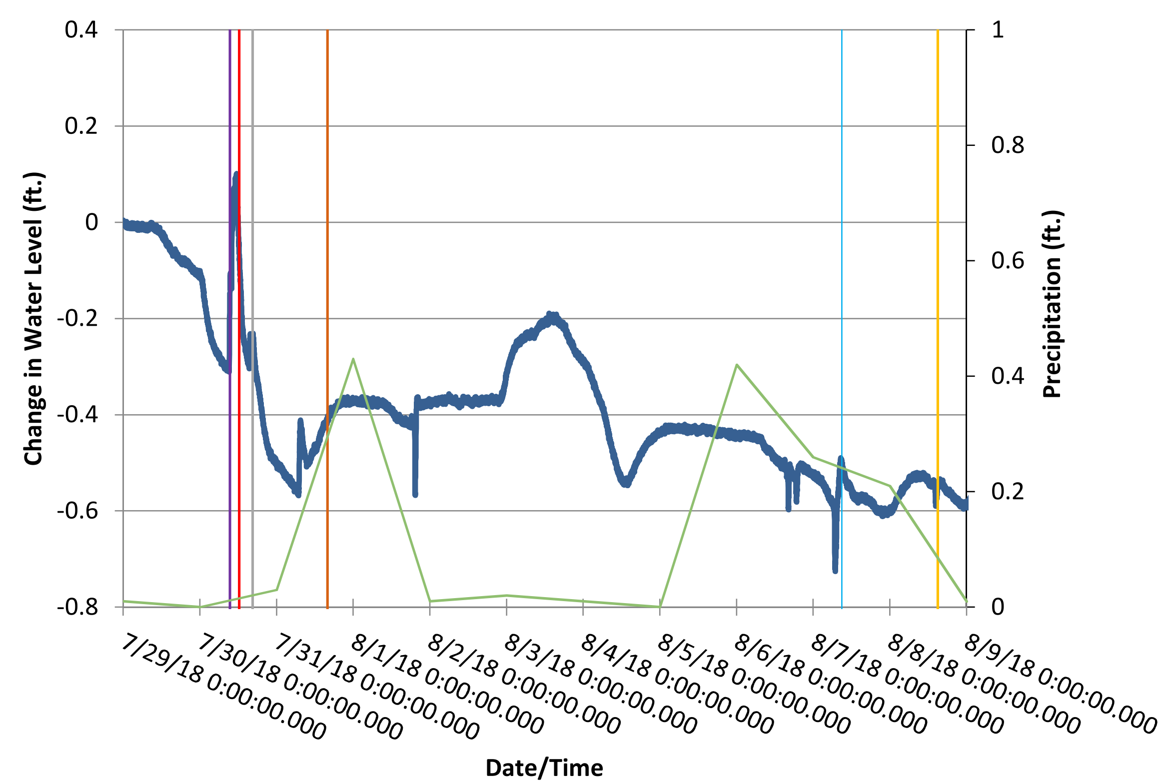
152206

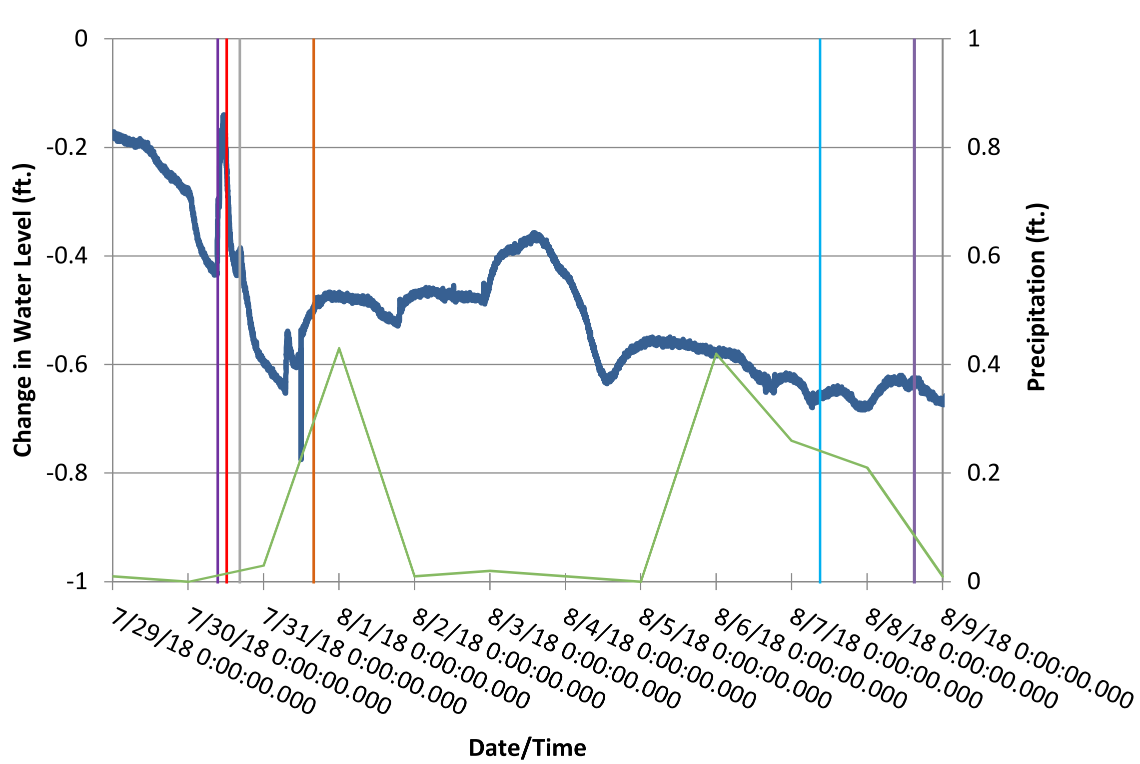
MW-125R



MW-121R



BRB-1



Legend:

- Precipitation (ft.)
- Begin Coring and Packer Pressure Testing at Intervals 45-50' BGS and 50-55' BGS at MW-122RD
- End Coring and Packer Pressure Testing at Intervals 45-50' BGS and 50-55' BGS at MW-122RD
- Reaming of Corehole at MW-122RD from 25-55' BGS.
- Isolation Casing Set at 55' BGS at MW-122RD
- Begin Coring and Packer Pressure Testing Below Isolation Casing Set at 55' BGS at MW-122RD from 55-100' BGS
- End Coring and Packer Pressure Testing Below Isolation Casing Set at 55' BGS at MW-122RD from 55-100' BGS

Well ID	Water Bearing Zone	Distance from MW-122RD (ft.)
MW-125R	Shallow Bedrock	118
MW-121R	Shallow Bedrock	167
BRB-1	Shallow Bedrock	245

FIGURE 11

Changes in Water Levels in Nearby Bedrock Wells During Coring and Packer Pressure Testing at MW-122RD (July 29, 2018 – August 8, 2018)

NATIONAL GRID
FULTON (ONTARIO ST.) FORMER MGP SITE – FULTON, NEW YORK

Brown AND Caldwell

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3/7/2019

Author: BFTaylor Path: P:\GIS\National_Grid\Fulton\fulton_visual_of_impacts_SRI_OB_2018.mxd

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FIGURE 12
VISUAL/OLFACTORY OBSERVATIONS: OVERBURDEN
NATIONAL GRID
FULTON (ONTARIO ST.) FORMER MGP SITE, FULTON, NEW YORK

0 20 40
Feet

Legend

- Manhole
- Ground Surface Elevation Contour (ft, NGVD 29)
- Site Boundary
- Property Line
- Pavement Edge
- Vegetation
- Water Line
- Storm Sewer Line
- Sanitary Sewer Line
- Gas Line
- Electric Line
- Overhead Electric Line
- Former MGP Structure Location. Locations are approximate, based on 1890 Sanborn Fire Insurance Map.

Visual/Olfactory Indications of Impact (See Notes):

- NAPL/Tar observed in bedrock monitoring well during gauging events
- Tar Saturated
- Coated Material, Lenses
- Blebs, Globs, Sheen
- Petroleum Impacts: Staining & Odors
- No Observed Impacts

Note:
1) Refer to Table 4 for descriptions and depth intervals of visual/olfactory observations.
2) NYSDEC's standard colors and associated descriptors for reporting MGP impacts were used to depict locations where impacts were observed.

Sources:
1) Base map developed based on drawing prepared by Snyder Engineering & Land Surveying, LLP (January 11, 2005). Revised by Delta Engineers, Architects, & Land Surveyors, P.C. (August 2018).
2) Aerial photo from NYSDOP 2015 survey.

3/7/2019

Author: BFTaylor Path: P:\GIS\National_Grid\Fulton\fulton_visual_of_impacts_SRI_BR_2018.mxd

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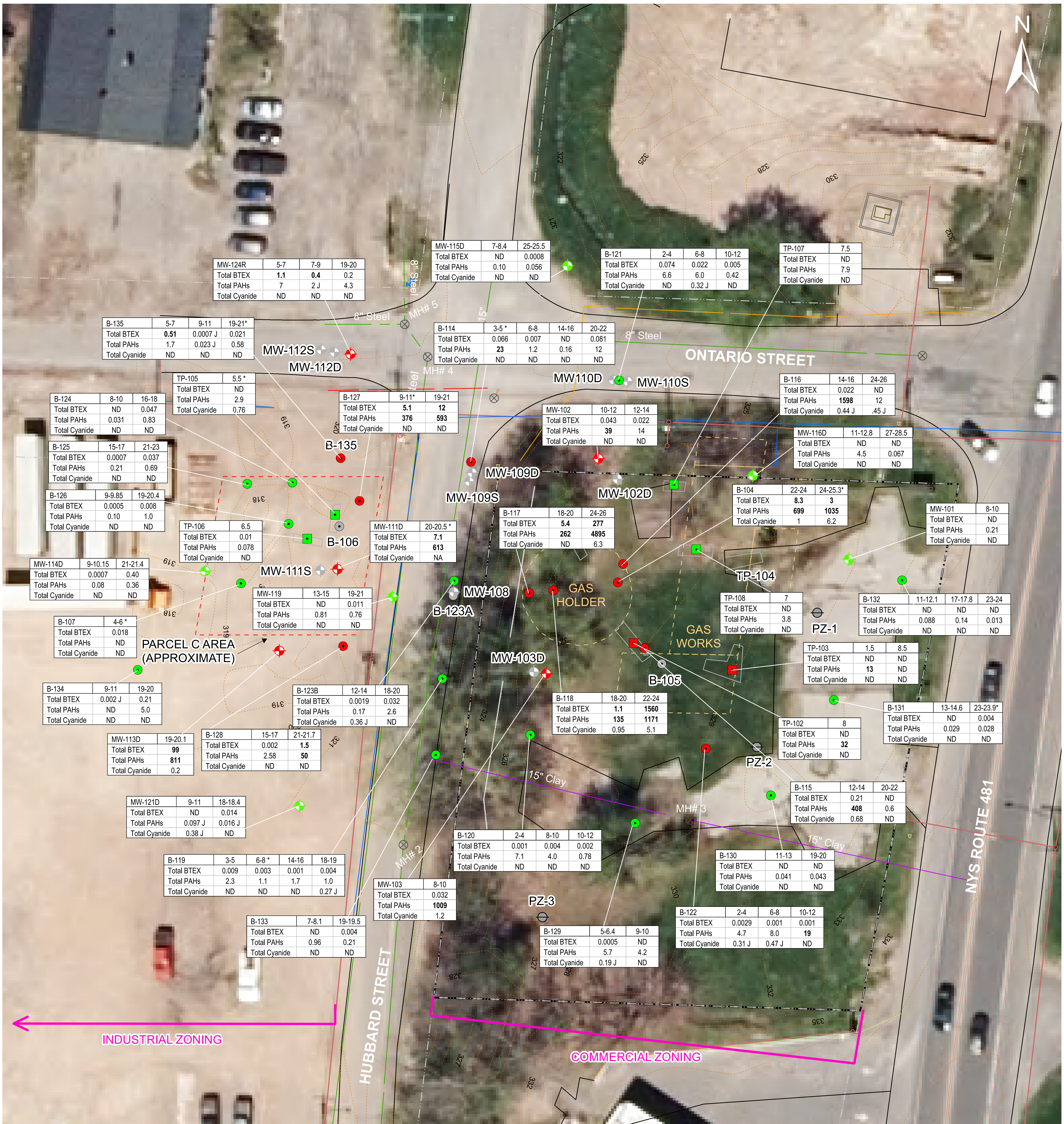
FIGURE 13
VISUAL/OLFACTORY OBSERVATIONS: BEDROCK
NATIONAL GRID
FULTON (ONTARIO ST.) FORMER MGP SITE, FULTON, NEW YORK

0 20 40
Feet



Legend

Monitoring Well: green symbol indicates no exccedance of New York State Part 375 Soil Cleanup Objectives (SCOs); red symbol indicates one or more constituents exceed SCO(s)

Soil Boring: green symbol indicates no exccedance of SCOs; red symbol indicates one or more constituents exceed SCO(s)

Test Pit Sample: green symbol indicates no exccedance of SCOs; red symbol indicates one or more constituents exceed SCO(s)

Soil Boring

Monitoring Well

Piezometer

Test Pit

Manhole

Ground Surface Elevation Contour (ft, NGVD 29)

Site Boundary

Property Line

Pavement Edge

Water Line

Vegetation

Sanitary Sewer Line

Storm Sewer Line

Overhead Electric Line

Electric Line

Gas Line

Former MGP Structure Location. Locations are approximate, based on 1890 Sanborn Fire Insurance Map.

Explanation of terms and abbreviations:
BTEX - Benzene, Toluene, Ethylbenzene, Xylenes
PAHs - Polycyclic Aromatic Hydrocarbons
J - Estimated Concentration
ND - Not Detected
NA - Not Analyzed

Bold Value - Indicates conentration of one or more constituents in a constituent group are above NYS Part 375 SCOs (Protection of Public Health for Commercially or Industrially Zoned Properties [depending on sample location]; Protection of Ecological Resources; and/or Protection of Groundwater)

Results reported in milligrams per kilogram (mg/kg)

* - Table lists the highest concentration from original and duplicate sample

Sources:
1) Base map developed based on drawing prepared by Snyder Engineering & Land Surveying, LLP (January 11, 2005); Revised by Delta Engineers, Architects, & Land Surveyors, P.C. (August 2018).

2) Aerial photo from NYSDOP 2015 survey

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FIGURE 14
BTEX, PAHS AND CYANIDE IN SUBSURFACE SOIL
NATIONAL GRID
FULTON (ONTARIO ST.) FORMER MGP SITE, FULTON, NEW YORK

0 20 40
Feet

Author: BFTaylor Path: P:\GIS\National_Grid\Fulton\fulton_subsurface_soil_quality_SRI_2x3.mxd

3/12/2019

MW-112S	Dec-12	Mar-13	Oct-15	Mar-16	Sep-18	Nov-18
Benzene	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND
Xylenes, total	ND	ND	ND	ND	ND	ND
Naphthalene	ND	ND	2	ND	ND	ND
Cyanide, total	ND	ND	ND	ND	ND	ND
MW-112D	**Dec-12**	**Mar-13**	**Oct-15**	**Mar-16**	**Sep-18**	**Nov-18**
Benzene	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND
Xylenes, total	ND	ND	ND	ND	ND	ND
Naphthalene	ND	ND	2	ND	ND	ND
Cyanide, total	ND	ND	ND	ND	ND	ND

MW-109S	Sep-07	Dec-12	Mar-13	Oct-15	Mar-16	Sep-18	Nov-18
Benzene	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND
Xylenes, total	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND	ND	ND	ND
Cyanide, total	ND	ND	ND	ND	ND	ND	ND
MW-109D	Sep-07	Dec-12	Mar-13	Oct-15	Mar-16	Sep-18*	Nov-18
Benzene	**6.6**	**2 J**	**9**	ND	ND	1	0.4 J
Toluene	ND	ND	2 J	ND	ND	0.5 J	0.5 J
Ethylbenzene	**18**	**6**	**29**	ND	ND	**7**	3
Xylenes, total	**34**	**6**	**33**	ND	ND	**7**	4
Naphthalene	**150 JD**	**28**	**150**	5	3	**20**	10
Cyanide, total	ND	ND	ND	ND	7.1 J	7.9 J	ND

MW-115D	Oct-15	Mar-16	Sep-18	Nov-18
Benzene	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylenes, total	ND	ND	ND	ND
Naphthalene	ND	ND	ND	0.1 J
Cyanide, total	ND	ND	ND	ND

MW-110S	Sep-07	Dec-12	Mar-13	Oct-15	Mar-16	Sep-18	Nov-18
Benzene	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND
Xylenes, total	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND	ND	ND	ND
Cyanide, total	ND	ND	ND	ND	ND	ND	ND
MW-110D	Sep-07	Dec-12	Mar-13 *	Oct-15	Mar-16	Sep-18	Nov-18
Benzene	ND	ND	ND	ND	ND	0.3 J	0.4 J
Toluene	ND	1 J	1 J	ND	1	2	2
Ethylbenzene	ND	4 J	4 J	ND	5	**10**	**9**
Xylenes, total	ND	**15**	**13**	0.7 J	**16**	**27**	**25**
Naphthalene	3.1	**75**	**75**	9	**76**	**130**	**98**
Cyanide, total	ND	ND	ND	ND	ND	ND	ND

MW-116D	Oct-15	Mar-16	Sep-18	Nov-18
Benzene	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylenes, total	ND	ND	ND	ND
Naphthalene	2	ND	ND	ND
Cyanide, total	ND	ND	5.5 J	ND

MW-101	Dec-04 *	Sep-07	Dec-12 **	Mar-13	Oct-15	Mar-16	Sep-18	Nov-18
Benzene	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes, total	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND
Cyanide, total	2.2 J	ND	ND	ND	ND	ND	ND	ND

MW-122S	Sep-18	Nov-18
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylenes, total	ND	ND
Naphthalene	0.1 J	ND
Cyanide, total	ND	ND

MW-122D	Sep-18	Nov-18
Benzene	0.6 J	ND
Toluene	ND	ND
Ethylbenzene	0.6 J	ND
Xylenes, total	ND	ND
Naphthalene	0.3 J	ND
Cyanide, total	ND	ND

MW-111S	Dec-12	Mar-13	Oct-15	Mar-16	Sep-18	Nov-18
Benzene	ND	ND	**25**	**15**	**6**	**29**
Toluene	ND	ND	ND	ND	ND	1
Ethylbenzene	ND	ND	4	**14**	ND	**9**
Xylenes, total	ND	ND	0.5 J	5	ND	**10**
Naphthalene	ND	ND	0.6	8	ND	5
Cyanide, total	ND	ND	8.4 J	ND	6.8 J	7.4 J
MW-111D	Dec-12	Mar-13	Oct-15	Mar-16	Sep-18	Nov-18
Benzene	**44**	**110**	**72**	**42**	**67**	**52**
Toluene	**320**	**780**	**220**	**200**	**120**	**180**
Ethylbenzene	**470**	**600**	**360**	**300**	**200**	**330**
Xylenes, total	**1400**	**2600**	**1300**	**1200**	**710**	**1000**
Naphthalene	**2800**	**4300**	7	**2000**	**950**	**1100**
Cyanide, total	98	160	15	12	27	16

MW-114D	Oct-15	Mar-16 *	Sep-18	Nov-18
Benzene	**13**	**30**	**12**	**26**
Toluene	**27**	**59**	**17**	**77**
Ethylbenzene	**51**	**280**	**29**	**120**
Xylenes, total	**120**	**540**	**57**	**250**
Naphthalene	7	**1200**	**51**	**200**
Cyanide, total	ND	ND	ND	ND

MW-113D	Oct-15	Mar16 *	Sep-18	Nov-18
Benzene	**44**	**23**	**12**	**22**
Toluene	3	2	ND	4
Ethylbenzene	**64**	**60**	2	**25**
Xylenes, total	**24**	**15**	ND	**15**
Naphthalene	**42**	10	0.3 J	3
Cyanide, total	ND	7.7 J	17	5.7 J

MW-119	Oct-15	Mar-16	Sep-18	Nov-18
Benzene	ND	ND	ND	0.2 J
Toluene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylenes, total	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND
Cyanide, total	ND	ND	ND	ND

MW-102	Dec-04	Sep-07	Dec-12	Mar-13	Oct-15	Mar-16	Sep-18	Nov-18
Benzene	**2.2 J**	ND	ND	ND	ND	ND	0.4 J	ND
Toluene	1.3 J	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	2.6 J	ND	ND	ND	ND	ND	0.5 J	ND
Xylenes, total	5.1 J	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ND	ND	0.8	0.2 J	ND	0.4 J	0.3 J	1
Cyanide, total	13.7	23	54	22	15	ND	23	24
MW-102D	Dec-12	Mar-13	Oct-15	Mar-16	Sep-18 *	Nov-18		
Benzene	0.6 J	0.5 J	ND	ND	ND	ND		
Toluene	ND	ND	ND	ND	ND	ND		
Ethylbenzene	ND	ND	ND	ND	ND	ND		
Xylenes, total	ND	ND	ND	ND	ND	ND		
Naphthalene	5	5	0.1 J	2	1	0.9		
Cyanide, total	8.2 J	5.2 J	ND	ND	ND	ND		

PZ-1	Dec-04	Sep-07	Dec-12	Mar-13	Sep-18	Nov-18
Benzene	ND	ND	ND	ND	NS	NS
Toluene	ND	ND	ND	ND	NS	NS
Ethylbenzene	ND	ND	ND	ND	NS	NS
Xylenes, total	ND	ND	ND	ND	NS	NS
Naphthalene	ND	ND	**12**	ND	NS	NS
Cyanide, total	ND	ND	ND	ND	NS	NS

MW-103	Dec-04	Sep-07 *	Dec-12	Mar-13	Oct-15	Mar-16	Sep-18	Nov-18
Benzene	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes, total	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ND	ND	0.2 J	ND	ND	ND	ND	ND
Cyanide, total	11	16	14	15	19	26	19	19
MW-103D	Dec-12	Mar-13	Oct-15	Mar-16	Sep-18	Nov-18 *		
Benzene	ND	ND	**8**	**9**	**12**	**17**		
Toluene	ND	ND	2	ND	0.3 J	2		
Ethylbenzene	3 J	ND	3	2	2	2		
Xylenes, total	**8**	ND	**7**	3	3 J	4 J		
Naphthalene	**70 J**	6	**25**	2	4	3		
Cyanide, total	15	17	20	23	23	18		

MW-121S	Sep-18	Nov-18
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylenes, total	ND	ND
Naphthalene	ND	ND
Cyanide, total	ND	ND

MW-121D	Sep-18	Nov-18
Benzene	ND	**3**
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylenes, total	ND	ND
Naphthalene	ND	0.2 J
Cyanide, total	ND	ND

MW-108	Sep-07	Dec-12	Mar-13	Oct-15	Mar-16	Sep-18	Nov-18
Benzene	**26**	ND	**31**	ND	ND	0.9 J	**3**
Toluene	ND	ND	ND	ND	ND	ND	0.5 J
Ethylbenzene	**7.3**	ND	ND	ND	ND	ND	ND
Xylenes, total	ND	ND	ND	ND	ND	ND	ND
Naphthalene	4.1 J	ND	0.2 J	ND	ND	ND	ND
Cyanide, total	56	20	13	ND	ND	16	8.5 J

MW-120D	Sep-18	Nov-18
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylenes, total	ND	ND
Naphthalene	ND	ND
Cyanide, total	ND	ND

PZ-2	Dec-04	Sep-07	Dec-12	Mar-13	Sep-18	Nov-18
Benzene	ND	ND	ND	ND	NS	NS
Toluene	ND	ND	ND	ND	NS	NS
Ethylbenzene	ND	ND	ND	ND	NS	NS
Xylenes, total	ND	ND	ND	ND	NS	NS
Naphthalene	ND	ND	ND	0.2 J	NS	NS
Cyanide, total	ND	ND	ND	ND	NS	NS

PZ-3	Dec-04	Nov-06 *	Dec-12	Sep-18	Nov-18
Benzene	ND	ND	ND	NS	NS
Toluene	**8.8 J**	4.2 J	2 J	NS	NS
Ethylbenzene	ND	ND	ND	NS	NS
Xylenes, total	ND	ND	ND	NS	NS
Naphthalene	NA	NA	0.1 J	NS	NS
Cyanide, total	NA	NA	ND	NS	NS

Legend

- Shallow Overburden Monitoring Well
- Deep Overburden Monitoring Well
- Piezometer
- Manhole
- Ground Surface Elevation Contour (ft, NGVD 29)
- Site Boundary
- Property Line
- Pavement Edge
- Vegetation
- Water Line
- Storm Sewer Line
- Sanitary Sewer Line
- Gas Line
- Electric Line
- Overhead Electric Line
- Former MGP Structure Location. Locations are approximate, based on 1890 Sanborn Fire Insurance Map.

Sources:
1) Base map developed based on drawing prepared by Snyder Engineering & Land Surveying, LLP (January 11, 2005); Revised by Delta Engineers, Architects, & Land Surveyors, P.C.(August 2018).
2) Aerial photo from NYSDOP 2015 survey

Explanation of terms and abbreviations:
ND - Not detected
NA - Not analyzed
J - Estimated concentration
D - Reported result is representative of a diluted sample analysis.

Bold Value - Indicates constituent concentration above Class GA Criterion.

Results reported in micrograms per liter (µg/L)

* - Table lists the highest concentration from original and duplicate sample
** - Duplicate sample collected

Author: BFTaylor Path: P:\GIS\National_Grid\Fulton\fulton_overburden_groundwater_quality_2X3_Landscape_SRI_DSR.mxd

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FIGURE 15
BTEX, NAPHTHALENE AND CYANIDE IN OVERBURDEN GROUNDWATER
NATIONAL GRID
FULTON (ONTARIO ST.) FORMER MGP SITE, FULTON, NEW YORK

0 20 40
Feet

MW-124R	Sep-18	Nov-18
Benzene	**4**	**8**
Toluene	**18**	**26**
Ethylbenzene	**33**	**77**
Xylenes, total	**80**	**160**
Naphthalene	**230**	**410**
Cyanide, total	ND	ND

MW-125R	Sep-18	Nov-18 *
Benzene	**11**	**5 J+**
Toluene	**75**	**38 J+**
Ethylbenzene	**100**	**63 J+**
Xylenes, total	**350**	**180 J+**
Naphthalene	**810**	**210 J**
Cyanide, total	ND	ND

MW-109R	Oct-15	Mar-16	Sep-18	Nov-18
Benzene	**7**	NS	NS	NS
Toluene	**100 J**	NS	NS	NS
Ethylbenzene	**39**	NS	NS	NS
Xylenes, total	**320**	NS	NS	NS
Naphthalene	**760**	NS	NS	NS
Cyanide, total	ND	NS	NS	NS

MW-122R	Sep-18	Nov-18
Benzene	**12**	**15 J+**
Toluene	**9**	**18 J+**
Ethylbenzene	**32**	**49 J+**
Xylenes, total	**190**	**170**
Naphthalene	0.8	**400**
Cyanide, total	ND	ND

MW-122RD	Sep-18	Nov-18
Benzene	ND	ND
Toluene	0.2 J	ND
Ethylbenzene	ND	ND
Xylenes, total	ND	ND
Naphthalene	ND	0.1 J
Cyanide, total	ND	ND

MW-111R	Oct-15	Mar-16	Sep-18	Nov-18
Benzene	**29**	**14**	**11**	**5**
Toluene	**180**	**110**	**66**	**43**
Ethylbenzene	**250**	**170**	**92**	**66**
Xylenes, total	**860**	**630**	**290**	**200**
Naphthalene	**1900**	**1800**	**700**	**17**
Cyanide, total	ND	ND	ND	ND

MW-117R	Oct-15	Mar-16	Sep-18	Nov-18
Benzene	NS	NS	NS	NS
Toluene	NS	NS	NS	NS
Ethylbenzene	NS	NS	NS	NS
Xylenes, total	NS	NS	NS	NS
Naphthalene	NS	NS	NS	NS
Cyanide, total	NS	NS	NS	NS

MW-123R	Sep-18	Nov-18
Benzene	ND	ND
Toluene	0.2 J	ND
Ethylbenzene	0.5 J	ND
Xylenes, total	ND	ND
Naphthalene	2	0.9
Cyanide, total	ND	ND

BRB-1	Oct-15	Mar-16	Sep-18	Nov-18
Benzene	**13**	**3**	**13**	**2**
Toluene	**77**	**19**	**85**	**20**
Ethylbenzene	**120**	**36**	**93**	**34**
Xylenes, total	**410**	**140**	**340**	**120**
Naphthalene	**1400**	**710**	**650**	**42**
Cyanide, total	ND	ND	ND	ND

MW-121R	Sep-18	Nov-18
Benzene	**4**	**2**
Toluene	**21**	3
Ethylbenzene	**50**	**14**
Xylenes, total	**150**	**24**
Naphthalene	**380**	**43**
Cyanide, total	ND	ND

MW-120R	Sep-18	Nov-18
Benzene	1	ND
Toluene	0.7 J	ND
Ethylbenzene	2	ND
Xylenes, total	3 J	ND
Naphthalene	4	0.4 J
Cyanide, total	ND	ND

Legend

- Bedrock Monitoring Well
- Manhole
- Ground Surface Elevation Contour (ft, NGVD 29)
- Site Boundary
- Property Line
- Pavement Edge
- Vegetation
- Water Line
- Storm Sewer Line
- Sanitary Sewer Line
- Gas Line
- Electric Line
- Overhead Electric Line
- Former MGP Structure Location. Locations are approximate, based on 1890 Sanborn Fire Insurance Map.

Explanation of terms and abbreviations:
ND - Not detected
NA - Not analyzed
J - Estimated concentration
J+ - Estimate concentration.Result is estimated high.

Bold Value - Indicates constituent concentration above Class GA Criterion.

Results reported in micrograms per liter (µg/L)

* - Table lists the highest concentration from original and duplicate sample
** - Duplicate sample collected

Sources:
1) Base map developed based on drawing prepared by Snyder Engineering & Land Surveying, LLP (January 11, 2005); Revised by Delta Engineers, Architects, & Land Surveyors, P.C.(August 2018).
2) Aerial photo from NYSDOP 2015 survey

0 20 40
Feet

3/12/2019

Author: BFTaylor Path: P:\GIS\National_Grid\Fulton\fulton_bedrock_groundwater_quality_2X3_Landscape_SRI_2018.mxd

Brown AND Caldwell

FIGURE 16
BTEX, NAPHTHALENE AND CYANIDE IN BEDROCK GROUNDWATER
NATIONAL GRID
FULTON (ONTARIO ST.) FORMER MGP SITE, FULTON, NEW YORK

Appendix A: Soil Boring and Well Construction Logs

BORING LOG

Brown and Caldwell	**Project Name:** Fulton (Ontario St.) Former MGP Site **Project Number:** 152206 **Project Location:** Fulton, NY	**Permit Number:** N/A	**Boring No.** B-134 **Page** 1 **of** 2

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
REH/Upper Saddle River, NJ	JLM	6"	NA	N/A"	20.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Split-Spoon	**Development Method:**
7/9/18 - 7/11/18	Nothnagle Drilling, Inc.	**Hammer Type:** 140 lb. Automatic	N/A

Driller:	**Drilling Method:**	**Drilling Equipment:**	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 319.42 ft.	**Easting:** 864226.3 ft. **Northing:** 1212636.8 ft. **TOC Elev:** --
S. Loranty	Split-Spoon	CME-85		

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Backfill	ppm Readings (ppm)	Remarks
		GW	**FILL** Brown cmf GRAVEL, some cmf Sand, little (-) Silt. Dry.		1		0.0	*Boring hand cleared to 5' BGS*
		GW	Dark brown cmf GRAVEL, some Sand, trace (-) Silt. Dry.		2		0.0	
		SW	Brown cmf SAND, some cmf Gravel, little Silt. Dry.		3		0.0	*Borehole backfilled with cement/bentonite grout.*
		SW	Same as above. Dry. Black coal-like pieces found throughout, breaks apart easily by hand.		4		0.1	
	315	SP	Brown mf SAND, some cmf Gravel, little Silt. Moist. Some black coal-like pieces, breaks apart easily by hand.		5		0.1	
5		SW	Dark brown cmf SAND, some mf Gravel, little Silt. Dry.	9-12-20-20	6		0.0	
		SW	**GLACIAL TILL** Red cmf SAND, some cmf Gravel, trace (-) Silt. Dry.					
		SW	Same as above. Dry.	9-12-20-20	7		0.0	
		GW	Grey cmf GRAVEL.					
		SW	Red cmf SAND, some cmf Gravel, trace Silt. Moist.					
	310	GW	Red/brown, cmf GRAVEL, some cmf Sand, little Silt. Saturated.	9-35-13-7	8		0.0	Sample (B-134-9-11) collected and submitted for analysis of BTEX, PAHs and Total Cyanide.
10								
		GW	Same as above. Saturated.	7-9-30-32	9		0.0	
		GW	Same as above. Saturated.	11-12-22-6	10		0.1	
		SW	Red/brown cmf SAND, some (-) Silt, little cmf Gravel. Saturated.					
	305							

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BORING LOG

Brown AND Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Boring No. **B-134** Page 2 of 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	ppm Readings (ppm)	Remarks
		SW	Same as above. Saturated.	6-6-8-9	11	0.0	
		SW	Same as above. Saturated.	13-11-8-8	12	0.2	
		SW	Grey/red cmf SAND, some Silt. Saturated.				Sample (B-134-19-20) collected and submitted for analysis of BTEX, PAHs and Total Cyanide.
	300	SW	Same as above. Saturated.	8-10-100/0"	13	4	
20		GW	Red cmf Gravel, little cmf Sand, trace Silt. Saturated.				Split-spoon and auger refusal on apparent top of rock at 20' BGS.
			BEDROCK				

BORING LOG

Brown AND Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Boring No. B-135 Page 1 of 2

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
REH/Upper Saddle River, NJ	JLM	6"	NA	N/A"	21.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Split-Spoon	Development Method:
7/9/18 - 7/11/18	Nothnagle Drilling, Inc.	Hammer Type: 140 lb. Automatic	N/A

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NYS Plane NAD83	Easting: 864302.0 ft.
S. Loranty	Split-Spoon	CME-85	Vert Datum: NGVD 29	Northing: 1212715.8 ft.
			Ground Surface Elev: 319.74 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	ppm Readings (ppm)	Remarks
		GW	**FILL** Brown cmf GRAVEL, some cmf Sand, trace Silt. Dry.		1	0.0	*Boring hand cleared to 5' BGS.*
		GW	Same as above. Dry.		2	0.0	
		GW	Brown cmf GRAVEL, some cmf Sand, little Silt. Dry.		3	0.0	*Borehole backfilled with cement/bentonite grout.*
		GW	Same as above. Slightly moist.		4	0.1	
	315	SW	Brown cmf SAND, some cmf Gravel, little Silt. Moist.		5	0.1	4-5' BGS: Discoloration (black) on soils.
5		SW	**GLACIAL TILL** Red cmf SAND, some cmf Gravel, trace Silt. Dry.	8-9-10-11	6	0.0	5.4-5.8' BGS: Discolored soil (black) and tar-like odor, discolored soils adhere to ziplock bag, trace amount of sheen observed on ziplock bag.
		SW	Same as above. Saturated @8.1' BGS.	7-10-12-6	7	0.0	Sample (B-135-5-7) collected and submitted for analysis of BTEX, PAHs and Total Cyanide.
	310	SW	Red cmf SAND,some (-) cmf Gravel, little Silt. Saturated.	7-10-11-16	8	0.1	
10							Sample (B-135-9-11) collected and submitted for analysis of BTEX, PAHs and Total Cyanide.
		SW	Same as above. Saturated.	11-10-16-11	9	0.0	11-13' BGS: Faint mothball -like odor.
		SW	Same as above. Saturated.	9-7-6-14	10	0.1	13-15' BGS: Moderate mothball-like odor.
		SW	Grey/red cmf SAND, little silt, trace mf Gravel. Saturated.				
	305	SW	Red cmf SAND, some Gravel, little silt. Saturated.				

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BORING LOG

Brown AND Caldwell	**Project Name:** Fulton (Ontario St.) Former MGP Site **Project Number:** 152206 **Project Location:** Fulton, NY	**Permit Number:** N/A	**Boring No.** B-135 **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	ppm Readings (ppm)	Remarks
		SW	Same as above. Saturated.	11-14-15-24	11	0.1	15-17' BGS: Moderate-strong mothball-like odor.
		SW	Same as above. Saturated.	17-33-13-12	12	0.4	17-21' BGS: Moderate mothball-like odor.
	300	SW	Same as above. Saturated.	11-18-13-12	13	0.2	
20							Sample (B-134-19-21) collected and submitted for analysis of BTEX, PAHs and Total Cyanide.
			Apparent top of bedrock based on drilling conditions.				

WELL LOG

Brown AND Caldwell	**Project Name:** Fulton (Ontario St.) Former MGP Site **Project Number:** 152206 **Project Location:** Fulton, NY	**Permit Number:** N/A	**Well No.** MW-120D **Page** 1 **of** 2

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
REH/Upper Saddle River, NJ	JLM	6"	2" PVC	0.020"	21.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:**	**Development Method:**
8/8/18 - 8/16/18	Nothnagle Drilling, Inc.	Split-Spoon **Hammer Type:** 140 lb. Automatic	Surge & Purge w/ Whale Pump. Removed apprx: 30 gal.

Driller:	**Drilling Method:**	**Drilling Equipment:**	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 325.96 ft.	**Easting:** 864374.7 ft. **Northing:** 1212570.1 ft. **TOC Elev:** 327.24 ft.
S. Loranty	HSA	CME-85		

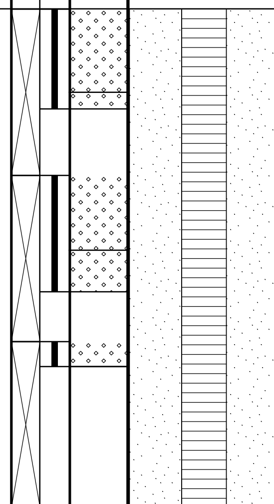
Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	ppm Readings (ppm)	Remarks
		SP	**FILL** Brown mf SAND, some Organics (leaf litter), little f Gravel. Dry. Asphalt.		1	0.0	*Boring hand cleared to 5' BGS.*
	325	SP	Brown mf SAND, some cmf Gravel, trace Silt. Dry.		2	0.0	
		SW	Brown cmf SAND and mf GRAVEL, trace Silt. Dry.		3	0.0	
		GP	Brown mf Gravel, little Sand, trace Silt. Dry.		4	0.0	
		SP	Light brown mf SAND, some mf Gravel, trace Silt. Dry.		5	0.0	
5		SW SW	Brown cmf SAND, some mf Gravel, little Silt. Dry. Red cmf SAND and GRAVEL (crushed red brick), discoloration (black) on grains, no odor. Dry.	1-2-1-4	6	1.6	*0.0-9.5' BGS: Cement/Bentonite Grout Seal.*
	320	SW	Brown cmf SAND and GRAVEL (red brick), trace Silt. Dry.	1-2-1-1	7	1.3	*0.0-15.0' BGS: 2" PVC Riser.*
		SW	Same as above. Dry.	6-5-4-22	8	0.8	
10		SW	**GLACIAL TILL** Brown/red cmf SAND, some cmf Gravel, little Silt. Dry.				*9.5-12.5' BGS: Bentonite Seal.*
	315	GW	Brown/red cmf GRAVEL, little cmf Sand, trace Silt. Saturated.	6-8-6-1	9	0.7	11-11.6' BGS: Faint mothball-like odor.
		GW	Red/brown cmf GRAVEL, little Sand, trace, Silt.	WOH-WOH-1-1	10	1.0	*12.5-13' BGS: #00 Finer Grained Filter Sand.* 13-13.2' BGS: Discoloration (black) on grains, sheen and strong mothball-like odor.

WELL LOG

Brown and Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. MW-120D

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	ppm Readings (ppm)	Remarks
		SW	Brown/red cmf SAND, some cmf Gravel, little Silt. Moist.	6-8-21-12	11	8.2	15.2-15.7' BGS: Discoloration (black), metallic luster, strong mothball-like odor.
	310	SW	Red cmf SAND, some cmf Gravel, trace Silt. Dry.				
		SW	Brown/red cmf SAND, some Silt, trace mf Gravel. Moist.	6-18-20-22	12	4.5	*15.0-21.0' BGS: 0.020" PVC Slotted Screen.*
		SW	Red/brown cmf SAND, some (-) Silt, trace (+) f Gravel. Dry. Compact.				*13.0-21.0' BGS: #1 Filter Sand.*
		SW	Same as above. Dry. **BEDROCK**	100/4"	13	1.4	17.0-17.3' BGS: Discoloration (black) sub-metallic-metallic, strong mothball-like odor. Split-spoon refusal on apparent top of rock @ 19.3' BGS.
20							
	305						

Graphic Log: Sample Int, Recovery, Lithology, Well



WELL LOG

Brown AND Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. MW-120R Page 1 of 4

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
REH/JLM/Upper Saddle River, NJ	JLM	8.25"/4"	2" PVC	0.020"	56.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: SS/Cont. Core	Development Method:
8/8/18 - 8/22/18	Nothnagle Drilling, Inc.	Hammer Type: 140 lb. Automatic	Surge & Purge w/ Whale Pump. Removed apprx: 50 gal.

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NYS Plane NAD83 Vert Datum: NGVD 29 Ground Surface Elev: 326.02 ft.	Easting: 864377.8 ft. Northing: 1212570.2 ft. TOC Elev: 327.75 ft.
S. Loranty	HSA/Rotary Core	CME-85		

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts RQD (%)	Sample No.	Sample Int	Recovery	Lithology	Well (Stick Up)	ppm Readings (ppm)	Remarks
	325		Continuous soil samples not collected from 0-24' BGS, refer to MW-120D boring log for description of soils from this interval.								*Boring hand cleared to 5' BGS.*
5	320										*0.0-26.0' BGS: 4" Steel Casing.*
10	315										*0.0-33.5' BGS: Cement/Bentonite Grout.*
											0.0-40.0' BGS: 2" PVC Riser.
											14' BGS: Discolored soils (black), strong mothball-like odors observed upon

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WELL LOG

Brown AND Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. MW-120R Page 2 of 4

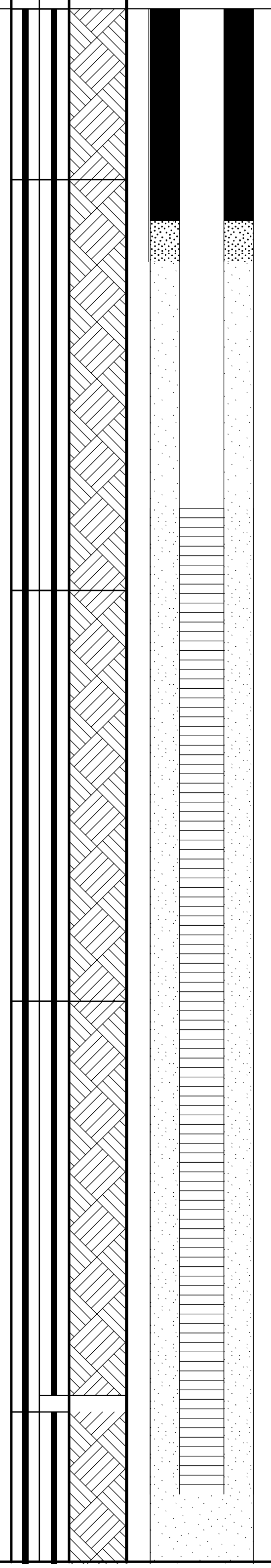
Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts RQD (%)	Sample No.	Remarks
						removal of augers
	310					
						18' BGS: Discolored soils (black), strong mothball-like odors observed upon removal of augers
20						
	305					
		BR	**BEDROCK** Red medium grained sandstone, unfractured, unweathered, thick bedded.	100%	1	
25						
	300	BR	Red medium grained sandstone, slightly fractured, slightly-moderately weathered, thick bedded. @ 26.35' Near horizontal moderately weathered fracture red mud clasts on fracture surface, grey and red silt infilling fracture. @ 26.65' Near horizontal, irregular parting surface, moderately weathered, red mud clasts on fracture surface, silt infill. @ 28.3' Inclined fracture, slightly weathered, silt infill.	71.6%	2	
30						
	295	BR	Red medium grained sandstone, moderately fractured, moderate-slightly weathered, thick bedded. @ 32.6' Grey sandstone layer. @ 32.65-32.9' Highly fractured, highly weathered sandstone, vertical and horizontal fractures, silt and gravel infill. @ 33.05' Inclined, moderately weathered fracture. @33.1', 33.15' Near horizontal fracture, moderately weathered, silt infill. @ 33.7-33.9' Grey and red mud clasts. @ 34.4'	90%	3	32.65' BGS: Slight discoloration (black) on fracture surface.

WELL LOG

Brown AND Caldwell	**Project Name:** Fulton (Ontario St.) Former MGP Site **Project Number:** 152206 **Project Location:** Fulton, NY	**Permit Number:** N/A	**Well No.** **MW-120R** **Page** 3 **of** 4

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts / RQD (%)	Sample No.	Remarks
35			Near horizontal slightly weathered fracture, red and grey mud clasts on fracture surface. @ 35.05' Near horizontal fracture, slightly weathered, red mud clasts on fracture surface. @ 35.55' Near horizontal fracture, slightly weathered.			*33.5-36.5' BGS: Bentonite Seal.*
	290	BR	Red medium grained sandstone, slightly weathered, slightly fractured, thick bedded. @ 36.3' Near horizontal slightly weathered fracture. @ 36.65', 37.55' Mechanical fracture. @ 38.5', 38.6', 40.7' Near horizontal slightly weathered fracture. @ 36.3-36.7', 37.5-37.6', 39.1-39.3' Red mud clasts.	86.6%	4	*36.5-37.0' BGS: #00 Finer Grained Filter Sand.*
40						*37.0-53.0' BGS: #1 Filter Sand.*
	285	BR	Red fine to medium grained sandstone, slightly to moderately weathered, slightly to moderately fractured, moderately hard. @ 42.91' Fracture nearly horizontal, slightly weathered, mud clasts on fracture surface. @ 43.65' Irregular surface, moderately weathered. @ 45.05' Near horizontal parting on mudstone, slightly to moderately weathered. @45.5' Near horizontal parting at siltstone/mudstone. @ 42.9-43.65' Zone with abundant mud clasts throughout.	95%	5	
45						*40.0-52.0' BGS: 0.020" PVC Slotted Screen.*
	280	BR	Reddish brown, fine to medium grained sandstone, slightly to moderately weathered, slightly hard, slightly fractured. @ 46.0' Slightly inclined fracture, moderately weathered. @49.2' Near horizontal fracture on/at siltstone bed. From 48.9-49.2' Near verticle fracture. @ 49.55' Near horizontal fracture at siltstone bed, slightly weathered. @ 50.45' Near horizontal fracture, slightly weathered.	88%	6	
50						
	275	BR	Reddish brown fine to medium grained sandstone, slightly to moderately hard, moderately weathered, slightly fractured. @ 53.05' Near horizontal fracture at mud clasts, irregular surface, moderately weathered. @ 53.35' Near horizontal	92%	7	

Graphic Log: Sample Int, Recovery, Lithology, Well; ppm Readings (ppm)



WELL LOG

Brown AND Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. MW-120R Page 4 of 4

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts RQD (%)	Sample No.	Sample Int	Recovery	Lithology	Well	ppm Readings (ppm)	Remarks
55			fracture, moderately to highly weathered. @ 53.5' Near horizontal fracture, highly irregular, mud clast zone, moderately to highly weathered.								*53.0-56.0' BGS: Corehole backfilled with bentonite chips.*

WELL LOG

Brown AND Caldwell	**Project Name:** Fulton (Ontario St.) Former MGP Site **Project Number:** 152206 **Project Location:** Fulton, NY	**Permit Number:** N/A	**Well No.** MW-121D **Page** 1 **of** 2

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
REH/Upper Saddle River, NJ	JLM	6"	2" PVC	0.020"	24.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Split Spoon	**Development Method:**
7/9/18 - 7/12/18	Nothnagle Drilling, Inc.	**Hammer Type:** 140 lb. Automatic	Surge & Purge w/ Whale Pump. Removed apprx: 40 gal.

Driller:	**Drilling Method:**	**Drilling Equipment:**	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 321.21 ft.	**Easting:** 864286.6 ft. **Northing:** 1212586.0 ft. **TOC Elev:** 320.80 ft.
S. Loranty	HSA	CME-85		

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	ppm Readings (ppm)	Remarks
		GW	**FILL** Light Brown cmf GRAVEL, some cmf Sand, little Silt. Dry.		1	0.0	*Boring hand cleared to 5' BGS.*
	320	GW	Same as above. Dry.		2	0.0	
		GW	Same as above. Dry.		3	0.0	
		SW	Brown cmf SAND, some cmf Gravel, little Silt. Moist.		4	0.0	
		SW	Same as above. Moist.		5	0.0	
5		SW	Dark brown cmf SAND, some cmf Gravel, trace Silt. Dry.	9-10-15-24	6	0.0	*0.0-10.0' BGS: Cement/Bentonite Grout Seal.*
	315		**GLACIAL TILL**				
		SW	Red cmf SAND, some cmf Gravel, little Silt. Dry.	13-50-38-17	7	0.0	*0.0-18.5' BGS: 2" PVC Riser.*
		SW	Same as above. Saturated at 10.5.	16-20-24-26	8	0.0	Sample (MW-121D-9-11) collected and submitted for analysis of BTEX, PAHs and Total Cyanide.
10							10.5-17.5' BGS: Slight mothball-like odor.
	310	SW	Same as above. Saturated.	4-7-3-3	9	0.1	*10.0-12.0' BGS: Bentonite Seal.* *12.0-2.5' BGS: #00 Finer Grained Filter Sand.*
		SW	Red cmf SAND, some (-) Silt, little cmf Gravel. Saturated.	4-7-7-7	10	0.2	*12.5-17.5' BGS: #1 Filter Sand.*

Graphic Log: Sample Int, Recovery, Lithology, Well (Traffic Rated Vault Box)

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WELL LOG

Brown and Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. MW-121D Page 2 of 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	ppm Readings (ppm)	Remarks
		SW	Same as above. Saturated.	16-16-26-16	11	0.0	*13.5-18.5' BGS: 0.020" PVC Slotted Screen.*
	305						
		SW	Same as above. Saturated.	100/5"	12	0.1	Sample (MW-121D-18-18.4) collected and submitted for analysis of BTEX, PAHs and Total Cyanide.
		SW	Same as above. Saturated. Compact.	100/2"	13		
		SW	Same as above. Compact.		14		
		SW	Same as above. Compact. Moist.	100/3"	15		Split-spoon refusal on top of weathered bedrock @ 18.4' BGS.
		BR	**BEDROCK** Red weathered sandstone. Auger down to competent bedrock.	100/4"	16		*18.5-20' BGS: Finer Grained Filter Sand.*
20							
	300						
							20.0-24.0' BGS: Corehole backfilled with bentonite chips.

WELL LOG

Brown and Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. MW-121R Page 1 of 3

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
REH/AJT/Upper Saddle River, NJ	JLM	8.25"/4"	2" PVC	0.020"	47.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: / Hammer Type:	Development Method:
7/10/18 - 7/18/18	Nothnagle Drilling, Inc.	Sampling: SS/Cont. Core Hammer Type: 140 lb. Automatic	Surge & Purge w/ Whale Pump. Removed apprx: 45 gal.

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NYS Plane NAD83 Vert Datum: NGVD 29 Ground Surface Elev: 320.98 ft.	Easting: 864275.2 ft. Northing: 1212575.3 ft. TOC Elev: 320.57 ft.
S. Loranty	HSA/Rotary Core	CME-85		

Graphic Log: Well — Traffic Rated Vault Box

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts RQD (%)	Sample No.	ppm Readings (ppm)	Remarks
	320	GW	**FILL** Brown cmf GRAVEL, some cmf Sand, trace Silt. Dry.		1	0.0	*Boring hand cleared to 5' BGS.*
		SW	Dark brown cmf SAND, some cmf Gravel, trace (+) Silt. Dry.		2	0.0	
		SW	Same as above. Dry. Some pieces of coal, breaks apart easily by hand.		3	0.0	
		SW	Dark brown cmf SAND, some cmf Gravel, little Silt. Dry.		4	0.0	*0.0-22.0' BGS: 4" Steel Casing.*
		SW	Same as above. Moist.		5	0.0	
5		SW	Brown cmf SAND, some mf Gravel, little Silt. Dry.	6-6-7-10	6	0.0	
	315	SW	**GLACIAL TILL** Red cmf SAND, some (-) cmf Gravel, little Silt. Dry.				
			Split-spoon samples not collected from 7-11' BGS. Refer to MW-121D boring log for description of soils from this interval.				
10							*0.0-28.0' BGS: Cement/Bentonite Grout.*
	310	SW	Brown cmf SAND, some cmf Gravel, little Silt. Moist from 11-11.8. Saturated from 11.8-13.	9-11-15-20	7		
			Split-spoon samples not collected from 13-17' BGS. Refer to MW-121D boring log for description of soils from this interval.				

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WELL LOG

Brown and Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. MW-121R Page 2 of 3

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts / RQD (%)	Sample No.	ppm Readings (ppm)	Remarks
	305						
		SW	Red cmf SAND, some (-) Silt, little (-) mf Gravel. Moist.	21-100/6"	8	0.0	Split-spoon refusal on apparent top of rock @ 21.6' BGS.
		SW	Same as above. Moist.	100/4"	9	0.0	
20	300	SW	Same as above. Moist.	45-100/1"	10	0.0	
		BR	**BEDROCK** Red medium grained sandstone, thinly bedded. @ 22.9' Near horizontal fracture, highly weathered. @ 23.2' Red mudstone. @ 23.2-23.3' Near horizontal fracture, silt infill, moderately weathered. @ 24.3' Near horizontal fracture moderately weathered silt infill. @ 25.6' Mechanical fracture.	73.3%	11		*0.0-31.5' BGS: 2" PVC Riser.*
25	295						*26.0-28.0' BGS: Bentonite Seal.*
		BR	Red medium grained sandstone, thinly bedded. @ 28.3' Near horizontal fracture, moderately weathered. @ 28.7' Near horizontal fracture, highly weathered, silt infill. @ 29.0' Moderately weathered verticle fracture, silt infill. @ 30.2' Likely mechanical fracture.	90%	12		*28.0-28.5' BGS: #00 Finer Grained Filter Sand.*
30	290						
		BR	Red medium grained sandstone, thinly bedded. @ 33.9-34.0' Siltstone and near horizontal moderately weathered fracture with silt on surface. @ 34.9' Moderately weathered fracture with silt infilling fracture. @ 35.3' Near horizontal fracture. @ 36.3', 36.5', 36.6' Moderately weathered fracture	86.7%	13		*28.5-41.5' BGS: #1 Filter Sand.*

WELL LOG

Brown AND Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. MW-121R Page 3 of 3

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts RQD (%)	Sample No.	ppm Readings (ppm)	Remarks
			@ 36.6' Highly weathered.				
35	285						
		BR	Red fine-medium grained sandstone. @ 39.3' Near horizontal fracture moderately weathered. @ 39.5-39.8' Siltstone. @ 39.8' Near horizontal fracture, heavily weathered. @ 40.35' Near horizontal fracture. @ 40.9' Near horizontal fracture, moderately weathered in siltstone. @ 41.4' Near horizontal moderately weathered fracture. @ 41.55', 41.65' Highly weathered fractures.	94.2%	14		37-37.5' BGS: Abundant sheen. *31.5-41.5' BGS: 0.020" PVC Slotted Screen.* 37-42' BGS: Specks of sheen observed on fracture surfaces.
40	280						40.35' BGS; Heavy sheen with two blebs of black viscous NAPL on near horizontal parting, moderate mothball-like odor.
		BR	Red medium to fine grained sandstone. @ 43.5' Steeply inclined, slightly weathered fracture. @ 44.0', 44.2', 44.6' Near horizontal, highly weathered fracture with silt infill. @ 44.0-44.3' Siltstone. @ 45.0-46.0' Siltstone. @ 44.85', 45.0', 45.1' Near horizontal, moderately weathered fracture with silt infill. @ 45.55' v-shaped fracture, appears mechanical. @ 45.65' Highly weathered near horizontal fracture. @ 45.7', 45.9' Highly weathered near horizontal fracture with silt infill. @ 46.6', 46.7' Moderately weathered near horizontal fracture.	68.3%	15		*41.5-43.5' BGS: 2' PVC sump with bentonite in annular space between borehole & sump.* 37-47' BGS: Moderate mothball-like odor observed in drilling return water.
45	275						*41.5-47.0' BGS: Corehole backfilled with bentonite chips.* 42-47' Sporadic sheen observed on outside of core, not observed on fracture surface, slight mothball-like odor, single bleb of NAPL observed on surface of drilling return water. Spots of NAPL observed sproadically on geophysical tools following removal from corehhole.

WELL LOG

Brown AND Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. **MW-121S** Page 1 of 1

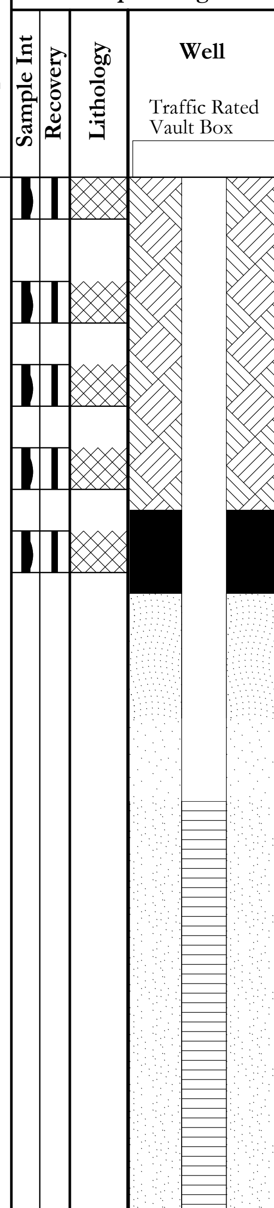
Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
REH/Upper Saddle River, NJ	JLM	6"	2" PVC	0.020"	12.5 ft.

Start/Finish Date	Drilling Contractor:	Sampling:	Development Method:
7/9/18 - 7/12/18	Nothnagle Drilling, Inc.	Split Spoon Hammer Type: 140 lb. Automatic	Surge & Purge w/ Whale Pump. Removed apprx: 15-20 gal.

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NYS Plane NAD83 Vert Datum: NGVD 29 Ground Surface Elev: 321.42 ft.	Easting: 864276.0 ft. Northing: 1212585.0 ft. TOC Elev: 321.02 ft.
S. Loranty	HSA	CME-85		

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	ppm Readings (ppm)	Remarks
		GW	**FILL** Light brown cmf GRAVEL, some cmf Sand, trace Silt. Dry.		1	0.0	*Boring hand cleared to 5' BGS.*
	320	SW	Brown cmf SAND, some cmf Gravel. Dry.		2	0.0	
		GW	Brown cmf GRAVEL, some Sand, trace (-) Silt. Dry.		3	0.0	*0.0-4.0' BGS: Cement/Bentonite Grout Seal.*
		SW	Dark brown cmf SAND, some (-) cmf Gravel, little (+) Silt. Moist.		4	0.0	*0.0-7.5' BGS: 2" PVC Riser.*
		SW	Same as above.		5	0.0	*4.0-5.0' BGS: Bentonite Seal.*
5			Split spoon samples not collected from 5-12.5' BGS. Refer to MW-121D boring log for description of soils from this interval.				*5.0-6.5' BGS: #00 Finer Grained Filter Sand.*
	315						*6.5-12.5' BGS: #1 Filter Sand.*
10							*7.5-12.5' BGS: 0.020" PVC Slotted Screen.*
	310						

Graphic Log



WELL LOG

Brown AND Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. **MW-122D** Page 1 of 2

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
REH/Upper Saddle River, NJ	JLM	6"	2" PVC	0.020"	21.4 ft.

Start/Finish Date: 7/10/18 - 8/14/18
Drilling Contractor: Nothnagle Drilling, Inc.
Sampling: SS/Cont. Core
Hammer Type: 140 lb. Automatic
Development Method: Surge & Purge w/ Whale Pump. Removed apprx: 35 gal.

Driller: S. Loranty
Drilling Method: HSA
Drilling Equipment: CME-85
Horiz Datum/Proj: NYS Plane NAD83
Vert Datum: NGVD 29
Ground Surface Elev: 319.26 ft.
Easting: 864121.5 ft.
Northing: 1212671.8 ft.
TOC Elev: 319.00 ft.

Graphic Log: Sample Int, Recovery, Lithology, Well (Traffic Rated Vault Box)

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	ppm Readings (ppm)	Remarks
		GW	**FILL** Grey/brown cmf GRAVEL, some cmf Sand, trace Silt. Dry.		1	0.0	*Boring hand cleared to 5' BGS.*
		GW	Dark brown cmf GRAVEL, some Sand, little (-) Silt. Dry.		2	0.0	
		SW	Brown cmf SAND, some (-) Silt, little cmf Gravel. Dry.		3	0.0	*0.0-12.5' BGS: Cement/Bentonite Grout Seal.*
		SW	Brown cmf SAND, some cmf Gravel, little Silt. Moist.		4	0.0	
	315	SW	Same as above.		5	0.0	
5		SW	Red/brown cmf SAND, some mf Gravel, trace Silt. Dry.	5-16-20-16	6	5.5	
		SW	Grey cmf SAND, little cmf Gravel, trace Silt. Dry				
		SW	Red cmf SAND, some mf Gravel, little (-) Silt. Dry.				
		SW	Red cmf SAND, some cmf Gravel, little (-) Silt. Moist.	8-9-7-5	7	5.3	*0.0-16.0' BGS: 2" PVC Riser.*
	310	SW	Same as above. Moist	1-1-1-WOH	8	3.2	
		SP	Brown mf SAND, little Silt, trace (+) m Gravel. Saturated.				
10							
		SP	Same as above. Saturated.	5-WOH-WOH-WOH	9	1.4	
		GP SW	Brown mf Gravel, little cmf SAND, trace-Silt. Saturated. Brown cmf SAND, trace Silt, trace (-) mf Gravel. Saturated.	1-5-8-WOH	10	2.9	*12.5-14.5' BGS: Bentonite Seal.*
	305	GW	Brown cmf GRAVEL, some cmf Sand, trace Silt. Saturated.				*14.5-15.0' BGS: #00 Finer Grained Filter Sand.*

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WELL LOG

Brown AND Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. MW-122D Page 2 of 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	ppm Readings (ppm)	Remarks
		SW	Brown cmf SAND, little mf Gravel, trace Silt. Saturated.	16-8-10-12	11	4.1	15.0-21.0' BGS: #1 Filter Sand.
		SW	Red cmf SAND. Dry. Compact.				
		SW	Brown cmf SAND, some mf Gravel, trace Silt. Saturated.	5-WOH-WOH-WOH	12	2	
	300	SW	Red/brown cmf SAND, some cmf Gravel, little Silt. Saturated.				
		SP	Brown mf SAND, little Silt, trace mf Gravel. Saturated.	4-WOH-WOH-WOH	13	2.4	16.0-21.0' BGS: 0.020" PVC Slotted Screen.
20							
		SW	Red brown cmf SAND, some Silt, trace mf Gravel. Moist. Compact.				Split-spoon refusal on apparent top of rock @ 21.0' BGS.
		SW	Red cmf SAND, some cmf Gravel, little Silt. Compact, weathered bedrock (disaggregated sandstone).	50/4"	14	5.7	

BEDROCK

WELL LOG

Brown and Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. MW-122R Page 1 of 3

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
REH/Upper Saddle River, NJ	JLM	8.25"/4"	2" PVC	0.020"	49.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling:	Development Method:
7/10/18 - 8/13/18	Nothnagle Drilling, Inc.	SS/Cont. Core Hammer Type: 140 lb. Automatic	Surge & Purge w/ Whale Pump. Removed apprx: 20 gal.

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NYS Plane NAD83 Vert Datum: NGVD 29 Ground Surface Elev: 319.33 ft.	Easting: 864122.0 ft. Northing: 1212665.0 ft. TOC Elev: 319.07 ft.
S. Loranty	HSA/Rotary Core	CME-85		

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts RQD (%)	Sample No.	ppm Readings (ppm)	Remarks
		GW	**FILL** Grey/brown cmf GRAVEL, some cmf Sand, trace Silt. Dry.		1	0.0	*Boring hand cleared to 5' BGS.*
		GW	Same as above. Dry.		2	0.0	
		SW	Brown cmf SAND, some Silt, little cmf Gravel. Moist.		3	0.0	
		SW	Same as above. Moist.		4	0.0	
	315	SW	Same as above. Moist.		5	0.0	*0.0-24.0' BGS: 4" Steel Casing.*
5			Split-spoon samples not collected from 5-21' BGS. Refer to MW-122RD boring log for description of soils from this interval.				
	310						
10							*0.0-33.5' BGS: Cement/Bentonite Grout.*
	305						

Graphic Log — Well: Traffic Rated Vault Box

WELL LOG

Brown AND Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. MW-122R Page 2 of 3

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts RQD (%)	Sample No.	ppm Readings (ppm)	Remarks
							0.0-39.0' BGS: 2" PVC Riser.
	300						
20							
	295	BR	**BEDROCK** Red medium grained sandstone, medium bedded, moderately weathered, moderately fractured. @ 24.15-24.3' Red highly fractured, disaggregated sandstone, highly weathered. @ 24.35' 24.75' Inclined fracture, slightly weathered, silt infill. @ 24.9-25.1' Highly fractured disaggregated sandstone, highly weathered. @ 25.2', 25.25', 26.2' Near horizontal fracture, slightly weathered, silt infill. @ 25.65' Near horizontal fracture, moderately weathered, red mud clasts on fracture surface. @ 25.7' Near horizontal slightly weathered fracture, silt infill. @ 27.3' Near horizontal moderately weathered fracture, grey mud clasts on fracture surface, silt infill.	66%	6		24.15-24.3' BGS: Faint fuel-like odor. 24.9-25.1' BGS: Moderate fuel-like odor.
25							
	290	BR	Red medium grained sandstone with intervals of red siltstone, slightly weathered, medium bedded, moderately fractured. @ 29.45-29.7' Red mud clasts. @ 29.55' Near horizontal slightly weathered fracture. @ 29.9-30.0' Grey sandstone, fine grained. @ 30.0-20.9' Red siltstone. @ 30.5', 30.8' Near horizontal slightly weathered fracture. @ 31.6-31.65' Grey sandstone, fine grained. @ 32.25' Near horizontal fracture, slightly weathered. @ 32.3', 32.5' Near horizontal fracture, moderately weathered, silt infill. @ 32.3-32.55', 32.1-32.25' Red mud clasts. @ 33.45' Mechanical fracture.				
30							
				91%	7		

WELL LOG

Brown AND Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. MW-122R Page 3 of 3

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts RQD (%)	Sample No.	Sample Int	Recovery	Lithology	Well	ppm Readings (ppm)	Remarks
	285	BR	Continuous core samples not collected from 34-49' BGS. Refer to MW-122RD boring log for description of bedrock from this interval.								*33.5-36.5' BGS: Bentonite Seal.*
35											
											36.5-37.0' BGS: #00 Finer Grained Sand.
											37.0-49.0' BGS: #1 Filter Sand.
	280										
40											
											39.0-49.0' BGS: 0.020" PVC Slotted Screen.
	275										
45											

WELL LOG

Brown and Caldwell	**Project Name:** Fulton (Ontario St.) Former MGP Site **Project Number:** 152206 **Project Location:** Fulton, NY	**Permit Number:** N/A	**Well No.** **MW-122RD** **Page** 1 **of** 6

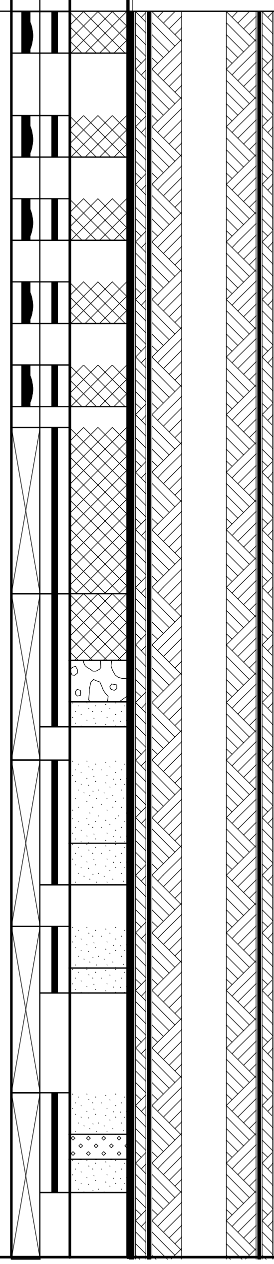
Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
REH/AJT/SW/Upper Saddle River, NJ	JLM	12"/8.25"/4"	2" PVC	0.020"	100.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** SS/Cont. Core	**Development Method:**
7/10/18 - 8/9/18	Nothnagle Drilling, Inc.	**Hammer Type:** 140 lb. Automatic	Surge & Purge w/ Whale Pump. Removed apprx: 50 gal.

Driller:	**Drilling Method:**	**Drilling Equipment:**		
S. Loranty	HSA/Rotary Core	CME-85	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 319.36 ft.	**Easting:** 864122.1 ft. **Northing:** 1212658.5 ft. **TOC Elev:** 319.10 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts / RQD (%)	Sample No.	ppm Readings (ppm)	Remarks
		GW	**FILL** Grey/brown cmf GRAVEL, some cmf Sand, trace (-) Silt. Dry.		1	0.0	*Boring hand cleared to 5' BGS.*
		GW	Brown cmf GRAVEL (some concrete fragments), some cmf Sand, trace (-) Silt. Dry.		2	0.0	
		SW	Brown cmf SAND, some cmf Gravel, little Silt. Dry.		3	0.0	
		SW	Brown cmf SAND, some Silt, trace mf Gravel. Moist.		4	0.0	*0.0-25.0' BGS: 8" Steel Casing.*
	315	SW	Brown cmf SAND, some Silt, little (+) Gravel. Moist.		5	0.0	
5		SW	**GLACIAL TILL** Brown cmf SAND, some Silt, little (-) f Gravel. Dry. Dense.	13-11-20-25	6	1.8	
		SW	Same as above. Moist.	1-69-32-5	7	1.3	
		GP	Grey/brown/red mf GRAVEL, some cmf Sand. Dry.				
		SP	Brown/grey mf SAND, some mf Gravel, little Silt. Wet @ 8.5'.				
	310	SP	Brown mf SAND, little Silt, trace f Gravel.	5-1-1-1	8	1.8	
10		SP	Brown f SAND, little Silt. Saturated.				*0.0-55.0' BGS: 4" Steel Casing.*
		SP	Brown mf SAND, some Silt, little f Gravel.	4-6-3-3	9	1.9	
		SP	Brown mf SAND, little Silt, little m Gravel. Saturated.				
		SP	Same as above. Saturated.	2-7-8-11	10	2.0	
		SW	Brown cmf SAND and mf GRAVEL.				
	305	SP	Brown mf SAND, some Silt, little mf Gravel. Saturated.				

Graphic Log (Sample Int, Recovery, Lithology, Well — Traffic Rated Vault Box)



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WELL LOG

Brown AND Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. MW-122RD Page 2 of 6

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts / RQD (%)	Sample No.	ppm Readings (ppm)	Remarks
		SP	Same as above. Saturated.	6-14-19-11	11	2.1	
		SP	Brown mf SAND, some Silt, little mf Gravel. Saturated.				
		SP	Same as above. Saturated. Dense.	8-11-18-13	12	1.7	
		SP	Brown/grey mf SAND, little Silt.				
	300	SP	Brown mf SAND, little Silt., trace f Gravel. Dense. Saturated from 19.5-19.8'.	9-19-6-12	13	1.9	
20							
		BR	Weathered brown/grey/red sandstone. **BEDROCK**	97/3"	14	0.0	Split-spoon refusal on apparent top of rock @ 21.0' BGS.
		BR	Red medium grained sandstone. @ 24.0' Near horizontal fracture, @24.5' fracture.	70%	15		
	295						
25		BR	Red medium to fine grained sandstone, highly-moderately fractured, medium bedded, slightly weathered. @ 25.4' Near horizontal fracture, slightly weathered. @ 25.8-26.0' Highly fractured disaggregated sandstone, moderate-highly weathered. @ 26.3' Near horizontal fracture, slightly weathered. @ 27.0' Mechanical fracture. @ 27.75' Near horizontal fracture, moderately weathered. @ 28.0-28.1' Highly fractured, near horizontal and inclined, moderately weathered. @ 28.35' Near horizontal fracture, slightly weathered.	74.4%	16		28.0-28.1' BGS: Near horizontal parting with strong fuel-like odor.
	290						
30		BR	Red medium to fine grained sandstone, medium bedded, slightly weathered, moderately flat fractured. @ 30.2' Near horizontal fracture, moderately weathered, disaggregated sandstone. 31.5-31.65' Red siltstone, near horizontal fractures, slightly weathered. @ 31.65-31.9' Red to grey (gradational) sandstone. @ 31.9-32.8' Red siltstone, thinly bedded. @ 32.8', 33.85', 33.9' Near horizontal, slightly weathered fracture. @ 34.25' Near horizontal, slightly weathered fracture, red mud clasts around and on fracture surface. @ 34.6-34.8' Red mud clasts.	94%	17		

WELL LOG

Brown AND Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. MW-122RD Page 3 of 6

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts RQD (%)	Sample No.	Remarks
	285					
35		BR	Red medium grained sandstone, slightly weathered, slightly fractured, thick bedded. @ 35.0-36.0' Cross bedding and sporadic red mudclasts. @ 36.9' Near horizontal fracture, slightly weathered. @ 36.9-37.2' Red mudclasts.	100%	18	
	280					
40		BR	Red medium to fine grained sandstone, moderately weathered, highly-moderately fractured, thick bedded. @ 40.3-42.65' Siltstone. @ 42.3 Near horizontal, moderately weathered fracture, silt infill. @42.5', 42.6' Near horizontal fracture, moderately weathered. @ 42.7-42.8' Grey sandstone. @ 42.8-43.4' Red Siltstone. @ 42.8', 42.9', 43.1', 43.3' Near horizontal, moderately weathered fracture. @ 44.5', 44.55' Near horizontal, slightly weathered fracture.	74%	19	42.3' BGS: Near horizontal parting with fuel-like odor.
	275					
45		BR	Red medium to fine grained sandstone, thick bedded, slightly weathered, moderately fractured. @ 45.1-45.3' Red mud clasts. @ 45.6' Near horizontal slightly weathered fracture. @47.55' Near horizontal slightly weathered fracture, red mud clasts on fracture surface. @ 47.8-48.2' Red siltstone.	88%	20	
	270					
50		BR	Red medium to fine grained sandstone, highly fractured, moderately weathered, thick bedded. @ 51.7', 52.4' Near horizontal fracture, moderately weathered, silt infill, red mud clasts on fracture surface. @ 52.1' Near horizontal slightly weathered fracture, red mud clasts on fracture surface, silt infill. @53.45', 53.5', 53.55' Near horizontal fracture, moderately weathered, silt infill. @ 53.45-53.55' Red siltstone. @ 53.65', 54.0'	70%	21	

Graphic Log columns: Sample Int, Recovery, Lithology, Well; ppm Readings (ppm) column empty.

WELL LOG

Brown AND Caldwell	**Project Name:** Fulton (Ontario St.) Former MGP Site **Project Number:** 152206 **Project Location:** Fulton, NY	**Permit Number:** N/A	**Well No.** **MW-122RD** **Page** 4 **of** 6

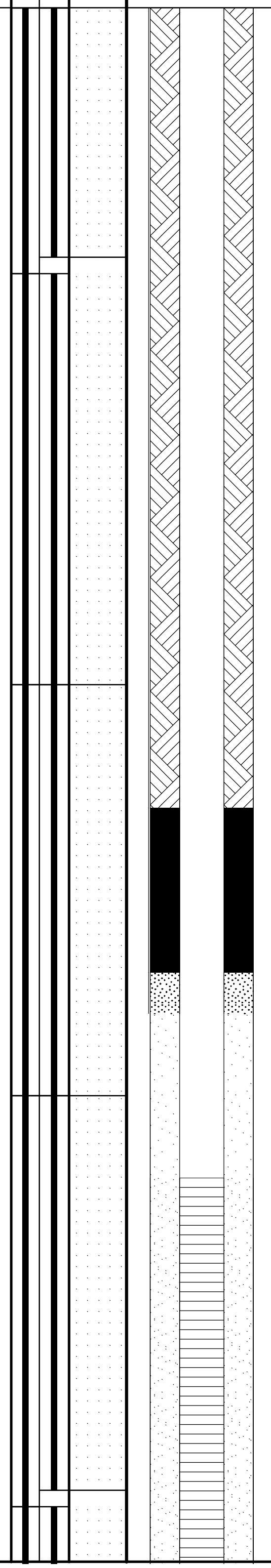
Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts RQD (%)	Sample No.	Remarks
			Near horizontal moderately weathered fracture, silt infill. @ 53.95' Mechanical fracture.			
	265					
55		BR	Red medium to fine grained sandstone, moderately fractured, slightly weathered, thick bedded. @ 55.7' Near horizontal fracture, moderately weathered, trace silt infill and slightly irregular fracture surface. @ 55.85' Near horizontal fracture, moderately weathered, trace silt infill. @ 56.15', 56.7' Near horizontal fracture, slightly weathered, trace silt infill. @ 58.2' Near horizontal fracture, moderately weathered, trace silt infill. @ 59.7' Near horizontal fracture, slightly weathered, trace silt infill.	84%	22	*0.0-81.5' BGS: Cement/Bentonite Grout Seal.*
	260					
60		BR	Red medium to fine sandstone, slightly fractured, slightly weathered, thick bedded. @ 60.85' Near horizontal fracture, slightly weathered.	100%	23	
	255					
65		BR	Red medium to fine sandstone, slightly fractured, slightly weathered, thick bedded. @ 68.85' Near horizontal fracture, moderately weathered, trace silt infill. @ 69.05' Near horizontal fracture, slightly weathered, trace silt infill.	100%	24	
	250					
70		BR	Red medium to fine sandstone, slightly fractured, moderately weathered, thick bedded. @ 70.8' Near horizontal fracture, moderately weathered, little silt infill. @71.35' Near horizontal fracture, moderately weathered.	100%	25	

Graphic Log: Sample Int, Recovery, Lithology, Well; ppm Readings (ppm)

WELL LOG

Brown AND Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. MW-122RD Page 5 of 6

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts RQD (%)	Sample No.	Graphic Log (Sample Int, Recovery, Lithology, Well)	ppm Readings (ppm)	Remarks
	245							
75		BR	Red medium to fine grained sandstone, slightly fractured, slightly weathered, thick bedded. @ 76.9', 77.85' Mechanical fracture. @ 79.5' Near horizontal fracture, moderately weathered, silt infill.	100%	26			
	240							
80		BR	Red medium to fine grained sandstone, moderately fractured, moderately weathered, thick bedding. @ 80.85' Horizontal fracture, slightly weathered. @ 80.9', 81.1' Horizontal fracture, moderately weathered, silt infill. @ 81.3' Horizontal fracture, highly weathered, multiple broken pieces. @ 82.4' Horizontal fracture, moderately weathered, silt infill. @ 83.5' Horizontal fracture, highly weathered, silt infill. @ 84.1' Horizontal fracture, slightly weathered. @ 84.35' Horizontal fracture, moderately weathered, silt infill. @84.9' Horizontal fracture, slightly weathered.	80%	27			*81.5-83.5' BGS: Bentonite Seal.* *83.5-84.0' BGS: #00 Finer grauned Filter Sand.*
	235							
85		BR	Red medium to fine sandstone, slightly fractured, slightly weathered, thick bedded. @ 85.75', 85.8' Near horizontal fracture, moderately weathered, trace silt infill. @ 88.7', 89.75' Near horizontal fracture, slightly weathered.	91%	28			*84.0-96.5' BGS: #1 Filter Sand.*
	230							
90		BR	Red medium to fine grained sandstone slightly fractured, slightly weathered, thick	98%	29			*86.0-96.0' BGS: 0.020" PVC Slotted Screen.*



WELL LOG

Brown AND Caldwell	**Project Name:** Fulton (Ontario St.) Former MGP Site **Project Number:** 152206 **Project Location:** Fulton, NY	**Permit Number:** N/A	**Well No.** **MW-122RD** **Page** 6 **of** 6

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts RQD (%)	Sample No.	Sample Int	Recovery	Lithology	Well	ppm Readings (ppm)	Remarks
			bedded. @ 90.4' Near horizontal fracture, slight to no weathering. @ 92.4' Near horizontal fracture, slightly weathered. @ 93.1' Near horizontal fracture slight to unweathered. @ 93.25' Near horizontal fracture, unweathered.								
	225										
95		BR	Red medium to fine grained sandstone, moderately fractured, moderately weathered, thick bedded. @ 96.1' Near horizontal fracture, slightly weathered. @ 96.9' Near horizontal fracture, moderately weathered, some silt infill. @ 97.2', 97.7' Near horizontal fracture, moderately weathered, some silt infill. @ 98.9', 99.1' Near horizontal fracture, slightly weathered. @ 99.5' Near horizontal fracture, moderately-highly weathered, some silt infill.	91%	30						*96.5-100.0' BGS: Corehole backfilled with bentonite chips.*
	220										
100											

WELL LOG

Brown AND Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. MW-122S Page 1 of 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
REH/Upper Saddle River, NJ	JLM	6"	2" PVC	0.020"	14.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling:	Development Method:
7/10/18 - 8/9/18	Nothnagle Drilling, Inc.	Split-Spoon Hammer Type: 140 lb. Automatic	Surge & Purge w/ Whale Pump. Removed apprx: 35 gal.

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NYS Plane NAD83 Vert Datum: NGVD 29 Ground Surface Elev: 319.17 ft.	Easting: 864121.8 ft. Northing: 1212678.2 ft. TOC Elev: 318.77 ft.
S. Loranty	HSA	CME-85		

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	ppm Readings (ppm)	Remarks
		GW	**FILL** Dark brown/grey cmf GRAVEL, some cmf Sand, trace (-) Silt. Dry.		1	0.0	*Boring hand cleared to 5' BGS.*
		GW	Dark brown cmf GRAVEL (some red brick), some cmf Sand, trace Silt. Dry.		2	0.0	
		SW	Dark brown cmf SAND, some cmf Gravel, little Silt. Dry.		3	0.0	*0.0-4.5' BGS: Cement/Bentonite Grout seal.*
		SW	Same as above. Moist.		4	0.0	
	315	GW	Same as above.		5	0.0	*4.5-6.5' BGS: Bentonite Seal.*
5			Split-spoon samples not collected from 5-14' BGS. Refer to MW-122D boring log for description of soils from this interval.				*6.5-7.0' BGS: #00 Finer Grained Filter Sand.* *0.0-8.0' BGS: 2" PVC Riser.* *7.0-14.0' BGS: #1 Filter Sand.*
	310						
10							*8.0-14.0' BGS: 0.020" PVC Slotted Screen.*

Graphic Log: Sample Int, Recovery, Lithology, Well — Traffic Rated Vault Box

WELL LOG

Brown AND Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. MW-123R Page 1 of 4

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
REH/JLM/Upper Saddle River, NJ	JLM	8.25"/4"	2" PVC	0.020"	59.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: / Hammer Type:	Development Method:
8/8/18 - 8/22/18	Nothnagle Drilling, Inc.	Sampling: SS/Cont. Core Hammer Type: 140 lb. Automatic	Surge & Purge w/ Whale Pump. Removed apprx: 30 gal.

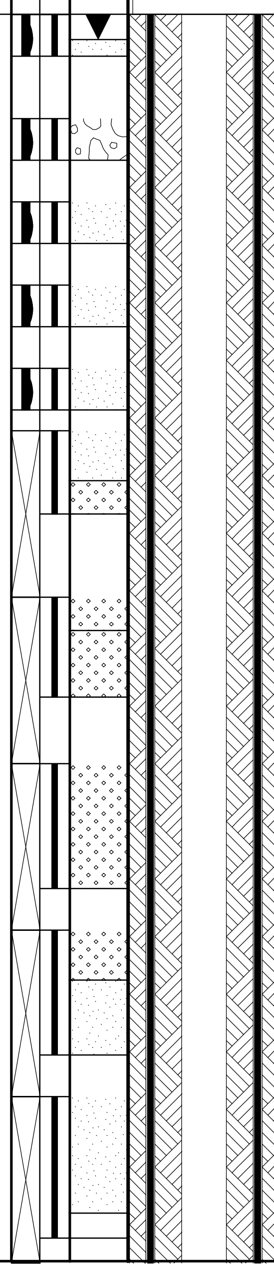
Driller:	Drilling Method:	Drilling Equipment:	Datum	Coordinates
S. Loranty	HSA/Rotary Core	CME-85	Horiz Datum/Proj: NYS Plane NAD83 Vert Datum: NGVD 29 Ground Surface Elev: 330.01 ft.	Easting: 864486.6 ft. Northing: 1212658.7 ft. TOC Elev: 329.74 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	ppm Readings (ppm)	Remarks
			FILL				
		SP	Asphalt.		1	0.0	*Boring hand cleared to 5' BGS.*
			Brown mf SAND, some cmf Gravel, trace Silt. Dry.				
		GP	Brown cm GRAVEL, some (-) cmf SAND, trace Silt. Dry.		2	0.0	
		SP	Light brown mf SAND, some cmf Gravel, trace Silt. Dry.		3	0.0	
		SP	Same as above.		4	0.0	
		SP	Same as above.		5	0.0	
5	325	SP	Dark brown mf SAND, some mf Gravel, little Silt.	6-4-4-8	6	1.1	
		SW	Tan cmf SAND, little f Gravel, trace Silt. Dry.				
		SW	Brown cmf SAND, some (-) mf Gravel, little Silt.	1-1-1-1	7	1.1	7.0-7.4' BGS: Slight sporadic discoloration (black) on sand grains.
		SW	Red/brown cmf SAND, some Silt, little f Gravel.				
		SW	Same as above.	1-2-2-2	8	1.8	7.4-11.0' BGS: Discoloration (black) sporadiclly throughtout, faint mothball-like odor.
10	320						
		SW	Brown cmf SAND, little Silt, little (-) mf Gravel. Moist.	1-2-2-3	9	1.0	11.0-11.6' BGS: Mottled discoloration (black) and faint mothball-like odor.
		SP	Red mf SAND, some Silt, trave Gravel. Moist.				11.6-12.5' BGS: Minor discoloration (black) and faint mothball-like odor.
		SP	Same as above. Moist. Saturated at 14.0' BGS.	1-3-3-5	10	0.8	
			Wood debris.				

Graphic Log

Sample Int | Recovery | Lithology | Well

Traffic Rated Vault Box



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WELL LOG

Brown and Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. MW-123R Page 2 of 4

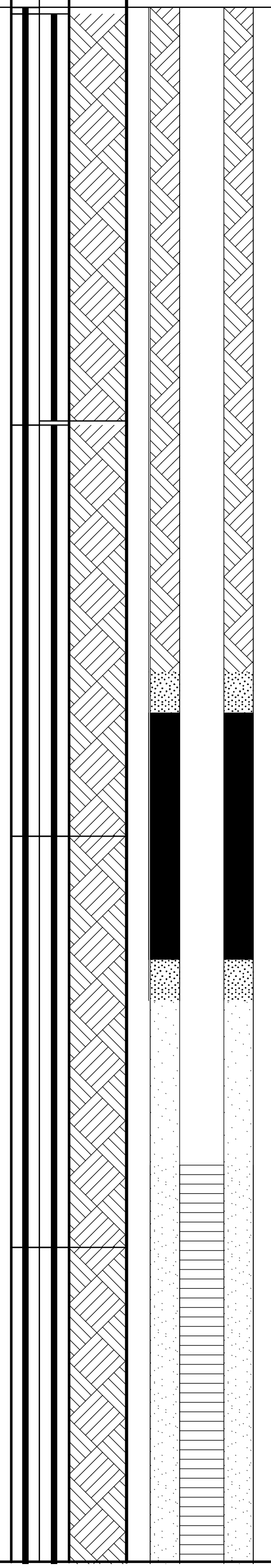
Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	ppm Readings (ppm)	Remarks
		SW	Red/brown cmf SAND, some (-) Silt, little (-) cmf Gravel. Moist.	5-3-5-7	11	0.9	13.0-14.4' BGS: Discoloration (black), mottled soils, faint mothball-like odor.
		GW	Red/brown cmf GRAVEL, some cmf Sand, trace Silt. Moist.	5-5-5-7	12	0.4	*0.0-28.0' BGS: 4" Steel Casing.*
20	310	GW	Red/grey sandsotne cobbles. Continuous core through cobble zone. No recovery.		13		*0.0-42.0' BGS: Cement/Bentonite Grout Seal.*
		SW	Red cmf SAND, some cmf Gravel, little Silt. Saturated.	1-1-1-1	14	1.1	
		SW	**GLACIAL TILL** Red cmf SAND, some mf Gravel, trace Silt. Moist.	24-18-11-12	15		
25	305	SW	Same as above. Moist.	24-60/6"	16		
		BR	**BEDROCK** Red medium grained sandstone, medium bedded, moderately weathered, moderately fractured. @ 26.5-26.7' Red mud clasts. @27.0' Near horizontal fracture, moderately weathered, silt infill. @ 27.1-27.3' Red mud clasts. @ 27.4' Inclined fracture, moderately weathered, silt infill.	66%	17		Split-spoon refusal on apparent top of rock @ 26.0' BGS.
30	300	BR	Reddish brown fine to medium grained sandstone, moderately weathered, moderately fractured, slightly to moderately hard. @ 29.15-29.2' Clay seam. @ 29.2-29.6' Heavily weathered fragmented sandstone. @ 29.65' Near horizontal, slightly weathered fracture. @ 30.0' Near horizontal fracture, moderately weathered, disaggregated bedrock (silt and sand) on fracture surface. @ 31.5' Near horizontal fracture, irregular surface, moderately weathered, minor disaggregated sandstone (sand) on fracture surface. @31.8' Near horizontal fracture, some disaggregated sandstone (sand) on fracture surface.	72%	18		

WELL LOG

Brown AND Caldwell	**Project Name:** Fulton (Ontario St.) Former MGP Site **Project Number:** 152206 **Project Location:** Fulton, NY	**Permit Number:** N/A	**Well No.** **MW-123R** **Page** 3 **of** 4

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Remarks
35	295	BR	Reddish brown fine to medium grained sandstone, slightly weathered, moderately hard, slightly fractured. @ 35.15' Near horizontal fracture at mud clasts, silt and clay infilling fracture. @ 37.0' Slightly inclined fracture, irregular surface, silt infill.	100%	19	
40	290	BR	Reddish brown fine to medium grained sandstone, slightly weathered, moderately hard, slightly fractured. @ 40.65' Near horizontal fracture at mud clasts, irregular surface, slightly weathered. @ 41.9-42.55' Cross bedded sandstone. @ 42.55', 43.6' Near horizontal fracture, slightly to moderately weathered.	100%	20	*42.0-42.5' BGS: #00 Finer Grained Filter Sand.*
45	285	BR	Reddish brown fine to medium grained sandstone, slightly weathered, slightly fractured, moderately hard. @ 44.85' Slightly inclined fracture, slightly weathered. @ 45.0' Near horizontal fracture, slightly weathered. @ 45.85 Near horizontal fracture at mud clasts, irregular surface, pitted. @ 46.3'-46.5' Mud clasts throughout. @ 48.05' Near horizontal fracture, irregular surface, slightly weathered. @ 48.55' Near horizontal fracture, slightly weathered, irregular surface, mud clasts at/on surface.	98%	21	*42.5-45.5' BGS: Bentonite Seal.* *45.5-46.0' BGS: #00 Finer Grained Filter Sand.* *46.0-56.0' BGS: #1 Filter Sand.*
50	280	BR	Reddish brown fine to medium brained sandstone. unfractured from 49.0-52.4' BGS, moderately hard, slightly weathered, moderately fractured from 52.4-54.0', moderately weathered. @ 52.4' Inclined fracture, moderately weathered. @ 52.8' Near horizontal fracture, irregular surface, mud clasts at depth. @ 52.95', 53.2' Near horizontal fracture, moderately weathered. @ 53.2'-53.4' Transition to siltstone/mudstone. @ 53.4' Near horizontal fracture, slightly weathered at transition back to sandstone. @ 53.8' Near	84%	22	*48.0-55.0' BGS: 0.020" PVC Slotted Screen.*

Graphic Log: Sample Int, Recovery, Lithology, Well



WELL LOG

Brown AND Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. MW-123R Page 4 of 4

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	ppm Readings (ppm)	Remarks
			horizontal fracture, slightly weathered. @ 52.05'-52.8' Cross bedding.					
55	275	BR	Reddish brown fine to medium grained sandstone, slightly weathered, moderately hard, slightly fractured.@55.0' Thin mudstone bed. @ 57.4' Near horizontal fracture, slightly weathered, irregular surface, mud clasts at depth. @ 57.9' Near horizontal fracture, slightly weathered, irregular surface, mud clasts at depth.	100%	23			*56.0-59.0' BGS: Corehole backfilled with bentonite chips.*

WELL LOG

Brown AND Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. **MW-124R** Page 1 of 3

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
REH/Upper Saddle River, NJ	JLM	8.25"/4"	2" PVC	0.020"	49.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling / Hammer Type	Development Method:
7/11/18 - 7/25/18	Nothnagle Drilling, Inc.	Sampling: SS/Cont. Core Hammer Type: 140 lb. Automatic	Surge & Purge w/ Whale Pump. Removed apprx: 40 gal.

Driller:	Drilling Method:	Drilling Equipment:	Datum / Elevation	Coordinates
S. Loranty	HSA/Rotary Core	CME-85	Horiz Datum/Proj: NYS Plane NAD83 Vert Datum: NGVD 29 Ground Surface Elev: 319.78 ft.	Easting: 864305.7 ft. Northing: 1212754.7 ft. TOC Elev: 319.50 ft.

Graphic Log: Sample Int, Recovery, Lithology, Well (Traffic Rated Vault Box)

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts / RQD (%)	Sample No.	ppm Readings (ppm)	Remarks
		GW	**FILL** Black cmf GRAVEL (asphalt).		1	103.2	*Boring hand cleared to 5' BGS.*
		GW	Dark brown/black cmf GRAVEL (some asphalt), some cmf Sand, trace Silt. Dry.		2	0.0	
		SW	Dark brown cmf SAND, some cmf Gravel, little (-) Silt. Dry.		3	0.0	
		SW	Dark brown cmf GRAVEL, some cmf Sand, trace (+) Silt. Dry.		4	0.0	
	315	SW	Dark brown cmf SAND, some cmf Gravel, little Silt. Dry		5		
5		SW	Black/brown cmf SAND, some mf Gravel, trace (-) Silt.	9-4-2-3	6	57.3	5.0-5.7' BGS: Fuel-like odor. Sample (MW-124R-5-7) collected and submitted for analysis of BTEX, MTBE, PAHs and Total Cyanide.
		GP	Grey mf GRAVEL, little (-) Sand, trace Silt. Dry.	5-5-3-3	7	28	7.2-7.9' BGS: Strong Fuel-like odor.
		SW	Black cmf SAND, little mf Gravel, trace Silt. Moist.				Sample (MW-124R-7-9) collected and submitted for analysis of BTEX, MTBE, PAHs and Total Cyanide.
		SW	Red cmf SAND, little Silt, trace mf Gravel. Moist.				
		SW	Black cmf SAND, some (-) mf Gravel, trace Sil.	12-9-5-14	8	34.3	9-9.6' BGS: Fuel-like odor.
10	310	SW	Red cmf SAND, little Silt, trace mf Gravel. Moist.				
		SW	Grey cmf SAND, some Silt. Dry.				
		SW	Dark brown cmf SAND, some mf Gravel, little Silt. Saturated.	19-14-8-15	9	6.6	11-11.5' BGS: Faint fuel-like odor.
		SW	Red cmf SAND, some Silt, trace mf Gravel. Moist.				
			Continuous soil samples not collected from 13-17' BGS to expedite casing installation. Refer to MW-112D boring log for description of soils from this interval.				
	305						

WELL LOG

Brown and Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. MW-124R Page 2 of 3

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts / RQD (%)	Sample No.	ppm Readings (ppm)	Remarks
							0.0-32.6.0' BGS: 4" Steel Casing.
		SW	Black cmf SAND, some (+) cmf Gravel, trace Silt. Saturated.	20-12-18-33	10	27.4	17-17.4' BGS: Faint mothball-like odor and sheen on water in split-spoon. 17.4-17.6' BGS: Discolored (black) soils. 17.4-18.7' BGS: Faint mothball-like odor.
		SW	Brown cmf SAND, some Gravel, little Silt. Saturated.				
		SW	Same as above. Saturated.	60-100/6"	11	14.1	19-19.7' BGS: Faint mothball-like odor and sporadic black discoloration, sheen on water in split-spoon. Sample (MW-124R-19-20) collected and submitted for analysis of BTEX, MTBE, PAHs and Total Cyanide.
20	300	GW GP	Multi-colored cobbles and coarse gravel, subrounded. Hollow-stem auger and rotary drill through potential cobble/gravel zone from 21-32'. Drill rig behavior within this interval indicative of drilling conditions in unconsolidated deposits (e.g., eratic movement of rig on uneven surface).		12		
							0.0-30.0' BGS: Cement/Bentonite Grout Seal.
25	295						
30	290						*30.0-33.0' BGS: Bentonite Seal.*
		BR	**BEDROCK** Red medium grained moderately weathered, medium-thick bedded, moderately fractured. @ 32.1' Near horizontal fracture, moderately weathered. @ 33.35', 33.4' Near horizontal fracture, moderately weathered.	89%	14		Auger refusal on apparent top of rock @ 32.0' BGS. 32.1' BGS: Near horizontal parting with sporadic spots of black discoloration, faint mothball-like odor. *32.9.0-33.0' BGS: #00 Finer*

WELL LOG

Brown AND Caldwell	**Project Name:** Fulton (Ontario St.) Former MGP Site **Project Number:** 152206 **Project Location:** Fulton, NY	**Permit Number:** N/A	**Well No.** **MW-124R** **Page** 3 **of** 3

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts RQD (%)	Sample No.	Remarks
35	285	BR	Red medium to fine grained sandstone, medium bedded, highly fractured, slightly weathered. @ 34.4', 34.8', 35.1' Near horizontal fractures, slightly weathered. @ 34.7' Inclined fracture, slightly weathered. @ 35.3' Near horizontal fracture, moderately weathered. @ 35.5' Near horizontal fracture, slightly weathered, highly disaggregated sandstone. @ 36.6' Near horizontal fracture, slightly weathered.	70%	15	*Grained Filter Sand.* 32-33.9' BGS: Faint mothball-like odors throughout core run.
40	280	BR	Red medium to fine grained sandstone, slightly weathered, flat highly fractured, thin-medium bedded. @ 39.4' Near horizontal fracture, moderately weathered, grey mud clast on surface. @ 39.5' Near horizontal fracture slightly weathered. @39.9' Near horizontal fracture, moderately weathered and disaggregated sandstone. @ 40.2', 40.4' Near horizontal slightly weathered fracture. @40.5- 40.85' Red siltstone. @ 40.55-40.8' Highly fractured disaggregated siltstone, moderately weathered. @ 41.0' Near horizontal fracture, slightly weathered. @ 41.3' Near horizontal fracture, moderately weathered, disaggregated, silt infill. @41.6', 42.1' Near horizontal fracture, slightly weathered. @ 43.0' Mechanical fracture.	59%	16	*33.0-45.0' BGS: #1 Filter Sand.* *35.0-45.0' BGS: 0.020" PVC Slotted Screen.*
45	275	BR	Red medium to fine grained sandstone, slightly weathered, moderately fractured, thick bedded. @ 45.2' Near horizontal fracture, slightly weathered, grey and red mud clasts on fracture surface. @ 45.4' Near horizontal fracture, slightly weathered, silt infill. @ 46.5' Near horizontal fracture, slightly weathered. @ 47.65', 48.1', 48.55' Mechanical fracture.	93%	17	*45.0-49.0' BGS: Corehole backfilled with bentonite chips.*

Graphic Log: Sample Int | Recovery | Lithology | Well

ppm Readings (ppm)

WELL LOG

Brown AND Caldwell	**Project Name:** Fulton (Ontario St.) Former MGP Site **Project Number:** 152206 **Project Location:** Fulton, NY	**Permit Number:** N/A	**Well No.** MW-125R **Page** 1 **of** 3

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
REH/Upper Saddle River, NJ	JLM	8.25"/4"	2" PVC	0.020"	47.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** / **Hammer Type:**	**Development Method:**
7/10/18 - 7/19/18	Nothnagle Drilling, Inc.	**Sampling:** SS/Cont. Core **Hammer Type:** 140 lb. Automatic	Surge & Purge w/ Whale Pump. Removed apprx: 40 gal.

Driller:	**Drilling Method:**	**Drilling Equipment:**	**Horiz Datum/Proj:** NYS Plane NAD83 **Vert Datum:** NGVD 29 **Ground Surface Elev:** 319.27 ft.	**Easting:** 864230.9 ft. **Northing:** 1212716.0 ft. **TOC Elev:** 319.03 ft.
S. Loranty	HSA/Rotary Core	CME-85		

Graphic Log: Sample Int, Recovery, Lithology, Well (Traffic Rated Vault Box)

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts / RQD (%)	Sample No.	ppm Readings (ppm)	Remarks
		GW	**FILL** Brown cmf GRAVEL, some cmf Sand, trace (-) Silt. Dry.		1	0.0	*Boring hand cleared to 5' BGS.*
		GW	Black cmf GRAVEL, some cmf Sand.		2	0.0	
		SW	Dark brown cmf SAND, some cmf Gravel, little Silt. Moist.		3	0.0	
		SP	Brown mf SAND, some silt. little cmf Gravel. Moist.		4	0.0	
	315	SP	Same as above. Moist.		5	0.0	
5		SW	Brown cmf SAND, some Silt, trace mf Gravel. Dry.	8-8-10-17	6	0.0	*0.0-28.0' BGS: 4" Steel Casing.*
		GW	Grey cmf GRAVEL, trace Silt. Dry.				
		SW	Brown cmf SAND, some cmf Gravel, trace (+) Silt. Dry.				
		SW	Same as above. Dry.	4-12-13-13	7		
		SW	Grey cmf SAND, little f Gravel, trace Silt. Dry.				
		SW	**GLACIAL TILL** Red cmf SAND, some cmf Gravel, trace (+) Silt. Saturated at 8.6.				
	310	SW	Same as above. Moist.	11-35-23-10	8	0.0	
10		SW	Red cmf GRAVEL, some cmf Sand, little Silt. Moist				
		SW	Red cmf SAND, some (-) Silt, little cmf Gravel. Saturated.	10-13-16-18	9	0.0	
							0.0-28.0' BGS: Cement/Bentonite Grout.
		SW	Same as above. Saturated from 13-13.4' BGS and moist 13.4-15'.	8-10-11-22	10	0.0	
	305						

WELL LOG

Brown and Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. MW-125R Page 2 of 3

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts / RQD (%)	Sample No.	ppm Readings (ppm)	Remarks
		SW	Same as above. Moist.	16-24-34-42	11	0.0	
		SW	Same as above. Moist.	16-26-26-30	12	2.1	17-21' BGS: Faint mothball-like odor.
	300	SW	Same as above. Moist.	19-20-24-29	13	1.2	
20		SW	Red cmf SAND, some Silt, trace mf Gravel. Moist. Compact.	18-20-20-28	14	0.8	
	295	SW	Same as above. Moist. Compact.	15-22-24-28	15	0.8	23-26' BGS: Faint mothball-like odor.
25		SW	Same as above. Moist. Compact.	21-100/6"	16	2.8	
		BR	**BEDROCK** Red moderately weathered moderately fractured sandstone. @ 26.85' Moderately weathered fracture. @ 27.0-27.2', 27.3-27.4' Highly weathered, fragmented sandstone. @28.0' Disaggregated.	75%	17		Split-spoon refusal on apparent top of rock @ 26.0' BGS. *28.0-31.0' BGS: Bentonite Seal.*
30	290	BR	Red medium to fine grained sandstone, slightly weathered, medium bedded, moderately fractured. @ 29.0' Near horizontal fracture moderately weathered, silt clasts on fracture surface. @ 29.2' Near horizontal, moderately-highly weathered fracture with silt infill. @ 29.5-29.8' Cross bedding. @ 29.8-30.6' Intervals of mud clasts. @ 30.3' Near horizontal fracture slightly weathered, silt infill.	95.8%	18		28' BGS: Trace NAPL blebs observed on surface of drilling return water, faint mothball-like odor. *31.0-31.5' BGS: #00 Finer Grained Filter Sand.*
		BR	Red medium to fine grained sandstone, slightly weathered, medium bedded, highly-moderately fractured. @ 32.25' Near horizontal fracture slightly, weathered, silt infill. @ 32.35', 32.4' Near horizontal fracture, slightly weathered. @ 33.0-33.8' Few small mud clasts. @ 34.9' Near	66%	19		

WELL LOG

Brown AND Caldwell	Project Name: Fulton (Ontario St.) Former MGP Site Project Number: 152206 Project Location: Fulton, NY	Permit Number: N/A	Well No. MW-125R Page 3 of 3

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts RQD (%)	Sample No.	Remarks
	285		horizontal fracture, slightly weathered, mud clasts on fracture surface. @ 35.4-35.9' Small-large silt clasts. @ 35.5' Near horizontal fracture, moderately weathered. @ 35.7' Near horizontal fracture, slightly weathered. @ 36.7-36.8' Mud clasts.			
35						*31.5-44.0' BGS: #1 Filter Sand.*
		BR	Red medium to fine grained sandstone with interbedded siltstone, slightly weathered, medium-thin bedded, moderately weathered fractures. @ 37.85', 38.4' Near horizontal fracture, slightly weathered, silt infill. @ 38.45' Near horizontal fracture, moderately weathered. @39.0-40.0' Siltstone, thinly bedded. @ 40.0' Near horizontal fracture, moderately weathered. @ 40.5-40.8' Highly fractured large siltstone fragments. @ 40.5-41.6' Siltstone. @ 41.1' Near horizontal fracture, moderately weathered. @ 41.5' Near horizontal fracture, highly weathered.	71%	20	
	280					
40						*34.0-44.0' BGS: 0.020" PVC Slotted Screen.*
		BR	Red medium to fine grained sandstone, slightly weathered, medium bedded, moderately weathered fractures. @ 42.0'-42.1' Disaggregated fractured sandstone. @ 43.1', 43.3', Near horizontal slightly weathered fracture. @ 44.25', 44.35', 44.5' Near horizontal moderately weathered fracture, silt infill. @ 46.2' Near horizontal slightly weathered fracture. @ 46.7' Mechanical fracture.	80	21	
	275					
45						*44.0-45.0' BGS: 1' PVC Sump with bentonite in the annular space between the borehole and sump.* *45.0-47.0' BGS: Corehole backfilled with bentonite chips.*

Graphic Log: Sample Int, Recovery, Lithology, Well; ppm Readings (ppm)

Appendix B: Packer Pressure Testing Tables

BOREHOLE PACKER HYDRAULIC CONDUCTIVITY DATA

Location	Borehole Diameter (inches)	Borehole Radius (R) (cm)	Test Interval (ft)	Length (L) (ft)	Length (L) (cm)	Injection Rate (q) (gal/min)	Injection Rate (q) (cm^3/sec)	Gauge Pressure (psi)	Approx. Depth to Groundwater (ft)	Calculated Total Head (H) (ft)	Calculated Total Head (H) (cm)	Hydraulic Conductivity (K) (cm/sec)
MW-120R												
	4	5.1	***24.0 - 31.0***	7	213	***> 5***	315.5	***8.0***	***19.8***	38.3	1167.38	> 7.5E-04
	4	5.1	***31.0 - 36.0***	5	152	***> 5***	315.5	***10.0***	***19.8***	42.9	1308.20	> 8.6E-04
	4	5.1	***36.0 - 41.0***	5	152	***< 0.05***	3.2	***12.0***	***19.8***	47.5	1449.02	< 7.7E-06
	4	5.1	***36.0 - 41.0***	5	152	***< 0.05***	3.2	***20.0***	***19.8***	66.0	2012.29	< 5.6E-06
	4	5.1	***36.0 - 41.0***	5	152	***< 0.05***	3.2	***29.0***	***19.8***	86.8	2645.97	< 4.2E-06
	4	5.1	***36.0 - 41.0***	5	152	***< 0.05***	3.2	***20.0***	***19.8***	66.0	2012.29	< 5.6E-06
	4	5.1	***36.0 - 41.0***	5	152	***< 0.05***	3.2	***12.0***	***19.8***	47.5	1449.02	< 7.7E-06
	4	5.1	***41.0 - 46.0***	5	152	***< 0.05***	3.2	***13.0***	***19.8***	49.9	1519.43	< 7.4E-06
	4	5.1	***41.0 - 46.0***	5	152	***0.06***	3.8	***23.0***	***19.8***	73.0	2223.52	6.1E-06
	4	5.1	***41.0 - 46.0***	5	152	***0.30***	18.9	***33.0***	***19.8***	96.1	2927.60	2.3E-05
	4	5.1	***41.0 - 46.0***	5	152	***0.18***	11.4	***23.0***	***19.8***	73.0	2223.52	1.8E-05
	4	5.1	***41.0 - 46.0***	5	152	***0.02***	1.3	***13.0***	***19.8***	49.9	1519.43	3.0E-06
	4	5.1	***46.0 - 51.0***	5	152	***0.58***	36.6	***15.0***	***19.8***	54.5	1660.25	7.8E-05
	4	5.1	***46.0 - 51.0***	5	152	***0.86***	54.3	***26.0***	***19.8***	79.9	2434.74	7.9E-05
	4	5.1	***46.0 - 51.0***	5	152	***0.92***	58.1	***36.0***	***19.8***	103.0	3138.83	6.6E-05
	4	5.1	***46.0 - 51.0***	5	152	***0.56***	35.3	***26.0***	***19.8***	79.9	2434.74	5.2E-05
	4	5.1	***46.0 - 51.0***	5	152	***0.23***	14.5	***15.0***	***19.8***	54.5	1660.25	3.1E-05
	4	5.1	***51.0 - 56.0***	5	152	***0.01***	0.6	***16.0***	***19.8***	56.8	1730.65	1.3E-06
	4	5.1	***51.0 - 56.0***	5	152	***0.13***	8.2	***28.0***	***19.8***	84.5	2575.56	1.1E-05
	4	5.1	***51.0 - 56.0***	5	152	***0.07***	4.4	***40.0***	***19.8***	112.2	3420.47	4.6E-06
	4	5.1	***51.0 - 56.0***	5	152	***< 0.05***	3.2	***28.0***	***19.8***	84.5	2575.56	< 4.4E-06
	4	5.1	***51.0 - 56.0***	5	152	***< 0.05***	3.2	***16.0***	***19.8***	56.8	1730.65	< 6.5E-06

Notes:
1. Field data (***in bold italics***) obtained from borehole tests.
2. Calculations made in accordance with US Bureau of Reclamation, (1990), Earth Manual, Method No. USBR 7310-89.
3. Flows (q) as low as approximately 3 cm^3/sec (0.05 gpm) could be measured with the field equipment.
4. For intervals with measurable flow (q), injection rate was averaged over five minute period.

$$K = \frac{q}{2\pi\ LH} \ln \frac{L}{r}$$

where:
K = hydraulic conductivity (cm/sec)
q = constant flow water injection rate (cm^3/sec); 3 cm^3/sec used as injection rate for intervals that did not take any water
L = test interval length (cm)
H = differential head during test (cm). H = Gravity head (H_g) + Pressure head (H_p). H_g = vertical distance from pressure gage to static groundwater level, H_p = water injection pressure from gauge.
r = radius of borehole (cm)

BOREHOLE PACKER HYDRAULIC CONDUCTIVITY DATA

Location	Borehole Diameter (inches)	Borehole Radius (R) (cm)	Test Interval (ft)	Length (L) (ft)	Length (L) (cm)	Injection Rate (q) (gal/min)	Injection Rate (q) (cm^3/sec)	Gauge Pressure (psi)	Approx. Depth to Groundwater (ft)	Calculated Total Head (H) (ft)	Calculated Total Head (H) (cm)	Hydraulic Conductivity (K) (cm/sec)
MW-121R												
	4	5.1	***22.0 - 27.0***	5	152	***0.12***	7.6	***7.4***	***19.3***	36.4	1108.68	2.4E-05
	4	5.1	***22.0 - 27.0***	5	152	***0.04***	2.5	***12.9***	***19.3***	49.1	1495.93	6.0E-06
	4	5.1	***22.0 - 27.0***	5	152	***0.24***	15.1	***18.4***	***19.3***	61.8	1883.18	2.9E-05
	4	5.1	***22.0 - 27.0***	5	152	***0.02***	1.3	***12.9***	***19.3***	49.1	1495.93	3.0E-06
	4	5.1	***22.0 - 27.0***	5	152	***< 0.05***	3.2	***7.4***	***19.3***	36.4	1108.68	< 1.0E-05
	4	5.1	***27.0 - 32.0***	5	152	***> 5***	315.5	***8.8***	***16.5***	36.8	1121.91	> 1.0E-03
	4	5.1	***32.0 - 37.0***	5	152	***> 5***	315.5	***10.4***	***16.5***	40.5	1234.56	> 9.1E-04
	4	5.1	***37.0 - 42.0***	5	152	***2.5***	157.8	***11.8***	***16.5***	43.7	1333.13	4.2E-04
	4	5.1	***42.0 - 47.0***	5	152	***> 5***	315.5	***13.4***	***16.5***	47.4	1445.79	> 7.8E-04

Notes:

1. Field data ***(in bold italics)*** obtained from borehole tests.
2. Calculations made in accordance with US Bureau of Reclamation, (1990), Earth Manual, Method No. USBR 7310-89.
3. Flows (q) as low as approximately 3 cm^3/sec (0.05 gpm) could be measured with the field equipment.
4. For intervals with measurable flow (q), injection rate was averaged over five minute period.

$$K = \frac{q}{2\pi LH} \ln \frac{L}{r}$$

where:
K = hydraulic conductivity (cm/sec)
q = constant flow water injection rate (cm^3/sec); 3 cm^3/sec used as injection rate for intervals that did not take any water
L = test interval length (cm)
H = differential head during test (cm). H = Gravity head (H_g) + Pressure head (H_p). H_g = vertical distance from pressure gage to static groundwater level, H_p = water injection pressure from gauge.
r = radius of borehole (cm)

BOREHOLE PACKER HYDRAULIC CONDUCTIVITY DATA

Location	Borehole Diameter (inches)	Borehole Radius (R) (cm)	Test Interval (ft)	Length (L) (ft)	Length (L) (cm)	Injection Rate (q) (gal/min)	Injection Rate (q) (cm^3/sec)	Gauge Pressure (psi)	Approx. Depth to Groundwater (ft)	Calculated Total Head (H) (ft)	Calculated Total Head (H) (cm)	Hydraulic Conductivity (K) (cm/sec)
MW-122R												
	4	5.1	***24.0 - 29.0***	5	152	***< 0.05***	3.2	***8.0***	***13.4***	31.9	972.31	< 1.2E-05
	4	5.1	***24.0 - 29.0***	5	152	***< 0.05***	3.2	***14.0***	***13.4***	45.8	1394.76	< 8.0E-06
	4	5.1	***24.0 - 29.0***	5	152	***1.3***	82.0	***20.0***	***13.4***	59.6	1817.22	1.6E-04
	4	5.1	***29.0 - 34.0***	5	152	***< 0.05***	3.2	***10.0***	***13.4***	36.5	1113.13	< 1.0E-05
	4	5.1	***29.0 - 34.0***	5	152	***< 0.05***	3.2	***17.0***	***13.4***	52.7	1605.99	< 7.0E-06
	4	5.1	***29.0 - 34.0***	5	152	***< 0.05***	3.2	***24.0***	***13.4***	68.9	2098.85	< 5.3E-06
	4	5.1	***29.0 - 34.0***	5	152	***< 0.05***	3.2	***17.0***	***13.4***	52.7	1605.99	< 7.0E-06
	4	5.1	***29.0 - 34.0***	5	152	***< 0.05***	3.2	***10.0***	***13.4***	36.5	1113.13	< 1.0E-05

Notes:
1. Field data ***(in bold italics)*** obtained from borehole tests.
2. Calculations made in accordance with US Bureau of Reclamation, (1990), Earth Manual, Method No. USBR 7310-89.
3. Flows (q) as low as approximately 3 cm^3/sec (0.05 gpm) could be measured with the field equipment.
4. For intervals with measurable flow (q), injection rate was averaged over five minute period.

$$K = \frac{q}{2\pi\, LH} \ln \frac{L}{r}$$

where:
K = hydraulic conductivity (cm/sec)
q = constant flow water injection rate (cm^3/sec); 3 cm^3/sec used as injection rate for intervals that did not take any water
L = test interval length (cm)
H = differential head during test (cm). H = Gravity head (H_g) + Pressure head (H_p). H_g = vertical distance from pressure gage to static groundwater level, H_p = water injection pressure from gauge.
r = radius of borehole (cm)

BOREHOLE PACKER HYDRAULIC CONDUCTIVITY DATA

Location	Borehole Diameter (inches)	Borehole Radius (R) (cm)	Test Interval (ft)	Length (L) (ft)	Length (L) (cm)	Injection Rate (q) (gal/min)	Injection Rate (q) (cm^3/sec)	Gauge Pressure (psi)	Approx. Depth to Groundwater (ft)	Calculated Total Head (H) (ft)	Calculated Total Head (H) (cm)	Hydraulic Conductivity (K) (cm/sec)
MW-122RD												
	4	5.1	35.0 - 40.0	5	152	< 0.05	3.2	11.0	11.5	36.9	1125.02	< 1.0E-05
	4	5.1	35.0 - 40.0	5	152	< 0.05	3.2	20.0	11.5	57.7	1758.70	< 6.4E-06
	4	5.1	35.0 - 40.0	5	152	< 0.05	3.2	28.0	11.5	76.2	2321.97	< 4.8E-06
	4	5.1	35.0 - 40.0	5	152	< 0.05	3.2	20.0	11.5	57.7	1758.70	< 6.4E-06
	4	5.1	35.0 - 40.0	5	152	< 0.05	3.2	11.0	11.5	36.9	1125.02	< 1.0E-05
	4	5.1	40.0 - 45.0	5	152	1.67	105.4	13.0	11.5	41.5	1265.83	3.0E-04
	4	5.1	45.0 - 50.0	5	152	< 0.05	3.2	14.0	11.5	43.8	1336.24	< 8.4E-06
	4	5.1	45.0 - 50.0	5	152	> 5.00	315.5	25.0	11.5	69.3	2110.74	> 5.3E-04
	4	5.1	50.0 - 55.0	5	152	0.07	4.4	15.8	11.5	47.9	1459.46	1.1E-05
	4	5.1	50.0 - 55.0	5	152	0.09	5.7	27.6	11.5	75.2	2290.99	8.8E-06
	4	5.1	50.0 - 55.0	5	152	0.13	8.2	39.4	11.5	102.5	3122.87	9.3E-06
	4	5.1	50.0 - 55.0	5	152	0.05	2.8	27.6	11.5	75.2	2290.99	4.4E-06
	4	5.1	50.0 - 55.0	5	152	< 0.05	3.2	15.8	11.5	47.9	1459.46	< 7.7E-06
	4	5.1	55.0 - 60.0	5	152	0.03	1.9	17.0	12.0	51.3	1562.10	4.3E-06
	4	5.1	55.0 - 60.0	5	152	0.04	2.5	30.0	12.0	81.3	2477.41	3.6E-06
	4	5.1	55.0 - 60.0	5	152	0.05	3.2	43.0	12.0	111.3	3392.73	3.3E-06
	4	5.1	55.0 - 60.0	5	152	0.02	1.3	30.0	12.0	81.3	2477.41	1.8E-06
	4	5.1	55.0 - 60.0	5	152	0.01	0.6	17.0	12.0	51.3	1562.10	1.4E-06
	4	5.1	60.0 - 65.0	5	152	< 0.05	3.2	18.7	12.0	55.2	1681.79	< 6.7E-06
	4	5.1	60.0 - 65.0	5	152	< 0.05	3.2	32.7	12.0	87.5	2667.52	< 4.2E-06
	4	5.1	60.0 - 65.0	5	152	< 0.05	3.2	46.7	12.0	119.9	3653.24	< 3.1E-06
	4	5.1	60.0 - 65.0	5	152	< 0.05	3.2	32.7	12.0	87.5	2667.52	< 4.2E-06
	4	5.1	60.0 - 65.0	5	152	< 0.05	3.2	18.7	12.0	55.2	1681.79	< 6.7E-06
	4	5.1	65.0 - 70.0	5	152	< 0.05	3.2	20.0	12.0	58.2	1773.33	< 6.3E-06
	4	5.1	65.0 - 70.0	5	152	< 0.05	3.2	35.0	12.0	92.8	2829.46	< 4.0E-06
	4	5.1	65.0 - 70.0	5	152	< 0.05	3.2	51.0	12.0	129.8	3956.00	< 2.8E-06
	4	5.1	65.0 - 70.0	5	152	< 0.05	3.2	35.0	12.0	92.8	2829.46	< 4.0E-06
	4	5.1	65.0 - 70.0	5	152	< 0.05	3.2	20.0	12.0	58.2	1773.33	< 6.3E-06

BOREHOLE PACKER HYDRAULIC CONDUCTIVITY DATA

Location	Borehole Diameter (inches)	Borehole Radius (R) (cm)	Test Interval (ft)	Length (L) (ft)	Length (L) (cm)	Injection Rate (q) (gal/min)	Injection Rate (q) (cm^3/sec)	Gauge Pressure (psi)	Approx. Depth to Groundwater (ft)	Calculated Total Head (H) (ft)	Calculated Total Head (H) (cm)	Hydraulic Conductivity (K) (cm/sec)
MW-122RD												
	4	5.1	***70.0 - 75.0***	5	152	***< 0.05***	3.2	***22.0***	***12.0***	62.8	1914.14	< 5.9E-06
	4	5.1	***70.0 - 75.0***	5	152	***< 0.05***	3.2	***38.0***	***12.0***	99.8	3040.68	< 3.7E-06
	4	5.1	***70.0 - 75.0***	5	152	***< 0.05***	3.2	***54.0***	***12.0***	136.7	4167.23	< 2.7E-06
	4	5.1	***70.0 - 75.0***	5	152	***< 0.05***	3.2	***38.0***	***12.0***	99.8	3040.68	< 3.7E-06
	4	5.1	***70.0 - 75.0***	5	152	***< 0.05***	3.2	***22.0***	***12.0***	62.8	1914.14	< 5.9E-06
	4	5.1	***75.0 - 80.0***	5	152	***0.01***	0.6	***23.0***	***12.0***	65.1	1984.55	1.1E-06
	4	5.1	***75.0 - 80.0***	5	152	***0.03***	1.9	***41.0***	***12.0***	106.7	3251.91	2.1E-06
	4	5.1	***75.0 - 80.0***	5	152	***0.13***	8.2	***58.0***	***12.0***	146.0	4448.86	6.6E-06
	4	5.1	***75.0 - 80.0***	5	152	***0.1***	6.3	***41.0***	***12.0***	106.7	3251.91	6.9E-06
	4	5.1	***75.0 - 80.0***	5	152	***< 0.05***	3.2	***23.0***	***12.0***	65.1	1984.55	< 5.6E-06
	4	5.1	***80.0 - 85.0***	5	152	***< 0.05***	3.2	***25.0***	***12.0***	69.7	2125.37	< 5.3E-06
	4	5.1	***80.0 - 85.0***	5	152	***< 0.05***	3.2	***43.0***	***12.0***	111.3	3392.73	< 3.3E-06
	4	5.1	***80.0 - 85.0***	5	152	***< 0.05***	3.2	***62.0***	***12.0***	155.2	4730.50	< 2.4E-06
	4	5.1	***80.0 - 85.0***	5	152	***< 0.05***	3.2	***43.0***	***12.0***	111.3	3392.73	< 3.3E-06
	4	5.1	***80.0 - 85.0***	5	152	***< 0.05***	3.2	***25.0***	***12.0***	69.7	2125.37	< 5.3E-06
	4	5.1	***85.0 - 90.0***	5	152	***7.96***	502.3	***26.0***	***12.0***	72.0	2195.78	8.1E-04
	4	5.1	***90.0 - 95.0***	5	152	***> 6***	378.6	***27.0***	***12.0***	74.4	2266.19	> 5.9E-04
	4	5.1	***95.0 - 100.0***	5	152	***1.2***	75.7	***29.0***	***12.0***	79.0	2407.01	1.1E-04

Notes:
1. Field data ***(in bold italics)*** obtained from borehole tests.
2. Calculations made in accordance with US Bureau of Reclamation, (1990), Earth Manual, Method No. USBR 7310-89.
3. Flows (q) as low as approximately 3 cm^3/sec (0.05 gpm) could be measured with the field equipment.
4. For intervals with measurable flow (q), injection rate was averaged over five minute period.

$$K = \frac{q}{2\pi LH} \ln \frac{L}{r}$$

where:
K = hydraulic conductivity (cm/sec)
q = constant flow water injection rate (cm^3/sec)
L = test interval length (cm)
H = differential head during test (cm). H = Gravity head (H_g) + Pressure head (H_p). H_g = vertical distance from pressure gage to static groundwater level, H_p = water injection pressure from gauge.
r = radius of borehole (cm)

BOREHOLE PACKER HYDRAULIC CONDUCTIVITY DATA

Location	Borehole Diameter (inches)	Borehole Radius (R) (cm)	Test Interval (ft)	Length (L) (ft)	Length (L) (cm)	Injection Rate (q) (gal/min)	Injection Rate (q) (cm^3/sec)	Gauge Pressure (psi)	Approx. Depth to Groundwater (ft)	Calculated Total Head (H) (ft)	Calculated Total Head (H) (cm)	Hydraulic Conductivity (K) (cm/sec)
MW-123R												
	4	5.1	29.0 - 34.0	5	152	> 5	315.5	9.0	23.0	43.7	1333.20	> 8.4E-04
	4	5.1	34.0 - 39.0	5	152	< 0.05	3.2	11.0	23.0	48.4	1474.01	< 7.6E-06
	4	5.1	34.0 - 39.0	5	152	< 0.05	3.2	19.0	23.0	66.8	2037.28	< 5.5E-06
	4	5.1	34.0 - 39.0	5	152	0.02	1.3	27.0	23.0	85.3	2600.55	1.7E-06
	4	5.1	34.0 - 39.0	5	152	< 0.05	3.2	19.0	23.0	66.8	2037.28	< 5.5E-06
	4	5.1	34.0 - 39.0	5	152	< 0.05	3.2	11.0	23.0	48.4	1474.01	< 7.6E-06
	4	5.1	39.0 - 44.0	5	152	< 0.05	3.2	12.0	23.0	50.7	1544.42	< 7.3E-06
	4	5.1	39.0 - 44.0	5	152	< 0.05	3.2	22.0	23.0	73.8	2248.51	< 5.0E-06
	4	5.1	39.0 - 44.0	5	152	0.02	1.3	31.0	23.0	94.6	2882.19	1.6E-06
	4	5.1	39.0 - 44.0	5	152	0.03	1.9	22.0	23.0	73.8	2248.51	3.0E-06
	4	5.1	39.0 - 44.0	5	152	< 0.05	3.2	12.0	23.0	50.7	1544.42	< 7.3E-06
	4	5.1	44.0 - 49.0	5	152	< 0.05	3.2	14.0	23.0	55.3	1685.24	< 6.7E-06
	4	5.1	44.0 - 49.0	5	152	< 0.05	3.2	24.0	23.0	78.4	2389.33	< 4.7E-06
	4	5.1	44.0 - 49.0	5	152	0.01	0.6	35.0	23.0	103.8	3163.82	7.1E-07
	4	5.1	44.0 - 49.0	5	152	< 0.05	3.2	24.0	23.0	78.4	2389.33	< 4.7E-06
	4	5.1	44.0 - 49.0	5	152	< 0.05	3.2	14.0	23.0	55.3	1685.24	< 6.7E-06
	4	5.1	49.0 - 54.0	5	152	0.05	3.2	16.0	23.0	59.9	1826.06	6.1E-06
	4	5.1	49.0 - 54.0	5	152	0.15	9.5	27.0	23.0	85.3	2600.55	1.3E-05
	4	5.1	49.0 - 54.0	5	152	0.79	49.8	39.0	23.0	113.0	3445.46	5.1E-05
	4	5.1	49.0 - 54.0	5	152	0.53	33.4	27.0	23.0	85.3	2600.55	4.6E-05
	4	5.1	49.0 - 54.0	5	152	0.31	19.6	16.0	23.0	59.9	1826.06	3.8E-05
	4	5.1	54.0 - 59.0	5	152	< 0.05	3.2	17.0	23.0	62.2	1896.47	< 5.9E-06
	4	5.1	54.0 - 59.0	5	152	0.04	2.5	30.0	23.0	92.3	2811.78	3.2E-06
	4	5.1	54.0 - 59.0	5	152	0.10	6.3	42.0	23.0	120.0	3656.69	6.1E-06
	4	5.1	54.0 - 59.0	5	152	0.03	1.9	30.0	23.0	92.3	2811.78	2.4E-06
	4	5.1	54.0 - 59.0	5	152	< 0.05	3.2	17.0	23.0	62.2	1896.47	< 5.9E-06

Notes:

1. Field data ***(in bold italics)*** obtained from borehole tests.
2. Calculations made in accordance with US Bureau of Reclamation, (1990), Earth Manual, Method No. USBR 7310-89.
3. Flows (q) as low as approximately 3 cm^3/sec (0.05 gpm) could be measured with the field equipment.
4. For intervals with measurable flow (q), injection rate was averaged over five minute period.

$$K = \frac{q}{2\pi LH} \ln \frac{L}{r}$$

where:
K = hydraulic conductivity (cm/sec)
q = constant flow water injection rate (cm^3/sec); 3 cm^3/sec used as injection rate for intervals that did not take any water
L = test interval length (cm)
H = differential head during test (cm). H = Gravity head (H_g) + Pressure head (H_p). H_g = vertical distance from pressure gage to static groundwater level, H_p = water injection pressure from gauge.
r = radius of borehole (cm)

BOREHOLE PACKER HYDRAULIC CONDUCTIVITY DATA

Location	Borehole Diameter (inches)	Borehole Radius (R) (cm)	Test Interval (ft)	Length (L) (ft)	Length (L) (cm)	Injection Rate (q) (gal/min)	Injection Rate (q) (cm^3/sec)	Gauge Pressure (psi)	Approx. Depth to Groundwater (ft)	Calculated Total Head (H) (ft)	Calculated Total Head (H) (cm)	Hydraulic Conductivity (K) (cm/sec)
MW-124R												
	4	5.1	***34.0 - 39.0***	5	152	***> 5***	315.5	***11.0***	***11.6***	37.0	1126.54	> 1.0E-03
	4	5.1	***39.0 - 44.0***	5	152	***0.33***	20.8	***12.0***	***11.6***	39.3	1196.95	6.2E-05
	4	5.1	***39.0 - 44.0***	5	152	***1.06***	66.9	***22.0***	***11.6***	62.4	1901.04	1.3E-04
	4	5.1	***44.0 - 49.0***	5	152	***0.10***	6.3	***14.0***	***11.6***	43.9	1337.77	1.7E-05
	4	5.1	***44.0 - 49.0***	5	152	***0.23***	14.5	***24.5***	***11.6***	68.1	2077.06	2.5E-05
	4	5.1	***44.0 - 49.0***	5	152	***0.29***	18.3	***35.0***	***11.6***	92.4	2816.35	2.3E-05
	4	5.1	***44.0 - 49.0***	5	152	***0.13***	8.2	***24.5***	***11.6***	68.1	2077.06	1.4E-05
	4	5.1	***44.0 - 49.0***	5	152	***0.1***	6.3	***14.0***	***11.6***	43.9	1337.77	1.7E-05

Notes:
1. Field data ***(in bold italics)*** obtained from borehole tests.
2. Calculations made in accordance with US Bureau of Reclamation, (1990), Earth Manual, Method No. USBR 7310-89.
3. Flows (q) as low as approximately 3 cm^3/sec (0.05 gpm) could be measured with the field equipment.
4. For intervals with measurable flow (q), injection rate was averaged over five minute period.

$$K = \frac{q}{2\pi LH} \ln \frac{L}{r}$$

where:
K = hydraulic conductivity (cm/sec)
q = constant flow water injection rate (cm^3/sec)
L = test interval length (cm)
H = differential head during test (cm). H = Gravity head (H_g) + Pressure head (H_p). H_g = vertical distance from pressure gage to static groundwater level, H_p = water injection pressure from gauge.
r = radius of borehole (cm)

BOREHOLE PACKER HYDRAULIC CONDUCTIVITY DATA

Location	Borehole Diameter (inches)	Borehole Radius (R) (cm)	Test Interval (ft)			Length (L) (ft)	Length (L) (cm)	Injection Rate (q) (gal/min)	Injection Rate (q) (cm^3/sec)	Gauge Pressure (psi)	Approx. Depth to Groundwater (ft)	Calculated Total Head (H) (ft)	Calculated Total Head (H) (cm)	Hydraulic Conductivity (K) (cm/sec)
MW-125R														
	4	5.1	***28.0***	-	***32.0***	4	122	***0.58***	36.6	***9.0***	***11.9***	32.6	994.87	1.5E-04
	4	5.1	***28.0***	-	***32.0***	4	122	***> 5***	315.5	***15.8***	***11.9***	48.2	1470.13	> 8.9E-04
	4	5.1	***32.0***	-	***37.0***	5	152	***< 0.05***	3.2	***10.3***	***10.9***	34.6	1055.92	< 1.1E-05
	4	5.1	***32.0***	-	***37.0***	5	152	***< 0.05***	3.2	***18.1***	***10.9***	52.7	1605.11	< 7.0E-06
	4	5.1	***32.0***	-	***37.0***	5	152	***< 0.05***	3.2	***25.9***	***10.9***	70.7	2154.30	< 5.2E-06
	4	5.1	***32.0***	-	***37.0***	5	152	***< 0.05***	3.2	***18.1***	***10.9***	52.7	1605.11	< 7.0E-06
	4	5.1	***32.0***	-	***37.0***	5	152	***< 0.05***	3.2	***10.3***	***10.9***	34.6	1055.92	< 1.1E-05
	4	5.1	***42.0***	-	***47.0***	5	152	***< 0.05***	3.2	***13.4***	***10.9***	41.8	1274.19	< 8.8E-06
	4	5.1	***42.0***	-	***47.0***	5	152	***< 0.05***	3.2	***23.8***	***10.9***	65.8	2006.44	< 5.6E-06
	4	5.1	***42.0***	-	***47.0***	5	152	***< 0.05***	3.2	***33.4***	***10.9***	88.0	2682.36	< 4.2E-06
	4	5.1	***42.0***	-	***47.0***	5	152	***< 0.05***	3.2	***23.8***	***10.9***	65.8	2006.44	< 5.6E-06
	4	5.1	***42.0***	-	***47.0***	5	152	***< 0.05***	3.2	***13.4***	***10.9***	41.8	1274.19	< 8.8E-06

Notes:
1. Field data ***(in bold italics)*** obtained from borehole tests.
2. Calculations made in accordance with US Bureau of Reclamation, (1990), Earth Manual, Method No. USBR 7310-89.
3. Flows (q) as low as approximately 3 cm^3/sec (0.05 gpm) could be measured with the field equipment.
4. For intervals with measurable flow (q), injection rate was averaged over five minute period.

$$K = \frac{q}{2\pi LH} \ln \frac{L}{r}$$

where:
K = hydraulic conductivity (cm/sec)
q = constant flow water injection rate (cm^3/sec); 3 cm^3/sec used as injection rate for intervals that did not take any water
L = test interval length (cm)
H = differential head during test (cm). H = Gravity head (H_g) + Pressure head (H_p). H_g = vertical distance from pressure gage to static groundwater level, H_p = water injection pressure from gauge.
r = radius of borehole (cm)

Appendix C: Geophysical Logs

Brown AND Caldwell

PROJECT: *Fulton (N Ontario St.) Former MGP*

TEST TYPE: *Borehole Geophysics*

WELL ID: *MW-120R*

SURFACE CASING: *Base of 4" casing:26' BGS*

LOCATION: *Fulton, NY*

BOREHOLE DIAMETER: *4" from 26'-59' BGS*

TEST DATE: *8/22/18*

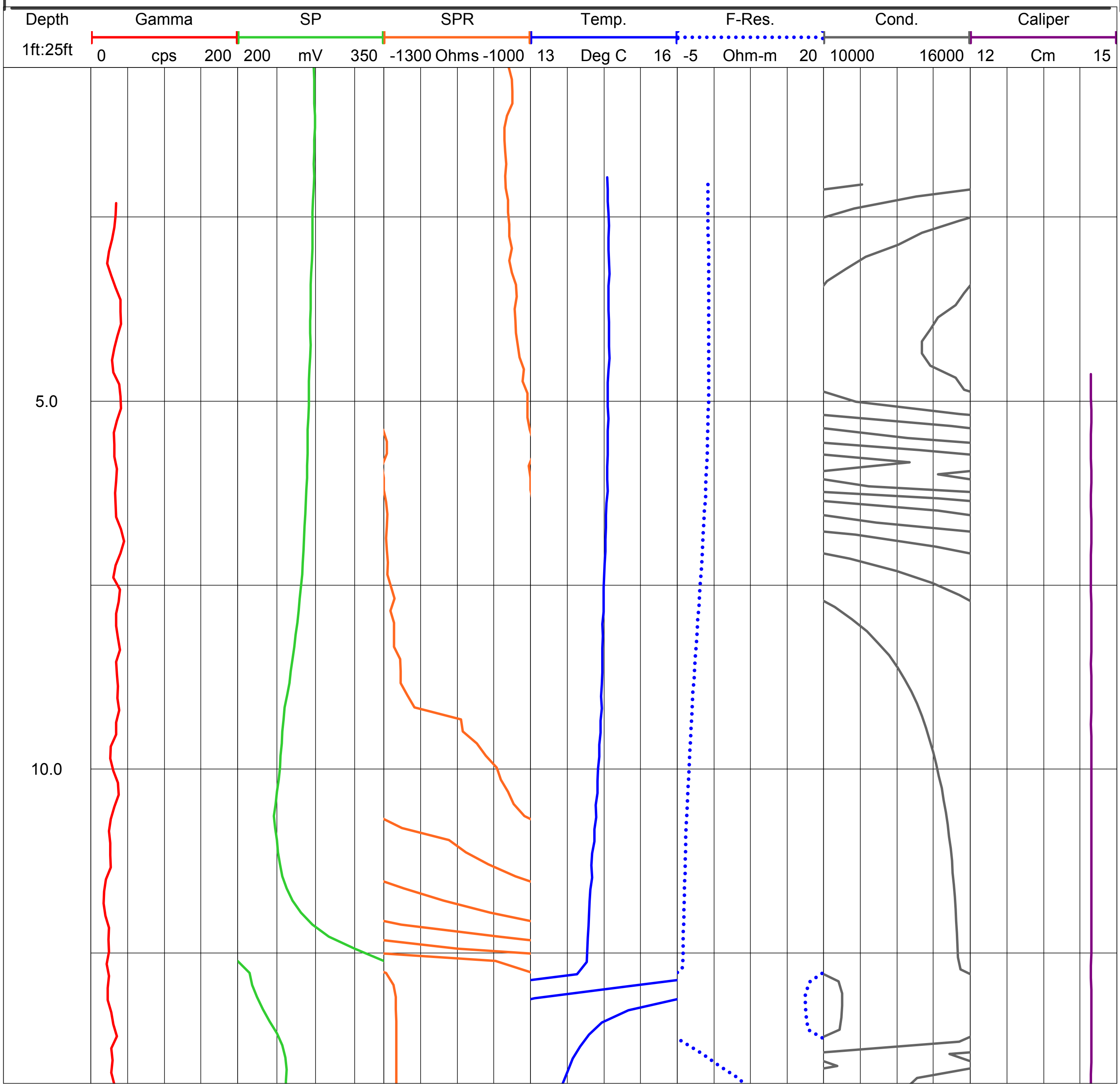
PERSONNEL: *J. Marolda*

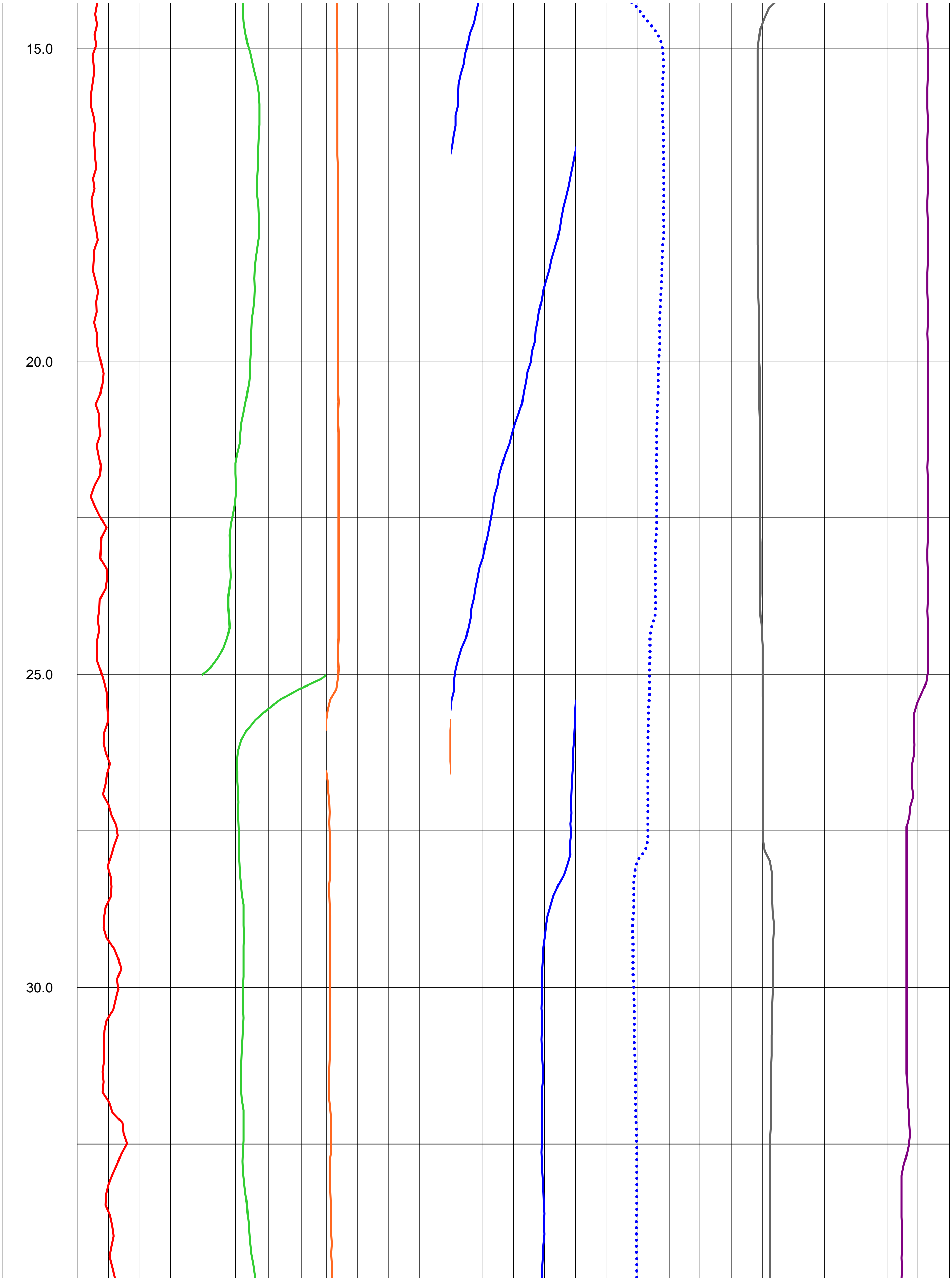
NORTHING: *1212570.178*

G.S. ELEV: *326.02*

EASTING: *864377.816*

DEPTH LOGGED: *56' BGS*

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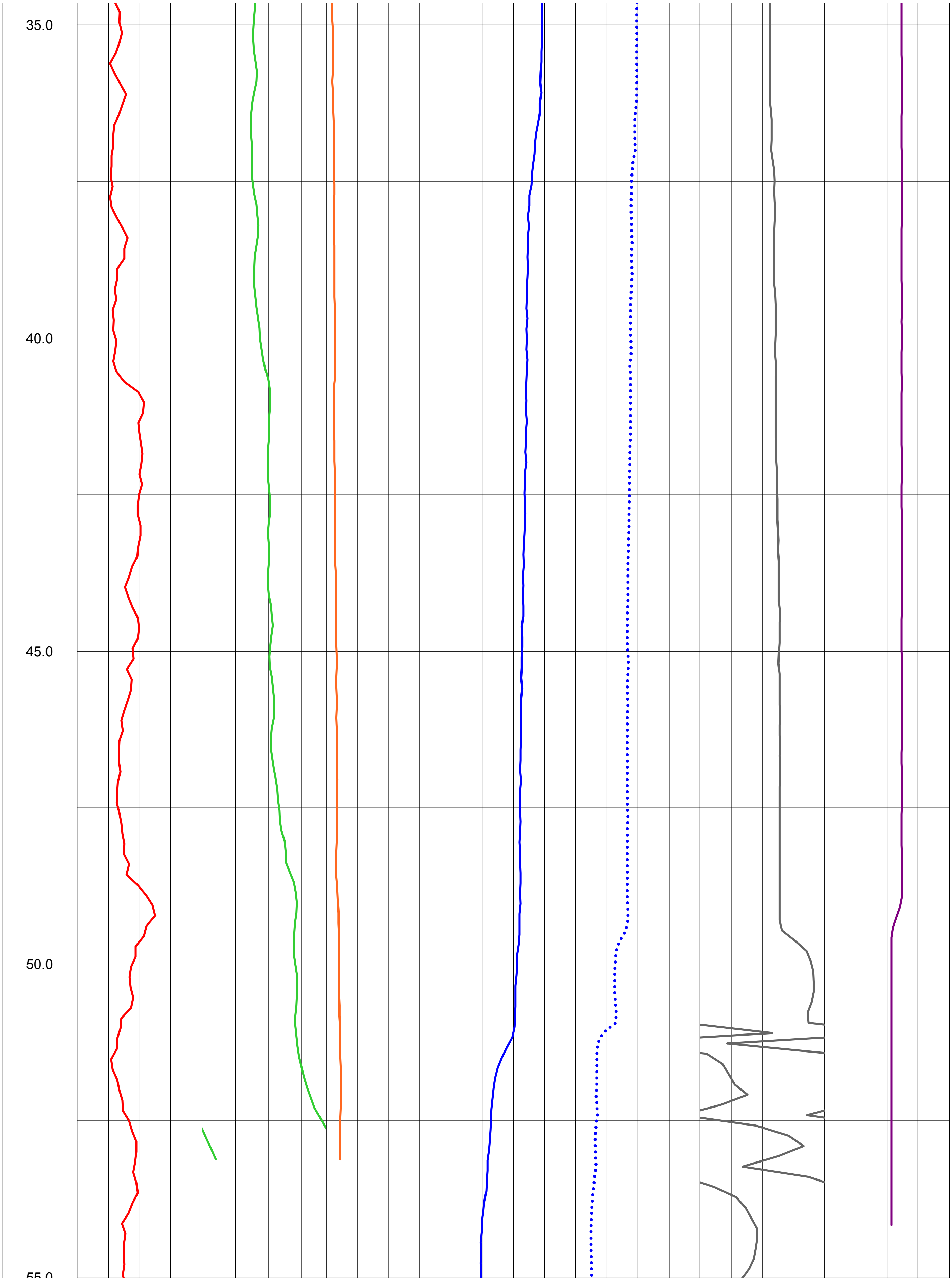
20.0
25.0
30.0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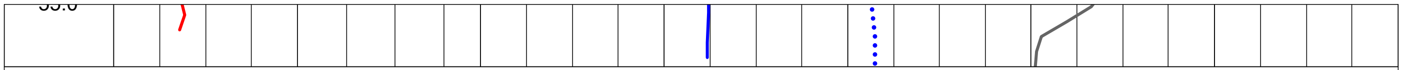
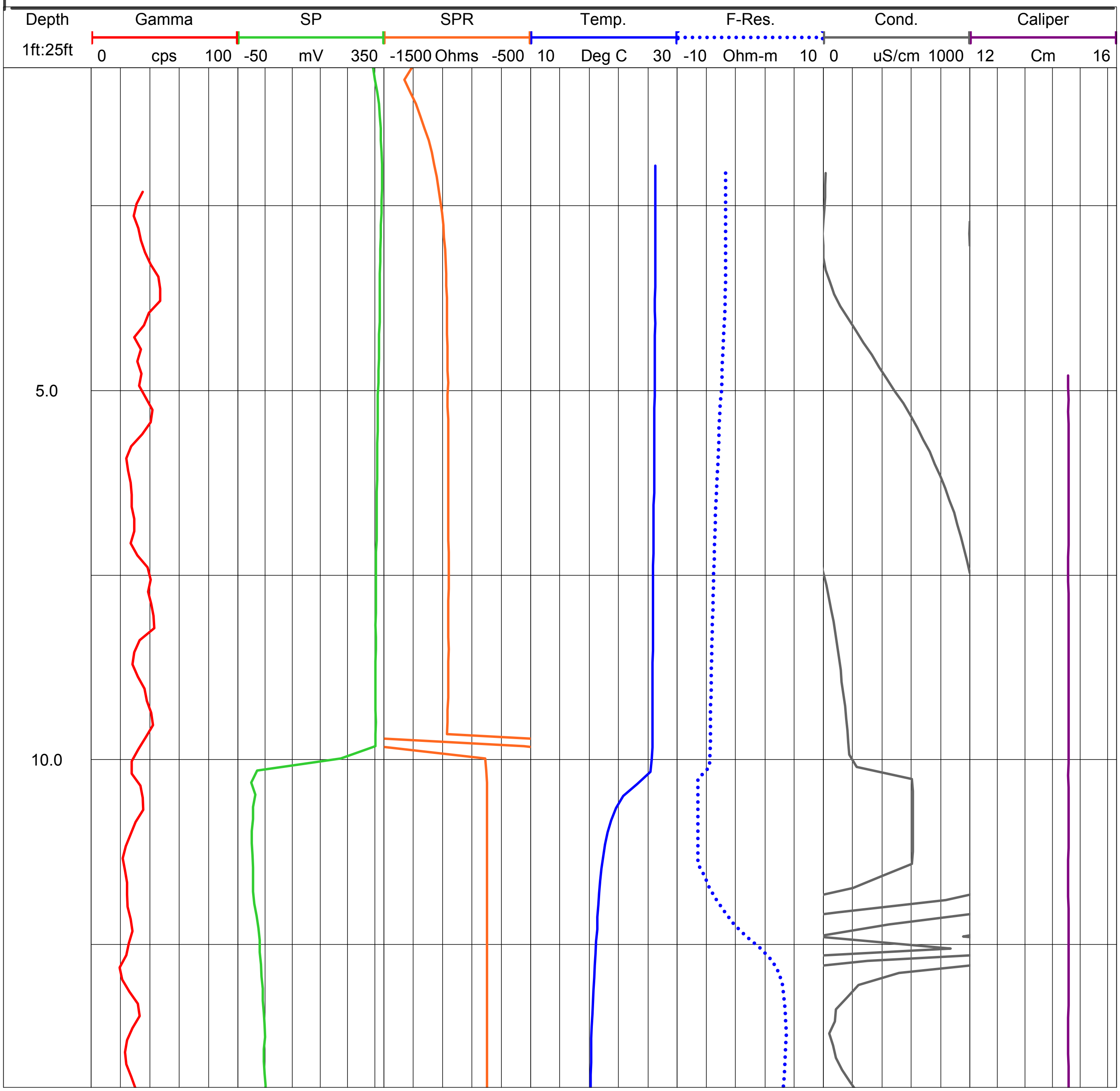
40.0
45.0
50.0
55.0

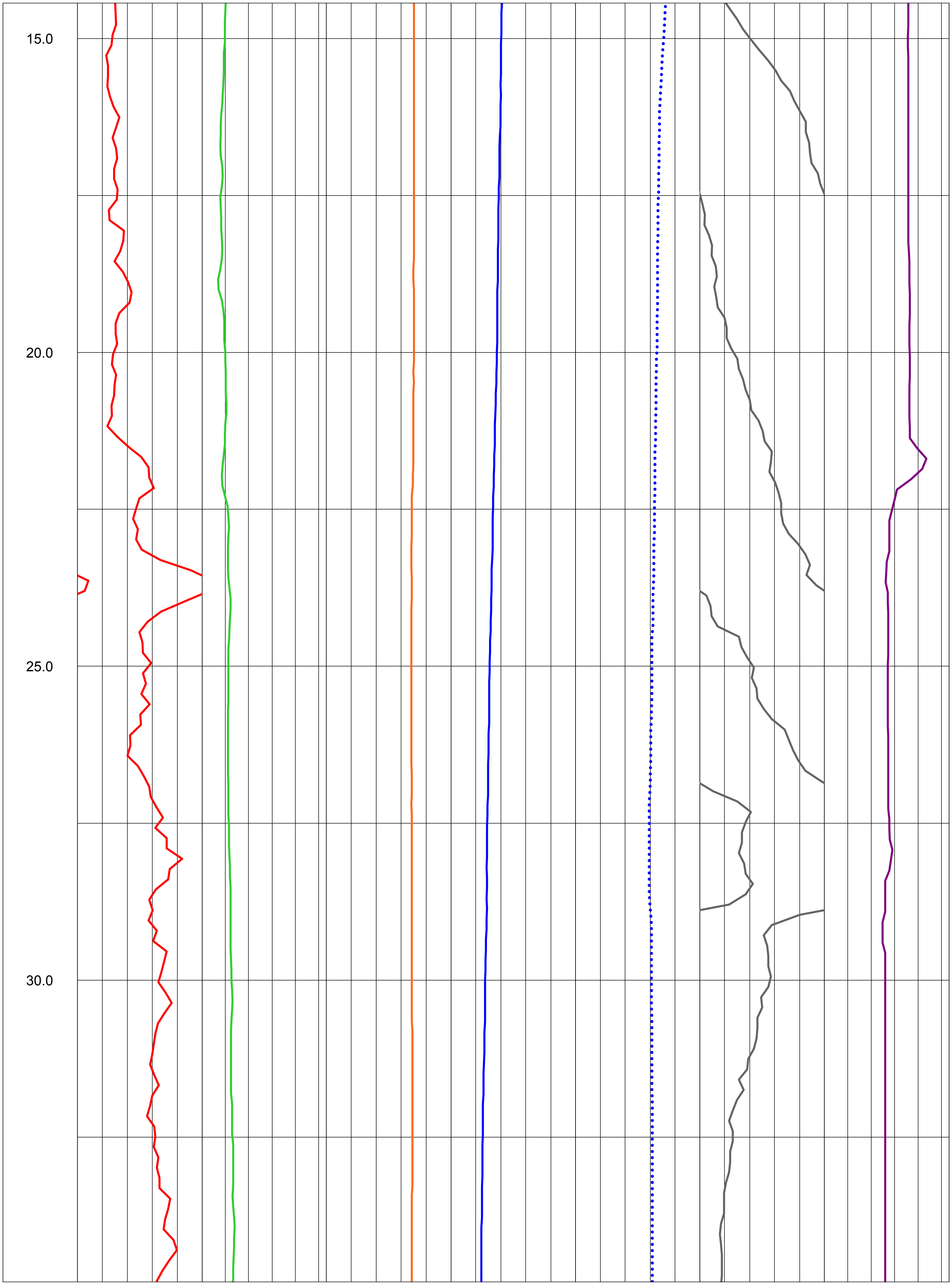


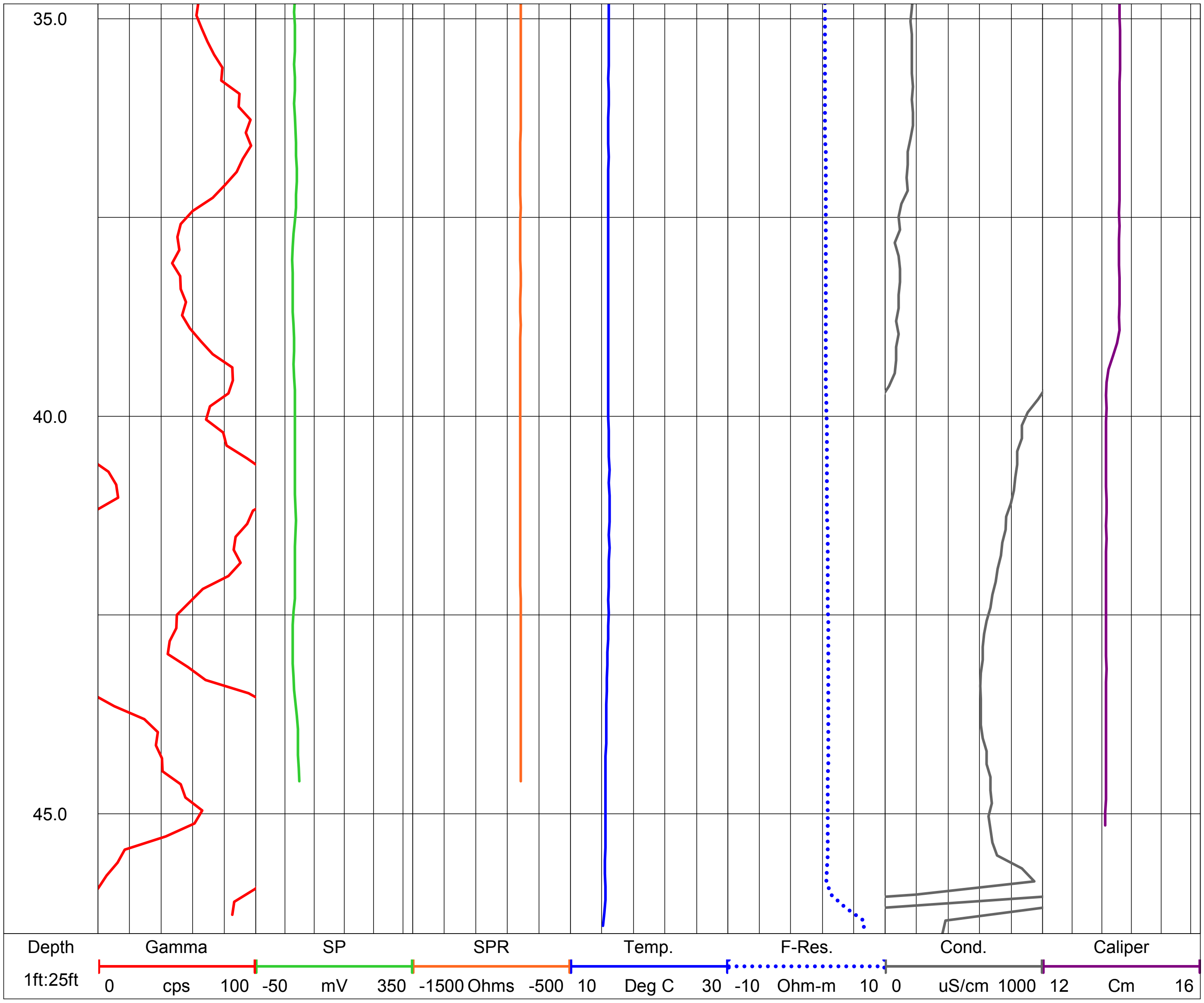
Depth	Gamma	SP	SPR	Temp.	F-Res.	Cond.	Caliper
1ft:25ft	0 cps 200	200 mV 350	-1300 Ohms -1000	13 Deg C 16	-5 Ohm-m 20	10000 16000	12 Cm 15

Brown AND Caldwell

PROJECT:	Fulton (N Ontario St.) Former MGP	**TEST TYPE:**	Borehole Geophysics
WELL ID:	MW-121R	**SURFACE CASING:**	Base of 4" casing: 22' BGS
LOCATION:	Fulton, NY	**BOREHOLE DIAMETER:**	4" from 22'-47' BGS
TEST DATE:	7/18/18	**PERSONNEL:**	R. Hojnacki
NORTHING:	1212585.032	**G.S. ELEV:**	320.98
EASTING:	864276.012	**DEPTH LOGGED:**	47' BGS

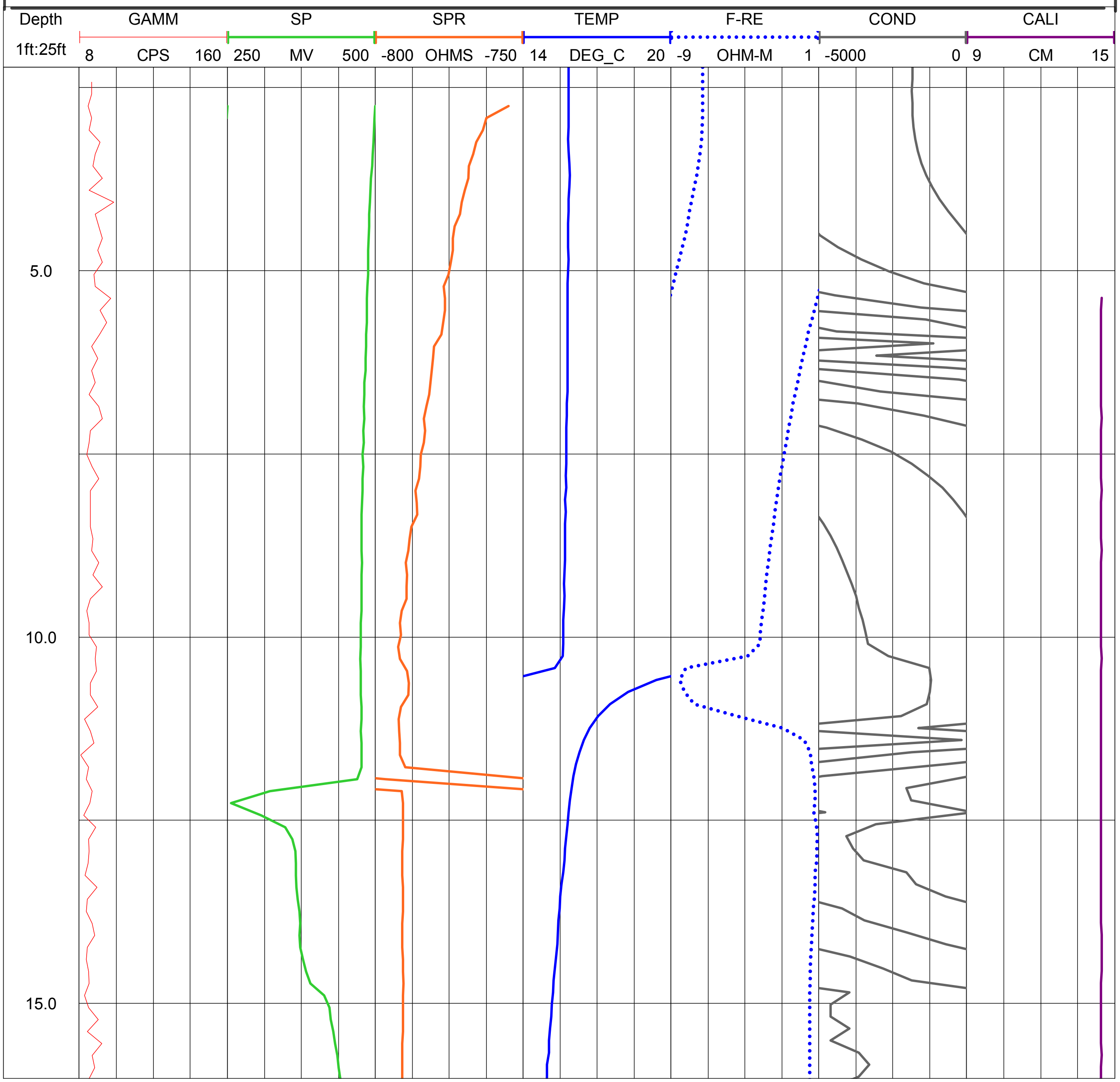


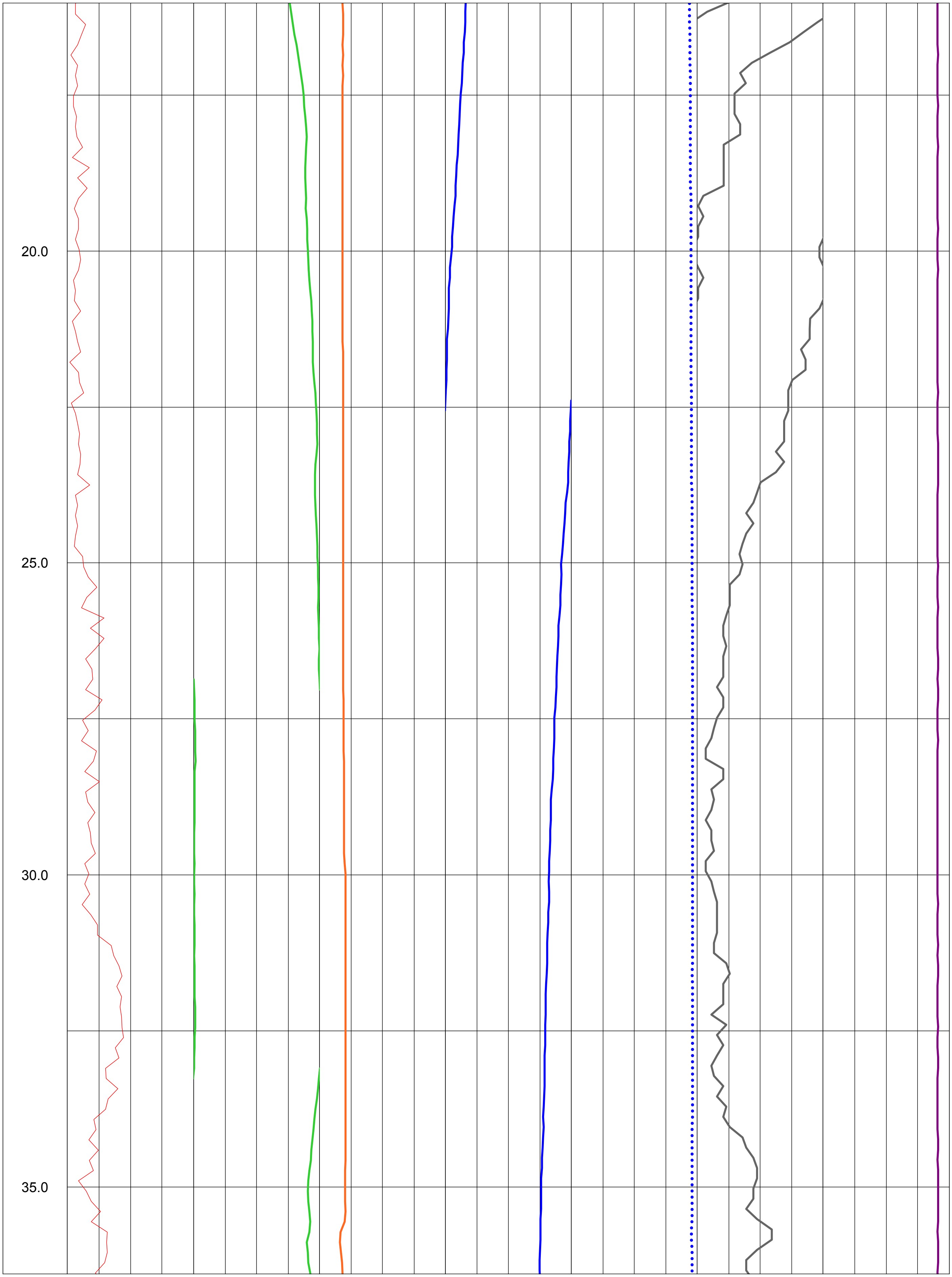

15.0
20.0
25.0
30.0


35.0
40.0
45.0
Depth
1ft:25ft
Gamma
0 cps 100
SP
-50 mV 350
SPR
-1500 Ohms -500
Temp.
10 Deg C 30
F-Res.
-10 Ohm-m 10
Cond.
0 uS/cm 1000
Caliper
12 Cm 16

Brown AND Caldwell

PROJECT:	*Fulton (N Ontario St.) Former MGP*	**TEST TYPE:**	*Borehole Geophysics*
WELL ID:	*MW-122RD*	**SURFACE CASING:**	*Base of 4' casing: 55' BGS*
LOCATION:	*Fulton, NY*	**BOREHOLE DIAMETER:**	*4" from 55'-100' BGS*
TEST DATE:	*8/8/18*	**PERSONNEL:**	*B. Taylor*
NORTHING:	*1212665.037*	**G.S. ELEV:**	*319.33*
EASTING:	*864122.01*	**DEPTH LOGGED:**	*100' BGS*

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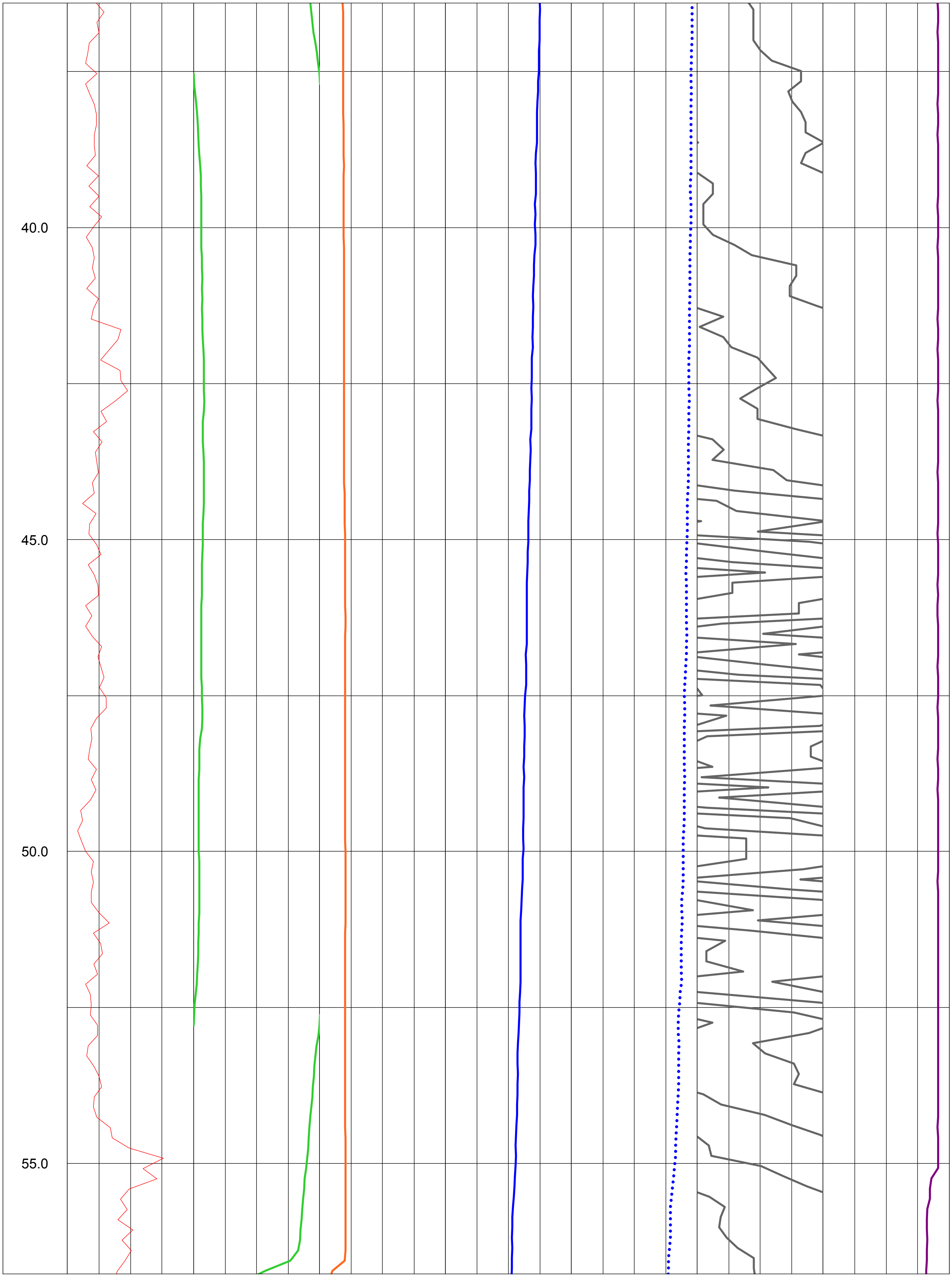
30.0
35.0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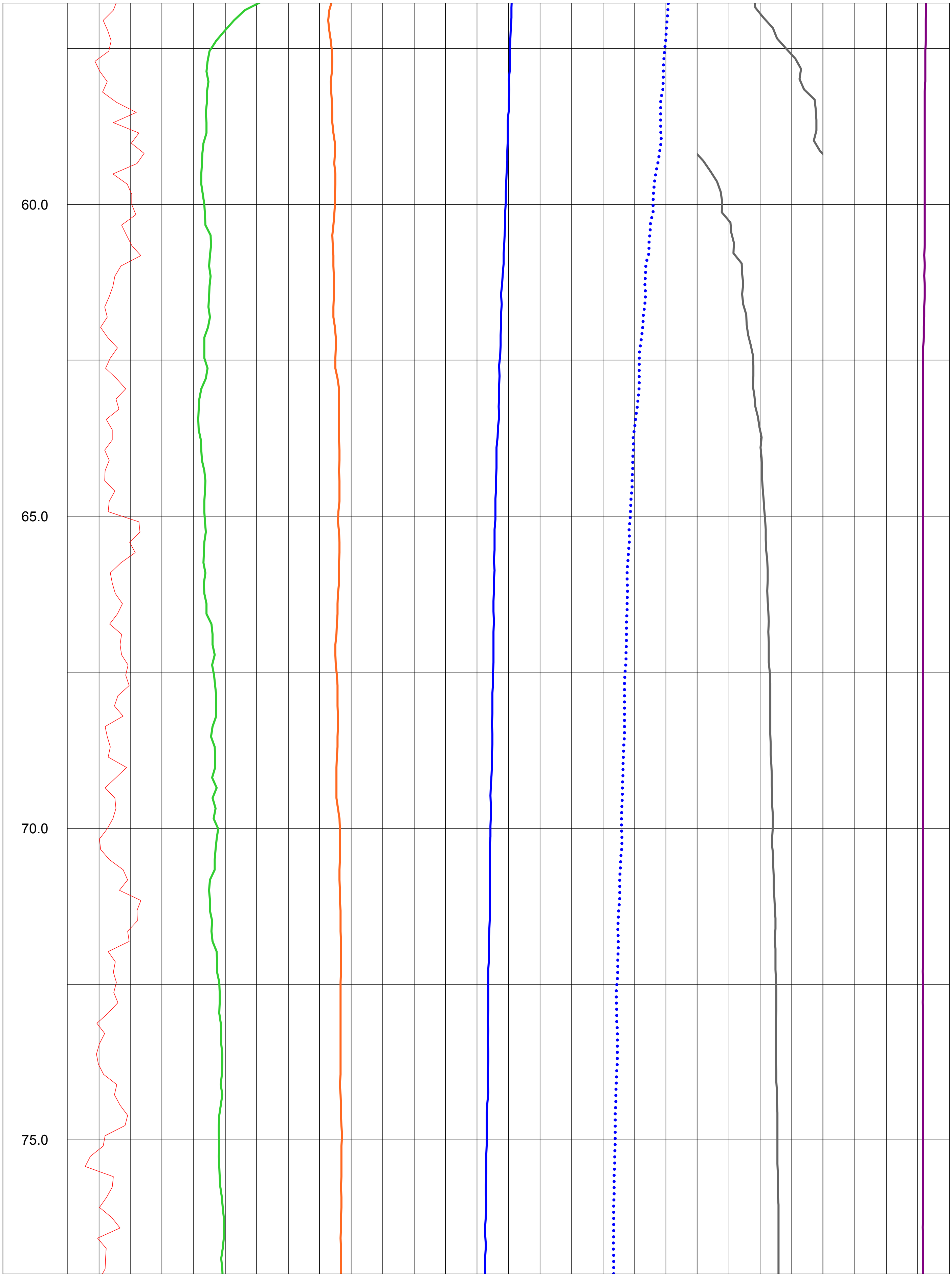
45.0
50.0
55.0



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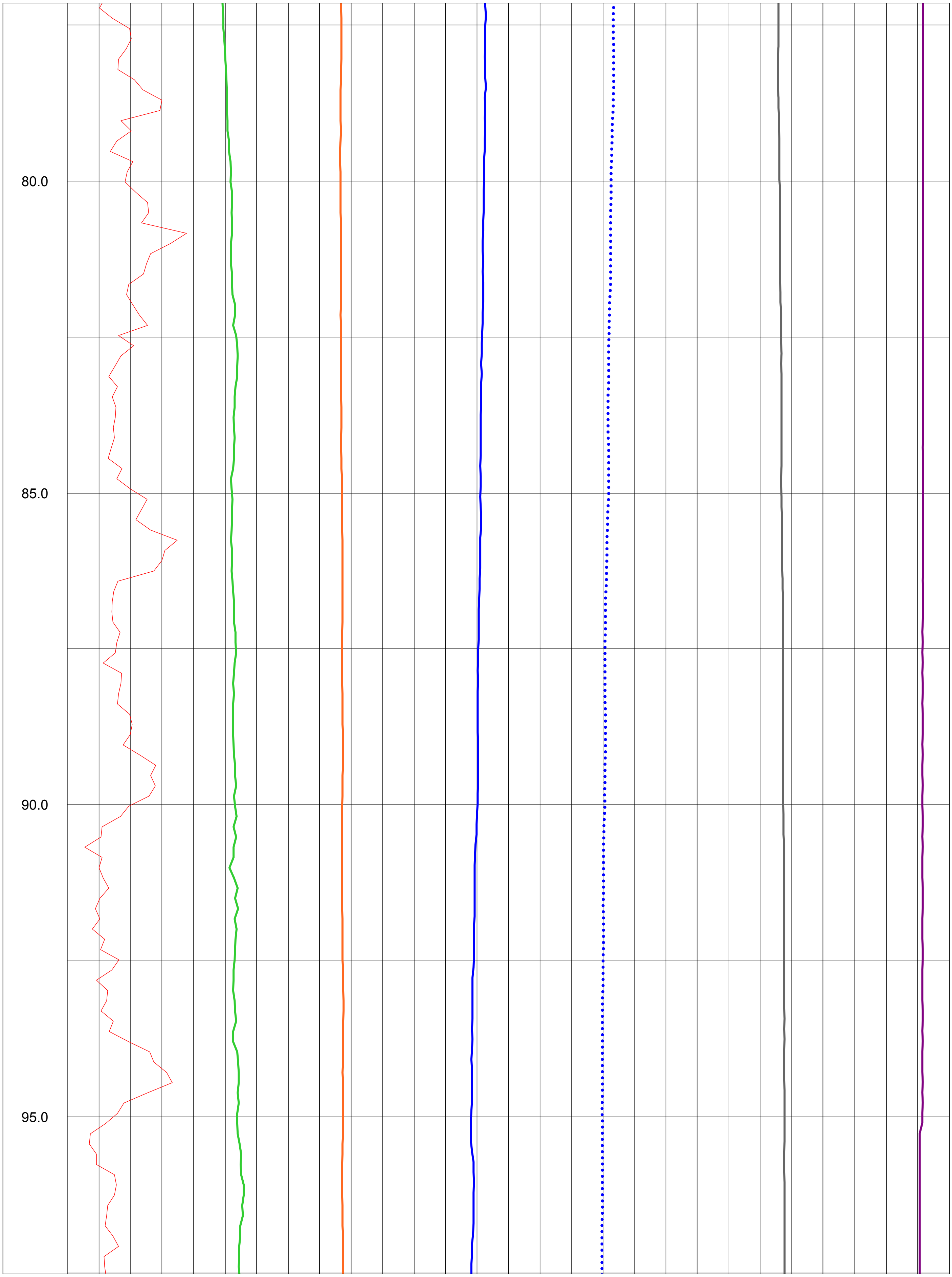
65.0
70.0
75.0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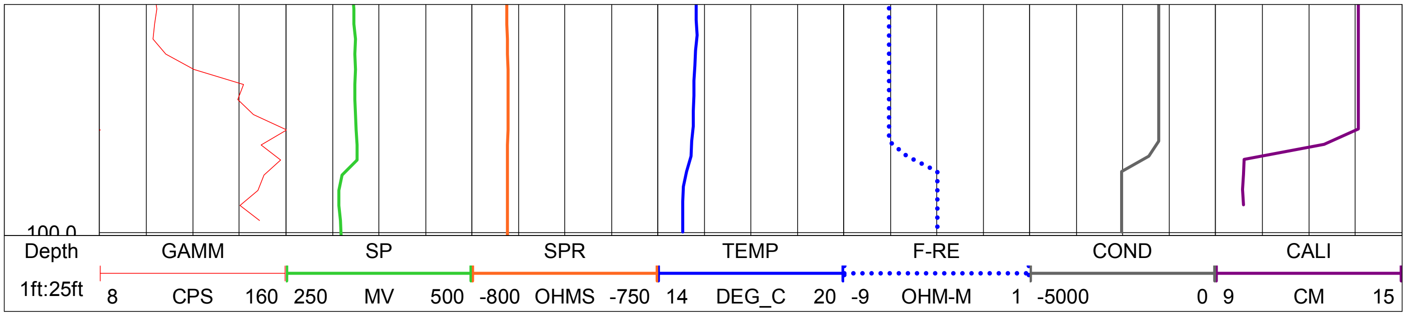
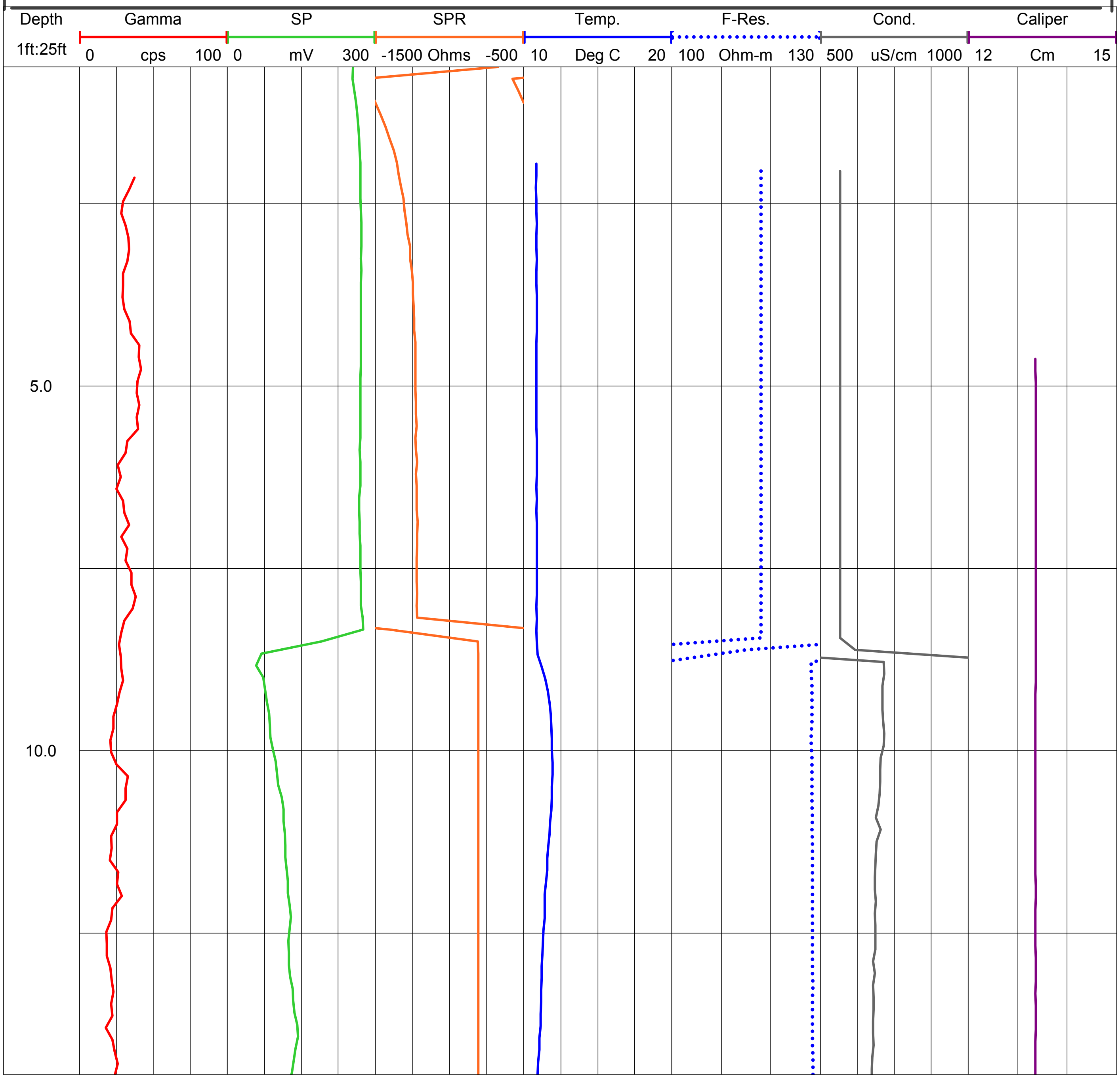
85.0
90.0
95.0

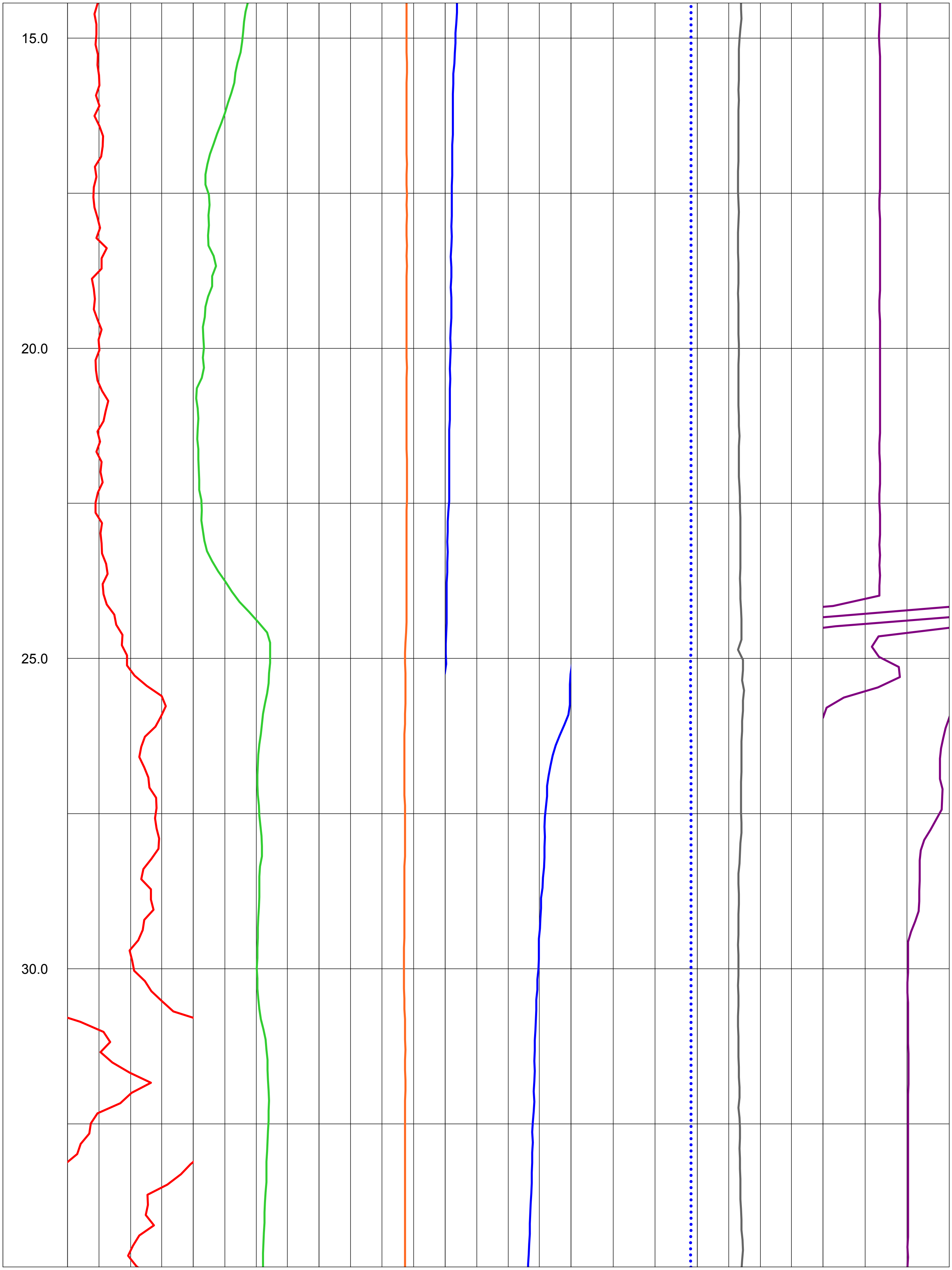

100.0
Depth
1ft:25ft
GAMM
8 CPS 160
SP
250 MV 500
SPR
-800 OHMS -750
TEMP
14 DEG_C 20
F-RE
-9 OHM-M 1
COND
-5000 0
CALI
9 CM 15

Brown AND Caldwell

PROJECT:	*Fulton (N Ontario St.) Former MGP*	**TEST TYPE:**	*Borehole Geophysics*
WELL ID:	*MW-122RD*	**SURFACE CASING:**	*Base of 8" steel casing:22' BGS*
LOCATION:	*Fulton, NY*	**BOREHOLE DIAMETER:**	*4" from 22'-55' BGS*
TEST DATE:	*7/30/18*	**PERSONNEL:**	*R. Hojnacki*

NORTHING:	*1212658.486*	**G.S. ELEV:**	*319.36*
EASTING:	*864122.147*	**DEPTH LOGGED:**	*55' BGS*

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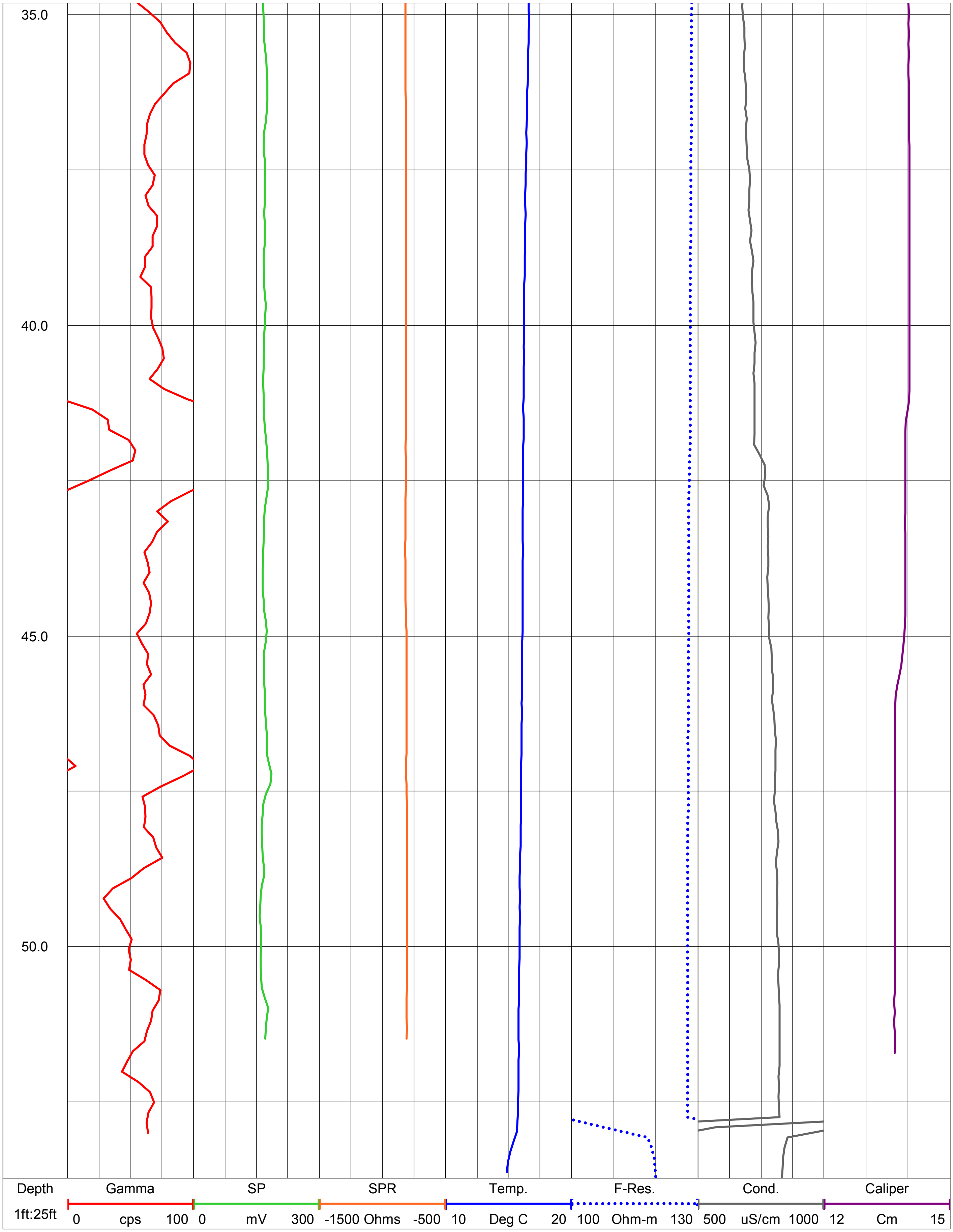
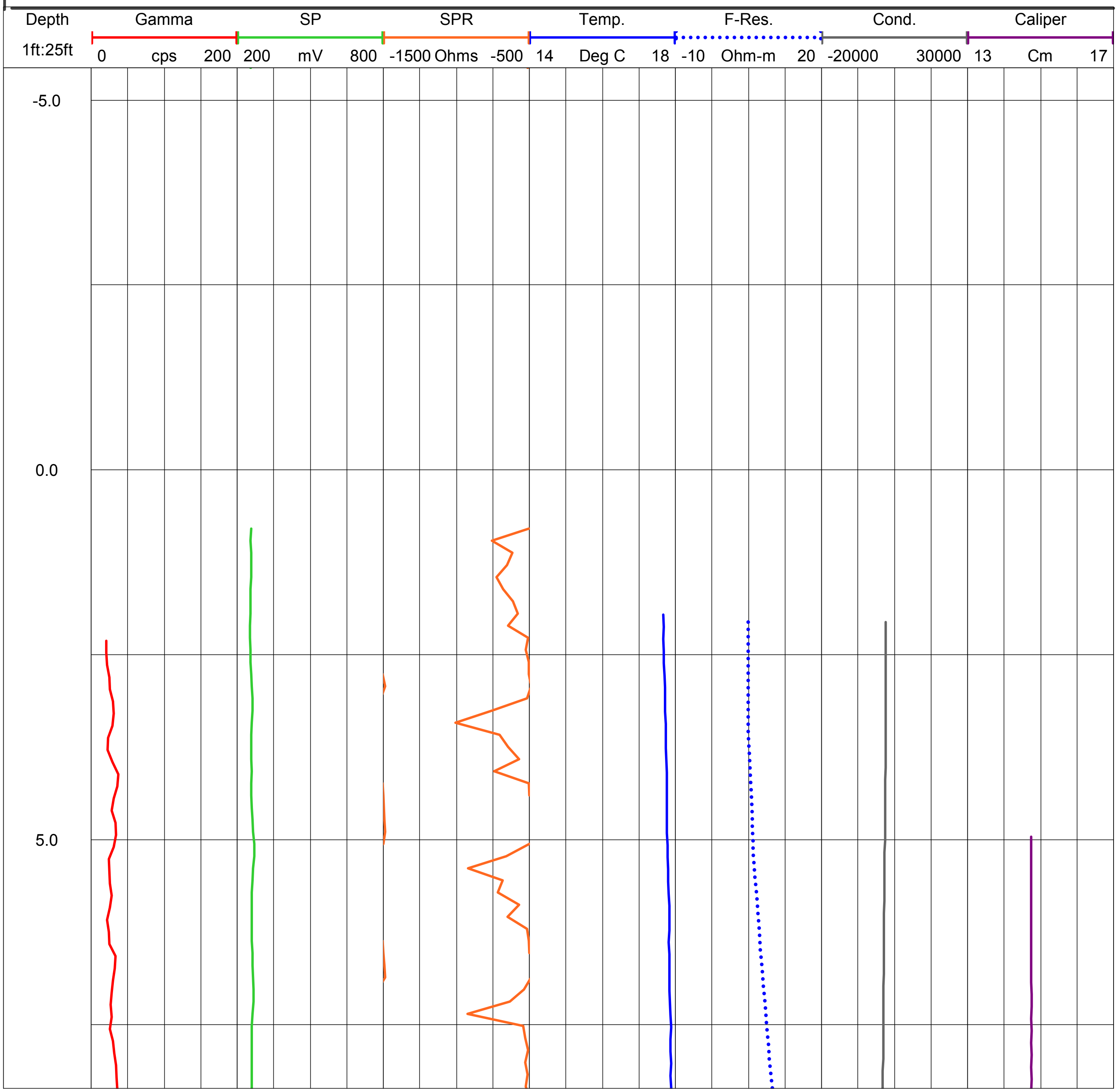
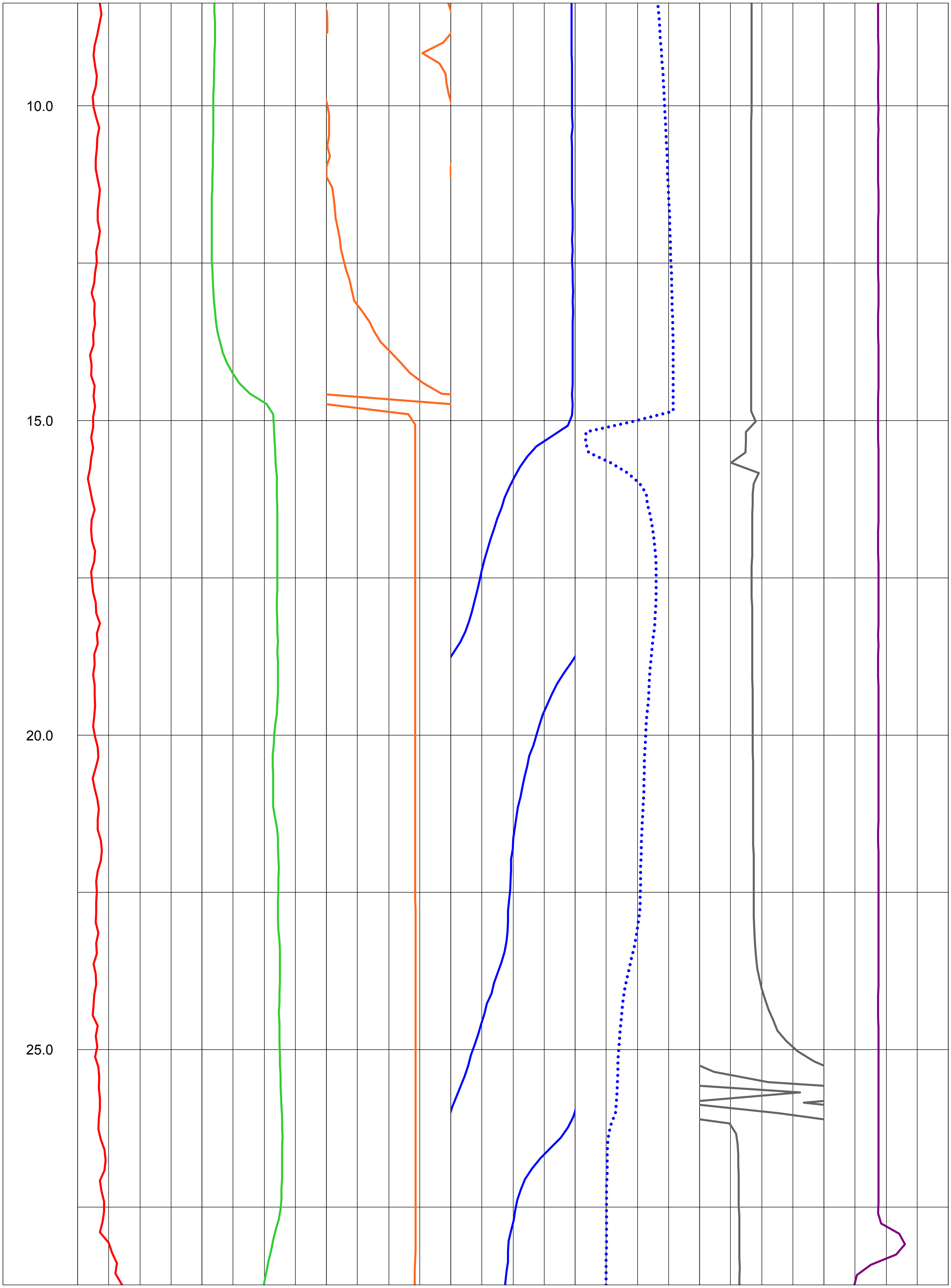
25.0
30.0

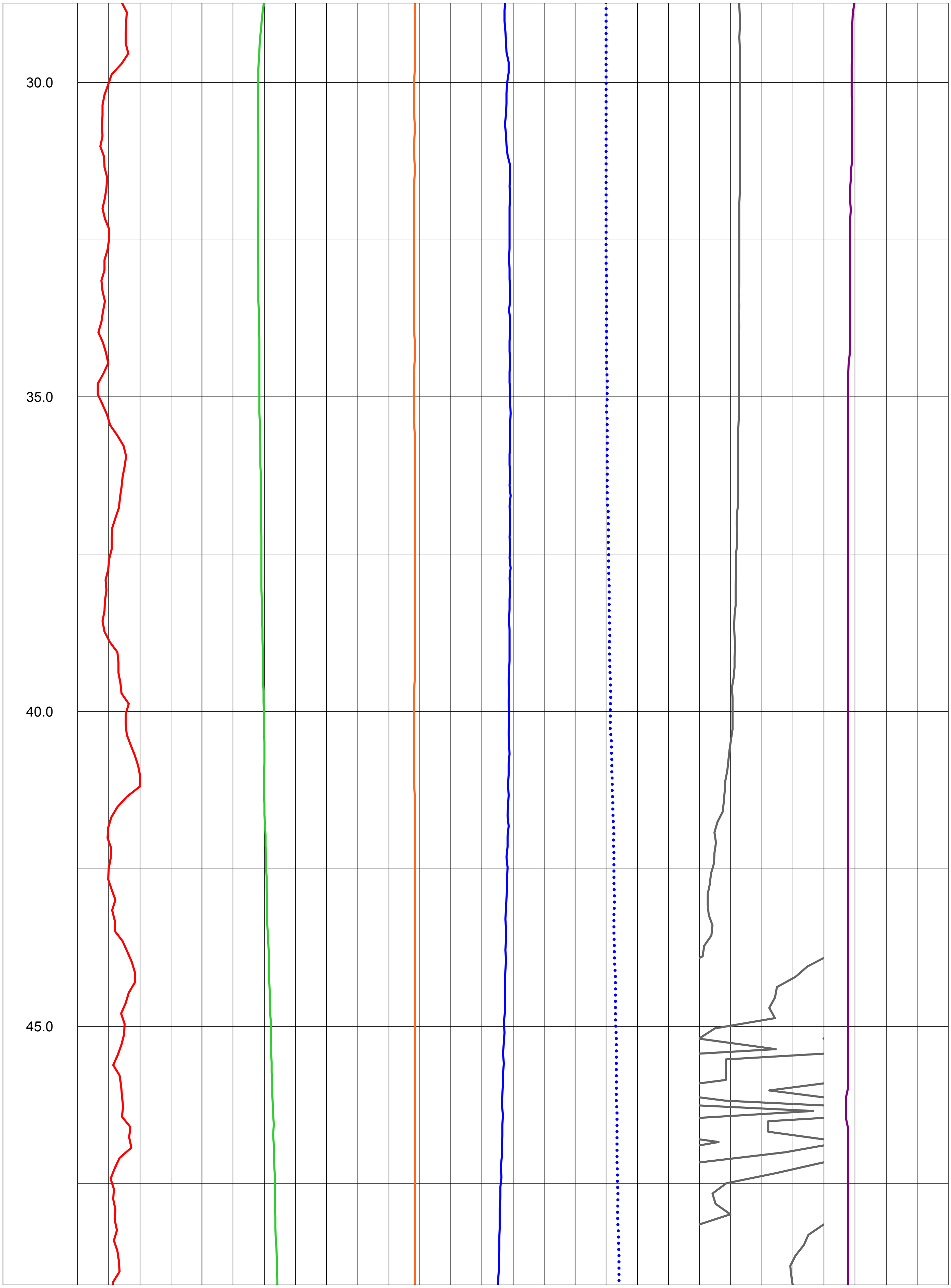

35.0
40.0
45.0
50.0
Depth
1ft:25ft
Gamma
0 cps 100
SP
0 mV 300
SPR
-1500 Ohms -500
Temp.
10 Deg C 20
F-Res.
100 Ohm-m 130
Cond.
500 uS/cm 1000
Caliper
12 Cm 15

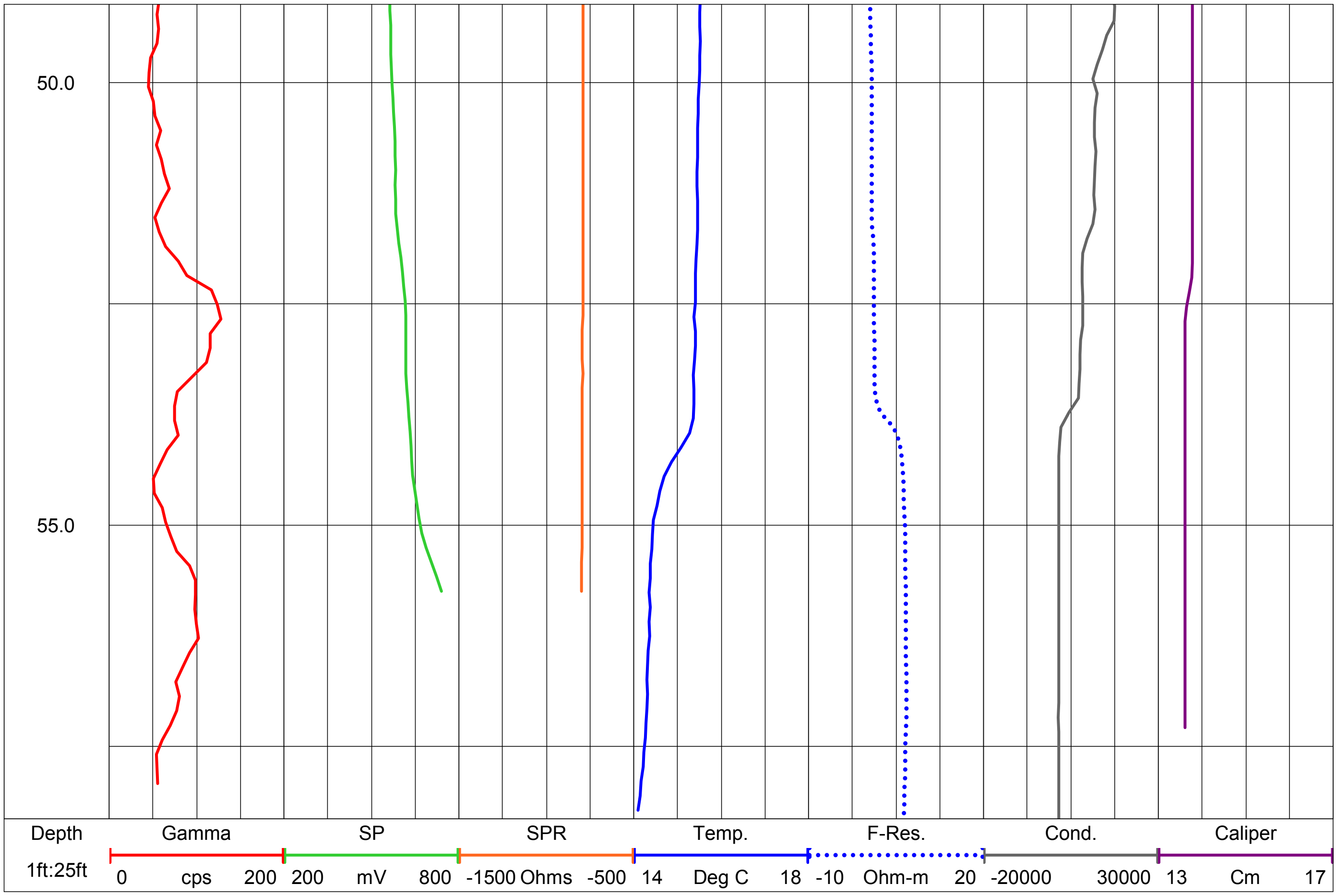
Brown AND Caldwell

PROJECT:	*Fulton (N Ontario St.) Former MGP*	**TEST TYPE:**	*Borehole Geophysics*
WELL ID:	*MW-123R*	**SURFACE CASING:**	*Base of 4" Steel Casing: 28' BGS*
LOCATION:	*Fulton, NY*	**BOREHOLE DIAMETER:**	*4" from 28'-59'*
TEST DATE:	*8/22/18*	**PERSONNEL:**	*J. Marolda*
NORTHING:	*1212658.667*	**G.S. ELEV:**	*330.01*
EASTING:	*864486.595*	**DEPTH LOGGED:**	*59' BGS*




10.0
15.0
20.0
25.0


30.0
35.0
40.0
45.0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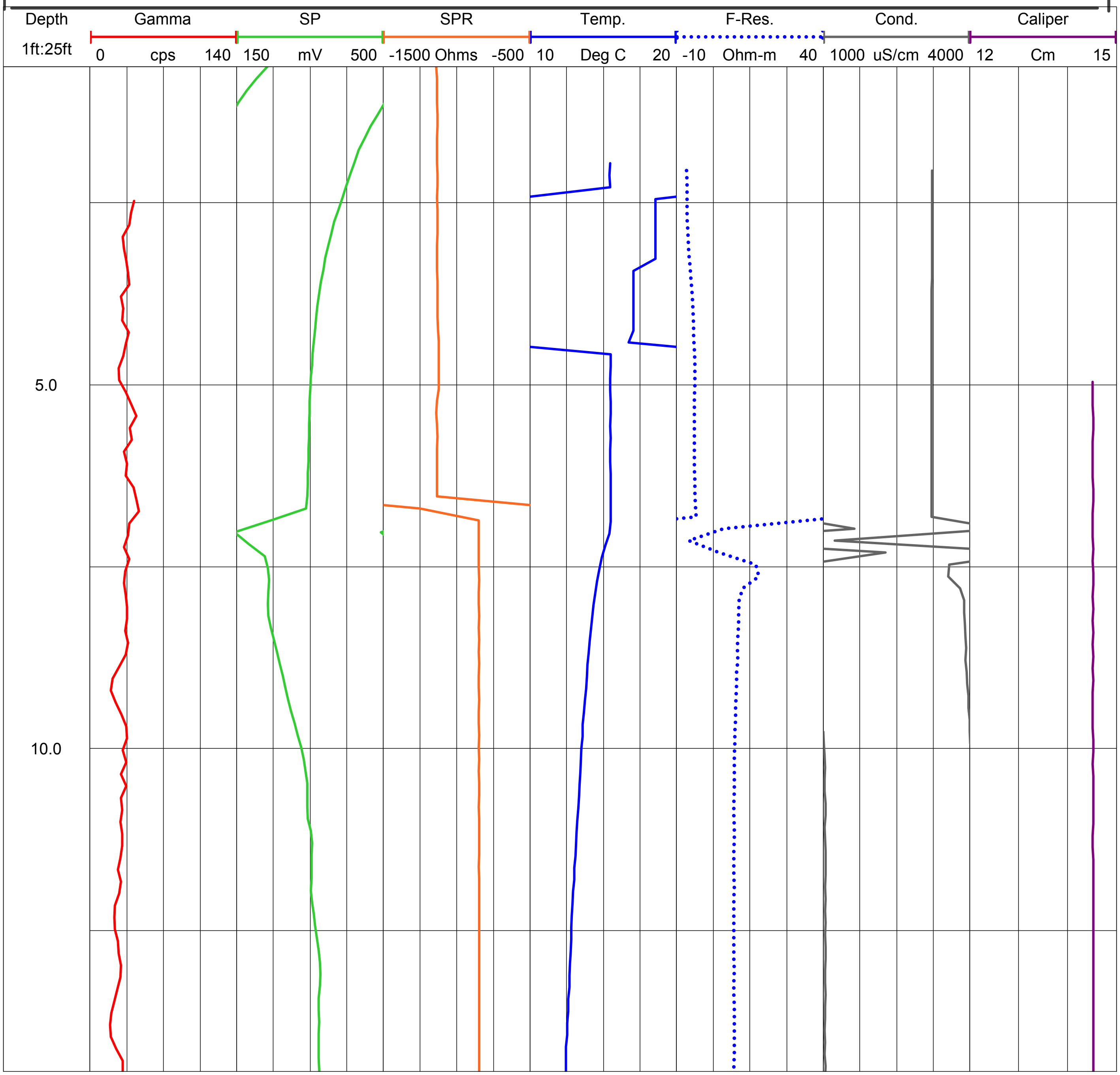
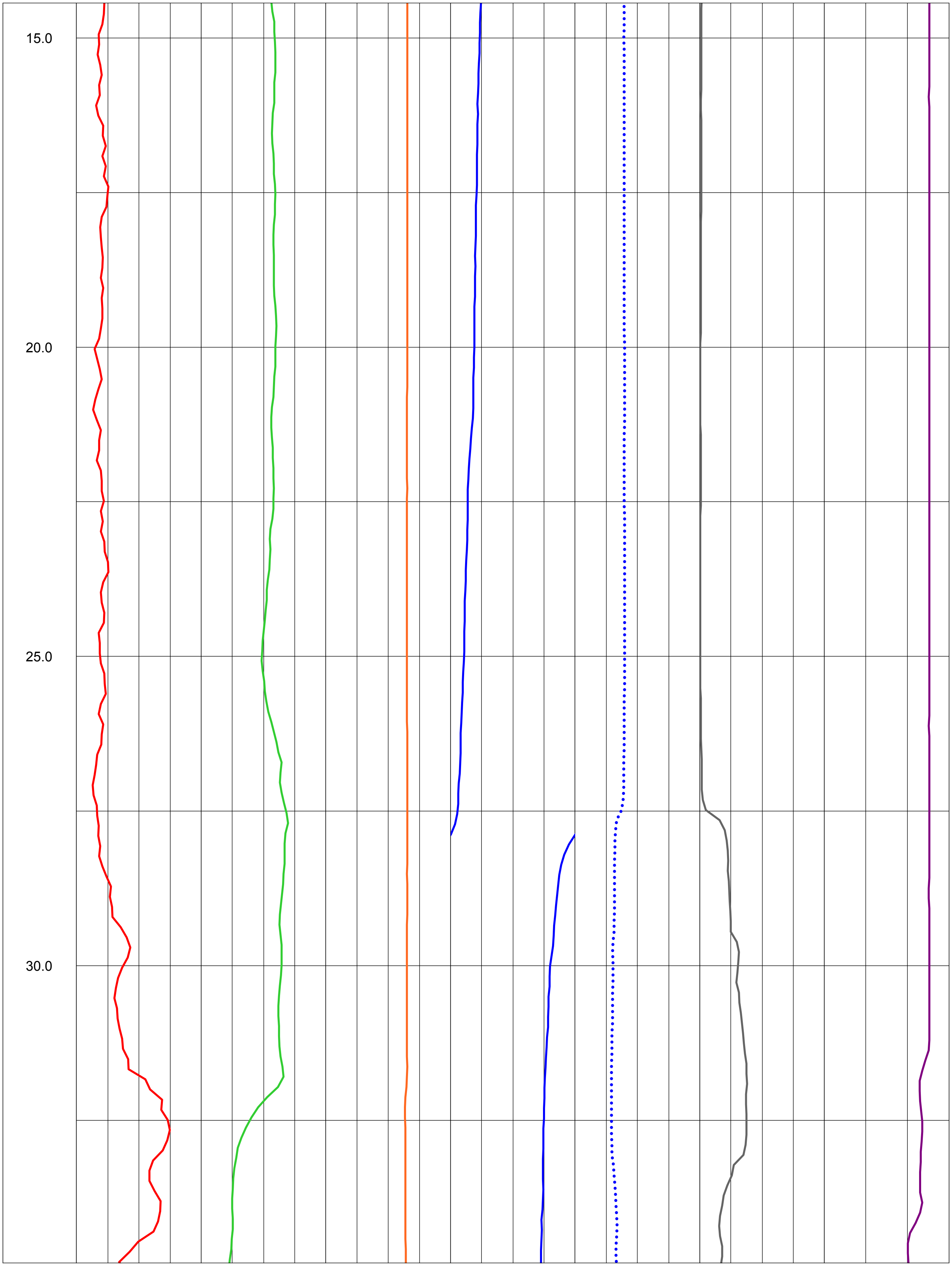
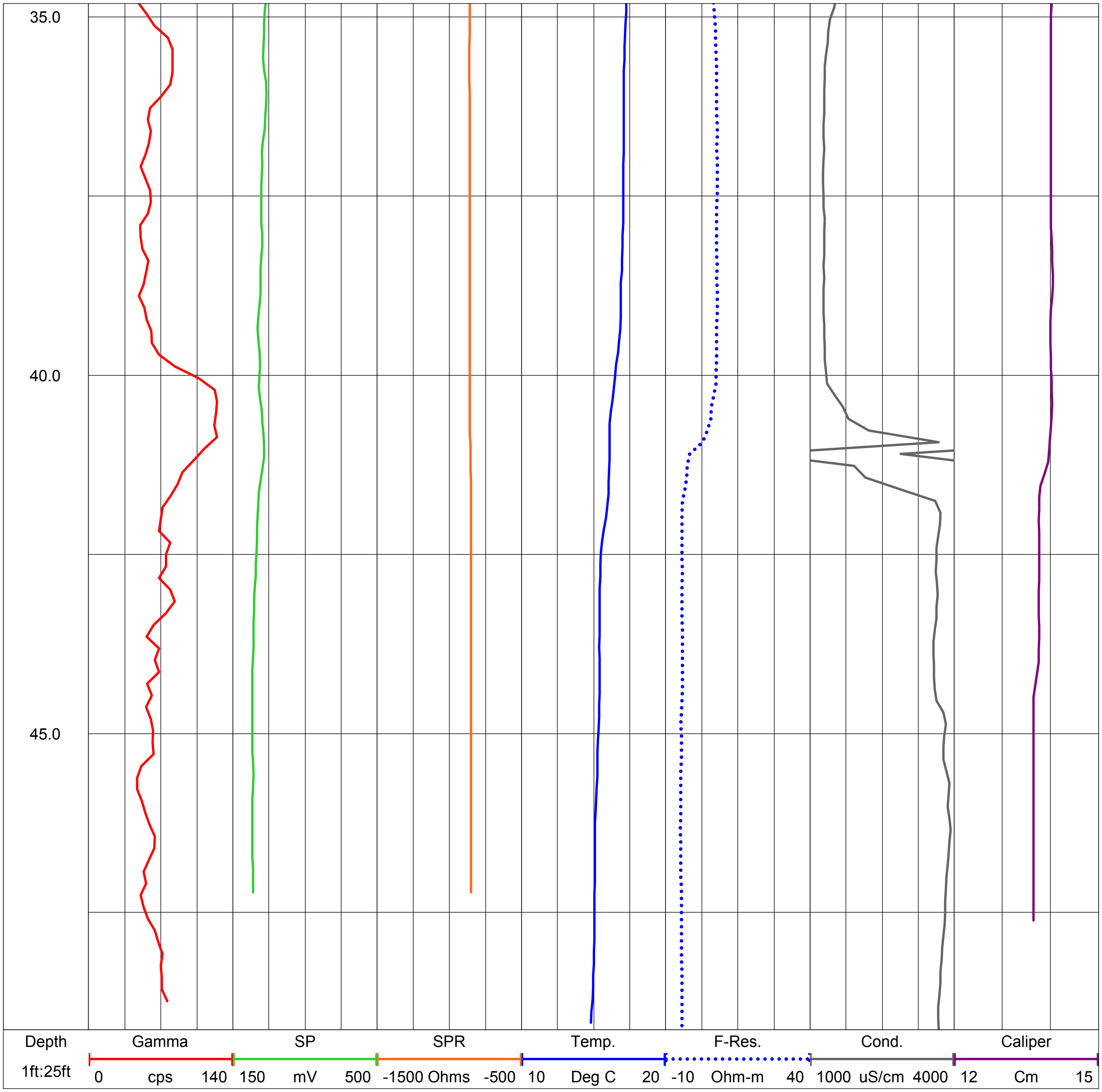
55.0
Depth
1ft:25ft
Gamma
0 cps 200
SP
200 mV 800
SPR
-1500 Ohms -500
Temp.
14 Deg C 18
F-Res.
-10 Ohm-m 20
Cond.
-20000 30000
Caliper
13 Cm 17

Brown AND Caldwell

PROJECT:	*Fullton (N Ontario St.) Former MGP*	**TEST TYPE:**	*Borehole Geophysics*
WELL ID:	*MW-124R*	**SURFACE CASING:**	*Base of 4" steel casing: 32.6' BGS*
LOCATION:	*Fulton, NY*	**BOREHOLE DIAMETER:**	*4" from 32.6'-49'*
TEST DATE:	*7/25/18*	**PERSONNEL:**	*R. Hojnacki*
NORTHING:	*1212754.716*	**G.S. ELEV:**	*319.78*
EASTING:	*864305.696*	**DEPTH LOGGED:**	*49' BGS*

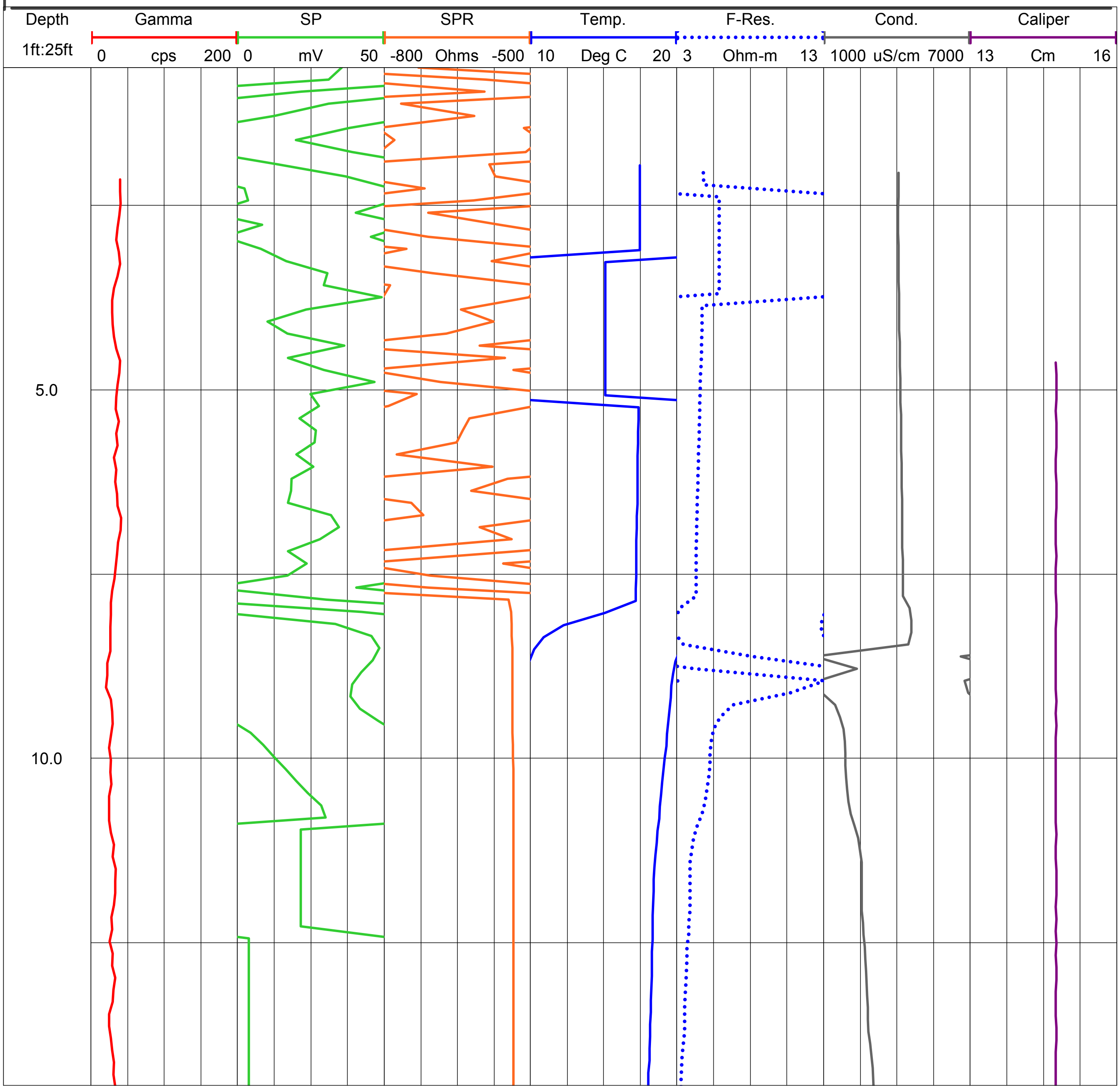


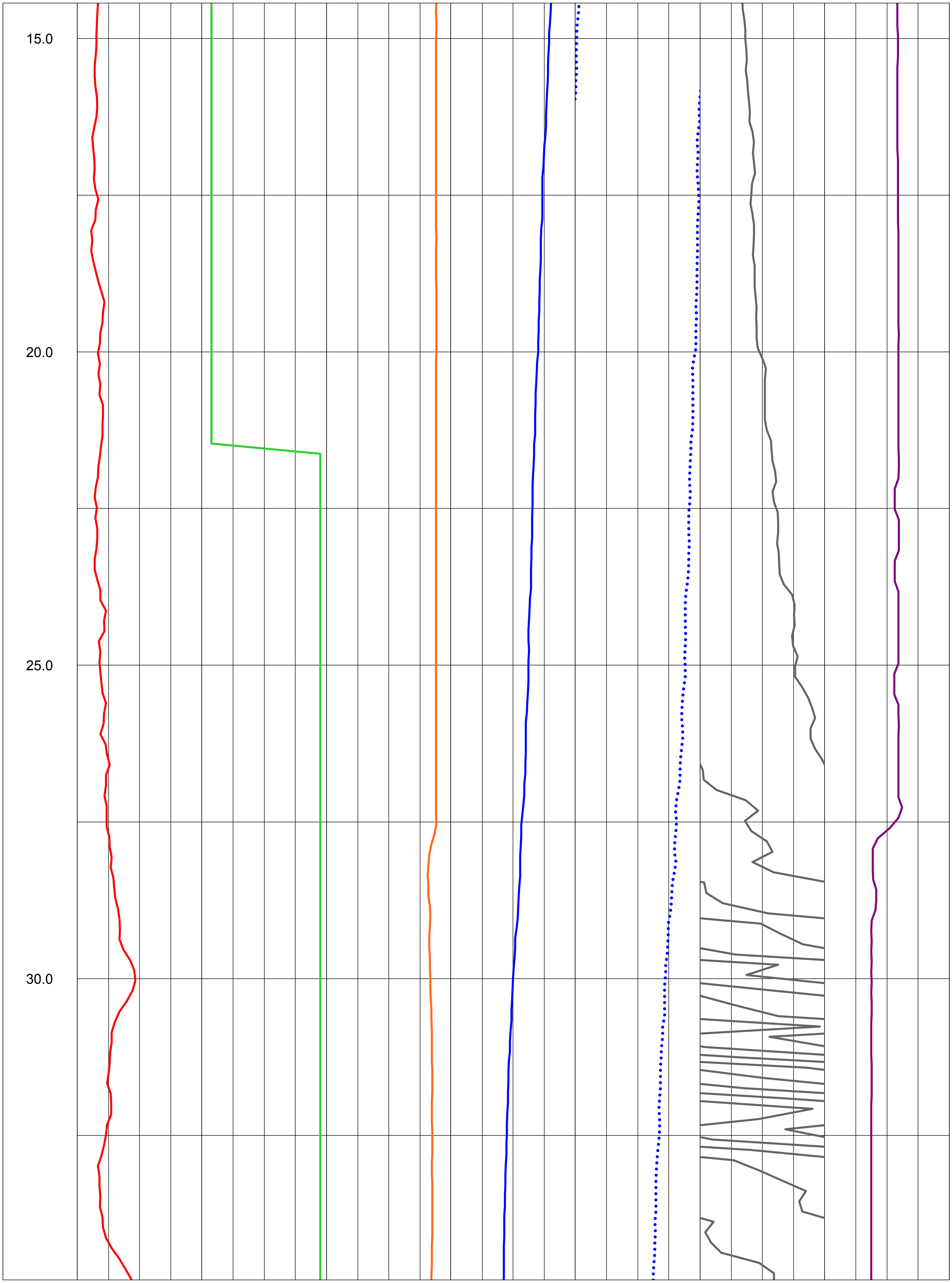

15.0
20.0
25.0
30.0

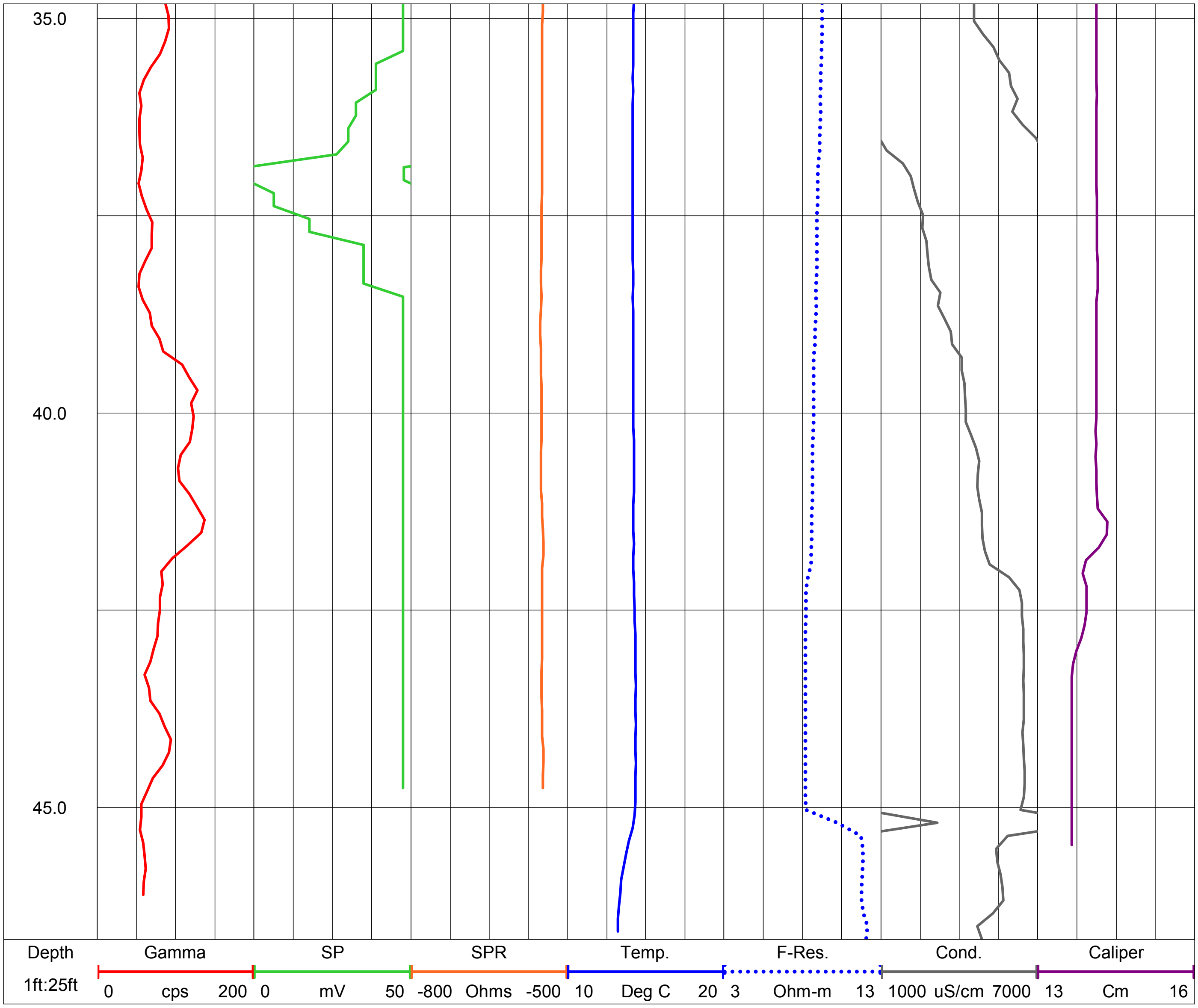

35.0
40.0
45.0
Depth
1ft:25ft
Gamma
0 cps 140
SP
150 mV 500
SPR
-1500 Ohms -500
Temp.
10 Deg C 20
F-Res.
-10 Ohm-m 40
Cond.
1000 uS/cm 4000
Caliper
12 Cm 15

Brown AND Caldwell

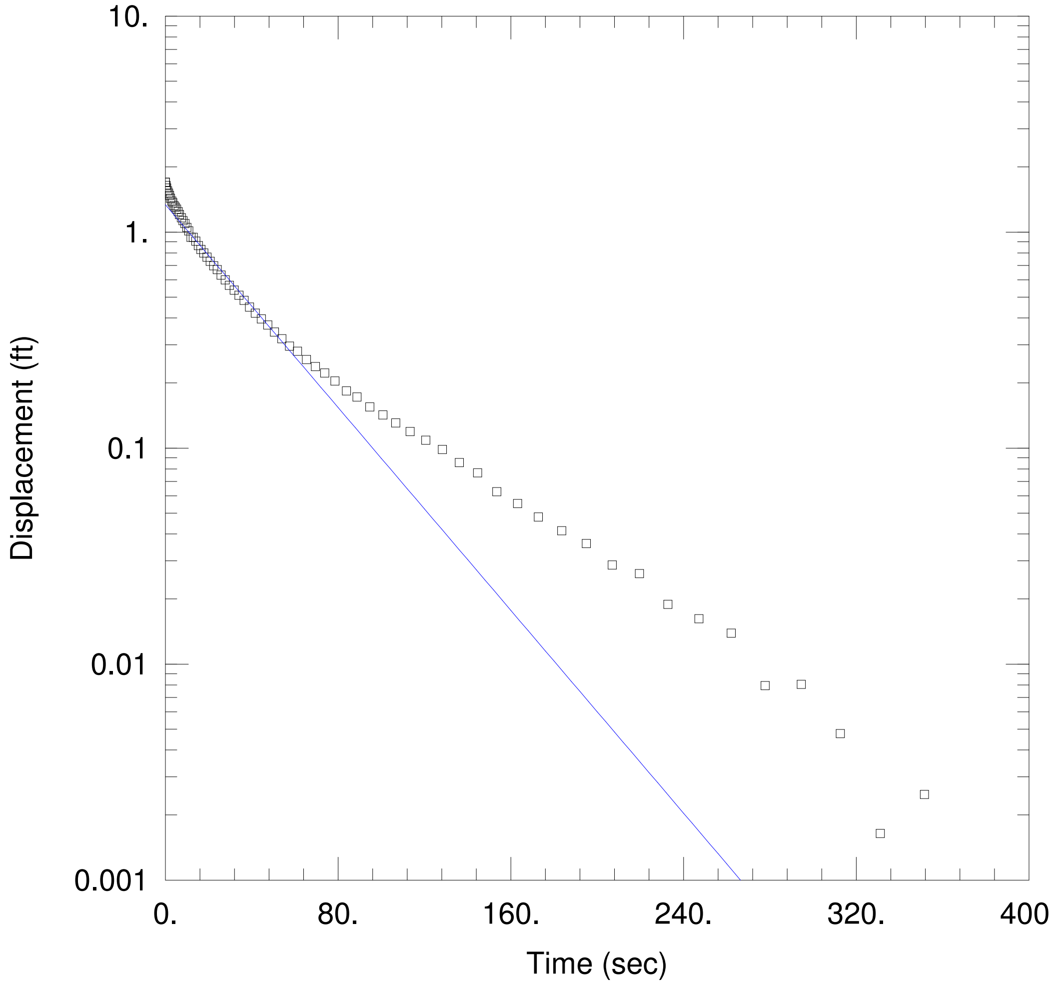
PROJECT:	Fulton (N. Ontario St.) Former MGP	**TEST TYPE:**	Borehole Geophysics
WELL ID:	MW-125R	**SURFACE CASING:**	Base of 4" steel casing: 28' BGS
LOCATION:	Fulton, NY	**BOREHOLE DIAMETER:**	4" from 28'-44' BGS
TEST DATE:	7/19/18	**PERSONNEL:**	R. Hojnacki
NORTHING:	1212715.983	**G.S. ELEV:**	319.27
EASTING:	864230.857	**DEPTH LOGGED:**	47' BGS




15.0
20.0
25.0
30.0


35.0
40.0
45.0
Depth
1ft:25ft
Gamma
0 cps 200
SP
0 mV 50
SPR
-800 Ohms -500
Temp.
10 Deg C 20
F-Res.
3 Ohm-m 13
Cond.
1000 uS/cm 7000
Caliper
13 Cm 16

Appendix D: In-Situ Hydraulic Conductivity Plots



WELL TEST ANALYSIS

Data Set: P:\...\MW-120D.aqt
Date: 12/10/18 Time: 15:53:33

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 152206.200
Location: Fulton, NY
Test Well: MW-120D
Test Date: 11/15/18

AQUIFER DATA

Saturated Thickness: 8.62 ft Anisotropy Ratio (Kz/Kr): 1.

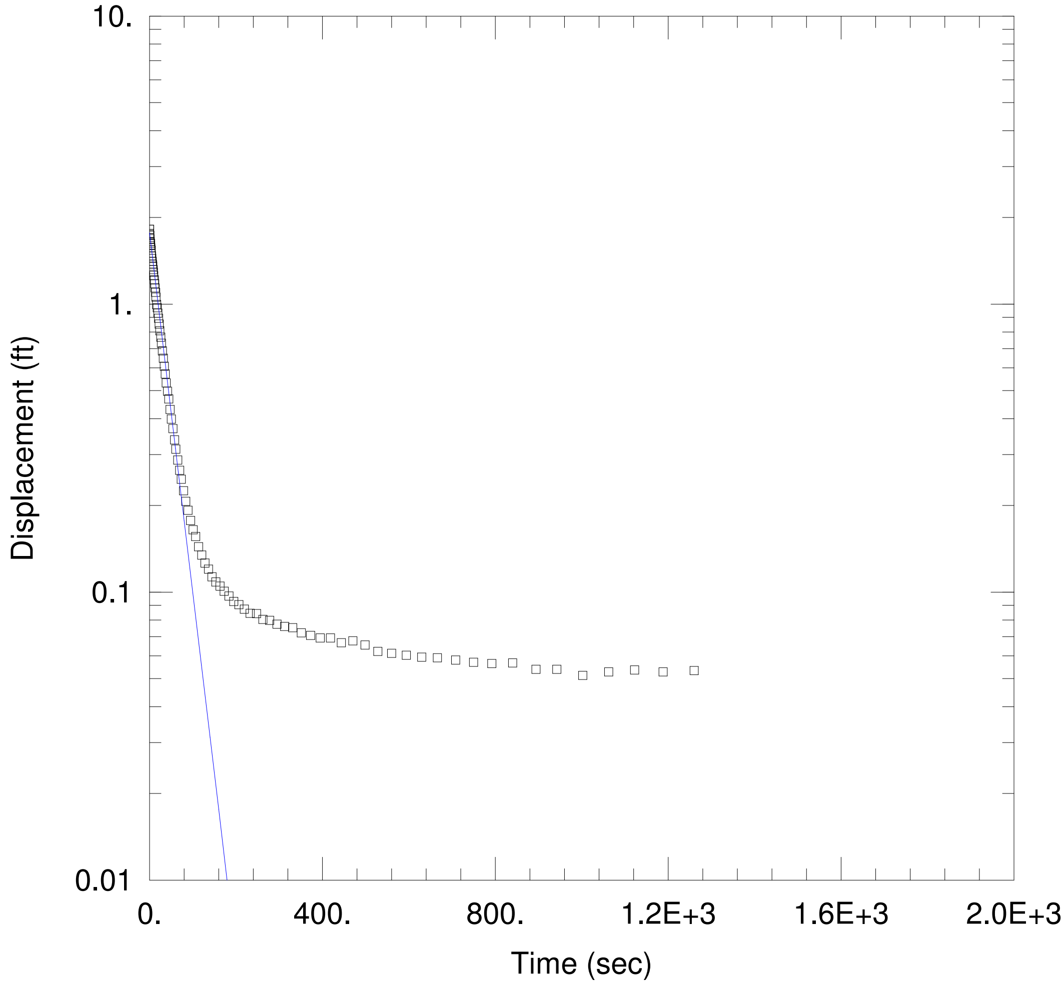
WELL DATA (MW-120D)

Initial Displacement: 1.702 ft Static Water Column Height: 7.12 ft
Total Well Penetration Depth: 7.12 ft Screen Length: 6. ft
Casing Radius: 0.08333 ft Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.001192 cm/sec y0 = 1.337 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-120R.aqt
Date: 12/11/18 Time: 10:06:50

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 152206.200
Location: Fulton, NY
Test Well: MW-120R
Test Date: 11/15/2018

AQUIFER DATA

Saturated Thickness: 12. ft Anisotropy Ratio (Kz/Kr): 1.

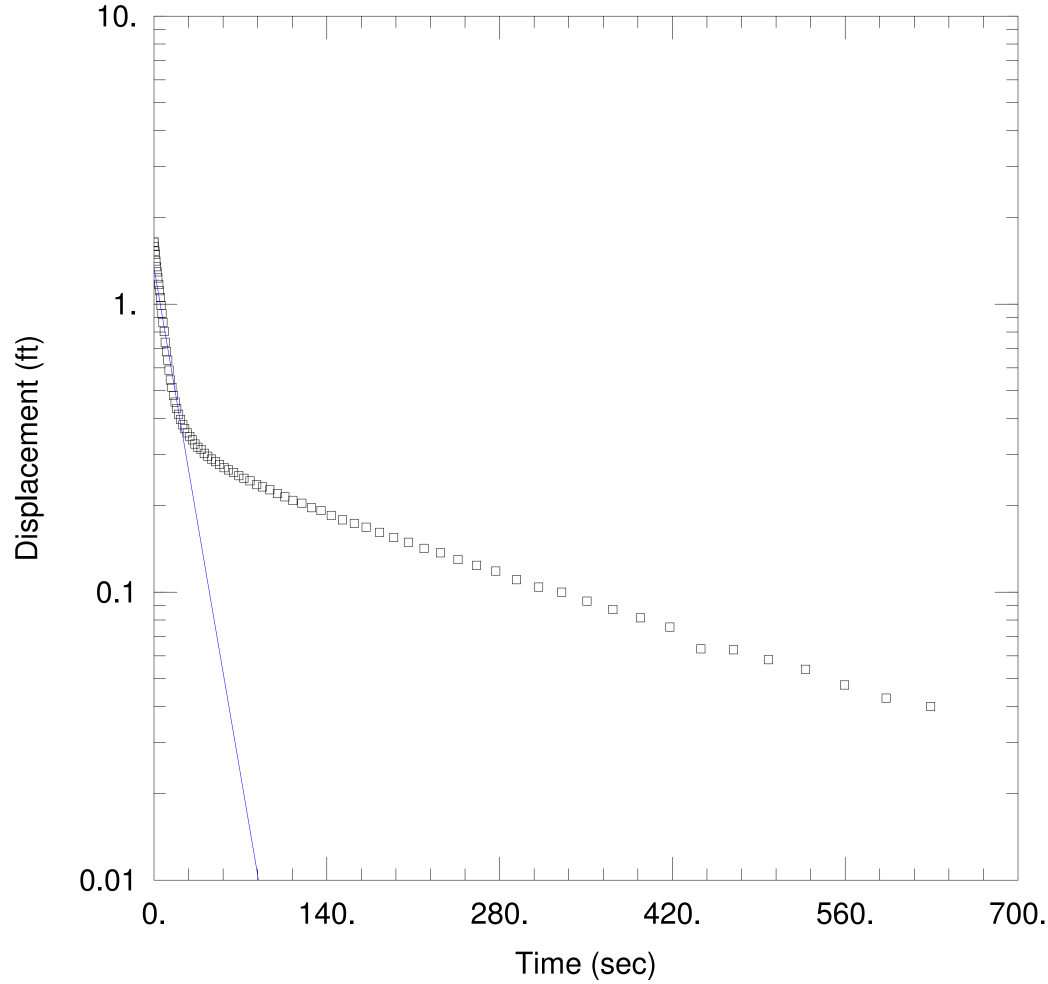
WELL DATA (MW-120R)

Initial Displacement: 1.818 ft Static Water Column Height: 39.71 ft
Total Well Penetration Depth: 12. ft Screen Length: 12. ft
Casing Radius: 0.0833 ft Well Radius: 0.166 ft

SOLUTION

Aquifer Model: Confined Solution Method: Hvorslev

K = 0.00117 cm/sec y0 = 1.766 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-121S.aqt
Date: 12/11/18 Time: 10:35:32

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 152206.200
Location: Fulton, NY
Test Well: MW-121S
Test Date: 11/15/18

AQUIFER DATA

Saturated Thickness: 13.43 ft Anisotropy Ratio (Kz/Kr): 1.

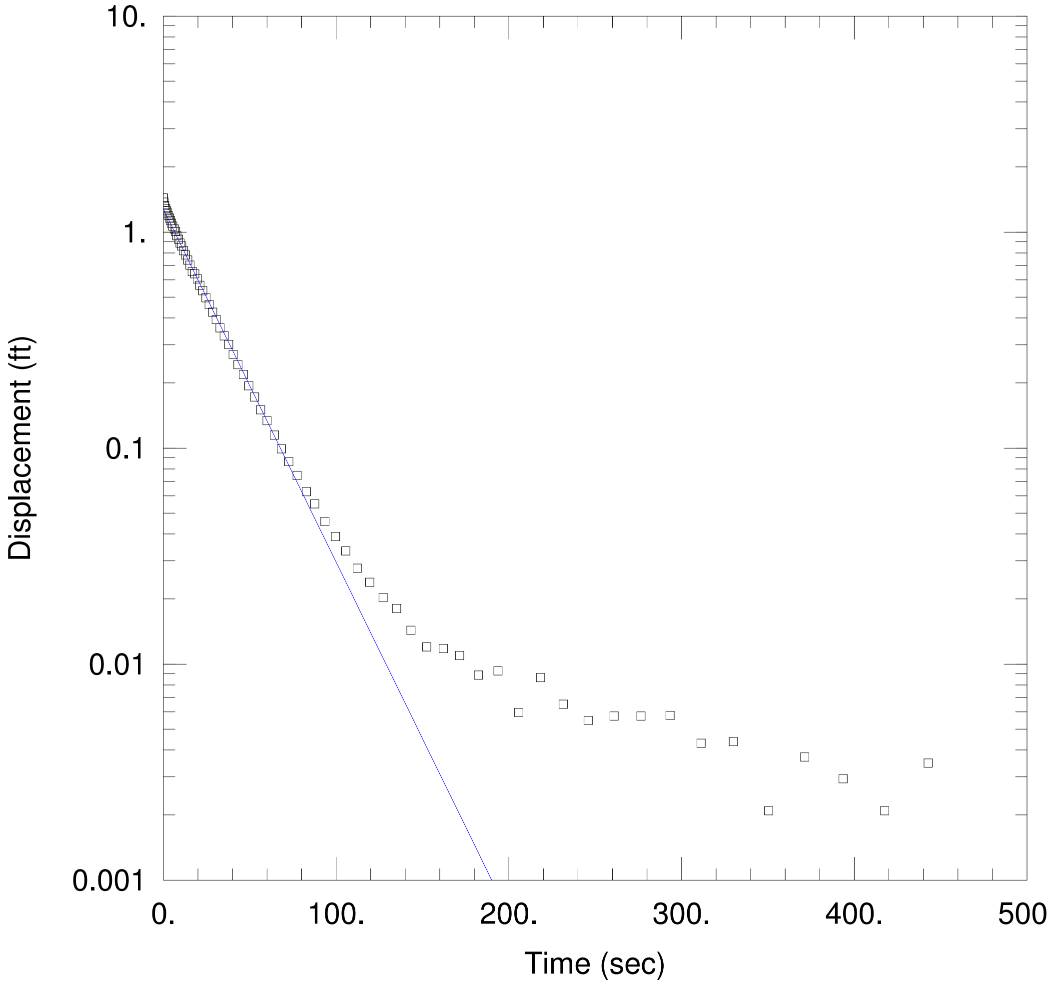
WELL DATA (MW-121S)

Initial Displacement: 1.639 ft Static Water Column Height: 4.33 ft
Total Well Penetration Depth: 4.33 ft Screen Length: 4.33 ft
Casing Radius: 0.08333 ft Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.003137 cm/sec y0 = 1.339 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-121D.aqt
Date: 12/11/18 Time: 10:28:29

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 152206.200
Location: Fulton, NY
Test Well: MW-121D
Test Date: 11/15/18

AQUIFER DATA

Saturated Thickness: 10.03 ft Anisotropy Ratio (Kz/Kr): 1.

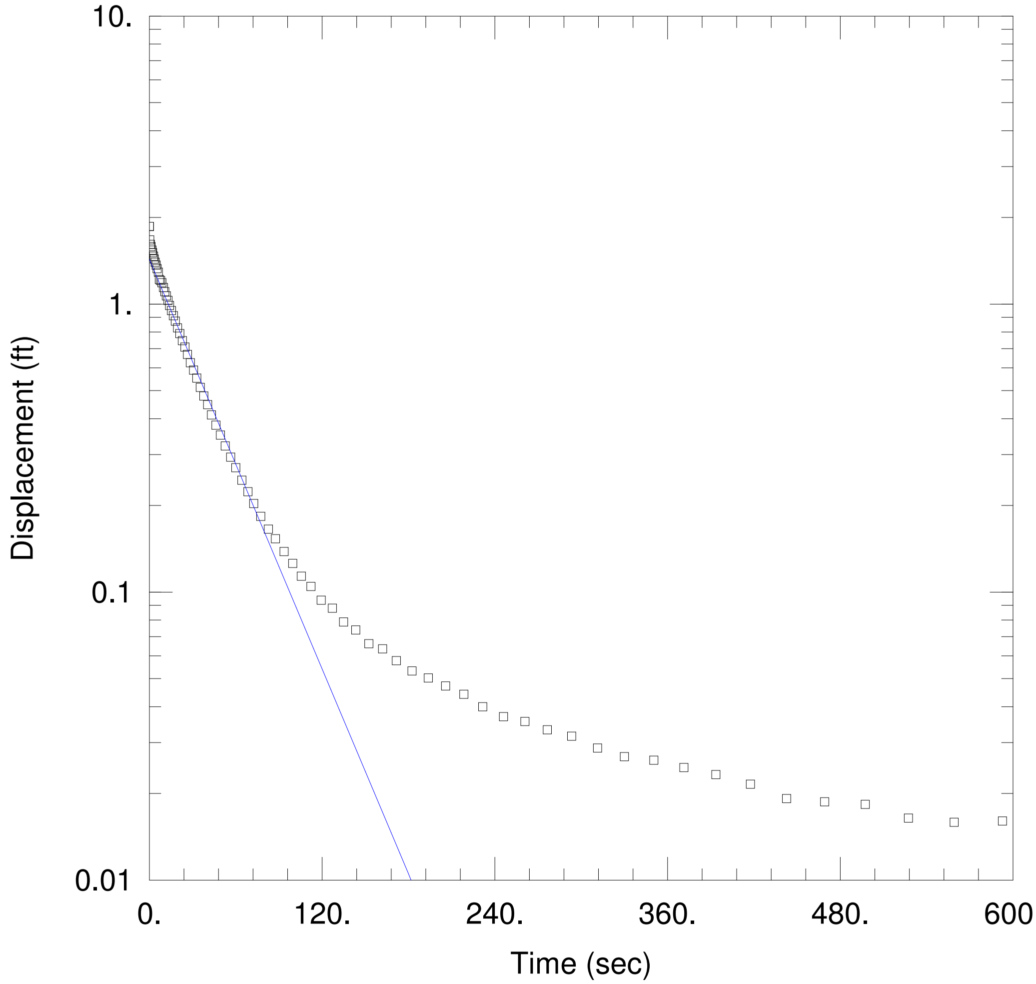
WELL DATA (MW-121D)

Initial Displacement: 1.438 ft Static Water Column Height: 10.13 ft
Total Well Penetration Depth: 10.13 ft Screen Length: 5. ft
Casing Radius: 0.08333 ft Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.002344 cm/sec y0 = 1.276 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-121R.aqt
Date: 12/11/18 | Time: 10:30:55

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 152206.200
Location: Fulton, NY
Test Well: MW-121R
Test Date: 11/15/2018

AQUIFER DATA

Saturated Thickness: 10. ft
Anisotropy Ratio (Kz/Kr): 1.

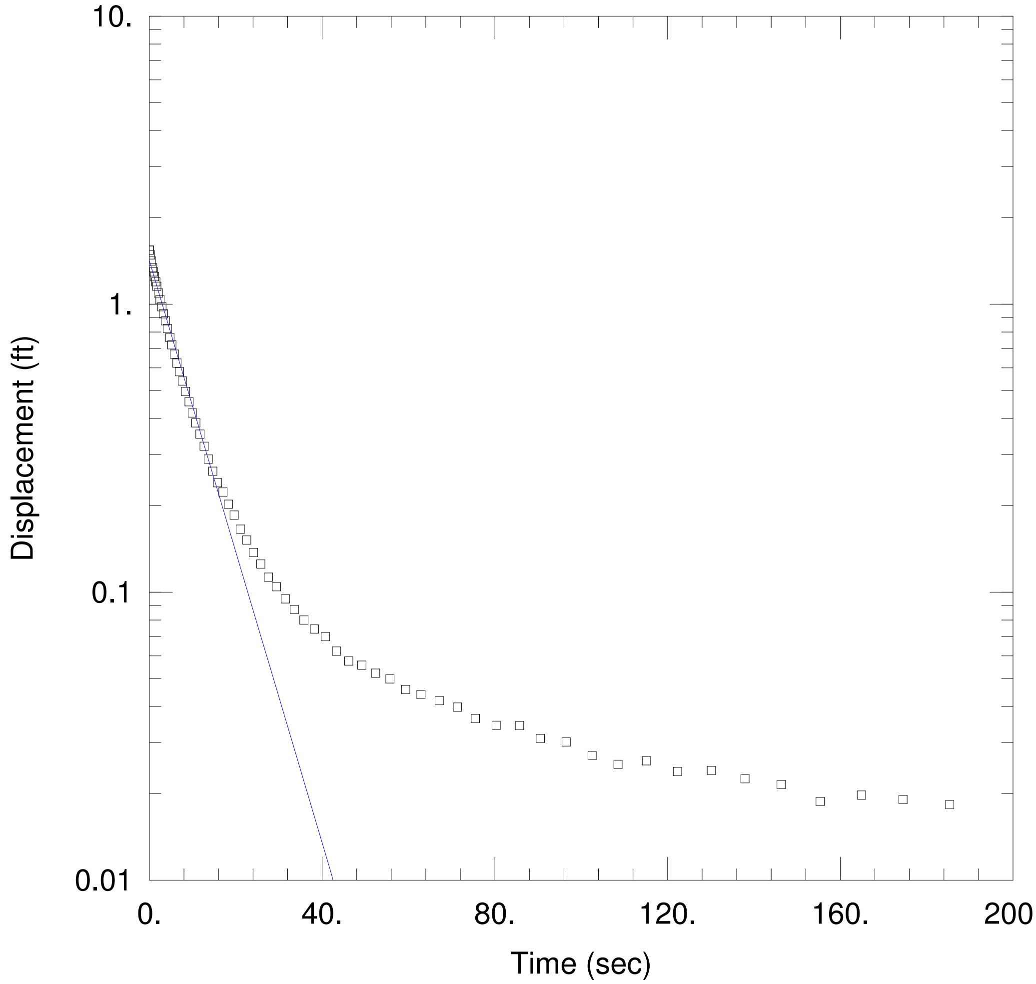
WELL DATA (MW-121R)

Initial Displacement: 1.862 ft
Static Water Column Height: 38.45 ft
Total Well Penetration Depth: 10. ft
Screen Length: 10. ft
Casing Radius: 0.0833 ft
Well Radius: 0.166 ft

SOLUTION

Aquifer Model: Confined
Solution Method: Hvorslev

K = 0.001331 cm/sec
y0 = 1.429 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-122S.aqt
Date: 12/11/18 Time: 10:45:25

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 152206.200
Location: Fulton, NY
Test Well: MW-122S
Test Date: 11/14/18

AQUIFER DATA

Saturated Thickness: 14.06 ft Anisotropy Ratio (Kz/Kr): 1.

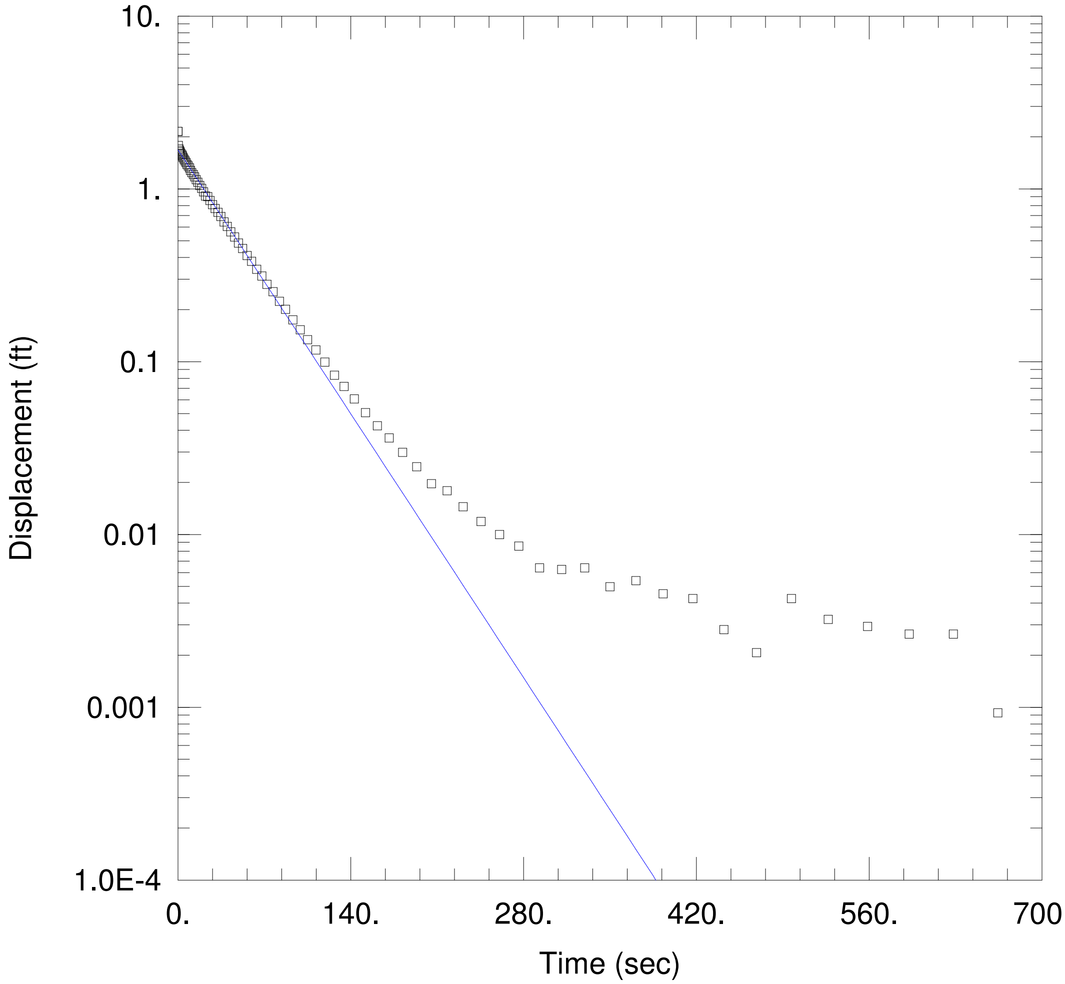
WELL DATA (MW-122S)

Initial Displacement: 1.54 ft Static Water Column Height: 7.06 ft
Total Well Penetration Depth: 7.06 ft Screen Length: 6. ft
Casing Radius: 0.08333 ft Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.00513 cm/sec y0 = 1.411 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-122D.aqt
Date: 12/11/18 Time: 10:37:10

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 152206.200
Location: Fulton, NY
Test Well: MW-122D
Test Date: 11/14/18

AQUIFER DATA

Saturated Thickness: 14.36 ft Anisotropy Ratio (Kz/Kr): 1.

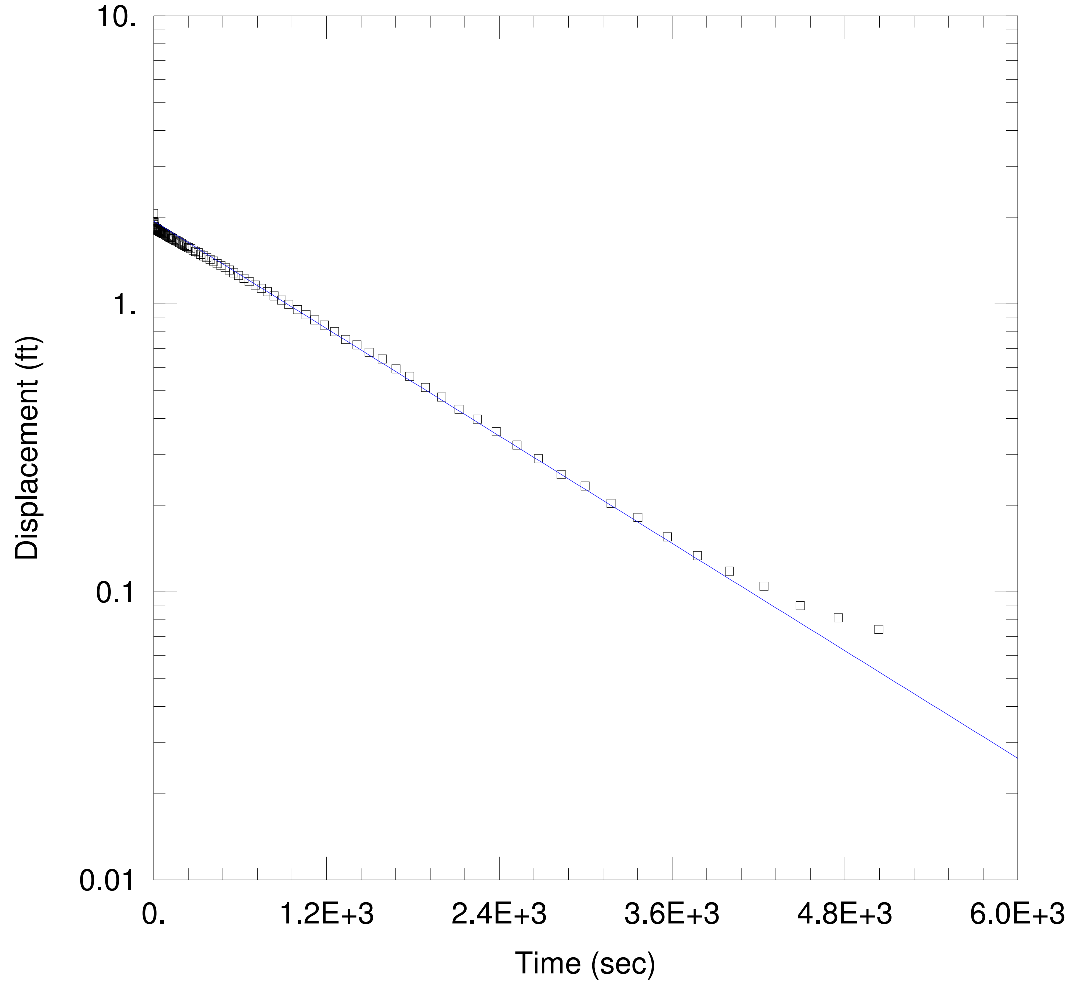
WELL DATA (MW-122D)

Initial Displacement: 2.147 ft
Total Well Penetration Depth: 13.96 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 13.96 ft
Screen Length: 5. ft
Well Radius: 0.34 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.001246 cm/sec y0 = 1.681 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-122R.aqt
Date: 12/11/18 Time: 10:41:00

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 152206.200
Location: Fulton, NY
Test Well: MW-122R
Test Date: 11/15/2018

AQUIFER DATA

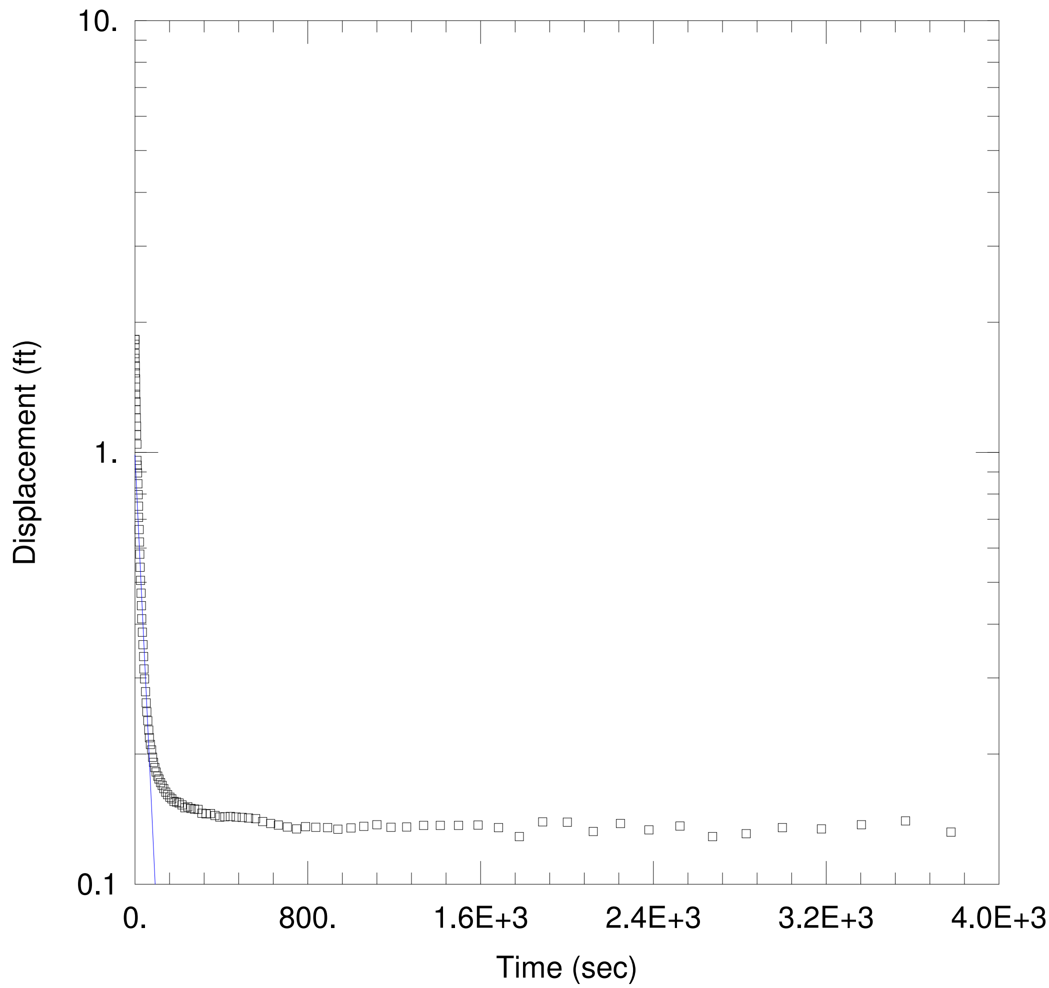
Saturated Thickness: 12. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-122R)

Initial Displacement: 2.06 ft Static Water Column Height: 43.08 ft
Total Well Penetration Depth: 12. ft Screen Length: 12. ft
Casing Radius: 0.0833 ft Well Radius: 0.166 ft

SOLUTION

Aquifer Model: Confined Solution Method: Hvorslev
K = 2.908E-5 cm/sec y0 = 1.937 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-122RD.aqt
Date: 12/11/18 Time: 10:43:00

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 152206.200
Location: Fulton, NY
Test Well: MW-122RD
Test Date: 11/14/2018

AQUIFER DATA

Saturated Thickness: 10. ft Anisotropy Ratio (Kz/Kr): 1.

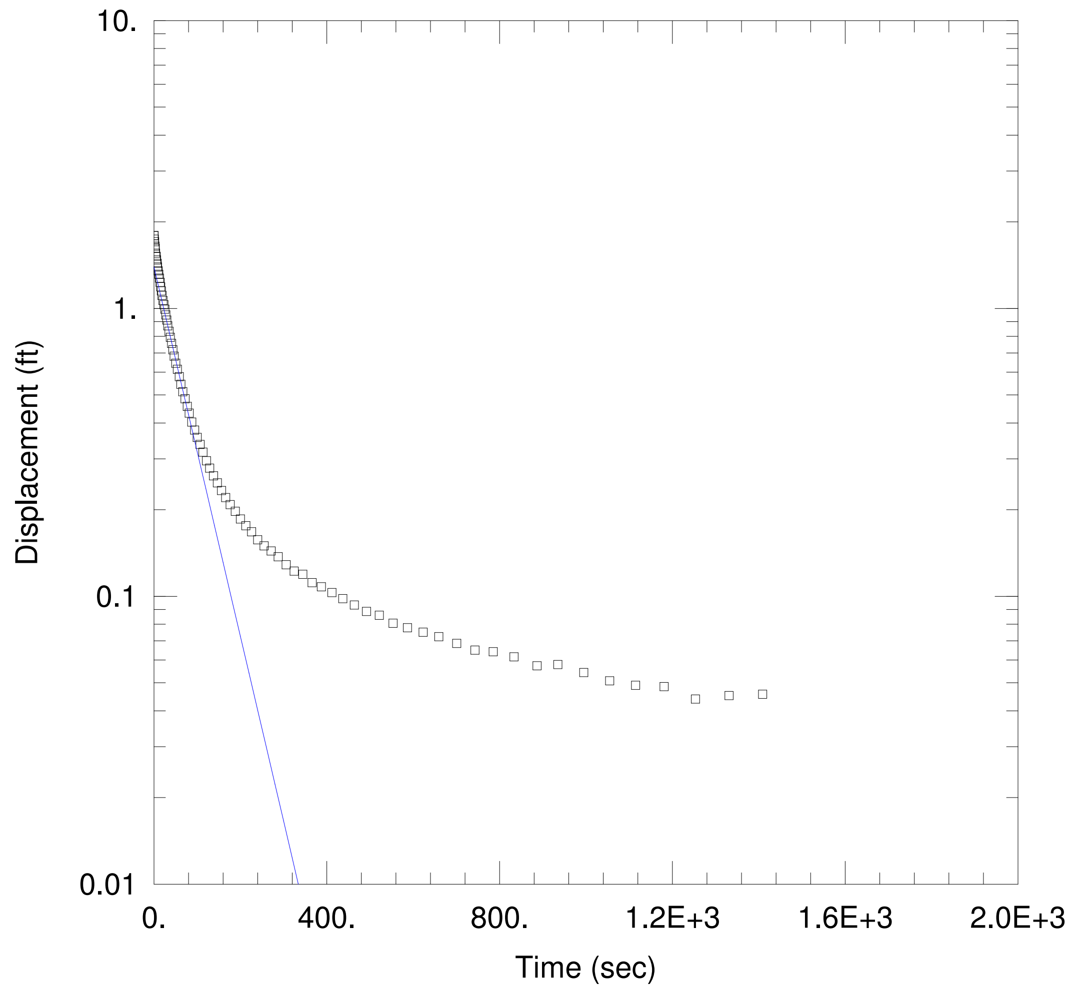
WELL DATA (MW-122RD)

Initial Displacement: 1.824 ft Static Water Column Height: 83.95 ft
Total Well Penetration Depth: 10. ft Screen Length: 10. ft
Casing Radius: 0.0833 ft Well Radius: 0.166 ft

SOLUTION

Aquifer Model: Confined Solution Method: Hvorslev

K = 0.001194 cm/sec y0 = 0.9859 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-123R.aqt
Date: 12/11/18 Time: 10:46:50

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 152206.200
Location: Fulton, NY
Test Well: MW-123R
Test Date: 11/15/2018

AQUIFER DATA

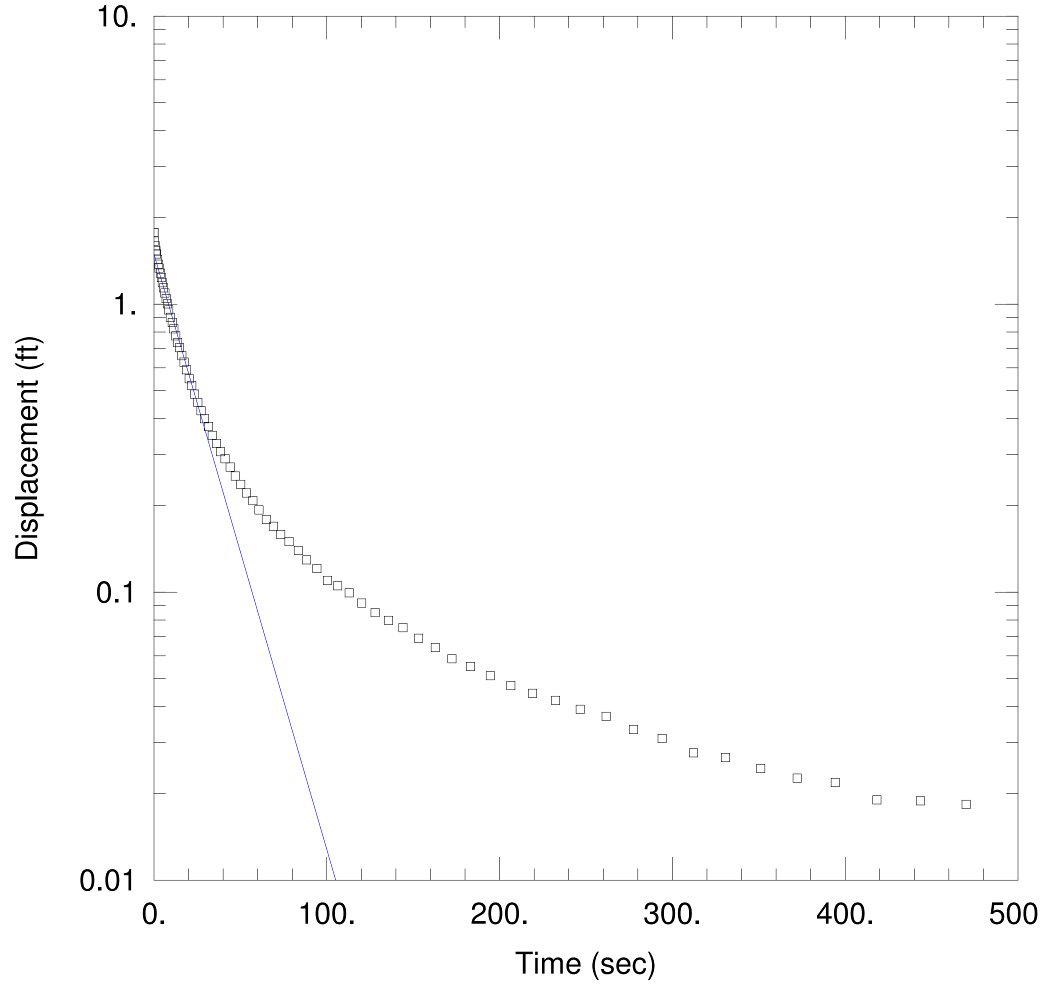
Saturated Thickness: 7. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-123R)

Initial Displacement: 1.788 ft Static Water Column Height: 38.84 ft
Total Well Penetration Depth: 7. ft Screen Length: 7. ft
Casing Radius: 0.0833 ft Well Radius: 0.166 ft

SOLUTION

Aquifer Model: Confined Solution Method: Hvorslev
K = 0.001029 cm/sec y0 = 1.392 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-124R.aqt
Date: 12/10/18 Time: 15:11:03

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 152206.200
Location: Fulton, NY
Test Well: MW-124R
Test Date: 11/15/2018

AQUIFER DATA

Saturated Thickness: 10. ft
Anisotropy Ratio (Kz/Kr): 1.

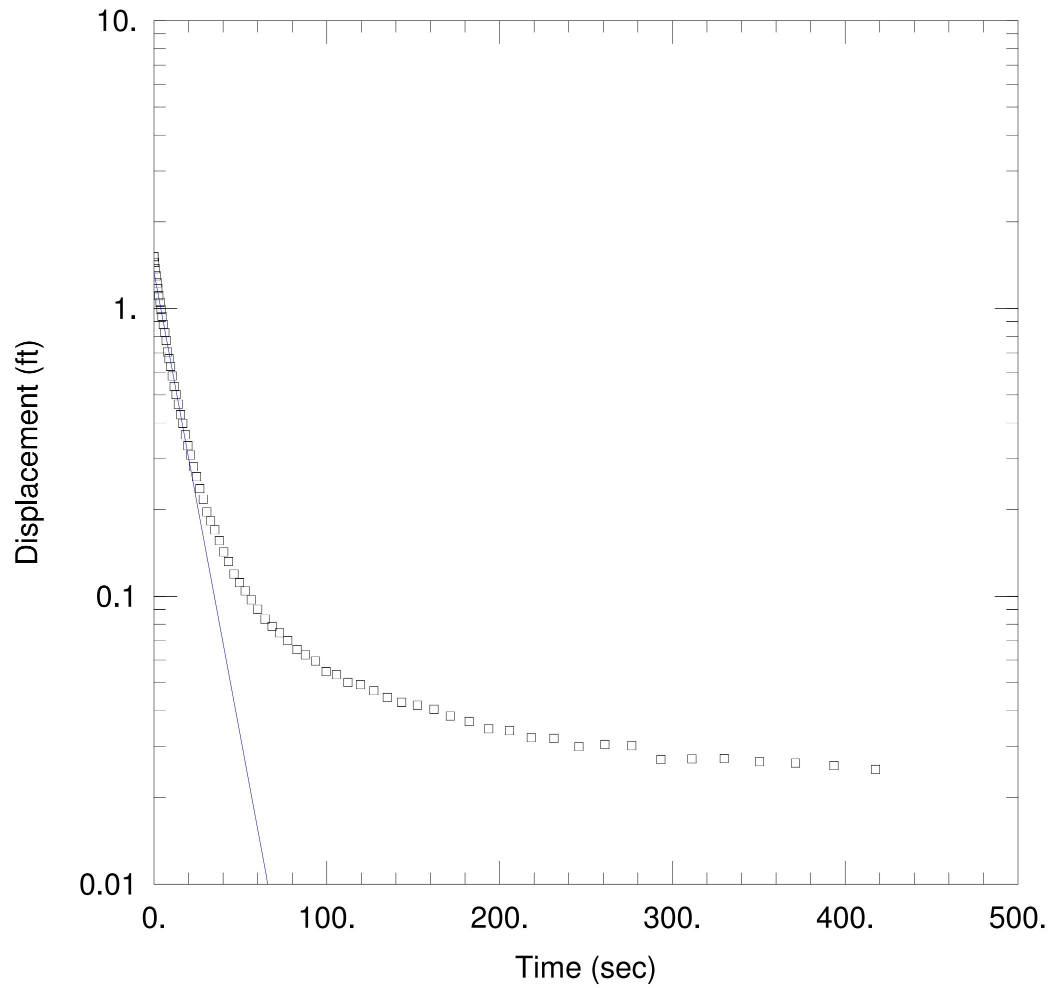
WELL DATA (MW-124R)

Initial Displacement: 1.769 ft
Static Water Column Height: 38.91 ft
Total Well Penetration Depth: 10. ft
Screen Length: 10. ft
Casing Radius: 0.0833 ft
Well Radius: 0.166 ft

SOLUTION

Aquifer Model: Confined
Solution Method: Hvorslev

K = 0.002321 cm/sec
y0 = 1.489 ft



WELL TEST ANALYSIS

Data Set: P:\...\MW-125R.aqt
Date: 12/10/18 Time: 15:12:34

PROJECT INFORMATION

Company: Brown and Caldwell
Client: National Grid
Project: 152206.200
Location: Fulton, NY
Test Well: MW-125R
Test Date: 11/15/2018

AQUIFER DATA

Saturated Thickness: 10. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-125R)

Initial Displacement: 1.513 ft
Total Well Penetration Depth: 10. ft
Casing Radius: 0.0833 ft
Static Water Column Height: 39.6 ft
Screen Length: 10. ft
Well Radius: 0.166 ft

SOLUTION

Aquifer Model: Confined Solution Method: Hvorslev

K = 0.003622 cm/sec y0 = 1.337 ft

Appendix E: Groundwater Sampling Field Data Sheets

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: REH / PFP
Purge/Sample Depth: ~ 90

Project Number: 152206
Date: 9/18/18
Well ID: MW-122RD
Sample ID: MW-122RD-20180918

Actual Time	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	Certified Parameters								
0910	10.42	21.89	75.8	2.77	174	29	14.01	~215	
0913	7.82	19.78	"100.0"	~~[illegible]~~ 1.29	"0.0"	~324	14.03		
0916	7.20	18.82	"100.0"	1.63	"0.0	-314	14.06		
0919	7.05	17.34	"100.0"	1.79	"0.0"	-286	14.08		
0922	7.02	17.51	"100.0"	1.74	"0.0"	-259	14.08		
0925	7.01	17.22	"100.0"	1.85	"0.0"	-240	14.08		
0928	7.00	17.34	"100.0"	1.84	"0.0"	-229	14.08		
0931	7.01	16.72	"100.0"	1.28	"0.0"	-219	14.08		
0934	7.00	17.03	"100.0"	1.79	"0.0"	-212	14.08		
0937	7.00	17.26	"100.0"	1.71	"0.0"	-207	14.08		cleaned water chamber
0940									
0943	6.88	17.64	"100.0"	0.56	978	-152	14.05		
0946	6.95	17.52	"100.0"	0.54	942	-178	14.07		
0949	6.99	17.18	"100.0"	0.60	840	-199	14.03		
0952	7.00	17.40	"100.0"	0.64	805	-203	14.05		
0955	7.02	17.14	"100.0"	0.73	675	-206	14.08		
0958	7.03	17.62	"100.0"	0.75	658	-208	14.08		
1001	7.02	18.20	"100.0"	0.79	605	-209	14.07		
1004	7.02	18.72	"100.0	0.79	560	-209	14.08		
1007	7.02	18.71	"100.0	0.80	502	-209	14.08		
1010	7.03	18.75	"100.0	0.80	576	-211	14.08		
1013	7.03	18.56	"100.0"	0.81	510	-212	14.08		
1016	Collect sample MW-122RD-20180918								

Certified Sample Information:
Time of Sample: 1016
Analyst Signature: [signature]

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: WEWBOVL0
Serial No. Handheld: PLF909B
Calibration Date/Time: 9/13/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-122RD
Sample I.D.: MW-122RD-20180918 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH / PFP

Date: 9/18/18 Time: 0910
Weather: Sunny Air Temp.: 72

WELL DATA:

Casing Diameter: 12" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 14.05 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: —— To be purged: ——

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ ~~Teflon®~~ WY ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 125 mL/min Elapsed Time: 60 min Volume Pumped: 2.5 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☒ Prepared Off-Site ☐ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ ~~Teflon®~~ ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☒ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☐ Clear ☒ Turbid ☐ Color: Light Red ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 9/18/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: REH / PFP
Purge/Sample Depth: ~51'

Project Number: 152206
Date: 9/18/18
Well ID: MW-123R
Sample ID: MW-123R-20180918

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1044	8.60	20.30	11.7	2.81	49.7	-185	18.02	150	
1047	7.63	17.83	13.0	1.67	23.5	-187	18.08		
1050	7.30	16.67	13.1	0.81	8.5	-164	18.13		
1053	7.24	16.20	14.3	0.53	78.8	-163	18.17		
1056	7.19	16.72	17.2	0.41	80.0	-162	18.22		
1059	7.19	16.71	18.9	0.37	93.2	-163	18.22		
1102	7.19	16.54	19.7	0.34	79.7	-164	18.22		
1105	7.19	16.29	20.1	0.31	69.3	-166	18.22		
1108	7.19	16.22	20.4	0.27	60.5	-167	18.22		
1111	7.20	16.17	20.6	0.26	52.9	-167	18.20		
1114	7.20	16.17	20.8	0.24	42.1	-168	18.22		
1117	Collect sample			MW-123R-20180918					

RH

Certified Sample Information:
Time of Sample: 1117
Analyst Signature: [signature]

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: WEWB0UL0
Serial No. Handheld: PLYF909B
Calibration Date/Time: 9/13/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-123R
Sample I.D.: MW-123R-20180918 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH / PFP

Date: 9/18/18 Time: 1044
Weather: Sunny Air Temp.: 75

WELL DATA:

Casing Diameter: 8" ❑ Stainless Steel ☒ Steel ❑ PVC ❑ Teflon® ❑ Other: ______
Intake Diameter: 2" ❑ Stainless Steel ❑ Galv. Steel ☒ PVC ❑ Teflon® ❑ Open rock
DEPTH TO: Static Water Level: 17.83 ft Bottom of Well: _____ ft
DATUM: ❑ Top of Protective Casing ☒ Top of Well Casing ❑ Other:
CONDITION: Is Well clearly labeled? ❑ Yes ☒ No Is well clean to bottom? ❑ Yes ❑ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ❑ No
Does Weep Hole adequately drain well head? ☒ Yes ❑ No
Is Concrete Pad Intact? (not cracked or frost heaved) ❑ Yes ❑ No
Is Padlock Functional? ❑ Yes ❑ No ☒ NA Is Inner Casing Intact? ❑ Yes ❑ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ❑ No
VOLUME OF WATER: Standing in well: — To be purged: —

PURGE DATA:

METHOD: ❑ Bailer, Size: ____ ☒ Bladder Pump ❑ 2" Submersible Pump ❑ 4" Submersible Pump
❑ Centrifugal Pump ❑ Peristaltic Pump ❑ Inertial Lift Pump ❑ Other: ____________

MATERIALS: Pump/Bailer: ❑ Teflon® ☒ Stainless Steel ❑ PVC ❑ Other: ________
Tubing/Rope: ~~Teflon®~~ ❑ Polyethylene ☒ Polypropylene ❑ Other: ________ (REH)

Pumping Rate: 150 mL/min Elapsed Time: 30 min Volume Pumped: 1.5 G
Was well Evacuated? ❑ Yes ☒ No Number of Well Volumes Removed: ________
PURGING EQUIPMENT: ❑ Dedicated ☒ Prepared Off-Site ❑ Field Cleaned

SAMPLING DATA:

METHOD: ❑ Bailer, Size: ____ ☒ Bladder Pump ❑ 2" Submersible Pump ❑ 4" Submersible Pump
❑ Syringe Sampler ❑ Peristaltic Pump ❑ Inertial Lift Pump ❑ Other: ____________

MATERIALS: Pump/Bailer: ❑ Teflon® ☒ Stainless Steel
Tubing/Rope: ~~Teflon®~~ ☒ Polyethylene

SAMPLING EQUIPMENT: ❑ Dedicated ☒ Prepared Off-Site ❑ Field Cleaned
Metals samples field filtered? ❑ Yes ☒ No Method: ____________
APPEARANCE: ☒ Clear ❑ Turbid ❑ Color: _______ ❑ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ❑ Yes Name: ____________
MS/MSD: ☒ No ❑ Yes Name: ____________

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Kosnack Date: 9/18/18

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: REH/ PFP
Purge/Sample Depth: ~46

Project Number: 152206
Date: 9/18/18
Well ID: MW-120R
Sample ID: MW-120R-20180918

Actual Time	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	Certified Parameters								
1227	6.82	20.59	4.45	9.89	21.6	-54	16.14	175	
1230	7.17	17.16	5.84	2.90	19.0	-130	16.16		
1233	7.28	16.15	6.40	2.18	8.5	-159	16.18		
1236	7.31	15.18	6.65	2.03	4.2	-170	16.20		
1239	7.31	14.99	6.72	2.12	2.0	-174	16.21		
1242	7.31	14.85	6.74	2.12	3.4	-172	16.22		
1245	7.31	14.78	6.78	2.22	8.1	-178	16.24		
1248	7.31	14.72	6.92	2.06	20.5	-180	16.25		
1251	7.32	14.31	7.31	2.15	15.6	-180	16.25		
1254	7.31	14.66	7.52	2.20	12.4	-180	16.28		
1257	7.31	14.67	8.16	2.05	9.0	-179	16.30		Slight sheen on purge water
1300	collect sample								

Certified Sample Information:
Time of Sample: 1300 ~~1305~~ RH

Analyst Signature: [signature]

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: VTBB5L7G
Calibration Date/Time: 09/13/18
Serial No. Handheld: WEPVE08V

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-120R
Sample I.D.: MW-120R-20180918 (If different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH / PFP

Date: 9/18/18 Time: 1227
Weather: Sunny Air Temp.: 75

WELL DATA:

Casing Diameter: 4" ❑ Stainless Steel ☒ Steel ❑ PVC ❑ Teflon® ❑ Other: ______
Intake Diameter: 2" ❑ Stainless Steel ❑ Galv. Steel ☒ PVC ❑ Teflon® ❑ Open rock
DEPTH TO : Static Water Level: 16.02 ft Bottom of Well: ____ ft
DATUM: ❑ Top of Protective Casing ☒ Top of Well Casing ❑ Other:
CONDITION: Is Well clearly labeled? ❑ Yes ☒ No Is well clean to bottom? ❑ Yes ❑ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ❑ No
Does Weep Hole adequately drain well head? ☒ Yes ❑ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ❑ No
Is Padlock Functional? ❑ Yes ❑ No ☒ NA Is Inner Casing Intact? ❑ Yes ❑ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ❑ No
VOLUME OF WATER: Standing in well: — To be purged: —

PURGE DATA:

METHOD: ❑ Bailer, Size: ____ ☒ Bladder Pump ❑ 2" Submersible Pump ❑ 4" Submersible Pump
❑ Centrifugal Pump ❑ Peristaltic Pump ❑ Inertial Lift Pump ❑ Other: ______

MATERIALS: Pump/Bailer: ❑ Teflon® ☒ Stainless Steel ❑ PVC ❑ Other: ______
Tubing/Rope: ~~☒ Teflon®~~ PH ☒ Polyethylene ❑ Polypropylene ❑ Other: ______

Pumping Rate: 175 ml/min Elapsed Time: 30 min Volume Pumped: 1.75 G
Was well Evacuated? ❑ Yes ☒ No Number of Well Volumes Removed: ______
PURGING EQUIPMENT: ❑ Dedicated ❑ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ❑ Bailer, Size: ____ ☒ Bladder Pump ❑ 2" Submersible Pump ❑ 4" Submersible Pump
❑ Syringe Sampler ❑ Peristaltic Pump ❑ Inertial Lift Pump ❑ Other: ______

MATERIALS: Pump/Bailer: ❑ Teflon® ☒ Stainless Steel
Tubing/Rope: ~~❑ Teflon®~~ PH ☒ Polyethylene

SAMPLING EQUIPMENT: ❑ Dedicated ❑ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ❑ Yes ☒ No Method: ______
APPEARANCE: ☒ Clear ❑ Turbid ❑ Color: ______ ❑ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ❑ Yes Name: ______
MS/MSD : ☒ No ❑ Yes Name: ______

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hizack Date: 9/18/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	9/18/18
Personnel:	REH / FFP	Well ID:	MW-120D
Purge/Sample Depth:	~18	Sample ID:	MW-120D-20180918

Actual Time	Certified Parameters pH	Temp (ºC)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1315	7.50	18.70	4.09	3.90	114	-191	14.56	250	
1318	7.49	17.22	4.05	2.10	91.9	-202	14.53		
1321	7.51	16.74	4.07	1.93	81.5	-206	14.52		
1324	7.52	16.52	4.09	1.90	78.6	-210	14.57		
1327	7.53	16.19	4.11	1.87	74.3	-213	14.60		
1330	7.53	15.91	4.11	1.90	80.5	-213	14.64		
1333	7.54	15.96	4.10	1.88	76.9	-215	14.68		
1336	7.54	15.84	4.10	1.84	72.5	-215	14.68		
1339	7.54	15.70	4.09	1.86	67.9	-215	14.68		
1342	7.54	15.65	4.08	1.91	53.8	-216	14.68		
1345	7.53	15.62	4.07	1.97	38.7	-215	14.68		Slight sheen on purge water and faint fuel like oder
1348	Collect sample			MW-120D-20180918					

Certified Sample Information:
Time of Sample: 1348 Analyst Signature:
Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: VTBB5L7G Serial No. Handheld: WEPUE08Y
Calibration Date/Time: 09/13/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-120D
Sample I.D.: MW-120D-20180918 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH / PFP
Date: 9/18/18 Time: 1315
Weather: sunny Air Temp.: 75

WELL DATA:

Casing Diameter: 4" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ______
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 14.43 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ~~☒ Yes~~ ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ________ To be purged: ________

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ________

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ______
Tubing/Rope: ~~☒ Teflon®~~ GPH ☒ Polyethylene ☐ Polypropylene ☐ Other: ______

Pumping Rate: 250 mL/min Elapsed Time: 30 min Volume Pumped: 2.5 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ________
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ________

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ~~☒ Teflon®~~ GPH ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ________
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ______ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ________
MS/MSD: ☒ No ☐ Yes Name: ________

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 9/18/18

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Project Number: 152206
Client: National Grid
Date: 9/18/18
Personnel: REM / PFP
Well ID: MW-115D
Purge/Sample Depth: ~22
Sample ID: MW-115D-20180918

Actual Time	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	Certified Parameters								
1413	7.65	19.56	2.67	10.43	67.7	-129	8.48	200	
1416	7.37	17.90	3.52	9.33	101	-145	8.50		
1419	7.37	16.91	3.90	1.49	301	-152	8.52		
1422	7.37	16.60	3.99	1.15	215	-158	8.52		
1425	7.38	16.51	4.01	1.15	153	-159	8.52		
1428	7.38	16.40	4.02	1.15	113	-160	8.52		
1431	7.38	16.32	4.02	1.11	97.1	-161	8.52		
1434	7.38	16.19	4.02	1.17	71.3	-163	8.52		
1437	7.38	16.17	4.02	1.25	55.0	-163	8.52		
1440	7.38	16.09	4.02	1.15	43.9	-164	8.54		
1443	7.38	16.01	4.01	1.15	41.8	-164	8.53		
1446	Collect sample								

REK

Certified Sample Information:
Time of Sample: 1446
Analyst Signature: [signature]
Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: VTBB5L7G
Serial No. Handheld: WEPUE08V
Calibration Date/Time: 09/13/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-115D
Sample I.D.: MW-115D-20180918 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH / PFP

Date: 9/18/18 Time: 1413
Weather: Sunny Air Temp.: 75

WELL DATA:

Casing Diameter: 8" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 8.41 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: —— To be purged: ——

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ~~☒ Teflon®~~ RH ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 200 mL/min Elapsed Time: 30 min Volume Pumped: 2G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ~~☒ Teflon®~~ RH ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☒ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel [signature] Date: 9/18/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Project Number: 152206
Client: National Grid
Date: 9/19/18
Personnel: REH / PFP
Well ID: MW-116D
Purge/Sample Depth: ~26
Sample ID: MW-116D-20180919

Actual Time	Certified Parameters pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
0842	7.66	17.50	2.54	11.65	309	-136	19.25	200	
0845	7.38	15.31	3.17	2.04	303	-167	19.26		
0848	7.35	14.36	2.92	1.62	198	-174	19.26		
0851	7.34	14.27	2.96	1.55	171	-174	19.27		
0854	7.35	14.12	3.33	1.51	90.0	-179	19.28		
0857	7.35	14.10	3.41	1.52	62.2	-180	19.28		
0900	7.35	14.05	3.48	1.51	47.3	-183	19.27		
0903	7.34	14.00	3.51	1.50	35.9	-183	19.27		
0906	7.34	13.95	3.52	1.50	27.3	-183	19.28		
0909	7.34	13.93	3.53	1.49	20.3	-185	19.27		
0912	7.34	13.93	3.54	1.48	18.1	-185	19.28		
0915	collect sample								

Certified Sample Information:
Time of Sample: 0915
Analyst Signature: Rachel [signature]

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: VTBB5LFG
Serial No. Handheld: WEPUE08V
Calibration Date/Time: 09/13/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-116D
Sample I.D.: MW-116D-20180919 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH / PFP
Date: 9/19/18 Time: 0842
Weather: cloudy Air Temp.: 64

WELL DATA:

Casing Diameter: 4" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ______
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 19.20 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ______ To be purged: ______

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ______

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ______
Tubing/Rope: ~~☒ Teflon®~~ ☒ Polyethylene ☐ Polypropylene ☐ Other: ______

Pumping Rate: 200 mL/min Elapsed Time: 30 min Volume Pumped: 2 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ______
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ______

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene
SAMPLING EQUIPMENT: ☐ Dedicated ☒ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ______
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ______ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: ______
MS/MSD : ☒ No ☐ Yes Name: ______

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel [signature] Date: 9/19/18

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	9/19/18
Personnel:	REH / PFP	Well ID:	MW-108
Purge/Sample Depth:	~13	Sample ID:	MW-108-20180919

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
0938	7.32	17.10	2.13	3.54	563	-110	8.88	200	
0941	7.13	17.64	2.09	1.85	589	-122	8.97		
0944	7.08	17.61	2.07	1.41	489	-127	9.09		
0947	7.22	17.60	2.06	1.51	380	-140	9.15		
0950	7.17	17.60	2.06	1.29	340	-136	9.17		
0953	7.15	17.47	2.07	1.18	270	-137	9.18		
0956	7.17	17.45	2.08	1.05	229	-140	9.20		
0959	7.19	17.42	2.09	1.00	179	-143	9.20		
1002	7.21	17.41	2.11	0.99	133	-145	9.21		
1005	7.21	17.41	2.12	0.92	91.9	-146	9.21		
1008	7.21	17.41	2.13	0.99	70.4	-147	9.22		
1011	7.19	17.40	2.14	0.95	48.1	-147	9.22		
1014.	collect sample			MW-108-20180919					

Certified Sample Information:
Time of Sample: 1014
Analyst Signature: [signature]
Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: VTBB5L7G
Serial No. Handheld: WEPUE08V
Calibration Date/Time: 09/13/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-108
Sample I.D.: MW-108-20180919 (If different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH/PFP
Date: 9/19/18 Time: 0938
Weather: cloudy Air Temp.: 65

WELL DATA:

Casing Diameter: 8" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ______

Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock

DEPTH TO: Static Water Level: 8.64 ft Bottom of Well: ____ ft

DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:

CONDITION:
- Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
- Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
- Does Weep Hole adequately drain well head? ☒ Yes ☐ No
- Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
- Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
- Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No

VOLUME OF WATER: Standing in well: ———— To be purged: ————

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ______

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ______

Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ______

Pumping Rate: 200 mL/min Elapsed Time: 36 min Volume Pumped: 2.25 G

Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ______

PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ______

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

Metals samples field filtered? ☐ Yes ☒ No Method: ______

APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ______ ☐ Contains Immiscible Liquid

FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ______
MS/MSD: ☒ No ☐ Yes Name: ______

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Afzinski Date: 9/19/18

Brown and Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: BEH / PFP
Pump/Sample Depth: ~12.5
Project Number: 152206
Date: 9/19/18
Well ID: MW-119
Sample ID: MW-119-20180919

Actual Time	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1048	7.54	18.55	2.40	1.80	698	-34	8.46	225	
1051	7.34	18.18	2.42	0.91	504	-27	8.49		
1054	7.33	18.04	2.41	0.70	418	-25	8.53		
1057	7.33	17.91	2.41	0.65	346	-25	8.58		
1100	7.32	17.78	2.40	0.57	205	-25	8.65		
1103	7.32	17.72	2.38	0.57	174	-39	8.73		
1106	7.33	17.62	2.34	0.60	141	-56	8.69		
1109	7.33	17.59	2.32	0.59	127	-62	8.71		
1112	7.33	17.55	2.30	0.54	120	-64	8.70		
1115	7.34	17.53	2.27	0.49	105	-64	8.68		
1118	7.34	17.51	2.25	0.47	92.9	-64	8.69		
1121	7.34	17.49	2.23	0.45	88.8	-63	8.70		
1124	7.34	17.49	2.22	0.43	82.1	-62	8.71		
1127	collect sample MW-119-20180919								

Certified Sample Information:
Time of Sample: 1127

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: VTBB5L7G
Calibration Date/Time: 09/13/18
Analyst Signature: Rachel Kozuak
Serial No. Handheld: WEPVE08V

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**
If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDW
SAMPLING FIELD DAT

Well Number: MW-119
Sample I.D.: MW-119-20180919 (if different from w

Date: 9/19/18 Time: 1049 Air Temp.:
Weather: partly cloudy

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH / FFP

WELL DATA:

Casing Diameter: 8" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 8.33 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION:
Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No

VOLUME OF WATER: Standing in well: ____ To be purged: ____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 225 mL/min Elapsed Time: 39 min Volume Pumped: 2.5 G
Number of Well Volumes Removed: ____
Was well Evacuated? ☐ Yes ☒ No
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Agnacki Date: 9/19/18

Revision 2.1: 10/20/14

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	9/19/18
Personnel:	REH/PFP	Well ID:	MW-112D
Purge/Sample Depth:	~16.5	Sample ID:	MW-112D-20180919

Actual Time	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	Certified Parameters								
1240	7.44	19.59	2.87	2.40	808	-61	7.55	250	
1243	7.40	19.10	2.92	1.57	"0.0"	-71	7.53		
1246	7.46	18.35	2.99	0.96	"0.0"	-93	7.50		
1249	7.40	18.14	3.00	0.72	"0.0"	-92	7.50		
1252	7.40	18.08	3.01	0.59	"0.0"	-93	7.46		
1255	7.40	18.04	3.02	0.59	"0.0"	-95	7.48		
1258	7.40	18.06	3.02	0.55	"1000"	-97	7.45		
1301	7.40	18.05	3.02	0.52	841	-98	7.44		
1304									cleaned horiba chamber
1307	7.46	18.04	3.02	0.72	456	-108	7.46		
1310	7.40	17.99	3.02	0.52	367	-102	7.45		
1313	7.39	17.99	3.02	0.50	303	-102	7.45		
1316	7.37	18.03	3.01	0.4	212	-102	7.48		
1319	7.37	18.01	3.01	0.47	198	-103	7.44		
1322	7.37	18.03	3.00	0.48	143	-104	7.46		
1325	7.37	18.03	3.00	0.46	126	-105	7.45		
1328	7.39	18.08	2.99	0.48	112	-108	7.45		
1331	7.43	18.00	2.99	0.49	96.7	-111	7.48		
1334	7.43	18.01	2.98	0.50	91.1	-112	7.45		
1337	7.43	19.00	2.98	0.47	72.9	-112	7.46		
1340	7.42	18.02	2.98	0.45	71.6	-112	7.44		
1343	Collect sample MW-112D-20180919								

Certified Sample Information:
Time of Sample: 1343 Analyst Signature: [signature]

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: VTBB5L7G Serial No. Handheld: WEPVE08V
Calibration Date/Time: 09/13/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-112D
Sample I.D.: MW-112D.20180919 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH / PFP

Date: 9/19/18 Time: 1240
Weather: Sunny Air Temp.: 70°

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ______
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 7.44 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ——— To be purged: ———

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ______

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ______
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ______

Pumping Rate: 250 mL/min Elapsed Time: 60 min Volume Pumped: 5G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ______
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ______

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ______
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ______ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ______
MS/MSD: ☒ No ☐ Yes Name: ______

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 9/19/18

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Project Number: 152206
Client: National Grid
Date: 9/19/18
Personnel: REH / PFP
Well ID: MW-1125
Purge/Sample Depth: ~9.5
Sample ID: MW-1125-20180919

Actual Time	Certified Parameters: pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1353	7.33	20.83	3.47	1.45	937	-61	7.48	250	
1356	7.26	20.74	3.48	0.76	448	-64	7.48		
1359	7.26	20.69	3.48	0.54	278	-65	7.48		
1402	7.27	20.63	3.49	0.46	122	-64	7.48		
1405	7.27	20.55	3.49	0.43	85.7	-64	7.48		
1408	7.28	20.51	3.49	0.39	67.5	-63	7.48		
1411	7.29	20.49	3.49	0.37	67.4	-63	7.48		
1414	7.29	20.52	3.49	0.35	71.3	-63	7.48		
1417	7.28	20.46	3.49	0.35	64.5	-64	7.48		
1420	7.28	20.47	3.49	0.35	37.1	-63	7.48		
1423	7.27	20.44	3.48	0.31	25.8	-62	7.48		
1426	Collect MW-1125-20180919 and MS/MSD								

RH

Certified Sample Information:
Time of Sample:
Analyst Signature:

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: VTBB5L7G
Serial No. Handheld: WEPVE08V
Calibration Date/Time: 9/13/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-112S
Sample I.D.: MW-112S-20180919 (If different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH / PFP

Date: 9/19/18 Time: 1353
Weather: Sunny Air Temp.: 70°

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☐ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☐ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 7.44 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: — To be purged: —

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 250 ml/min Elapsed Time: 30 min Volume Pumped: 2.5 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☐ No ☒ Yes Name: MW-112S-20180919-MS/MSD

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hornacki Date: 9/19/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	9/20/18
Personnel:	REH / PFP	Well ID:	MW-121D
Purge/Sample Depth:	~15	Sample ID:	MW-121D-20180920

Actual Time	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	Certified Parameters								
0837	7.32	15.43	1.85	1.7[illegible]	474	161	8.78	250	
0840	7.08	15.69	1.85	0.88	365	150	8.78		
0843	7.11	15.68	1.86	0.75	291	147	8.76		
0846	7.13	15.68	1.86	0.69	237	144	8.80		
0849	7.15	15.66	1.87	0.60	142	136	8.79		
0852	7.15	15.68	1.87	0.55	111	130	8.79		
0855	7.16	15.68	1.87	0.54	101	127	8.78		
0858	7.17	15.69	1.87	0.51	90.3	123	8.80		
0901	7.18	15.68	1.87	0.49	70.5	117	8.80		
0904	7.19	15.67	1.87	0.47	61.8	111	8.78		
0907	7.19	15.67	1.87	0.45	53.6	107	8.78		
0910	Collect sample MW-121D-20180920								

Certified Sample Information:

Time of Sample: 0910 Analyst Signature: [signature]

Instrument Data:

Manufacturer/Model: Horiba U-52

Serial No. Unit: VTBB5LZG Serial No. Handheld: WEPVE08V

Calibration Date/Time: 9/20/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-121D
Sample I.D.: MW-121D-20180920 (If different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH / PFP

Date: 9/20/18 Time: 0837
Weather: Sunny Air Temp.: 54°

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____

Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock

DEPTH TO : Static Water Level: 8.77 ft Bottom of Well: ____ ft

DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:

CONDITION:
- Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
- Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
- Does Weep Hole adequately drain well head? ☒ Yes ☐ No
- Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
- Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
- Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No

VOLUME OF WATER: Standing in well: ____ To be purged: ____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 250 mL/min Elapsed Time: 30 min Volume Pumped: 2.5 G

Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____

PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

Metals samples field filtered? ☐ Yes ☒ No Method: ____

APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid

FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: ____
MS/MSD : ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel [signature] Date: 9/20/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: REH / PFP
Purge/Sample Depth: ~10.5

Project Number: 152206
Date: 9/20/18
Well ID: MW-121S
Sample ID: MW-121S-20180920

Actual Time	Certified Parameters pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
0927	7.27	16.30	1.36	2.77	219	107	8.62	270	
0930	7.05	16.80	1.36	1.39	218	110	8.68		
0933	7.08	16.96	1.35	1.24	188	107	8.73		
0936	7.12	17.05	1.39	0.99	147	103	8.76		
0939	7.12	17.06	1.40	0.89	139	103	8.80		
0942	7.14	17.08	1.44	0.74	126	100	8.76		
0945	7.14	17.09	1.46	0.67	126	99	8.79		
0948	7.14	17.08	1.49	0.62	129	98	8.74		
0951	7.15	17.10	1.50	0.68	125	96	8.75		
0954	7.15	17.11	1.51	0.55	121	95	8.77		
0957	7.16	17.11	1.52	0.52	115	93	8.74		
1000	7.16	17.10	1.52	0.51	113	92	8.81		
1003	7.16	17.10	1.53	0.50	111	91	8.76		
1006	7.16	17.15	1.53	0.50	110	90	8.80		
1009	7.15	17.14	1.54	0.49	110	89	8.77		
1012	7.15	17.15	1.54	0.48	110	89	8.79		
1015	Collect sample MW-121S-20180920								

RH

Certified Sample Information:
Time of Sample: 1015
Analyst Signature: [signature]

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: VTBB5L7G
Serial No. Handheld: WEPYE08V
Calibration Date/Time: 9/20/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-121S
Sample I.D.: MW-121S-20180920 (If different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH/CFP
Date: 9/20/18 Time: 0927
Weather: Sunny Air Temp.: 54°

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 8.51 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ____ To be purged: ____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 260 mL/min Elapsed Time: 45 min Volume Pumped: 3.75 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel Tubing/Rope: ☐ Teflon® ☒ Polyethylene
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☐ Clear ☒ Turbid ☐ Color: tan ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 9/20/18

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NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	9/20/18
Personnel:	REH / PFP	Well ID:	MW-110S
Purge/Sample Depth:	~13	Sample ID:	MW-110S-20180920

Actual Time	Certified Parameters: pH	Temp (ºC)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1047	6.46	17.37	6.99	10.08	258	-2	9.28	200	
1050	6.69	17.43	6.69	1.90	201	-25	9.43		
1053	6.70	17.65	7.03	0.91	172	-20	9.65		
1056	6.71	17.81	7.08	0.47	300	-14	9.88		
1059	6.70	17.81	7.11	0.35	425	-13	9.88		
1102	6.71	17.77	7.13	0.22	530	-14	9.90		
1105	6.71	17.77	7.13	0.17	527	-15	9.90		
1108	6.72	17.71	7.06	0.00	437	-16	9.91		
1111	6.72	17.69	7.02	0.00	417	-17	9.92		
1114	6.73	17.69	6.95	0.00	280	-19	9.93		
1117	6.72	17.67	6.89	0.00	174	-20	9.95		
1120	6.72	17.67	6.88	0.00	163	-20	9.99		
1123	6.72	17.65	6.81	0.00	133	-20	9.99		
1126	6.71	17.64	6.83	0.00	128	-20	9.99		
1129	6.73	17.65	6.82	0.00	107	-20	9.99		
1132	6.72	17.66	6.81	0.00	85.8	-20	9.99		
1135	6.73	17.69	6.80	0.00	84.2	-20	10.00		
1138	6.72	17.72	6.79	0.00	82.7	-20	10.00		
1141	collect MW-110S-20180920								

PFP

Certified Sample Information:
Time of Sample: 1141 Analyst Signature: [signature]

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: WEWB0UL0 Serial No. Handheld: PLF909B
Calibration Date/Time: 9/20/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-110S
Sample I.D.: MW-110S - 20180920 (If different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH / PFP

Date: 9/20/18 Time: 1047
Weather: Sunny Air Temp.: 60

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 9.16 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION:
Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ———— To be purged: ————

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 200mL/min Elapsed Time: 51 min Volume Pumped: 3.75 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Ozizeck Date: 9/20/18

Brown AND Caldwell

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NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	9/20/18
Personnel:	REH / PFP	Well ID:	MW-101
Purge/Sample Depth:	~16'	Sample ID:	MW-101-2980920

Actual Time	Certified Parameters pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1250	6.86	19.23	5.21	12.44	"1000"	-135	14.93	150	
1253	6.95	18.29	5.16	~~1~~.75	"0.0"	-157	14.96		
1256	7.03	17.90	5.20	0.83	"0.0"	-162	14.98		
1259	7.08	17.75	5.29	0.12	657	-171	15.01		
1302	7.13	17.70	5.33	0.00	262	-176	15.04		
1305	7.16	17.74	5.34	0.00	169	-178	15.03		
1308	7.18	17.70	5.34	0.00	102	-180	15.03		
1311	7.18	17.62	5.35	0.00	75.5	-180	15.01		
1314	7.19	17.74	5.30	0.00	71.9	-180	15.03		
1317	7.17	17.62	5.29	0.00	54.6	-178	15.02		
1320	7.17	17.67	5.27	0.00	67.7	-177	15.02		
1323	Collect Sample MW-101-20180920								

RH

Certified Sample Information:

Time of Sample: 1323

Analyst Signature: Rachel Hoznack

Instrument Data:

Manufacturer/Model: Horiba U-52

Serial No. Unit: WEWB0VL0

Serial No. Handheld: PLF909B

Calibration Date/Time: 9/20/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-101
Sample I.D.: MW-101-20180920 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REM/PFP

Date: 9/20/18 Time: 1250
Weather: partly cloudy Air Temp.: 70°

WELL DATA:

Casing Diameter: 6 ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 14.84 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☒ Yes ☐ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ____ To be purged: ____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 150 ml/min Elapsed Time: 30 min Volume Pumped: 1.5 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☐ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: ____
MS/MSD : ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Ozwacki Date: 9/20/18

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NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	9/20/18
Personnel:	REM / PFP	Well ID:	MW-102
Purge/Sample Depth:	~14	Sample ID:	MW-102-20180920

Actual Time	Certified Parameters: pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1347	6.48	17.90	2.74	5.45	"0.0"	-37	12.00	175	
1350	6.40	16.47	2.62	1.40	726	-35	12.13		
1353	6.37	15.74	2.30	0.29	276	-29	12.21		
1356	6.32	14.99	1.96	0.00	82.0	-28	12.34		
1359	6.31	14.91	1.98	0.00	65.0	-31	12.47		
1402	6.30	14.79	2.03	0.00	57.6	-32	12.53		
1405	6.29	14.68	2.10	0.00	52.3	-35	12.60		
1408	6.29	14.63	2.23	0.00	38.6	-39	12.62		
1411	6.29	14.57	2.29	0.00	33.0	-40	12.67		
1414	6.29	14.52	2.38	0.00	27.1	-43	12.70		
1417	6.30	14.46	2.41	0.00	21.3	-45	12.74		
1420	collect sample			MW-	102-20180920				

RFP

Certified Sample Information:
Time of Sample: 1420
Analyst Signature: Rachel [signature]

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: WEWB 0VL0
Serial No. Handheld: PLF 909B
Calibration Date/Time: 9/20/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-102
Sample I.D.: MW-102-20180920 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH/PFP
Date: 9/20/18 Time: 1347
Weather: cloudy Air Temp.: 70

WELL DATA:

Casing Diameter: 8" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 11.86 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ____ To be purged: ____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 175 ml/min Elapsed Time: 30 min Volume Pumped: 1.75 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hinrichs Date: 9/20/18

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NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: REH / PFP
Purge/Sample Depth: ~22
Project Number: 152206
Date: 9/20/18
Well ID: MW-102D
Sample ID: MW-102D-20180920

Actual Time	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	Certified Parameters								
1435	6.90	16.70	2.75	~~[illegible]~~ 11.45	316	-84	12.74	125	
1438	6.95	15.09	3.23	2.39	387	-107	12.74		
1441	7.00	14.57	3.39	0.90	395	-116	12.74		
1444	7.03	14.36	3.46	0.15	334	-120	12.74		
1447	7.06	14.27	3.49	0.00	207	-124	12.72		
1450	7.05	14.29	3.49	0.00	139	-125	12.73		
1453	7.06	14.22	3.49	0.08	70.2	-125	12.73		
1456	7.06	14.17	3.49	0.00	44.7	-126	12.72		
1459	7.06	14.13	3.49	0.00	35.3	-126	12.73		
1502	7.06	14.07	3.49	0.00	27.7	-127	12.72		
1505	7.06	14.07	3.50	0.00	21.7	-128	12.72		
1508	Collect sample MW-102D-20180920								

RH

Certified Sample Information:
Time of Sample: 1508
Analyst Signature: [signature]

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: WEWBØVLØ
Serial No. Handheld: PLF9Ø9B
Calibration Date/Time: 9/20/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-102D
Sample I.D.: MW-102D-20180920 (If different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REM / JFT

Date: 9/20/18 Time: 1435
Weather: clouds Air Temp.: 70°

WELL DATA:

Casing Diameter: 8" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ______
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 12.69 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ____________ To be purged: ____________

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____________

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ________
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ________

Pumping Rate: 125 mL/min Elapsed Time: 30min Volume Pumped: 1.25 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ________
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____________

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____________
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ______ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☐ No ☒ Yes Name: DUP-20180920
MS/MSD: ☒ No ☐ Yes Name: ____________

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 9/20/18

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: REH / PFP
Purge/Sample Depth: ~17

Project Number: 152206
Date: 9/21/18
Well ID: MW-103
Sample ID: MW-103-20180921

Actual Time	Certified Parameters: pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
0928	6.60	17.45	1.67	9.74	153	-42	14.72	150	
0931	6.71	15.95	1.61	3.94	133	-51	14.74		
0934	6.73	14.99	1.58	1.35	214	-56	14.75		
0937	6.75	14.64	1.61	0.38	144	-67	14.77		
0940	6.77	14.66	1.66	0.15	133	-76	14.74		
0943	6.76	14.58	1.69	0.06	136	-79	14.76		
0946	6.75	14.63	1.71	0.00	138	-82	14.75		
0949	6.74	14.87	1.75	0.00	112	-92	14.77		
0952	6.79	14.95	1.77	0.00	104	-95	14.75		
0955	6.80	14.99	1.81	0.00	114	-97	14.74		
0958	6.80	15.07	1.85	0.00	107	-100	14.74		
1001	6.80	15.12	1.87	0.00	106	-102	14.76		
1004	6.81	15.10	1.89	0.00	93.7	-103	14.77		
1007	6.82	15.03	1.92	0.00	89.1	-106	14.77		
1010	6.83	14.96	1.95	0.00	84.2	-108	14.75		
1013	collect sample		MW-103-20180921						

Certified Sample Information:
Time of Sample: 1013
Analyst Signature: [signature]

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: WE~~B3~~ ØVLO
Serial No. Handheld: PLF909B
Calibration Date/Time: 9/20/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-103
Sample I.D.: MW-103-20180921 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH/RFP
Date: 9/21/18 Time: 0928
Weather: Sunny Air Temp.: 75

WELL DATA:

Casing Diameter: 8" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 14.63 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost-heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ____ To be purged: ____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 150 ml/min Elapsed Time: ~45 Volume Pumped: 2.2 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: ____
MS/MSD : ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hinocky Date: 9/21/18

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: REH / PFP
Purge/Sample Depth: ~23

Project Number: 152206
Date: 9/24/18
Well ID: MW-103D
Sample ID: MW-103D-20180924

Actual Time	Certified Parameters pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1257	6.30	15.99	2.17	2.33	191	-63	14.85	250	
1300	6.73	14.22	2.37	0.88	276	-128	14.87		
1303	6.88	13.48	2.43	0.19	173	-135	14.86		
1306	6.90	13.25	2.45	0.00	40.1	-138	14.88		
1309	6.90	13.17	2.46	0.00	78.2	-140	14.85		
1312	6.89	13.08	2.47	0.00	43.9	-142	14.87		
1315	6.89	13.00	2.48	0.00	28.5	-143	14.86		
1318	6.89	12.97	2.49	0.00	23.1	-144	14.85		
1321	6.89	12.96	2.49	0.00	17.9	-145	14.88		
1324	6.88	12.91	2.49	0.00	14.6	-144	14.86		
1327	6.87	12.91	2.49	0.00	12.5	-144	14.86		
1330	collect sample MW-103D-20180924								

Certified Sample Information:
Time of Sample: 1330
Analyst Signature: [signature]

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: WEWBOVLO
Serial No. Handheld: PLF909B
Calibration Date/Time: 9/24/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-103D
Sample I.D.: MW-103D-20180924 (If different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: BEH / PFP

Date: 9/24/18 Time: 1257
Weather: Sunny Air Temp.: 65

WELL DATA:

Casing Diameter: 8" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 14.79 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☐ Top of Well Casing ☐ Other:
CONDITION:
Is Well clearly labeled? ☒ Yes ☐ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ____ To be purged: ____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 250mL Elapsed Time: 30 min Volume Pumped: 2.5G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 9/24/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: REH / FFP
Purge/Sample Depth: ~13

Project Number: 152206
Date: 9/24/18
Well ID: MW-1095
Sample ID: MW-1093-20180924

Actual Time	Certified Parameters pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1352	6.82	17.97	3.07	8.90	328	-32	8.25	200	
1355	6.88	18.07	3.30	0.85	173	-41	8.26		
1358	6.87	18.09	3.34	0.24	80.1	-45	8.26		
1401	6.88	18.12	3.36	0.05	44.4	-47	8.28		
1404	6.88	18.19	3.35	0.00	36.1	-49	8.28		
1407	6.86	18.29	3.33	0.00	26.9	-50	8.28		
1410	6.87	18.35	3.31	0.00	23.1	-57	8.26		
1413	6.87	18.39	3.31	0.00	22.9	-57	8.28		
1416	6.88	18.45	3.28	0.00	18.6	-48	8.27		
1419	6.87	18.47	3.27	0.00	17.4	-48	8.26		
1422	6.81	18.49	3.25	0.00	15.1	-46	8.27		
1425	Collect sample MW-1095-20180924								

Certified Sample Information:

Time of Sample: 1425

Analyst Signature: Rachel [signature]

Instrument Data:

Manufacturer/Model: Horiba U-52
Serial No. Unit: W EWB 0VL0
Calibration Date/Time: 9/24/18
Serial No. Handheld: PLF 909B

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-109S
Sample I.D.: MW-109S-20180924 (If different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH/PFP

Date: 9/24/18 Time: 1352
Weather: Sunny Air Temp.: 65

WELL DATA:

Casing Diameter: 8" — [ ] Stainless Steel [x] Steel [ ] PVC [ ] Teflon® [ ] Other: ____

Intake Diameter: 2" — [ ] Stainless Steel [ ] Galv. Steel [x] PVC [ ] Teflon® [ ] Open rock

DEPTH TO: Static Water Level: 8.24 ft Bottom of Well: ____ ft

DATUM: [ ] Top of Protective Casing [x] Top of Well Casing [ ] Other:

CONDITION:
- Is Well clearly labeled? [ ] Yes [x] No — Is well clean to bottom? [ ] Yes [ ] No
- Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) [x] Yes [ ] No
- Does Weep Hole adequately drain well head? [x] Yes [ ] No
- Is Concrete Pad Intact? (not cracked or frost heaved) [x] Yes [ ] No
- Is Padlock Functional? [ ] Yes [ ] No [x] NA — Is Inner Casing Intact? [ ] Yes [ ] No
- Is Inner Casing Properly Capped and Vented? [x] Yes [ ] No

VOLUME OF WATER: Standing in well: ——— To be purged: ———

PURGE DATA:

METHOD: [ ] Bailer, Size: ____ [x] Bladder Pump [ ] 2" Submersible Pump [ ] 4" Submersible Pump [ ] Centrifugal Pump [ ] Peristaltic Pump [ ] Inertial Lift Pump [ ] Other: ____

MATERIALS: Pump/Bailer: [ ] Teflon® [x] Stainless Steel [ ] PVC [ ] Other: ____ — Tubing/Rope: [ ] Teflon® [x] Polyethylene [ ] Polypropylene [ ] Other: ____

Pumping Rate: 250 ml/min Elapsed Time: 30 min Volume Pumped: 2.5 G

Was well Evacuated? [ ] Yes [x] No — Number of Well Volumes Removed: ____

PURGING EQUIPMENT: [ ] Dedicated [ ] Prepared Off-Site [x] Field Cleaned

SAMPLING DATA:

METHOD: [ ] Bailer, Size: ____ [x] Bladder Pump [ ] 2" Submersible Pump [ ] 4" Submersible Pump [ ] Syringe Sampler [ ] Peristaltic Pump [ ] Inertial Lift Pump [ ] Other: ____

MATERIALS: Pump/Bailer: [ ] Teflon® [x] Stainless Steel — Tubing/Rope: [ ] Teflon® [x] Polyethylene

SAMPLING EQUIPMENT: [ ] Dedicated [ ] Prepared Off-Site [x] Field Cleaned

Metals samples field filtered? [ ] Yes [x] No Method: ____

APPEARANCE: [x] Clear [ ] Turbid [ ] Color: ____ [ ] Contains Immiscible Liquid

FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: [x] No [ ] Yes Name: ____
MS/MSD: [x] No [ ] Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hojnacki Date: 9/24/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	9/24/18
Personnel:	REM/PFP	Well ID:	MW-110D
Purge/Sample Depth:	~20	Sample ID:	MW-110D-20180924

Actual Time	Certified Parameters pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1444	7.08	21.05	2.36	3.17	188	-115	9.46	150	
1447	7.01	19.68	3.12	0.85	160	-122	9.48		
1450	7.03	18.99	3.43	0.25	150	-127	9.48		
1453	7.05	18.57	3.52	0.03	144	-130	9.48		
1456	7.05	18.28	3.56	0.00	137	-132	9.48		
1459	7.06	18.00	3.57	0.00	130	-132	9.48		
1502	7.09	17.84	3.57	0.00	122	-133	9.48		
1505	7.07	17.76	3.57	0.00	117	-133	9.48		
1508	7.07	17.66	3.56	0.00	114	-133	9.48		
1511	7.06	17.56	3.57	0.00	110	-133	9.48		
1514	7.05	17.43	3.58	0.00	106	-132	9.48		
1517	7.05	17.36	3.58	0.00	105	-132	9.48		
1520	7.05	17.28	3.58	0.00	105	-132	9.48		
1523	7.05	17.22	3.59	0.00	98.5	-132	9.48		
1526	7.05	17.12	3.59	0.00	96.5	-132	9.48		
1529	7.05	17.07	3.60	0.00	95.3	-132	9.48		moderate
1532	Collect sample MW-110D-20180924								mothball
									like odor

Certified Sample Information:

Time of Sample: 1532

Analyst Signature: [signature]

Instrument Data:

Manufacturer/Model: Horiba U-52

Serial No. Unit: WEWB0YL0

Serial No. Handheld: PLF909B

Calibration Date/Time: 9/24/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-110D
Sample I.D.: MW-110D-20180924 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH/RFP
Date: 9/24/18 Time: 1444
Weather: Sunny Air Temp.: 65°

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 9.43 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☐ Yes ☒ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: — To be purged: —

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 150mL/min Elapsed Time: 45 min Volume Pumped: 2.25 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel [signature] Date: 9/24/18

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: REH / PFP
Purge/Sample Depth: ~17

Project Number: 152206
Date: 9/24/18
Well ID: MW-111S
Sample ID: MW-111S-20180924

Actual Time	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	Certified Parameters								
1551	6.92	19.41	1.70	18.94	157	-49	7.52	150	
1554	6.96	19.14	1.68	0.71	135	-59	7.53		
1557	7.00	18.98	1.66	0.04	131	-64	7.56		
1600	7.04	19.00	1.66	0.00	134	-66	7.55		
1603	7.02	18.99	1.67	0.00	158	-67	7.56		
1606	7.02	18.99	1.67	0.00	180	-69	7.55		
1609	7.02	19.00	1.68	0.00	157	-72	7.58		
1612	7.00	18.95	1.69	0.00	139	-75	7.57		
1615	7.00	18.90	1.69	0.00	111	-77	7.55		
1618	7.02	18.93	1.70	0.00	96.7	-80	7.55		
1621	7.01	18.95	1.70	0.00	90.4	-82	7.56		
1624	7.01	18.97	1.71	0.00	68.3	-83	7.55		
1627	Collect sample MW-111S-20180924								

RH

Certified Sample Information:
Time of Sample: ~~0~~ RH 1627
Analyst Signature: [signature]

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: WEWBOVLD
Serial No. Handheld: PLF909B
Calibration Date/Time: 9/24/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-111S
Sample I.D.: MW-111S-20180924 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REM/PFP

Date: 9/24/18 Time: 1551
Weather: Sunny Air Temp.: 65

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ______
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 7.43 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ________ To be purged: ________

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ________

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ________
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ________

Pumping Rate: 150 mL/min Elapsed Time: 33 min Volume Pumped: 1.6 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ________
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ________

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ________
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: ________
MS/MSD : ☒ No ☐ Yes Name: ________

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 9/24/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: REH/PFP
Purge/Sample Depth: ~42.5

Project Number: 152206
Date: 9/25/18
Well ID: MW-122R
Sample ID: MW-122R-20180925

Actual Time	Certified Parameters: pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
0757	7.50	14.56	7.16	20.76	44.6	43	8.18	200	
0800	7.39	14.36	8.08	2.77	44.9	-33	8.92		
0803	7.34	14.19	8.29	0.96	52.7	-47	9.59		
0806	7.33	14.12	8.00	0.50	52.8	-64	10.44		
0809	7.67	14.13	7.66	0.28	49.0	-71	11.16		
0812	7.30	14.16	7.18	0.10	40.0	-78	11.98		
0815	7.30	14.15	6.74	0.00	30.7	-83	12.64		
0818	7.30	14.14	6.55	0.00	26.6	-87	13.53		
0821	7.29	14.12	6.49	0.00	25.5	-88	14.22		
0824	7.28	14.06	6.44	0.00	22.9	-90	14.95		
0827	7.28	14.06	6.43	0.00	21.0	-91	15.43		moderat - strong mothball like odor
0830	Collect sample MW-122R-20180925								

REH

Certified Sample Information:
Time of Sample: 0830

Analyst Signature: [signature]

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: WEWBØVLØ
Calibration Date/Time: 9/24/18
Serial No. Handheld: PLF9Ø9B

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-122R
Sample I.D.: MW-122R-20180925 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH PFP

Date: 9/25/18 Time: 0757
Weather: Rainy Air Temp.: 53

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 8.21 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☐ Yes ☒ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: — To be purged: —

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 200 ml/min Elapsed Time: 30 min Volume Pumped: 2 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Ogzinocki Date: 9/25/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	9/25/18
Personnel:	REH / PFP	Well ID:	MW-122D
Purge/Sample Depth:	~18.5	Sample ID:	MW-122D-20180925

Actual Time	Certified Parameters pH	Temp (ºC)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
0845	7.07	15.71	1.94	24.06	108	45	8.34	200	
0848	6.96	15.65	1.90	1.62	117	52	8.35		
0851	6.97	15.57	1.88	0.17	224	57	8.35		
0854	6.96	15.51	1.88	0.00	273	62	8.35		
0857	6.98	15.52	1.88	0.00	210	64	8.33		
0900	7.02	15.51	1.88	0.00	130	65	8.33		
0903	7.00	15.49	1.88	0.00	99.7	67	8.32		
0906	7.00	15.47	1.88	0.00	70.7	69	8.32		
0909	7.01	15.50	1.88	0.00	56.9	71	8.32		
0912	7.03	15.47	1.88	0.00	52.8	71	8.35		
0915	7.02	15.45	1.88	0.00	47.1	72	8.34		
0918	collect MW-122D-20180925 and MS/MSD								

RH

Certified Sample Information:
Time of Sample: 0918
Analyst Signature: Rachel Hajnacki

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: WEWB0VL0
Serial No. Handheld: PLF909B
Calibration Date/Time: 9/24/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell Upper Saddle River, NJ Office	**LOW-FLOW GROUNDWATER SAMPLING FIELD DATA** Well Number: MW-122D Sample I.D.: MW-122D-20180925 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP — Date: 9/25/18 — Time: 0845
Personnel: REH / PFP — Weather: Rain — Air Temp.: 53

WELL DATA:
Casing Diameter: 6" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ______
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 8.11 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes [redacted]
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ______ To be purged: ______

PURGE DATA:
METHOD: ☐ Bailer, Size: ____ ☐ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ______
MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ______ Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ______
Pumping Rate: 200 ml/min Elapsed Time: 30 min Volume Pumped: 2 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ______
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:
METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ______
MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel Tubing/Rope: ☐ Teflon® ☒ Polyethylene
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ______
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ______ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ______
MS/MSD: ☐ No ☒ Yes Name: MW-122D-20180925-MS/MSD

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 9/25/18

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Project Number: 152206
Client: National Grid
Date: 9/25/18
Personnel: REH / PFP
Well ID: MW-122S
Purge/Sample Depth: ~12
Sample ID: MW-122S-20180925

Actual Time	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	Certified Parameters								
0936	6.83	16.26	2.09	0.31	45.8	131	7.93	200	
0939	6.73	16.90	2.11	0.00	31.4	127	7.95		
0942	6.73	17.01	2.11	0.00	22.6	124	7.96		
0945	6.79	17.08	2.11	0.00	14.1	118	7.98		
0948	6.77	17.11	2.11	0.00	10.9	112	7.98		
0951	6.76	17.13	2.11	0.00	10.3	108	7.97		
0954	6.76	17.12	2.11	0.00	7.6	100	7.97		
0957	6.75	17.13	2.10	0.00	6.1	94	7.95		
1000	6.73	17.11	2.10	0.00	5.4	89	7.98		
1003	6.73	17.08	2.10	0.00	4.8	71	7.98		
1006	6.73	16.99	2.07	0.00	7.6	59	7.98		pouring rain flooded vault and well
1009	~~collect sample MW-122S-20180925~~								

Certified Sample Information: No sample collected
Time of Sample: ~~1009~~
Analyst Signature: [signature]
Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: WEWB0YL0
Serial No. Handheld: PLF909B
Calibration Date/Time: 9/24/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-122S
Sample I.D.: (If different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel:
Date: ____________ Time: ____________
Weather: ____________________ Air Temp.: ______

WELL DATA:

Casing Diameter: _______ ❑ Stainless Steel ❑ Steel ❑ PVC ❑ Teflon® ❑ Other: ______
Intake Diameter: _______ ❑ Stainless Steel ❑ Galv. Steel ❑ PVC ❑ Teflon® ❑ Open rock
DEPTH TO : Static Water Level: 7.92 ft Bottom of Well: _____ ft
DATUM: ❑ Top of Protective Casing ❑ Top of Well Casing ❑ Other:
CONDITION: Is Well clearly labeled? ❑ Yes ❑ No Is well clean to bottom? ❑ Yes ❑ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ❑ Yes ❑ No
Does Weep Hole adequately drain well head? ❑ Yes ❑ No
Is Concrete Pad Intact? (not cracked or frost heaved) ❑ Yes ❑ No
Is Padlock Functional? ❑ Yes ❑ No ❑ NA Is Inner Casing Intact? ❑ Yes ❑ No
Is Inner Casing Properly Capped and Vented? ❑ Yes ❑ No
VOLUME OF WATER: Standing in well: ______________ To be purged: ______________

PURGE DATA:

METHOD: ❑ Bailer, Size: ____ ❑ Bladder Pump ❑ 2" Submersible Pump ❑ 4" Submersible Pump
❑ Centrifugal Pump ❑ Peristaltic Pump ❑ Inertial Lift Pump ❑ Other: ____________

MATERIALS: Pump/Bailer: ❑ Teflon® ❑ Stainless Steel ❑ PVC ❑ Other: ________
Tubing/Rope: ❑ Teflon® ❑ Polyethylene ❑ Polypropylene ❑ Other: ______

Pumping Rate: ____________ Elapsed Time: __________ Volume Pumped: __________
Was well Evacuated? ❑ Yes ❑ No Number of Well Volumes Removed: _________
PURGING EQUIPMENT: ❑ Dedicated ❑ Prepared Off-Site ❑ Field Cleaned

SAMPLING DATA:

METHOD: ❑ Bailer, Size: ____ ❑ Bladder Pump ❑ 2" Submersible Pump ❑ 4" Submersible Pump
❑ Syringe Sampler ❑ Peristaltic Pump ❑ Inertial Lift Pump ❑ Other: ____________

MATERIALS: Pump/Bailer: ❑ Teflon® ❑ Stainless Steel
Tubing/Rope: ❑ Teflon® ❑ Polyethylene

SAMPLING EQUIPMENT: ❑ Dedicated ❑ Prepared Off-Site ❑ Field Cleaned
Metals samples field filtered? ❑ Yes ❑ No Method: ____________________
APPEARANCE: ❑ Clear ❑ Turbid ❑ Color: _______ ❑ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ❑ No ❑ Yes Name: ________________________
MS/MSD : ❑ No ❑ Yes Name: ________________________

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: ____________________________ Date: ______________

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Project Number: 152206
Client: National Grid
Date: 9/25/18
Personnel: REM / PFP
Well ID: MW-124R
Purge/Sample Depth: ~40
Sample ID: MW-124R-20180925

Actual Time	Certified Parameters: pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1036	9.56	16.23	3.50	0.24	185	2	7.45	200	
1039	8.42	15.90	4.00	0.00	146	-250	7.42		
1042	7.30	15.51	4.52	0.00	108	-149	7.45		
1045	7.14	15.32	4.69	0.00	71.1	-130	7.48		
1048	7.12	15.22	4.73	0.00	58.0	-127	7.47		
1051	7.11	15.12	4.76	0.00	50.0	-126	7.50		
1054	7.11	15.06	4.77	0.00	44.1	-126	7.50		
1057	7.12	15.04	4.78	0.00	45.4	-126	7.48		
1100	7.13	14.98	4.79	0.00	69.0	-127	7.48		
1103	7.13	14.98	4.81	0.00	73.4	-128	7.52		
1106	7.13	14.93	4.83	0.00	63.1	-128	7.53		
1109	Collect sample MW-124R-20180925								

Certified Sample Information:
Time of Sample: 1109
Analyst Signature: [signature]

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: WEWB0VL0
Serial No. Handheld: PLF909B
Calibration Date/Time: 9/24/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-124R

Sample I.D.: MW-124R-20180925 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP

Personnel: REH / PFP

Date: 9/25/18 Time: 1036

Weather: Rainy Air Temp.: 53

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____

Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock

DEPTH TO : Static Water Level: 7.36 ft Bottom of Well: ____ ft

DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:

CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No

Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No

Does Weep Hole adequately drain well head? ☒ Yes ☐ No

Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No

Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No

Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No

VOLUME OF WATER: Standing in well: ____ To be purged: ____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____

Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 200 mL/min Elapsed Time: 30 min Volume Pumped: 2 G

Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____

PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel

Tubing/Rope: ☒ Teflon® ☐ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

Metals samples field filtered? ☐ Yes ☒ No Method: ____

APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid

FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: ____

MS/MSD : ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hajnacki Date: 9/25/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: REH / PFP
Purge/Sample Depth: ~12

Project Number: 152206
Date: 9/25/18
Well ID: MW-122S
Sample ID: MW-122S-20180925

Actual Time	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	Certified Parameters								
1158	7.21	16.67	0.887	11.44	"0.0"	92	7.84	175	
1201	7.14	17.25	0.833	6.41	0.0	101	7.86		
1204	7.31	17.30	0.793	4.84	263	102	7.86		
1207	7.37	17.29	0.788	4.53	"1000"	101	7.88		
1210	7.30	17.29	0.791	4.40	879	101	7.87		
1213	7.49	17.18	0.796	4.34	572	101	7.88		
1216	7.48	17.17	0.795	4.22	466	103	7.86		
1219	7.49	17.16	0.798	4.15	382	104	7.88		
1222	7.48	17.15	0.798	4.14	345	104	7.88		
1225	7.48	17.12	0.794	4.14	308	108	7.87		
1228	7.45	17.10	0.788	4.19	273	111	7.86		
1231	7.39	17.09	0.780	4.23	232	114	7.86		
1234	7.49	17.08	0.772	4.19	189	111	7.88		
1237	7.50	17.06	0.767	4.23	180	109	7.88		
1240	7.52	17.07	0.759	4.26	166	110	7.88		
1243	7.60	17.06	0.739	4.33	132	109	7.87		
1246	7.61	17.07	0.732	4.38	123	109	7.86		
1249	7.63	17.09	0.725	4.34	109	109	7.86		
1252	7.64	17.09	0.721	4.42	99.8	108	7.88		
1255	7.61	17.10	0.715	4.45	82.2	110	7.88		
1258	7.63	17.10	0.712	4.44	76.5	109	7.88		
1301	collect sample MW-122S-20180925								

PFP

Certified Sample Information:
Time of Sample: 1301
Analyst Signature: [signature]
Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: WEWBØVLØ
Serial No. Handheld: PLF9Ø9B
Calibration Date/Time: 9/24/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-122S
Sample I.D.: MW-122S-20180925 (If different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REM / JFP
Date: 9/25/18 Time: 1108
Weather: Rain Air Temp.: 60

WELL DATA:

Casing Diameter: 6" ❑ Stainless Steel ☒ Steel ❑ PVC ❑ Teflon® ❑ Other: ____
Intake Diameter: 2" ❑ Stainless Steel ❑ Galv. Steel ☒ PVC ❑ Teflon® ❑ Open rock
DEPTH TO : Static Water Level: 7.79 ft Bottom of Well: ____ ft
DATUM: ❑ Top of Protective Casing ☒ Top of Well Casing ❑ Other:
CONDITION: Is Well clearly labeled? ❑ Yes ☒ No Is well clean to bottom? ❑ Yes ❑ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ❑ No
Does Weep Hole adequately drain well head? ❑ Yes ☒ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ❑ No
Is Padlock Functional? ❑ Yes ❑ No ☒ NA Is Inner Casing Intact? ❑ Yes ❑ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ❑ No
VOLUME OF WATER: Standing in well: ____ To be purged: ____

PURGE DATA:

METHOD: ❑ Bailer, Size: ____ ☒ Bladder Pump ❑ 2" Submersible Pump ❑ 4" Submersible Pump
❑ Centrifugal Pump ❑ Peristaltic Pump ❑ Inertial Lift Pump ❑ Other: ____

MATERIALS: Pump/Bailer: ❑ Teflon® ☒ Stainless Steel ❑ PVC ❑ Other: ____
Tubing/Rope: ❑ Teflon® ☒ Polyethylene ❑ Polypropylene ❑ Other: ____

Pumping Rate: 175 mL/min Elapsed Time: 60 min Volume Pumped: 3.5 G
Was well Evacuated? ❑ Yes ❑ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ❑ Dedicated ❑ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ❑ Bailer, Size: ____ ☒ Bladder Pump ❑ 2" Submersible Pump ❑ 4" Submersible Pump
❑ Syringe Sampler ❑ Peristaltic Pump ❑ Inertial Lift Pump ❑ Other: ____

MATERIALS: Pump/Bailer: ❑ Teflon® ☒ Stainless Steel
Tubing/Rope: ❑ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ❑ Dedicated ❑ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ❑ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ❑ Turbid ❑ Color: ____ ❑ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ❑ Yes Name: ____
MS/MSD : ☒ No ❑ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel [signature] Date: 9/25/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: REH / PFP
Purge/Sample Depth: ~40

Project Number: 152206
Date: 9/25/18
Well ID: MW-125R
Sample ID: MW-125R-20180925

Actual Time	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	Certified Parameters								
1318	8.51	16.04	1.89	1.17	265	-217	6.70	150	
1321	7.28	15.51	2.65	0.33	228	-192	6.70		
1324	7.09	15.15	3.15	0.00	248	-134	6.72		
1327	7.06	14.88	3.35	0.00	266	-135	6.72		
1330	7.06	14.72	3.46	0.00	239	-137	6.72		
1333	7.06	14.83	3.48	0.00	194	-139	6.72		
1336	7.05	14.80	3.50	0.00	183	-139	6.72		
1339	7.01	14.96	3.49	0.00	159	-128	6.72		
1342	7.02	14.92	3.47	0.00	161	-124	6.72		
1345	7.01	14.91	3.47	0.00	161	-127	6.72		
1348	7.02	14.93	3.47	0.00	158	-130	6.72		moderate mothball like odor
1351	collect sample MW-125R-20180925								

Certified Sample Information:
Time of Sample: 1351
Analyst Signature: Rachel Foginacki

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: WEWBOVLO
Serial No. Handheld: PLF907B
Calibration Date/Time: 9/24/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-125R
Sample I.D.: MW-125R-20180925 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH/PFP

Date: 9/25/18 Time: 1318
Weather: overcast/rain Air Temp.: 60

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____

Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock

DEPTH TO: Static Water Level: ____ ft Bottom of Well: ____ ft

DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:

CONDITION:
- Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
- Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
- Does Weep Hole adequately drain well head? ☐ Yes ☒ No
- Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
- Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
- Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No

VOLUME OF WATER: Standing in well: ———— To be purged: ————

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 150 mL/min Elapsed Time: 30 min Volume Pumped: 1.5 G

Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____

PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

Metals samples field filtered? ☐ Yes ☒ No Method: ____

APPEARANCE: ☐ Clear ☒ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid

FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 9/25/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	9/25/18
Personnel:	REH / PFP	Well ID:	MW - 121R
Purge/Sample Depth:	~ 39	Sample ID:	MW - 121R-20180925

Actual Time	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	Certified Parameters								
1408	8.95	15.31	2.83	0.34	89.8	-237	8.82	200	
1411	8.26	15.19	3.08	0.00	95.6	-242	8.82		
1414	7.31	14.81	3.40	0.00	168	-159	8.82		
1417	7.10	14.54	3.57	0.00	266	-140	8.82		
1420	7.06	14.39	3.61	0.00	229	-137	8.84		
1423	7.06	14.35	3.66	0.00	190	-137	8.84		
1426	7.07	14.27	3.68	0.00	161	-137	8.85		
1429	7.09	14.22	3.70	0.00	127	-140	8.86		
1432	7.11	14.23	3.72	0.00	123	-140	8.87		
1435	7.12	14.23	3.73	0.00	116	-141	8.87		
1438	7.12	14.23	3.75	0.00	105	-141	8.89		
1441	7.11	14.31	3.76	0.00	97.6	-140	8.89		
1444	7.10	14.34	3.76	0.00	95.5	-141	8.92		slight sheen on water and moderate naphthalene like odor
1447	7.10	14.31	3.78	0.00	87.2	-140	8.92		
1450	Collect sample MW-121R-20180925								

PFP

Certified Sample Information:

Time of Sample: 1450 Analyst Signature: [signature]

Instrument Data:

Manufacturer/Model: Horiba U-52

Serial No. Unit: WE4B0VL0 Serial No. Handheld: PLF9Ø9B

Calibration Date/Time: 9/24/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-121R
Sample I.D.: MW-121R-20180925 (If different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REM/PFP

Date: 9/25/18 Time: 1408
Weather: overcast Air Temp.: 40

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 8.71 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☐ Yes ☒ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: —— To be purged: ——

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 200 mL/min Elapsed Time: 30 min Volume Pumped: 2.75 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Abzrocki Date: 9/25/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	9/26/18
Personnel:	REH / PFP	Well ID:	MW-114D
Purge/Sample Depth:	~18	Sample ID:	MW-114D-20180926

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
0843	6.96	18.19	1.06	12.94	339	-49	7.10	175	
0846	7.01	17.61	1.33	3.35	209	-73	7.05		
0849	7.05	17.20	1.62	1.27	95.4	-88	7.05		
0852	7.06	16.95	1.75	0.57	52.7	-93	7.06		
0955	7.06	16.81	1.81	0.22	34.7	-97	7.06		
0858	7.06	16.72	1.82	0.11	30.3	-98	7.07		
0901	7.08	16.59	1.84	0.00	25.1	-100	7.08		
0904	7.10	16.48	1.86	0.00	20.9	-104	7.08		
0907	7.11	16.47	1.87	0.00	19.1	-105	7.06		
0910	7.14	16.42	1.88	0.00	17.8	-108	7.05		
0913	7.16	16.37	1.89	0.00	15.0	-111	7.08		Slight mothball
0916	Collect Sample			MW-	114D-	201809	26		like odor

Certified Sample Information:

Time of Sample: 0916

Analyst Signature: Rachel Ozgnacki

Instrument Data:

Manufacturer/Model: Horiba U-52

Serial No. Unit: WEWB0VL0

Serial No. Handheld: PLF909B

Calibration Date/Time: 9/24/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-114D
Sample I.D.: MW-114D-20180926 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH/PFP

Date: 9/26/18 Time: 0843
Weather: rainy Air Temp.: 70

WELL DATA:

Casing Diameter: 8" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 6.93 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☐ Yes ☒ No
Does Weep Hole adequately drain well head? ☐ Yes ☒ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ____ To be purged: ____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 175 mL/min Elapsed Time: 30 min Volume Pumped: 1.75 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: ____
MS/MSD : ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 9/26/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: REH / PFP
Purge/Sample Depth: ~17.5

Project Number: 152206
Date: 9/26/18
Well ID: MW-113D
Sample ID: MW-113D-20180926

Actual Time	Certified Parameters pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
0936	6.90	18.18	1.71	1.69	110	-80	7.03	200	
0939	6.97	17.80	1.78	1.34	92.2	-86	7.03		
0942	7.00	17.53	1.82	0.23	82.2	-86	7.03		
0945	6.97	17.43	1.85	0.00	78.4	-86	7.03		
0948	6.97	17.38	1.86	0.00	73.5	-86	7.03		
0951	6.97	17.34	1.87	0.00	71.8	-86	7.03		
0954	6.98	17.32	1.87	0.00	68.1	-87	7.03		
0957	6.99	17.34	1.87	0.00	65.8	-88	7.03		
1000	6.98	17.37	1.86	0.00	64.6	-89	7.03		
1003	6.97	17.37	1.86	0.00	63.8	-89	7.03		
1006	6.97	17.37	1.86	0.00	63.3	-89	7.03		Slight mothball
1009	Collect sample			MW-	113D-20180926				like odor

Certified Sample Information:
Time of Sample: 1009

Analyst Signature: Rachel [signature]

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: WEWBOVLO
Calibration Date/Time: 9/24/18
Serial No. Handheld: PLF909B

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-113D
Sample I.D.: MW-113D-20180926 (If different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH/PFP

Date: 9/26/18 Time: 0936
Weather: Rainy Air Temp.: 71

WELL DATA:
Casing Diameter: 8" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 7.03 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ~~☒ Yes~~ ☒ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ____ To be purged: ____

PURGE DATA:
METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 200 mL/min Elapsed Time: 30 min Volume Pumped: 2G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:
METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hrinacki Date: 9/26/18

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	9/26/18
Personnel:	REH/PFF	Well ID:	MW-111D
Purge/Sample Depth:	~18	Sample ID:	MW-111D-20180926

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1048	7.17	18.09	1.65	0.38	101	-102	7.56	175	
1051	7.18	17.27	1.67	0.00	150	-116	7.89		
1054	7.18	16.94	1.69	0.00	142	-120	8.23		
1057	7.20	16.87	1.70	0.00	146	-123	8.51		
1100	7.22	16.95	1.73	0.00	134	-126	8.60		
1103	7.19	16.94	1.75	0.00	119	-124	8.71		
1106	7.18	16.90	1.76	0.00	108	-124	8.81		
1109	7.16	16.94	1.78	0.00	89.0	-123	8.92		
1112	7.14	16.87	1.80	0.00	68.1	-122	9.02		
1115	7.15	16.93	1.82	0.00	66.8	-122	9.02		
1118	7.15	16.88	1.83	0.00	57.7	-121	9.03		moderate
1121	collect sample MW-111D-20180926								napthalene like odor

Certified Sample Information:

Time of Sample: 1121

Analyst Signature: [signature]

Instrument Data:

Manufacturer/Model: Horiba U-52

Serial No. Unit: WEBØVLØ

Serial No. Handheld: PLF909B

Calibration Date/Time: 9/24/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-111D
Sample I.D.: MW-111D-20180926 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REM/PFP

Date: 9/26/18 Time: 1048
Weather: overcast Air Temp.: 71

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ______
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 7.25 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ________ To be purged: ________

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ________

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ______
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ______

Pumping Rate: 175 mL/min Elapsed Time: 30 min Volume Pumped: 1.75 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ______
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ________

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ________
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ______ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ________
MS/MSD: ☒ No ☐ Yes Name: ________

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 9/26/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: KEH/ RPP
Purge/Sample Depth: ~31.5

Project Number: 152206
Date: 9/26/18
Well ID: MW-111R
Sample ID: MW-111R-20180926

Actual Time	Certified Parameters pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1136	7.14	17.92	2.90	4.45	176	-120	6.72	250	
1139	7.10	17.02	3.21	1.59	341	-123	6.74		
1142	7.07	16.30	3.43	0.41	755	-127	6.77		
1145	7.06	15.60	3.57	0.00	800	-130	6.77		
1148	7.06	15.73	3.54	0.00	544	-133	6.77		
1151	7.07	15.70	3.48	0.00	297	-130	6.77		
1154	7.07	15.65	3.44	0.00	302	-122	6.77		
1157	7.08	15.83	3.43	0.00	289	-129	6.77		
1200	7.05	15.94	3.42	0.00	230	-131	6.77		
1203	7.05	15.97	3.41	0.00	228	-132	6.77		
1206	7.05	15.97	3.41	0.00	223	-133	6.77		
1209	7.04	15.85	3.43	0.00	197	-128	6.77		
1212	7.04	15.12	3.49	0.00	188	-122	6.77		
1215	7.05	15.11	3.49	0.00	192	-128	6.77		
1218	7.06	15.09	3.48	0.00	204	-130	6.77		
1221	7.06	15.11	3.49	0.00	198	-132	6.77		moderate mothball like odor
1224	collect sample MW-111R-20180926								

Certified Sample Information:
Time of Sample: 1224

Analyst Signature: Rachel [signature]

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: WEB0VL6
Serial No. Handheld: PLF909B
Calibration Date/Time: 9/24/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-111R
Sample I.D.: MW-111R-20180926 (If different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH/PFP
Date: 9/26/18 Time: 1136
Weather: overcast Air Temp.: 71

WELL DATA:

Casing Diameter: 8" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 6.73 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☐ Yes ☒ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ―――― To be purged: ――――

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 250 mL/min Elapsed Time: 45 min Volume Pumped: 3.75 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☐ Clear ☒ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☒ No ☐ Yes Name: ____
MS/MSD : ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel [signature] Date: 9/26/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Project Number: 152206
Client: National Grid
Date: 9/26/18
Personnel: RCM / PFP
Well ID: BRB-1
Purge/Sample Depth: ~38
Sample ID: BRB-1-20180926

Actual Time	Certified Parameters pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1419	7.40	16.07	6.80	9.74	"0.0"	-124	15.66	200	
1422	7.26	15.21	5.98	6.14	"1000"	-108	15.66		
1425	7.19	14.73	5.44	6.81	"1000"	-90	15.69		
1428	7.15	14.41	5.12	4.36	"1000"	-90	15.72		
1431	7.16	14.28	4.25	4.83	"1000"	-86	15.74		
1434									cleaned flow-thru chamber
1437	7.14	14.35	3.71	5.92	"1000"	-87	15.77		
1440	7.14	14.20	3.57	5.92	"1000"	-82	15.77		
1443	7.14	14.15	3.97	6.03	"1000"	-82	15.76		
1446	7.15	14.11	3.46	6.13	"1000"	-82	15.74		
1449	7.14	14.13	3.42	6.21	"0.0"	-82	15.76		
1452	7.11	13.95	3.41	6.14	"0.0"	-82	15.77		
1455	7.10	13.91	3.38	5.87	"0.0"	-84	15.77		
1458	7.10	13.99	3.35	5.91	"0.0"	-84	15.77		
1501	7.13	13.91	3.31	6.17	"0.0"	-87	15.78		
1504	7.14	13.99	3.28	6.13	"0.0"	-88	15.78		strong
1507	Collect sample			BRB-1-20180926					mothball like oder NAPL on pump upon removal

RCM

Certified Sample Information:
Time of Sample: 1507
Analyst Signature: [signature]
Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: WEBØVLØ
Serial No. Handheld: PLF909B
Calibration Date/Time: 9/24/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: BRB-1
Sample I.D.: (If different from well no.) BRB-1-20180926

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH / PFP

Date: 6/26/18 Time: 1419
Weather: Rain Air Temp.: 68

WELL DATA:

Casing Diameter: 4" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ______
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 16.17 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ______ To be purged: ______

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ______

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ______
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ______

Pumping Rate: 200 mL/min Elapsed Time: 45 min Volume Pumped: 3 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ______
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ______

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ______
APPEARANCE: ☐ Clear ☒ Turbid ☐ Color: Brown ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ______
MS/MSD: ☒ No ☐ Yes Name: ______

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hajnacki Date: 9/26/18

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	9/26/18
Personnel:	KEH/PPT	Well ID:	MW-109D
Purge/Sample Depth:	~19	Sample ID:	MW-109D-20180926

Actual Time	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	Certified Parameters								
1545	6.89	17.47	3.07	15.68	257	-104	7.58	150	
1548	6.92	16.88	3.11	2.19	289	-109	7.60		
1551	6.98	16.50	3.15	0.41	249	-115	7.60		
1554	6.98	16.33	3.19	0.00	147	-116	7.63		
1557	6.99	16.29	3.22	0.00	92.7	-114	7.63		
1600	6.95	16.24	3.23	0.00	74.5	-113	7.83		
1603	6.95	16.26	3.25	0.00	66.2	-112	7.63		
1606	6.96	16.28	3.25	0.00	67.6	-113	7.63		
1609	6.98	16.26	3.26	0.00	66.3	-114	7.63		
1612	6.98	16.25	3.27	0.00	57.0	-114	7.63		
1615	6.99	16.24	3.28	0.00	55.4	-114	7.63		
1618	6.99	16.18	3.28	0.00	52.7	-115	7.63		
1621	6.97	16.17	3.29	0.00	50.0	-113	7.63		
1624	6.95	16.17	3.30	0.00	46.2	-113	7.63		
1627	6.95	16.16	3.29	0.00	44.6	-113	7.63		mothball
1630	collect MW-109D-20180926								like odor

Certified Sample Information:
Time of Sample: 1630
Analyst Signature: [signature]

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: WEB0VL0
Serial No. Handheld: PLF909B
Calibration Date/Time: 9/24/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-109D
Sample I.D.: MW-109D-20180926 (If different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH / PFP

Date: 9/26/18 Time: 1545
Weather: overcast Air Temp.: 68

WELL DATA:

Casing Diameter: 8" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 7.56 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☐ Yes ☒ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ____ To be purged: ____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 150mL/min Elapsed Time: 45 min Volume Pumped: 2.25G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☐ No ☒ Yes Name: DUP-20180926
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 9/26/18

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-123R

Sample I.D.: MW-123R-20181106 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP

Personnel: REH / KW

Date: 11/6/18 Time: 0834

Weather: Rainy Air Temp.: 47°

WELL DATA:

Casing Diameter: 8 ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____

Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock

DEPTH TO: Static Water Level: 15.79 ft Bottom of Well: ____ ft

DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:

CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No

Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No

Does Weep Hole adequately drain well head? ☐ Yes ☐ No

Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No

Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No

Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No

VOLUME OF WATER: Standing in well: ——— To be purged: ———

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____

Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 200 mL/min Elapsed Time: 30 min Volume Pumped: 2G

Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____

PURGING EQUIPMENT: ☐ Dedicated ☒ Prepared Off-Site ☐ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel Tubing/Rope: ~~Teflon®~~ REH ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☒ Prepared Off-Site ☐ Field Cleaned

Metals samples field filtered? ☐ Yes ☒ No Method: ____

APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid

FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____

MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hajnacki Date: 11/6/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	11/6/18
Personnel:	REH / KW	Well ID:	MW-123R
Purge/Sample Depth:	~50	Sample ID:	MW-123R-20181106

Actual Time	Certified Parameters pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
0834	8.23	13.20	8.38	2.08	49.1	-182	15.93	200	
0837	7.29	13.52	10.6	1.23	52.8	-135	15.96		
0840	7.24	13.47	10.8	1.14	50.3	-131	15.98		
0843	7.18	13.43	11.0	1.00	56.9	-124	16.01		
0846	7.16	13.43	11.6	0.63	71.6	-124	16.06		
0849	7.13	13.42	15.0	0.99	82.1	-124	16.13		
0852	7.14	13.29	17.2	0.88	49.9	-127	16.21		
0855	7.15	13.23	18.0	0.83	37.8	-126	16.25		
0858	7.15	13.21	18.5	0.78	26.5	-130	16.29		
0901	7.16	13.20	18.2	0.26	17.8	-132	16.29		
0904	7.16	13.20	19.2	0.77	15.7	-133	16.29		
0907	Collect sample			MW-	123R-	20181106			

CAP

Certified Sample Information:

Time of Sample: 0907

Analyst Signature: Rachel Ozimacki

Instrument Data:

Manufacturer/Model: Horiba U-52

Serial No. Unit: W25YL20K

Serial No. Handheld: B0670TE2

Calibration Date/Time: 10/30/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-120R
Sample I.D.: MW-120R-20181106 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH / KW
Date: 11/6/18 Time: 0954
Weather: Rain Air Temp.: 46

WELL DATA:

Casing Diameter: 4 ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 13.90 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION:
Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ———— To be purged: ————

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 175 mL/min Elapsed Time: 30 min Volume Pumped: 1.75
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☒ Prepared Off-Site ☐ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☒ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Wojnacki Date: 11/6/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: REH / KW
Purge/Sample Depth: ~49

Project Number: 152206
Date: 11/6/18
Well ID: MW-120R
Sample ID: MW-120R-20181106

Actual Time	Certified Parameters: pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
0954	7.06	11.97	5.37	6.61	12.8	-118	14.04	175	
0957	6.89	12.12	7.31	1.76	17.6	-122	14.08		
1000	6.88	12.09	7.76	1.25	18.0	-124	14.10		
1003	6.89	12.08	9.11	0.97	13.7	-126	14.12		
1006	6.88	12.07	9.99	0.89	12.4	-125	14.14		
1009	6.88	12.08	12.7	0.81	10.5	-124	14.15		
1012	6.88	12.07	14.7	0.80	9.4	-123	14.17		
1015	6.89	12.07	16.4	0.74	8.7	-122	14.18		
1018	6.89	12.06	17.5	0.71	7.7	-122	14.20		
1021	6.89	12.07	18.5	0.70	7.7	-122	14.21		
1024	6.90	12.07	19.3	0.69	7.3	-122	14.23		
1027	Collect sample		MW-120R-20181106						

REH

Certified Sample Information:
Time of Sample: 1027
Analyst Signature: Rachel Hojnacki

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: W25YL20K
Serial No. Handheld: B06TOTE2
Calibration Date/Time: 10/30/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-120D
Sample I.D.: MW-120D-20181106 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH / KW
Date: 11/6/18 Time: 1042
Weather: Rain Air Temp.: 46

WELL DATA:

Casing Diameter: 4" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 12.98 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ——— To be purged: ———

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 200 mL/min Elapsed Time: 30 min Volume Pumped: 2G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☐ No ☒ Yes Name: MW-120D-20181106-MS/MSD

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 11/6/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	11/6/18
Personnel:	REH/KW	Well ID:	MW-120D
Purge/Sample Depth:		Sample ID:	MW-120D-20181104

Actual Time	Certified Parameters pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1042	7.03	12.24	4.18	1.91	204	-134	13.05	200	
1045	7.01	12.60	4.01	1.19	355	-141	13.06		
1048	7.01	12.72	3.94	0.84	341	-149	13.06		
1051	7.04	12.91	3.94	0.83	299	-157	13.07		
1054	7.06	12.95	3.92	0.77	262	-161	13.08		
1057	7.09	12.99	3.91	0.72	176	-165	13.09		
1100	7.11	13.00	3.91	0.74	149	-168	13.09		
1103	7.13	13.02	3.90	0.65	102	-172	13.09		
1106	7.14	13.03	3.91	0.60	88.1	-174	13.09		
1109	7.14	13.04	3.90	0.59	78.3	-175	13.10		
1112	7.14	13.05	3.90	0.59	59.9	-176	13.10		
1115	Collect MW-120D-20181106								

Certified Sample Information:
Time of Sample: 1115 Analyst Signature: Rachel Hoynacki

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: W25YL20K Serial No. Handheld: B06T0TEZ
Calibration Date/Time: 10/30/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-115D
Sample I.D.: MW-115D-20181106 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH / KAW

Date: 11/6/18 Time: 1250
Weather: sunny Air Temp.: 58

WELL DATA:

Casing Diameter: 8 ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 6.83 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION:
Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ____ To be purged: ____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 225 mL/min Elapsed Time: 45 min Volume Pumped: 3.5 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☐ Clear ☒ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 11/6/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	11/6/18
Personnel:	REH/KAW	Well ID:	MW-115D
Purge/Sample Depth:	~22	Sample ID:	MW-115D-20181106

Actual Time	Certified Parameters: pH	Temp (ºC)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1250	6.86	13.76	2.44	5.25	868	-94	6.80	225	
1253	6.70	13.81	3.49	1.72	548	-105	6.81		
1256	6.71	13.79	3.54	1.43	480	-108	6.81		
1259	6.73	13.79	3.59	1.07	348	-111	6.82		
1302	6.74	13.79	3.61	0.84	242	-115	6.84		
1305	6.76	13.81	3.61	0.78	216	-116	6.85		
1308	6.76	13.81	3.61	0.75	188	-117	6.86		
1311	6.77	13.83	3.61	0.70	174	-119	6.86		
1314									cleaned turbo chamber
1317	6.81	13.85	3.60	1.56	135	-118	6.83		
1320	6.80	13.88	3.60	1.50	129	-116	6.80		
1323	6.81	13.93	3.60	0.67	124	-118	6.81		
1326	6.81	13.93	3.60	0.69	115	-119	6.82		
1329	6.94	13.87	3.60	0.62	124	-122	6.84		
1332	6.86	13.89	3.60	0.63	119	-123	6.82		
1335	6.87	13.90	3.60	0.58	114	-125	6.82		
1338	Collect samples MW-115D-20181106								

Certified Sample Information:
Time of Sample: 1338 Analyst Signature: Rachel Hoinack

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: W25YL20K Serial No. Handheld: B06T0TEZ
Calibration Date/Time: 10/30/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-116D
Sample I.D.: MW-116D-20181106 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH/KAW

Date: 11/6/18 Time: 1402
Weather: Sunny Air Temp.: 58

WELL DATA:

Casing Diameter: 4 ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 17.36 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No ~~☐ NA~~ Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ____ To be purged: ——

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 200mL/min Elapsed Time: 30min Volume Pumped: 2 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols

Signature: [signature] Date: 11/6/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	11/6/18
Personnel:	REH / KAW	Well ID:	MW-116D
Purge/Sample Depth:	226	Sample ID:	MW-116D-20181106

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1402	6.72	14.38	2.71	3.76	379	-104	17.40	200	
1405	6.72	14.07	3.18	1.31	369	-121	17.41		
1408	6.74	15.93	3.36	0.86	304	-130	17.42		
1411									cleaned horiba chamber
1414	6.76	13.81	3.58	2.40	184	-129	17.42		
1417	6.76	13.75	3.58	1.52	146	-132	17.42		
1420	6.77	13.73	3.58	1.07	118	-135	17.42		
1423	6.78	13.71	3.58	0.82	103	-138	17.43		
1426	6.78	13.73	3.58	0.73	96.8	-139	17.43		
1429	6.79	13.72	3.58	0.72	75.1	-141	17.43		
1432	6.80	13.74	3.59	0.72	60.7	-142	17.43		
1435	collect sample		MW-	116D-	20181106				

RH

Certified Sample Information:

Time of Sample: 1435

Analyst Signature: Rachel Olszewski

Instrument Data:

Manufacturer/Model: Horiba U-52

Serial No. Unit: W25YL2015

Serial No. Handheld: B06T0TE7

Calibration Date/Time: 10/30/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-108
Sample I.D.: MW-108-20181106 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH / SAW
Date: 11/6/18 Time: 1459
Weather: Sunny Air Temp.: 58

WELL DATA:

Casing Diameter: 8 ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 7.40 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☐ Yes ☒ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☐ Yes ☒ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: —— To be purged: ——

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 175 mL/min Elapsed Time: 30 min Volume Pumped: 1.75 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hoyadis Date: 11/6/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: REH / KAW
Purge/Sample Depth: ~13

Project Number: 152206
Date: 11/6/18
Well ID: MW-108
Sample ID: MW-108-20181106

Actual Time	Certified Parameters pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1459	6.56	15.40	2.41	2.36	394	-64	7.49	175	
1502	6.45	15.27	2.39	1.34	339	-65	7.52		
1505	6.45	15.20	2.37	0.81	306	-68	7.54		
1508	6.46	15.19	2.35	0.64	249	-71	7.56		
1511	6.47	15.17	2.35	0.58	201	-74	7.58		
1514	6.47	15.21	2.35	0.58	173	-75	7.56		
1517	6.48	15.21	2.36	0.56	149	-74	7.54		
1520	6.47	15.26	2.35	0.56	103	-73	7.54		
1523	6.47	15.17	2.37	0.56	57.0	-71	7.56		
1526	6.47	15.07	2.37	0.56	43.6	-69	7.56		
1529	6.48	15.02	2.38	0.58	38.0	-69	7.56		
1532	Collect sample			MW-108-20181106					

Certified Sample Information:
Time of Sample: 1532
Analyst Signature: Rachel Hojnacki

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: W25YL20K
Serial No. Handheld: B06TOTEZ
Calibration Date/Time: 10/30/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-119
Sample I.D.: MW-119-20181107 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH/ KAW
Date: 11/07/18 Time: 0737
Weather: overcast Air Temp.: 47°

WELL DATA:

Casing Diameter: 8 ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 7.18 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ____ To be purged: ____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 200mL/min Elapsed Time: ~45 Volume Pumped: 4 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☒ Teflon® ☐ Polyethylene
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Ognacki Date: 11/7/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: REH / KAW
Purge/Sample Depth: ~12.5

Project Number: 152206
Date: 11/7/18
Well ID: MW-119
Sample ID: MW-119-20181107

Actual Time	Certified Parameters pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
0737	6.77	12.95	2.35	7.81	546	160	7.32	200	
0740	6.60	13.61	2.37	2.95	"1000"	150	7.32		
0743	6.45	14.05	2.41	1.84	769	143	7.32		
0746	6.43	14.30	2.42	1.33	583	134	7.32		
0749	6.44	14.55	2.42	1.10	459	126	7.33		
0752	6.45	14.64	2.42	1.08	419	120	7.33		
0755	6.47	14.78	2.40	1.10	333	101	7.35		
0758	6.47	14.79	2.39	1.02	295	75	7.36		
0801	6.49	14.85	2.35	0.93	225	35	7.36		
0804	6.50	14.86	2.34	0.90	200	18	7.37		
0807	6.50	14.88	2.32	0.87	157	9	7.37		
0810	6.52	14.89	2.30	0.85	122	3	7.37		
0813	6.53	14.86	2.29	0.85	107	0	7.37		
0816	6.54	14.88	2.28	0.84	85.4	-1	7.37		
0819	6.55	14.91	2.27	0.80	74.9	-3	7.37		
0822	6.55	14.94	2.26	0.80	61.7	-4	7.37		
0825	Collect sample MW-119-20181107								
~~0828~~ RH									

RH

Certified Sample Information:
Time of Sample: 0825
Analyst Signature: Rachel Hojinski

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: W25YL20K
Serial No. Handheld: BO6TOTEZ
Calibration Date/Time: 10/30/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-112D
Sample I.D.: MW-112D-20181107 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH/KAW
Date: 11/7/18 Time: 0848
Weather: overcast Air Temp.: 47

WELL DATA:

Casing Diameter: 8 ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ______

Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock

DEPTH TO: Static Water Level: 6.01 ft Bottom of Well: ______ ft

DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:

CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No

Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No

Does Weep Hole adequately drain well head? ☒ Yes ☐ No

Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No

Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No

Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No

VOLUME OF WATER: Standing in well: ______ To be purged: ______

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ______

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ______

Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ______

Pumping Rate: 225 mL/min Elapsed Time: 60min Volume Pumped: 13.5 G

Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ______

PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ______

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel

Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

Metals samples field filtered? ☐ Yes ☒ No Method: ______

APPEARANCE: ☐ Clear ☒ Turbid ☐ Color: ______ ☐ Contains Immiscible Liquid

FIELD DETERMINATIONS: See attached form for field parameter data

DUP: ☒ No ☐ Yes Name: ______

MS/MSD: ☒ No ☐ Yes Name: ______

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Kozinacki Date: 11/7/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: BEH / KAW
Purge/Sample Depth: ~17

Project Number: 152206
Date: 11/7/18
Well ID: MW-~~[illegible]~~ 112D
Sample ID: MW-112D-20181107

Actual Time	Certified Parameters pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
0848	6.91	14.91	2.70	4.79	550	-49	6.02	225	
0851	6.73	15.42	3.02	4.62	"1000"	-70	6.02		
0854	6.69	15.78	3.08	5.14	"0.0"	-72	6.02		
0857	6.69	15.79	3.08	3.83	"0.0"	-71	6.02		
0900	6.68	15.88	3.08	4.40	"0.0"	-70	6.02		
0903	6.68	16.04	3.07	1.88	759	-67	6.02		
0906	6.68	16.01	3.07	1.77	"0.0	-65	6.02		
0909									cleaned chamber
0912	6.69	16.27	3.06	0.73	703	-64	6.02		
0915	6.68	16.28	3.06	0.62	605	-63	6.02		
0918	6.68	16.33	3.07	0.63	509	-62	6.02		
0921	6.69	16.35	3.06	0.65	420	-62	6.02		
0924	6.70	16.32	3.06	0.62	349	-63	6.02		
0927	6.75	16.35	3.05	0.70	266	-66	6.02		
0930	6.71	16.33	3.04	0.73	249	-64	6.02		
0933	6.70	16.32	3.03	0.93	215	-65	6.02		
0936	6.72	16.32	3.03	0.86	193	-66	6.02		
0939	6.72	16.33	3.03	0.66	164	-67	6.02		
0942	6.73	16.33	3.02	0.72	151	-66	6.02		
0945	6.74	16.33	3.02	0.99	157	-69	6.02		
0948	collect sample MW-112D-20181107								

BH

Certified Sample Information:
Time of Sample: 0948
Analyst Signature: Rachel [signature]

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: W25YL20K
Serial No. Handheld: B06TOTEZ
Calibration Date/Time: 10/30/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-112D
Sample I.D.: MW-112D-20181107 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH/KAW
Date: 11/7/18 Time: 0958
Weather: overcast Air Temp.: 47

WELL DATA:

Casing Diameter: 8 ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 6.00 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ____ To be purged: ____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 250 mL/min Elapsed Time: 30 min Volume Pumped: 2.5 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☒ Teflon® ☐ Polyethylene
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hajnacki Date: 11/7/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: REH / KAW
Purge/Sample Depth: ~10

Project Number: 152206
Date: 11/7/18
Well ID: MW-112S
Sample ID: MW-112S-20181107

Actual Time	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	Certified Parameters								
0958	6.90	15.28	3.18	9.31	130	-3	6.05	250	
1001	6.73	15.85	3.22	8.37	79.4	0	6.06		
1004	6.74	16.11	3.22	8.08	56.7	-1	6.05		
1007	6.76	16.22	3.22	7.69	47.9	-2	6.08		
1010	6.78	16.24	3.22	7.50	33.3	-3	6.08		
1013	6.80	16.31	3.22	7.26	22.9	-5	6.08		
1016	6.81	16.33	3.22	7.01	22.5	-7	6.08		
1019	6.83	16.34	3.23	6.79	16.0	-9	6.08		
1022	6.84	16.34	3.23	6.48	15.5	-9	6.08		
1025	6.85	16.38	3.23	6.07	15.0	-10	6.08		
1028	6.85	16.39	3.23	5.90	15.9	-11	6.08		
1031	Collect sample MW-112S-								

Certified Sample Information:

Time of Sample: 1031

Analyst Signature: Rachel Hajnack

Instrument Data:

Manufacturer/Model: Horiba U-52
Serial No. Unit: W2SYL20K
Serial No. Handheld: B06TOTEZ
Calibration Date/Time: 10/30/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-121D

Sample I.D.: MW-121D-20181107 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP

Personnel: REH / KAW

Date: 11/7/18 Time: 1050

Weather: overcast Air Temp.: 47

WELL DATA:

Casing Diameter: 8 ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____

Intake Diameter: 4 ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock

DEPTH TO: Static Water Level: 7.85 ft Bottom of Well: ____ ft

DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:

CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No

Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No

Does Weep Hole adequately drain well head? ☒ Yes ☐ No

Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No

Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No

Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No

VOLUME OF WATER: Standing in well: —— To be purged: ——

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____

Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 300 mL/min Elapsed Time: 30 min Volume Pumped: 2G

Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____

PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel

Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

Metals samples field filtered? ☐ Yes ☒ No Method: ____

APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid

FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____

MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 11/7/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	11/7/18
Personnel:	REH / KAW	Well ID:	MW-121D
Purge/Sample Depth:	~16	Sample ID:	MW-121D-20181107

Actual Time	Certified Parameters pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1050	7.08	14.17	2.24	3.00	487	-35	7.88	200	
1053	6.64	14.40	2.39	2.06	514	-37	7.87		
1056	6.58	14.50	2.45	1.38	415	-39	7.87		
1059	6.55	14.51	2.47	1.09	318	-40	7.88		
1102	6.54	14.55	2.48	0.67	251	-41	7.88		
1105	6.54	14.57	2.49	0.62	194	-42	7.88		
1108	6.53	14.62	2.49	0.78	70	-44	7.88		
1111	6.53	14.63	2.50	0.63	122	-44	7.88		
1114	6.53	14.63	2.50	0.60	94.5	-45	7.88		
1117	6.53	14.71	2.51	0.59	76.5	-46	7.87		
1120	6.55	14.71	2.51	0.56	57.2	-47	7.88		
1123	collect sample MW-121D-20181107								

Certified Sample Information:

Time of Sample: 1123

Analyst Signature:

Instrument Data:

Manufacturer/Model: Horiba U-52

Serial No. Unit: W25YL20K

Serial No. Handheld: 1S06TOTEZ

Calibration Date/Time: 10/30/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-121S
Sample I.D.: MW-121S-20181107 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REM / KAW

Date: 11/7/18 Time: 1141
Weather: overcast Air Temp.: 47

WELL DATA:

Casing Diameter: 8 [ ] Stainless Steel [x] Steel [ ] PVC [ ] Teflon® [ ] Other: ____
Intake Diameter: 2 [ ] Stainless Steel [ ] Galv. Steel [x] PVC [ ] Teflon® [ ] Open rock
DEPTH TO: Static Water Level: 7.66 ft Bottom of Well: ____ ft
DATUM: [ ] Top of Protective Casing [x] Top of Well Casing [ ] Other:
CONDITION: Is Well clearly labeled? [ ] Yes [x] No Is well clean to bottom? [ ] Yes [ ] No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) [x] Yes [ ] No
Does Weep Hole adequately drain well head? [x] Yes [ ] No
Is Concrete Pad Intact? (not cracked or frost heaved) [x] Yes [ ] No
Is Padlock Functional? [ ] Yes [ ] No [x] NA Is Inner Casing Intact? [ ] Yes [ ] No
Is Inner Casing Properly Capped and Vented? [x] Yes [ ] No
VOLUME OF WATER: Standing in well: ―― To be purged: ――

PURGE DATA:

METHOD: [ ] Bailer, Size: ____ [x] Bladder Pump [ ] 2" Submersible Pump [ ] 4" Submersible Pump
[ ] Centrifugal Pump [ ] Peristaltic Pump [ ] Inertial Lift Pump [ ] Other: ____

MATERIALS: Pump/Bailer: [ ] Teflon® [x] Stainless Steel [ ] PVC [ ] Other: ____
Tubing/Rope: [ ] Teflon® [x] Polyethylene [ ] Polypropylene [ ] Other: ____

Pumping Rate: 200ml/min Elapsed Time: 30min Volume Pumped: 2G
Was well Evacuated? [ ] Yes [x] No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: [ ] Dedicated [ ] Prepared Off-Site [x] Field Cleaned

SAMPLING DATA:

METHOD: [ ] Bailer, Size: ____ [x] Bladder Pump [ ] 2" Submersible Pump [ ] 4" Submersible Pump
[ ] Syringe Sampler [ ] Peristaltic Pump [ ] Inertial Lift Pump [ ] Other: ____

MATERIALS: Pump/Bailer: [ ] Teflon® [x] Stainless Steel
Tubing/Rope: [ ] Teflon® [x] Polyethylene

SAMPLING EQUIPMENT: [ ] Dedicated [ ] Prepared Off-Site [x] Field Cleaned
Metals samples field filtered? [ ] Yes [x] No Method: ____
APPEARANCE: [x] Clear [ ] Turbid [ ] Color: ____ [ ] Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: [x] No [ ] Yes Name: ____
MS/MSD: [x] No [ ] Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 11/7/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: BEM / RAW
Purge/Sample Depth: ~10

Project Number: 152206
Date: 11/7/18
Well ID: MW-121S
Sample ID: MW-121S-20181107

Actual Time	Certified Parameters pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1141	6.67	14.36	1.60	6.59	412	-7	7.80	200	
1144	6.46	14.74	1.56	1.73	299	13	7.82		
1147	6.47	14.98	1.55	1.27	228	23	7.84		
1150	6.48	15.04	1.55	1.02	161	30	7.86		
1153	6.49	15.07	1.58	0.91	117	33	7.88		
1156	6.50	15.10	1.55	0.86	101	37	7.88		
1159	6.51	15.12	1.55	0.76	88.8	40	7.87		
1202	6.53	15.13	1.55	0.73	67.4	44	7.89		
1205	6.54	15.15	1.55	0.73	63.4	46	7.89		
1208	6.55	15.16	1.55	0.73	46.9	49	7.88		
1211	6.57	15.18	1.55	0.72	45.0	50	7.88		
1214	Collect sample MW-121S-20181107								

RAW

Certified Sample Information:
Time of Sample: 1214
Analyst Signature: Rachel [signature]
Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: W254L20K
Serial No. Handheld: B067OTEZ
Calibration Date/Time: 10/30/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-110S
Sample I.D.: MW-110S-20181108 (If different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH / KAW
Date: 11/7/18 Time: 1328
Weather: overcast Air Temp.: 46

WELL DATA:

Casing Diameter: 8 ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 7.30 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ~~☒ Yes~~ ☒ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: — To be purged: —

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 200 mL/min Elapsed Time: 30 min Volume Pumped: ____
Was well Evacuated? ☐ Yes ☐ No Number of Well Volumes Removed: 2G
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Ahinacki Date: 11/7/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	11/7/18
Personnel:	REH / KAW	Well ID:	MW-110S
Purge/Sample Depth:	~12	Sample ID:	MW-110S-20181107

Actual Time	Certified Parameters pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1328	6.70	13.91	9.29	6.86	247	157	7.36	200	
1331	6.39	14.45	9.41	2.63	217	122	7.45		
1334	6.39	14.70	9.55	1.97	166	71	7.53		
1337	6.39	14.73	9.56	1.80	147	83	7.62		
1340	6.40	14.78	9.56	1.29	126	76	7.66		
1343	6.41	14.80	9.50	0.98	103	71	7.70		
1346	6.41	14.82	9.38	0.96	85.6	67	7.76		
1349	6.42	14.84	9.20	0.93	66.4	61	7.78		
1352	6.43	14.85	9.10	0.91	57.3	58	7.80		
1355	6.44	14.87	8.99	0.92	45.0	54	7.81		
1358	6.45	14.87	8.92	0.93	38.0	52	7.82		
1401	Collect sample MW-110S-20181107								

Certified Sample Information:

Time of Sample: 1401

Analyst Signature: Rachel [signature]

Instrument Data:

Manufacturer/Model: Horiba U-52

Serial No. Unit: W25YL2015

Serial No. Handheld: BO6TOTEZ

Calibration Date/Time: 10/30/18

Are low-flow parameters subject to field lab certification? ☐ **Yes** ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-101
Sample I.D.: MW-101-20181107 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH / KAW
Date: 11/7/18 Time: 1425
Weather: Partly cloudy Air Temp.: 46

WELL DATA:

Casing Diameter: 8 ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 13.07 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☒ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ____ To be purged: ____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 175 mL/min Elapsed Time: 30 min Volume Pumped: 1.75 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hojnacki Date: 11/7/18

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: REH / KAW
Purge/Sample Depth: ~14.5

Project Number: 152206
Date: 11/7/18
Well ID: MW-101
Sample ID: MW-101-20181107

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1425	6.80	15.09	4.03	3.19	961	-120	13.14	175	
1428	6.74	15.69	4.33	1.88	"0.0"	-141	13.15		
1431	6.77	15.95	4.47	0.75	721	-152	13.16		
1434	6.79	15.97	4.54	0.57	870	-156	13.17		
1437	6.77	16.06	4.61	0.57	550	-157	13.18		
1440	6.75	16.15	4.66	0.51	291	-147	13.20		
1443	6.78	16.16	4.68	0.87	177	-153	13.21		
1446	6.78	16.09	4.68	0.73	133	-156	13.23		
1449	6.79	16.01	4.67	0.61	93.9	-157	13.25		
1452	6.79	16.11	4.66	0.60	81.4	-158	13.28		
1455	6.79	16.14	4.67	0.60	65.6	-160	13.30		
1458	collect sample			MW-101-20181107					

Certified Sample Information:
Time of Sample: 1458

Analyst Signature:

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: W25YL20K
Serial No. Handheld: BO6TOTEZ
Calibration Date/Time: 10/30/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-102
Sample I.D.: MW-102-20181107 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: KERP / KTW

Date: 11/8/18 Time: 0800
Weather: overcast Air Temp.: 42

WELL DATA:

Casing Diameter: 8" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____

Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock

DEPTH TO: Static Water Level: 10.32 ft Bottom of Well: ____ ft

DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:

CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No

Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No

Does Weep Hole adequately drain well head? ☒ Yes ☐ No

Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No

Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No

Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No

VOLUME OF WATER: Standing in well: ____ To be purged: ____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____

Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 175 mL/min Elapsed Time: 30min Volume Pumped: 1.75G

Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____

PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

Metals samples field filtered? ☐ Yes ☒ No Method: ____

APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid

FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____

MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Kozinacki Date: 11/8/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: RGH/KAW
Purge/Sample Depth: ~14

Project Number: 152206
Date: 11/8/18
Well ID: MW-102
Sample ID: MW-102-20181108

Actual Time	Certified Parameters pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
0800	6.50	13.64	2.39	5.61	"1000"	4	10.41	175	
0803	6.04	13.03	2.59	1.57	"0.0	-23	10.53		
0806	6.00	12.89	2.56	1.10	"0.0	-28	10.62		
0809	5.97	12.70	2.53	1.09	"0.0	-26	10.67		
0812									cleaned horiba chamber
0815	5.90	12.93	2.33	1.79	266	-20	10.74		
0818	5.87	12.88	2.35	1.09	221	-19	10.82		
0821	5.88	12.56	2.39	1.04	83.1	-21	10.88		
0824	5.88	12.60	2.39	0.88	67.6	-22	10.95		
0827	5.91	12.64	2.40	0.82	52.0	-26	11.00		
0830	5.93	12.60	2.42	0.83	46.0	-29	11.06		
0833	Collect sample MW-102-20181108								

RGH

Certified Sample Information:
Time of Sample: 0833
Analyst Signature: Rachel Hogradow

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: W25YL20K
Serial No. Handheld: B06T0TEZ
Calibration Date/Time: 10/30/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-102D
Sample I.D.: MW-102D-20181108 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH / KAW
Date: 11/8/18 Time: 0843
Weather: overcast Air Temp.: 42

WELL DATA:

Casing Diameter: 8 ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 11.17 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☐ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: —— To be purged: ——

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____
MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____
Pumping Rate: 200 mL/min Elapsed Time: 50 min Volume Pumped: 2G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____
MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 11/8/18

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: REH / KAW
Purge/Sample Depth:

Project Number: 152206
Date: 11/8/18
Well ID: MW-102D
Sample ID: MW-102D-20181108

Actual Time	Certified Parameters: pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
0843	6.47	11.98	2.90	2.57	560	-79	10.58	200	
0846	6.53	12.10	2.98	2.12	602	-91	10.60		
0849	6.57	12.27	3.10	1.71	486	-99	10.63		
0852	6.59	12.35	3.17	1.35	306	-110	10.65		
0855	6.61	12.35	3.24	0.99	153	-114	10.83		
0858	6.62	12.39	3.28	0.94	114	-117	10.99		
0901	6.63	12.38	3.31	0.87	69.7	-120	11.20		
0904	6.65	12.39	3.31	0.83	48.3	-122	11.21		
0907	6.65	12.39	3.32	0.80	42.3	-124	11.21		
0910	6.66	12.40	3.32	0.78	29.5	-124	11.21		
0913	Collect sample			MW-102D-20181108					

Certified Sample Information:
Time of Sample: 0913
Analyst Signature: Rachel [signature]

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: W25YL20K
Serial No. Handheld: B06T0EZ
Calibration Date/Time: 10/30/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-103
Sample I.D.: MW-103-20181108 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REM/KAW
Date: 11/8/18 Time: 0932
Weather: cloudy Air Temp.: 42°

WELL DATA:

Casing Diameter: 8 ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ______
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 13.26 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: —— To be purged: ——

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ______

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ______
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ______

Pumping Rate: 250 ml/min Elapsed Time: 30 min Volume Pumped: 2.5 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ______
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ______

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ______
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ______
MS/MSD: ☒ No ☐ Yes Name: ______

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel [signature] Date: 11/8/18

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	11/8/18
Personnel:	REH/KAW	Well ID:	MW-103
Purge/Sample Depth:	~16	Sample ID:	MW-103-20181108

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
0932	6.34	11.74	1.56	7.34	121	-43	13.34	250	
0935	6.26	12.38	1.54	1.50	96.5	-35	13.36		
0938	6.27	12.55	1.56	1.12	74.4	-36	13.37		
0941	6.28	12.65	1.58	0.94	63.5	-38	13.39		
0944	6.29	12.69	1.59	0.83	51.2	-39	13.40		
0947	6.31	12.71	1.82	0.85	41.7	-44	13.40		
0950	6.33	12.67	1.70	0.83	37.4	-49	13.40		
0953	6.35	12.69	1.75	0.79	29.5	-55	13.41		
0956	6.37	12.70	1.80	0.78	25.8	-63	13.41		
0959	6.38	12.69	1.83	0.77	23.3	-66	13.41		
1002	6.38	12.70	1.85	0.75	21.9	-70	13.41		
1005	Collect sample MW-103-20181108								

RH

Certified Sample Information:

Time of Sample: 1005

Analyst Signature: Rachel Hojnacki

Instrument Data:

Manufacturer/Model: Horiba U-52

Serial No. Unit: W25YL20K

Serial No. Handheld: B0670EZ

Calibration Date/Time: 10/30/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-103P
Sample I.D.: MW-103D-20181108 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH/KAW

Date: 11/8/18 Time: 1017
Weather: overcast Air Temp.: 42

WELL DATA:

Casing Diameter: 8 ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 13.45 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ——— To be purged: ———

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 200 mL/min Elapsed Time: 30 min Volume Pumped: 2.5G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ~~☐ No~~ ☒ Yes Name: DUP-20181108
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel [signature] Date: 11/8/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Project Number: 152206
Client: National Grid
Date: 11/8/18
Personnel: REH/KAW
Well ID: MW-103D
Purge/Sample Depth: ~22
Sample ID: MW-103D-20181108

Actual Time	Certified Parameters: pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1017	6.57	12.11	1.93	8.95	186	-96	13.47	250	
1020	6.54	12.30	2.03	3.16	132	-104	13.47		
1023	6.56	12.39	2.13	1.58	74.2	-113	13.47		
1026	6.57	12.40	2.19	1.11	59.3	-117	13.47		
1029	6.59	12.44	2.25	0.88	37.7	-121	13.47		
1032	6.61	12.45	2.29	0.81	49.0	-124	13.47		
1035	6.62	12.45	2.31	0.80	44.9	-125	13.47		
1038	6.64	12.48	2.35	0.72	35.1	-128	13.47		
1041	6.66	12.46	2.36	0.70	33.4	-130	13.47		
1044	6.67	12.45	2.37	0.68	24.7	-132	13.47		
1047	6.69	12.42	2.38	0.67	24.0	-133	13.47		
1050	Collect sample MW-103D-20181108								

RH

Certified Sample Information:
Time of Sample: 1050
Analyst Signature: Rachel Hazinacki

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: W25YL20K
Serial No. Handheld: BO6TO~~[illegible]~~TET
Calibration Date/Time: 10/30/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-109S
Sample I.D.: MW-109S-20181108 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH / KAW

Date: 11/8/18 Time: 1204
Weather: cloudy Air Temp.: 47°

WELL DATA:
Casing Diameter: 8 ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 7.02 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☐ Yes ☒ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ____ To be purged: ____

PURGE DATA:
METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 225 mL/min Elapsed Time: 30 min Volume Pumped: 2.25 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:
METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hojnacki Date: 11/8/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	11/8/18
Personnel:	REH / KAW	Well ID:	MW-109S
Purge/Sample Depth:	~12.5	Sample ID:	MW-109S-20181108

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1204	6.65	12.68	2.99	9.24	373	20	7.03	225	
1207	6.59	13.18	3.02	2.54	362	21	7.03		
1210	6.60	13.34	3.03	1.58	311	16	7.03		
1213	6.61	13.40	3.03	1.23	265	14	7.03		
1216	6.64	13.44	3.03	1.04	195	13	7.03		
1219	6.63	13.47	3.02	0.90	112	11	7.03		
1222	6.64	13.41	3.01	0.86	64.5	11	7.03		
1225	6.65	13.45	2.94	0.85	45.8	11	7.03		
1228	6.65	13.42	2.97	0.75	34.6	11	7.03		
1231	6.66	13.46	2.94	0.70	24.5	11	7.03		
1234	6.67	13.45	2.93	0.71	20.7	11	7.03		
1237	Collect sample MW-109S-20181108								

RH

Certified Sample Information:
Time of Sample: 1237
Analyst Signature: Rachel Boginski

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: W25YL20K
Serial No. Handheld: BO67OEZ
Calibration Date/Time: 10/30/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-110D
Sample I.D.: MW-110D-20181108 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH / KAW

Date: 11/8/18 Time: 1255
Weather: overcast Air Temp.: 47°

WELL DATA:

Casing Diameter: 8 ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 8.00 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☐ Yes ☒ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ____ To be purged: ____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 200 mL/min Elapsed Time: 30 min Volume Pumped: 2 G.
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hozinacki Date: 11/8/18

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: REH / KAW
Purge/Sample Depth: ~ 20.5

Project Number: 152206
Date: 11/8/18
Well ID: MW-110D
Sample ID: MW-110D-20181108

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1255	7.01	13.02	1.89	9.15	165	-90	8.04	200	
1258	6.94	13.38	2.55	3.51	167	-103	8.04		
1301	6.87	13.64	3.25	2.05	168	-116	8.04		
1304	6.89	13.68	3.37	1.33	138	-123	8.04		
1307	6.90	13.74	3.44	0.98	98.7	-127	8.04		
1310	6.90	13.73	3.45	0.88	86.1	-129	8.03		
1313	6.90	13.75	3.49	0.80	61.9	-130	8.03		
1316	6.90	13.76	3.51	0.77	45.3	-130	8.03		
1319	6.90	13.77	3.53	0.73	42.4	-130	8.03		
1322	6.90	13.78	3.54	0.69	37.6	-131	8.03		
1325	6.91	13.84	3.55	0.66	36.0	-132	8.03		
1328	Collect sample MW-110D-20181108								Slight mothball-like odor

RAH

Certified Sample Information:
Time of Sample: 1328
Analyst Signature: Rodul Hozinski

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: W25YL20K
Serial No. Handheld: BO6TOTEZ
Calibration Date/Time: 10/30/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-111S
Sample I.D.: MW-111S-20181108 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH/KAW

Date: 11/8/18 Time: 1347
Weather: cloudy Air Temp.: 47°

WELL DATA:

Casing Diameter: 8 ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 6.32 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION:
Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: —— To be purged: ——

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 200 mL/min Elapsed Time: 45 Volume Pumped: 3 G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Hojnacki Date: 11/8/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	11/8/18
Personnel:	REH/ KAG/	Well ID:	MW-111S
Purge/Sample Depth:	~ 11	Sample ID:	MW-111S-20181108

Actual Time	Certified Parameters pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1347	6.95	13.70	1.98	7.55	551	-94	6.39	200	
1350	6.89	14.29	1.95	1.25	447	-99	6.41		
1353	6.99	14.52	1.96	2.30	558	-112	6.43		
1356	6.94	14.63	1.96	1.41	560	-110	6.44		
1359	6.94	14.69	1.97	0.86	458	-111	6.44		
1402	6.96	14.75	1.98	0.75	355	-113	6.45		
1405	6.97	14.75	1.99	0.74	324	-115	6.45		
1408	6.98	14.76	1.99	0.69	287	-117	6.46		
1411	6.99	14.74	2.00	0.68	257	-119	6.44		
1414	7.01	14.75	2.01	0.62	189	-120	6.44		
1417	7.01	14.69	2.03	0.74	133	-121	6.43		
1420	7.01	14.70	2.03	0.64	139	-121	6.43		
1423	7.01	14.76	2.05	0.58	115	-121	6.43		
1426	7.00	14.78	2.05	0.58	114	-121	6.43		
1429	7.01	14.80	2.06	0.61	98.6	-122	6.45		
1432	7.02	14.85	2.06	0.62	90.2	-123	6.43		
1435	7.01	14.88	2.07	0.60	84.1	-123	6.43		
1438	Collect MW-111S-20181108								

RH

Certified Sample Information:

Time of Sample: 1438

Analyst Signature: [illegible]

Instrument Data:

Manufacturer/Model: Horiba U-52

Serial No. Unit: W254L20K

Serial No. Handheld: B06TOTEZ

Calibration Date/Time: 10/30/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-122S

Sample I.D.: MW-122S-20181109 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP

Personnel: REH/KAW

Date: 11/9/18 Time: 0801

Weather: cloudy Air Temp.: 39

WELL DATA:

Casing Diameter: 8" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____

Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock

DEPTH TO: Static Water Level: 6.54 ft Bottom of Well: ____ ft

DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:

CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No

Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No

Does Weep Hole adequately drain well head? ☐ Yes ☐ No

Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No

Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No

Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No

VOLUME OF WATER: Standing in well: ____ To be purged: ____

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____

Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 175ml/min Elapsed Time: 30min Volume Pumped: 1.75G

Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____

PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned

Metals samples field filtered? ☐ Yes ☐ No Method: ____

APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid

FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____

MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel Kozwacki Date: 11/9/18

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	11/9/18
Personnel:	REH/KAW	Well ID:	MW-122S
Purge/Sample Depth:	~11.5	Sample ID:	MW-122S-20181109

Actual Time	Certified Parameters pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
0801	6.73	13.78	1.77	7.72	326	153	6.58	175	
0804	6.37	14.26	1.77	2.57	306	169	6.58	175	
0807	6.18	13.81	1.78	1.50	319	183	6.58		
0810	6.18	14.27	1.78	1.24	273	183	6.58		
0813	6.19	14.40	1.79	1.03	244	182	6.58		
0816	6.19	14.48	1.79	1.01	225	182	6.58		
0819	6.21	14.57	1.80	0.95	173	181	6.58		
0822	6.21	14.59	1.80	0.89	125	180	6.58		
0825	6.22	14.64	1.80	0.89	94.9	179	6.58		
0828	6.24	14.74	1.81	0.90	71.0	177	6.58		
0831	6.25	14.75	1.81	0.83	61.5	176	6.58		
0834	Collect sample MW-122S-20181109								

REH

Certified Sample Information:
Time of Sample: 0834
Analyst Signature: Rachel Hojnacki

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: W25YL20K
Serial No. Handheld: B06TOTEZ
Calibration Date/Time: 10/30/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-122D
Sample I.D.: MW-122D-20181109 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH/KAW
Date: 11/9/18 Time: 0845
Weather: cloudy Air Temp.: 38°

WELL DATA:

Casing Diameter: 8 ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 6.79 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: —— To be purged: ——

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 200 ml/min Elapsed Time: 30 min Volume Pumped: 2G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☒ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: Rachel [signature] Date: 11/9/18

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	11/9/18
Personnel:	REH/KAW	Well ID:	MW-122D
Purge/Sample Depth:	~19	Sample ID:	MW-122D-20181109

Actual Time	Certified Parameters: pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
0845	8.41	13.27	1.81	7.42	193	140	6.90	200	
0848	7.13	13.86	1.78	1.46	213	164	6.90		
0851	6.81	14.17	1.78	1.05	249	168	6.91		
0854	6.73	14.37	1.79	0.85	321	166	6.92		
0857	6.73	14.45	1.79	0.85	295	165	6.92		
0900	6.71	14.49	1.78	0.81	250	163	6.94		
0903	6.70	14.58	1.77	0.74	197	160	6.94		
0906	6.71	14.53	1.78	0.71	135	158	6.95		
0909	6.72	14.49	1.78	0.70	90.4	154	6.95		
0912	6.72	14.49	1.78	0.67	77.0	151	6.95		
0915	6.73	14.50	1.79	0.67	60.2	149	6.95		
0918	Collect sample			MW-122D-20181109					

RH

Certified Sample Information:
Time of Sample: 0918
Analyst Signature: Rachel Hajicek

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: W25YL20K
Serial No. Handheld: B06T0TEZ
Calibration Date/Time: 10/30/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-122R
Sample I.D.: MW-122RD (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: REH/ KAW

Date: 11/9/18 Time: 0930
Weather: cloudy Air Temp.: 38

WELL DATA:

Casing Diameter: 8" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 5.74 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☒ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☒ NA Is Inner Casing Intact? ☐ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: ———— To be purged: ————

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 150 ml/min Elapsed Time: 30 min Volume Pumped: 1.5G
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel
Tubing/Rope: ☐ Teflon® ☒ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned
Metals samples field filtered? ☐ Yes ☒ No Method: ____
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☒ No ☐ Yes Name: ____
MS/MSD: ☐ No ☒ Yes Name: MW-122R-20181109-MS/MSD

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols

Signature: [signature] Date: 11/9/18

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	11/9/18
Personnel:	REH/KAW	Well ID:	MW-122R
Purge/Sample Depth:	~45	Sample ID:	MW-122R-20181109

Actual Time	Certified Parameters pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
0930	7.09	13.14	9.16	2.02	35.9	133	5.91	150	
0933	7.02	13.11	10.6	1.08	38.7	62	6.78		
0936	7.06	13.08	8.49	0.72	29.3	-21	7.54		
0939	7.07	13.04	7.94	0.65	30.8	-46	8.47		
0942	7.07	13.03	7.72	0.62	33.8	-61	9.35		
0945	7.07	12.98	7.55	0.61	31.6	-72	9.96		
0948	7.07	12.99	7.42	0.61	30.1	-78	10.73		
0951	7.07	12.96	7.25	0.60	29.1	-86	11.32		
0954	7.07	12.93	7.08	0.57	25.4	-93	11.75		
0957	7.07	12.92	6.96	0.57	24.6	-96	12.12		
1000	7.07	12.93	6.87	0.56	24.4	-99	12.63		
1003	collect sample								

RH

Certified Sample Information:
Time of Sample: 1003 Analyst Signature: [signature]

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: W25YL20K Serial No. Handheld: B067OTE2
Calibration Date/Time: 10/30/18

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-122RD
Sample I.D.: MW-122RD-20181112 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: TMB KW

Date: 11/12/18 Time: 1055
Weather: Sun Air Temp.: 45°

WELL DATA:

Casing Diameter: 10" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 11.6 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☑ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☑ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: NA To be purged: NA

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 250 ml/min Elapsed Time: 30 min Volume Pumped: 2.5 gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: N/A
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: ____
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☑ No ☐ Yes Name: ____
MS/MSD: ☑ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols

Signature: [signature] Date: 11/12/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: JMB KW
Purge/Sample Depth: ~90'

Project Number: 152206
Date: 11/12/18
Well ID: MW-122RD
Sample ID: MW-122RD-20181112

Actual Time	Certified Parameters: pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1055	10.11	11.87	"100"	2.37	85.4	-54	11.67	250	
1058	7.89	12.24	"100"	0.93	300	-290	11.72		
1101	7.44	12.25	100	0.88	255	-255	11.77		
1104	7.31	12.25	100	0.87	218	-229	11.82		
1107	7.25	12.21	"100"	0.86	145	-216	11.83		
1110	7.24	12.11	"100"	0.84	205	-218	11.84	250	
1113	7.24	12.10	"100"	0.82	140	-223	11.85		
1116	7.24	12.08	"100"	0.80	121	-224	11.85		
1119	7.23	12.08	"100"	0.78	90.5	-230	11.86		
1122	7.22	12.08	"100"	0.77	85.5	-236	11.84		
1125	7.22	12.05	"100"	0.76	69.0	-238	11.86		
1128	Sample MW-122RD-20181112								

11/12/18

Certified Sample Information:
Time of Sample: 1128
Analyst Signature:
Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit:
Serial No. Handheld:
Calibration Date/Time:

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-125R
Sample I.D.: MW-125R-20181112 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: TB / KW

Date: 11/12/18 Time: 1152
Weather: cloudy Air Temp.: 45

WELL DATA:

Casing Diameter: 8" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 5.07 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☑ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☑ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: NA To be purged: NA

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 200ml/min Elapsed Time: 30min Volume Pumped: 2gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: NA
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: ____
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☐ No ☑ Yes Name: Dup-20181112
MS/MSD: ☑ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 11/12/18

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: TB KW
Purge/Sample Depth: ~40'

Project Number: 152206
Date: 11/12/18
Well ID: MW-125R
Sample ID: MW-125R-20181112

Actual Time	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	Certified Parameters								
1152	8.23	11.99	8.28	3.69	255	-241	5.08	200	
1155	7.25	12.06	6.04	2.12	168	-159	5.09		
1158	6.80	12.06	4.68	1.66	140	-144	5.11		
1201	6.72	12.11	4.01	1.49	133	-146	5.12		
1204	6.69	12.07	3.91	1.47	124	-146	5.14	200	
1207	6.71	12.08	3.80	1.38	117	-146	5.14		
1210	6.70	12.06	3.75	1.31	90.5	-148	5.13		
1213	6.71	12.06	3.73	1.27	77.7	-148	5.12		
1216	6.75	12.08	3.71	1.23	63.8	-151	5.12	200	
1219	6.73	12.03	3.71	1.21	58.0	-148	5.12		
1222	6.74	11.99	3.71	1.18	53.1	-149	5.12		
1225	Sample MW-125R-20181112 + Dup-20181112								

Certified Sample Information:
Time of Sample: 1225
Analyst Signature:
Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit:
Serial No. Handheld:
Calibration Date/Time:

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-124R

Sample I.D.: MW-124R-20181112 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP

Personnel: TB KW

Date: 11/12/18 Time: 1253

Weather: cloudy Air Temp.: 45°

WELL DATA:

Casing Diameter: 8" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: ____

Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock

DEPTH TO: Static Water Level: 5.75 ft Bottom of Well: ____ ft

DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:

CONDITION: Is Well clearly labeled? ☐ Yes ☑ No Is well clean to bottom? ☑ Yes ☐ No

Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No

Does Weep Hole adequately drain well head? ☑ Yes ☐ No

Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No

Is Padlock Functional? ☐ Yes ☐ No ☑ NA Is Inner Casing Intact? ☑ Yes ☐ No

Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No

VOLUME OF WATER: Standing in well: NA To be purged: NA

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: ____

Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 200 ml/min Elapsed Time: 30 min Volume Pumped: 2 gal

Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: NA

PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

Metals samples field filtered? ☐ Yes ☑ No Method: ____

APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid

FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☑ No ☐ Yes Name: ____

MS/MSD: ☑ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 11/12/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	11/12/18
Personnel:	TMB KW	Well ID:	MW-124R
Purge/Sample Depth:	~40'	Sample ID:	MW-124R-20181112

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1253	10.27	12.32	5.99	3.14	502	-127	5.78	200	
1256	7.97	13.07	8.55	1.84	343	-191	5.83		
1259	7.01	13.21	8.93	1.34	160	-128	5.84		
1302	6.97	13.18	8.84	1.30	119	-126	5.85		
1305	6.94	13.17	8.74	1.25	84.4	-125	5.86	200	
1308	6.92	13.18	8.43	1.17	59.5	-125	5.86		
1311	6.92	13.18	8.33	1.09	50.9	-126	5.86		
1314	6.93	13.15	8.29	1.06	47.0	-126	5.86		
1317	6.93	13.12	8.25	1.12	44.9	-126	5.85	200	
1320	6.94	13.12	8.22	1.02	40.4	-127	5.85		
1323	6.94	13.10	8.16	0.98	36.1	-128	5.85		
1326	Sample MW-124R-20181112								

TMB
11/12/18

Certified Sample Information:

Time of Sample: 1326 Analyst Signature:

Instrument Data:

Manufacturer/Model: Horiba U-52

Serial No. Unit: Serial No. Handheld:

Calibration Date/Time:

Are low-flow parameters subject to field lab certification? ☐ **Yes** ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-121R
Sample I.D.: MW-121R-20181112 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: TB KW

Date: 11/12/18 Time: 1442
Weather: Cloudy Air Temp.: 45°

WELL DATA:

Casing Diameter: 8" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 7.06 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☑ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☑ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: NA To be purged: NA

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 200 ml/min Elapsed Time: 30 min Volume Pumped: 2 gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: NA
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: ____
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☑ No ☐ Yes Name: ____
MS/MSD: ☑ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 11/12/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton (N. Ontario St.) Former MGP
Client: National Grid
Personnel: TMB KW
Purge/Sample Depth: ~40'

Project Number: 152206
Date: 11/12/18
Well ID: MW-121R
Sample ID: MW-121R-20181112

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1442	9.61	12.43	3.52	3.23	254	-290	7.13	200	
1445	7.73	12.57	3.43	2.31	306	-227	7.19		
1448	6.69	12.45	3.96	1.40	251	-141	7.27		
1451	6.57	12.38	4.04	1.29	183	-136	7.27	200	
1454	6.56	12.36	4.05	1.22	159	-136	7.28		
1457	6.56	12.36	4.06	1.22	155	-136	7.29		
1500	6.55	12.34	4.06	1.18	121	-136	7.32		
1503	6.56	12.29	4.09	1.15	114	-136		200	
1506	6.57	12.29	4.10	1.10	80.6	-135	7.23		
1509	6.58	12.26	4.14	1.09	57.8	-135			
1512	6.58	12.25	4.15	1.08	54.5	-136			
1515	Sample MW-121R-20181112								

TMB
11/12/18

Certified Sample Information:
Time of Sample: 1515
Analyst Signature:

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit:
Serial No. Handheld:
Calibration Date/Time:

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-113D
Sample I.D.: MW-113D-20181112 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: TB KW

Date: 11/12/18 Time: 1539
Weather: cloudy Air Temp.: 45°

WELL DATA:

Casing Diameter: 8" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: ____

Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock

DEPTH TO: Static Water Level: 6.30 ft Bottom of Well: ____ ft

DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:

CONDITION:
- Is Well clearly labeled? ☐ Yes ☑ No Is well clean to bottom? ☑ Yes ☐ No
- Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
- Does Weep Hole adequately drain well head? ☑ Yes ☐ No
- Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
- Is Padlock Functional? ☐ Yes ☐ No ☑ NA Is Inner Casing Intact? ☑ Yes ☐ No
- Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No

VOLUME OF WATER: Standing in well: NA To be purged: NA

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 250 ml/min Elapsed Time: 30 min Volume Pumped: 2.5 gal

Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: NA

PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

Metals samples field filtered? ☐ Yes ☑ No Method: ____

APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid

FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☑ No ☐ Yes Name: ____
MS/MSD: ☑ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 11/12/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	11/12/18
Personnel:	AMB KW	Well ID:	MW-113D
Purge/Sample Depth:	~17'	Sample ID:	MW-113D-20181112

Actual Time	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	Certified Parameters								
1539	6.49	13.00	2.10	4.03	190	-59	6.31	250	
1542	6.53	13.35	2.35	2.23	207	-67	6.31		
1545	6.54	13.56	2.49	1.33	89.9	-74	6.31		
1548	6.55	13.54	2.50	1.24	78.6	-75	6.32		
1551	6.57	13.58	2.49	1.13	57.8	-79	6.32	250	
1554	6.60	13.61	2.47	1.16	49.5	-83	6.32		
1557	6.61	13.60	2.46	1.06	43.0	-85	6.32		
1600	6.62	13.62	2.46	1.04	38.4	-86	6.32	250	
1603	6.64	13.61	2.45	1.00	29.0	-88	6.32		
1606	6.66	13.62	2.44	0.98	23.7	-90	6.32		
1609	6.69	13.65	2.44	0.94	20.8	-93	6.32		
1612	Sample MW-113D-20181112								

AMB
11/12/18

Certified Sample Information:
Time of Sample: 1612
Analyst Signature: [signature]

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit:
Serial No. Handheld:
Calibration Date/Time:

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-114D
Sample I.D.: MW-114D-20181113 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: TB KW
Date: 11/13/18 Time: 0757
Weather: Snow/rain Air Temp.: 35°

WELL DATA:

Casing Diameter: 8" ❑ Stainless Steel ☑ Steel ❑ PVC ❑ Teflon® ❑ Other: ____
Intake Diameter: 2" ❑ Stainless Steel ❑ Galv. Steel ☑ PVC ❑ Teflon® ❑ Open rock
DEPTH TO: Static Water Level: 6.13 ft Bottom of Well: ____ ft
DATUM: ❑ Top of Protective Casing ☑ Top of Well Casing ❑ Other:
CONDITION: Is Well clearly labeled? ❑ Yes ☑ No Is well clean to bottom? ☑ Yes ❑ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ❑ No
Does Weep Hole adequately drain well head? ❑ Yes ☑ No
Is Concrete Pad Intact? (not cracked or frost heaved) ❑ Yes ☑ No
Is Padlock Functional? ❑ Yes ❑ No ☑ NA Is Inner Casing Intact? ☑ Yes ❑ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ❑ No
VOLUME OF WATER: Standing in well: NA To be purged: NA

PURGE DATA:

METHOD: ❑ Bailer, Size: ____ ☑ Bladder Pump ❑ 2" Submersible Pump ❑ 4" Submersible Pump
❑ Centrifugal Pump ❑ Peristaltic Pump ❑ Inertial Lift Pump ❑ Other: ____

MATERIALS: Pump/Bailer: ❑ Teflon® ☑ Stainless Steel ❑ PVC ❑ Other: ____
Tubing/Rope: ❑ Teflon® ☑ Polyethylene ❑ Polypropylene ❑ Other: ____

Pumping Rate: 250 ml/min Elapsed Time: 30 min Volume Pumped: 2.5 gal
Was well Evacuated? ❑ Yes ☑ No Number of Well Volumes Removed: NA
PURGING EQUIPMENT: ❑ Dedicated ❑ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ❑ Bailer, Size: ____ ☑ Bladder Pump ❑ 2" Submersible Pump ❑ 4" Submersible Pump
❑ Syringe Sampler ❑ Peristaltic Pump ❑ Inertial Lift Pump ❑ Other: ____

MATERIALS: Pump/Bailer: ❑ Teflon® ☑ Stainless Steel
Tubing/Rope: ❑ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ❑ Dedicated ❑ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ❑ Yes ☑ No Method: ____
APPEARANCE: ☑ Clear ❑ Turbid ❑ Color: ____ ❑ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☑ No ❑ Yes Name: ____
MS/MSD: ☑ No ❑ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 11/13/18

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	11/13/18
Personnel:	TB KW	Well ID:	MW-114D
Purge/Sample Depth:	~18'	Sample ID:	MW-114D-20181113

Actual Time	Certified Parameters pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
0757	7.21	13.19	1.90	9.31	77.4	112	6.13	250	
0800	7.14	13.34	2.15	2.26	44.8	-118	6.22	↓	
0803	7.12	13.41	2.29	1.71	18.0	-126	6.35		
0806	7.15	13.29	2.32	1.52	13.0	-128	6.32		
0809	7.10	13.30	2.36	1.34	12.2	-133	6.32		
0812	7.09	13.29	2.37	1.24	11.7	-139	6.32	250	
0815	7.10	13.32	2.37	1.13	11.2	-137	6.32	↓	
0818	7.07	13.21	2.38	1.06	5.8	-139	6.32		
0821	7.08	13.17	2.38	1.03	8.1	-141	6.32	250	
0824	7.08	13.21	2.38	0.99	7.1	-143	6.32	↓	
0827	7.08	13.11	2.37	0.96	6.9	-142	6.32		
0830	Sample	MW-114D-20181113							

OMB 11/13/18

Certified Sample Information:
Time of Sample: 0830

Analyst Signature: [signature]

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit:
Serial No. Handheld:
Calibration Date/Time:

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-109B

Sample I.D.: MW-109B-20181113 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP

Personnel: TR KW

Date: 11/13/18 Time: 0845

Weather: Rain/clouds Air Temp.: 35°

WELL DATA:

Casing Diameter: 8" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: ____

Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock

DEPTH TO: Static Water Level: 6.81 ft Bottom of Well: ____ ft

DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:

CONDITION: Is Well clearly labeled? ☐ Yes ☑ No Is well clean to bottom? ☑ Yes ☐ No

Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No

Does Weep Hole adequately drain well head? ☑ Yes ☐ No

Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No

Is Padlock Functional? ☐ Yes ☐ No ☑ NA Is Inner Casing Intact? ☑ Yes ☐ No

Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No

VOLUME OF WATER: Standing in well: NA To be purged: NA

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: ____

Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 200 ml/min Elapsed Time: 30 min Volume Pumped: 2 gal

Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: NA

PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump ☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

Metals samples field filtered? ☐ Yes ☑ No Method: ____

APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid

FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☑ No ☐ Yes Name: ____

MS/MSD: ☑ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 11/13/18

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	11/13/18
Personnel:	TB KW	Well ID:	MW-109D
Purge/Sample Depth:	~18'	Sample ID:	MW-109D-20181113

Actual Time	Certified Parameters pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
0845	7.84	9.00	0.320	13.61	309	-33	7.01	200	
0848	7.50	9.12	0.459	9.01	241	-81	6.96	↓	
0851	7.34	9.49	0.930	7.87	135	-85	6.96		
0854	7.12	9.78	1.18	5.43	89.4	-87	6.96		
0857	7.05	10.08	1.51	3.84	102.2	-86	6.96	300	
0900	7.04	10.25	1.66	2.93	54.0	-87	6.94	↓	
0903	6.99	10.43	1.83	2.22	41.5	-88	6.96		
0906	6.98	10.57	1.98	1.82	40.7	-89	6.96	200	
0909	6.98	10.69	2.13	1.83	39.3	-89	6.96	↓	
0912	6.99	10.83	2.28	1.72	25.6	-91	6.96		
0915	6.98	10.90	2.38	1.74	23.6	-91	6.96		
0918	Sample	MW-	109D-	20181113					

Certified Sample Information:
Time of Sample: 0918
Analyst Signature: [signature]

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit:
Serial No. Handheld:
Calibration Date/Time:

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-111D
Sample I.D.: MW-111D-20181113 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: TR KW
Date: 11/13/18 Time: 0936
Weather: snow/rain Air Temp.: 35°

WELL DATA:

Casing Diameter: 8" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 9.32 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☑ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☑ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: NA To be purged: NA

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 200 ml/min Elapsed Time: 30 min Volume Pumped: 2 gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: NA
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: ____
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☑ No ☐ Yes Name: ____
MS/MSD: ☑ No ☐ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 11/13/18

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	11/13/18
Personnel:	TB KW	Well ID:	MW-111D
Purge/Sample Depth:	~18'	Sample ID:	MW-111D-20181113

Actual Time	Certified Parameters pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
0936	7.11	11.35	1.85	2.94	115	-103	7.23	200	
0939	7.12	12.32	1.93	1.34	199	-121	7.50	↓	
0942	7.11	12.57	1.97	1.14	207	-124	7.81		
0945	7.09	12.57	2.03	1.01	166	-126	8.04		
0948	7.07	12.63	2.06	0.95	121	-125	8.19	200	
0951	7.05	12.62	2.11	0.91	80.0	-125	8.30	↓	
0954	7.03	12.69	2.18	0.94	47.6	-126	8.51		
0957	7.03	12.74	2.20	0.90	48.8	-127	8.71		
1000	7.02	12.80	2.24	0.90	46.0	-126	8.84	200	
1003	7.02	12.77	2.28	0.85	39.5	-127	8.97	↓	
1006	7.01	12.79	2.31	0.84	36.2	-127	9.03		
1009	Sample	MW-111D-20181113							

Certified Sample Information:
Time of Sample: 1009
Analyst Signature: [signature]

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit:
Serial No. Handheld:
Calibration Date/Time:

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-111R
Sample I.D.: MW-111R-20181113 (if different from well no.)

Project: Fulton (N. Ontario St.) Former MGP
Personnel: TB KW
Date: 11/13/18 Time: 1030
Weather: overcast Air Temp.: 35°

WELL DATA:

Casing Diameter: 8" ❑ Stainless Steel ❑ Steel ❑ PVC ❑ Teflon® ❑ Other: ____
Intake Diameter: 2" ❑ Stainless Steel ❑ Galv. Steel ❑ PVC ❑ Teflon® ❑ Open rock
DEPTH TO: Static Water Level: 5.77 ft Bottom of Well: ____ ft
DATUM: ❑ Top of Protective Casing ☑ Top of Well Casing ❑ Other:
CONDITION: Is Well clearly labeled? ❑ Yes ☑ No Is well clean to bottom? ☑ Yes ❑ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ❑ No
Does Weep Hole adequately drain well head? ☑ Yes ❑ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ❑ No
Is Padlock Functional? ❑ Yes ❑ No ☑ NA Is Inner Casing Intact? ☑ Yes ❑ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ❑ No
VOLUME OF WATER: Standing in well: NA To be purged: NA

PURGE DATA:

METHOD: ❑ Bailer, Size: ____ ☑ Bladder Pump ❑ 2" Submersible Pump ❑ 4" Submersible Pump
❑ Centrifugal Pump ❑ Peristaltic Pump ❑ Inertial Lift Pump ❑ Other: ____

MATERIALS: Pump/Bailer: ❑ Teflon® ☑ Stainless Steel ❑ PVC ❑ Other: ____
Tubing/Rope: ❑ Teflon® ☑ Polyethylene ❑ Polypropylene ❑ Other: ____

Pumping Rate: 200 ml/min Elapsed Time: 45 min Volume Pumped: 2.5 gal
Was well Evacuated? ❑ Yes ☑ No Number of Well Volumes Removed: NA
PURGING EQUIPMENT: ❑ Dedicated ❑ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ❑ Bailer, Size: ____ ☑ Bladder Pump ❑ 2" Submersible Pump ❑ 4" Submersible Pump
❑ Syringe Sampler ❑ Peristaltic Pump ❑ Inertial Lift Pump ❑ Other: ____

MATERIALS: Pump/Bailer: ❑ Teflon® ☑ Stainless Steel
Tubing/Rope: ❑ Teflon® ☑ Polyethylene
SAMPLING EQUIPMENT: ❑ Dedicated ❑ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ❑ Yes ☑ No Method: ____
APPEARANCE: ☑ Clear ❑ Turbid ❑ Color: ____ ❑ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☑ No ❑ Yes Name: ____
MS/MSD: ☑ No ❑ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 11/13/18

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	Fulton (N. Ontario St.) Former MGP	Project Number:	152206
Client:	National Grid	Date:	11/13/18
Personnel:	TMB KW	Well ID:	MW-111R
Purge/Sample Depth:	~31'	Sample ID:	MW-111R-20181113

Actual Time	Certified Parameters: pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1030	6.99	10.83	1.37	3.72	430	-115	5.17	200	
1033	6.95	11.09	1.39	3.51	521	-125	5.21		
1036	6.91	11.32	1.41	3.28	640	-135	5.28		
1039	6.91	11.22	3.41	2.44	983	-140	5.30		emptied Horiba
1042	6.92	11.33	3.41	1.76	960	-125	5.30	200	
1045	6.92	11.37	3.46	1.01	595	-131	5.30		
1048	6.91	11.40	3.50	0.94	393	-135	5.30		
1051	6.91	11.42	3.55	0.89	225	-137	5.28		
1054	6.91	11.44	3.55	0.87	178	-138	5.26	200	
1057	6.90	11.55	3.56	0.88	124	-140	5.21		
1100	6.90	11.63	3.57	0.92	86.2	-141	5.22		
1103	6.90	11.65	3.58	0.82	77.0	-142	5.22	200	
1106	6.90	11.67	3.58	0.83	60.3	-142	5.22		
1109	Sample	MW-	111R-	20181113					

11/13/18

Certified Sample Information:
Time of Sample: 1109

Analyst Signature:

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit:
Serial No. Handheld:
Calibration Date/Time:

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ **No (not required for CERCLA sites or sites outside of NJ)**

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: BRB-1
Sample I.D.: BRB-1-20181113

Project: Fulton
Personnel: JMB KW

Date: 11/13/18 Time: 1143
Weather: Rain Air Temp.: 35F

WELL DATA:

Casing Diameter: 6" ❑ Stainless Steel ☑ Steel ❑ PVC ❑ Teflon® ❑ Other:
Intake Diameter: 2" ❑ Stainless Steel ❑ Galv. Steel ☑ PVC ❑ Teflon® ❑ Open rock
DEPTH TO: Static Water Level: 14.82 ft ~~Bottom of Well: ft~~ tiny single bleb of NAPL on probe when to depth
DATUM: ❑ Top of Protective Casing ☑ Top of Well Casing ❑ Other:
CONDITION: Is Well clearly labeled? ❑ Yes ☑ No Is well clean to bottom? ☑ Yes ❑ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ❑ No
Does Weep Hole adequately drain well head? ☑ Yes ❑ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ❑ No
Is Padlock Functional? ☑ Yes ❑ No ❑ NA Is Inner Casing Intact? ☑ Yes ❑ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ❑ No
VOLUME OF WATER: Standing in well: NA To be purged: NA

PURGE DATA:

METHOD: ❑ Bailer, Size: ☑ Bladder Pump ❑ 2" Submersible Pump ❑ 4" Submersible Pump
❑ Centrifugal Pump ❑ Peristaltic Pump ❑ Inertial Lift Pump ❑ Other:

MATERIALS: Pump/Bailer: ❑ Teflon® ☑ Stainless Steel ❑ PVC ❑ Other:
Tubing/Rope: ❑ Teflon® ☑ Polyethylene ❑ Polypropylene ❑ Other:

Pumping Rate: 200 ml/min Elapsed Time: 30 min Volume Pumped: 2 gal
Was well Evacuated? ❑ Yes ☑ No Number of Well Volumes Removed: NA
PURGING EQUIPMENT: ❑ Dedicated ❑ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ❑ Bailer, Size: ☑ Bladder Pump ❑ 2" Submersible Pump ❑ 4" Submersible Pump
❑ Syringe Sampler ❑ Peristaltic Pump ❑ Inertial Lift Pump ❑ Other:

MATERIALS: Pump/Bailer: ❑ Teflon® ☑ Stainless Steel Tubing/Rope: ❑ Teflon® ☑ Polyethylene
SAMPLING EQUIPMENT: ❑ Dedicated ❑ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ❑ Yes ☑ No Method:
APPEARANCE: ☑ Clear ❑ Turbid ❑ Color: ❑ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP: ☑ No ❑ Yes Name:
MS/MSD: ☑ No ❑ Yes Name:

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols

Signature: [signature] Date: 11/13/18

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone (201) 574-4700 Fax (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Fulton
Client: National Grid
Personnel: TB
Purge/Sample Depth: ~41'

Project Number: 152206
Date: 11/13/18
Well ID: BRB-1
Sample ID: BRB-1-20181113

Actual Time	Certified Parameters: pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
1143	6.89	10.42	6.40	2.60	"1000"	-83	14.87	200	
1146	6.91	10.39	8.18	1.81	687	-103	14.87		
1149	6.96	10.24	8.28	1.50	"1000"	-116	14.88		
1152	6.96	10.16	8.10	1.24	"1000"	-122	14.88		
1155	6.77	9.88	3.48	3.51	265	-107	14.89		emptied Horiba
1158	6.69	9.72	3.43	2.17	251	-106	14.89	200	
1201	6.66	9.59	3.34	1.46	177	-107	14.88		
1204	6.65	9.58	3.27	1.17	121	-111	14.88		
1207	6.66	9.55	3.24	1.35	90.7	-113	14.88		
1210	6.66	9.65	3.23	1.74	79.2	-114	14.88	200	
1213	6.66	9.70	3.22	1.15	64.0	-116	14.88		
1216	6.66	9.80	3.21	1.18	59.3	-118	14.88		
1219	6.69	9.83	3.21	1.19	55.9	-120	14.88		
1222	Sample BRB-1-20181113								

* No NAPL noted during purge

QMB 11/13/18

Certified Sample Information:
Time of Sample: 1222
Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit:
Calibration Date/Time:

Analyst Signature:
Serial No. Handheld:

Are low-flow parameters subject to field lab certification? ☐ Yes ☒ No (not required for CERCLA sites or sites outside of NJ)
If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Appendix F: Laboratory Data Packages (CD-ROM)

Appendix G: Data Usability Summary Report

MCGI

USEPA Data Validation

Organic & Inorganic

Data Validation Report

Fulton, NY

Lab SDG's No. FUL21, FUL22, FUL23, FUL24, FUL25, FUL26, FUL27, FUL28 & FUL29

MCGI Project No. BC061901-FUL21

Prepared for:

Brown & Caldwell

2 Park Way, Suite 2A

Upper Saddle River, NJ 07458

Prepared by:

"MCGI"

Meridian Consultant Group, Inc.

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March 2019

CONTENTS

GLOSSARY OF ACRONYMS & TERMS

GLOSSARY OF ACRONYMS & TERMS

One or more of the following acronyms and terms may have been used in the descriptive process of the **Organic** Data Validation.

Acronyms:

BFB	Bromofluorobenzene (volatile instrument performance check)
BNA	Base/Neutral/Acid
CCCs	Calibration Check Compounds
CF	Calibration Factor
CLP	Contract Laboratory Program
COC	Chain of Custody
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
CSF	Complete SDG File
%D	Percent Difference
DCB	Decachlorobiphenyl (Pesticide/PCB/ surrogate compound)
DFTPP	Decafluorotriphenylphosphine (semivolatile instrument performance check)
DSF	Data Summary Form
ECD	Electron-Capture Detector
EICP	Extended Ion Current Profile
EPA	United States Environmental Protection Agency
GC	Gas Chromatography
GC/EC	Gas Chromatography/Electron Capture
GC/MS	Gas Chromatography/Mass Spectra
GPC	Gel Permeation Chromatography (Clean Up)
ICAL	Initial Calibration
IS	Internal Standard
LCS	Laboratory Control Sample
LCL	Lower Control Limit
MCL	Maximum Contamination Level
MDL	Method Detection Limit
MS/MSD	Matrix Spike/Matrix Spike Duplicate
m/z	The ratio of mass (m) to charge (z) of ions measured by GC/MS
OADS	Organic Analysis Data Sheet (Form 1)
ORDA	Organic Regional Data Assessment
PCB	Poly Chlorinated Biphenyl
PEM	Performance Evaluation Mixture

QA/QC Quality Assurance/Quality Control
QAPjP Quality Assurance Project Plan
QC Quality Control
%R Percent Recovery of spiked amount
RF Response Factor
RIC Reconstructed Ion Chromatogram
RPD Relative Percent Difference
RRF Relative Response Factor
RSD Relative Standard Deviation
RT Retention Time
RTW Retention Time Window
SDG Sample Delivery Group
SMC System Monitoring Compound
SOP Standard Operation Procedures
SOW Statement of Work
SPCCs System Performance Check Compounds
SSL Samples Shipping Log
SVOA Semivolatile Organic Analyte
TCL Target Compound List
TCX Tetrachloro-m-Xylene (Pesticide/PCB surrogate compound)
TIC Tentatively Identified Compound
TPH Total Petroleum Hydrocarbons
UCL Upper Control Limit
VOA Volatile Organic Analyte
VTSR Validated Time of Sample Receipt

Terms:

Associated Samples
Any sample related to a particular QC analysis.

Case A finite, usually predetermined number of samples collected over a given time period for a particular site. A Case consists of one or more Sample Delivery Group(s).

Contractual Holding Time
The time from VTSR (validated time of sample receipt) to laboratory extraction and /or analysis.

Data Validation Qualifier (DVQ)

This refers to the column on the data summary form in which EPA Region III and other qualifiers have been placed by the data validator.

Data Validation Result (DVR)

This refers to the column on the data summary form used to report results that have been modified by the data validator. A result in the DVR column that is qualified "U" indicates a modification of the reporting limit.

Field Blank Field blanks are intended to identify contaminants that may have been introduced in the field. Examples are rinsate blank (RB), field blanks (FB) and trip blank (TB).

Field Duplicate

A duplicate sample generated in the field; not in the laboratory.

Initial Calibration (ICAL)

The establishment of a calibration curve with the appropriate number of standards and concentration ranges. The calibration curve plots absorbances and/or emissions versus concentration of the standards. .

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Introduction of a known concentration of a compound into a sample to provide information about the effect of sample matrix on the extraction and/or measurement methodology.

Performance Evaluation Mixture

A standard used to verify that the ICAL sequence is stable throughout the GC or GC/MS analyses.

Sample Delivery Group (SDG)

Defined by one of the following, whichever occurs first:

- case of sample
- each twenty field samples in a case or
- each 14-day calendar period during which field samples in a case are received, beginning with the receipt of the first sample in the SDG.

Technical Holding Time

The time from sample collection to laboratory extraction and /or analysis

GLOSSARY OF ACRONYMS & TERMS

One or more of the following acronyms and terms may have been used in the descriptive process of the **Inorganic** Data Validation.

Acronyms:

AA	Atomic Absorption
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CF	Calibration Factor
CLP	Contract Laboratory Program
COC	Chain of Custody
CRDL	Contract Required Detection Limit
CSF	Complete SDG File
CV	Cold Vapor
%D	Percent Difference
EPA	United States Environmental Protection Agency
ICAL	Initial Calibration
ICB	Initial Calibration Blank
ICP	Inductively Coupled Plasma
ICS	Interference Check Sample
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
LCS	Laboratory Control Sample
LCL	Lower Control Limit
MCL	Maximum Contamination Level
MDC	Minimum Detectable Concentration
MDL	Method Detection Limit
MS/MSD	Matrix Spike/Matrix Spike Duplicate
MSA	Method of Standard Addition
PB	Preparation Blank
PCB	Poly Chlorinated Biphenyl
QA/QC	Quality Assurance/Quality Control
QAPjP	Quality Assurance Project Plan
QC	Quality Control

%R Percent Recovery of spiked amount
RPD Relative Percent Difference
RRF Relative Response Factor
RSD Relative Standard Deviation
SDG Sample Delivery Group
SOP Standard Operation Procedures
SOW Statement of Work
SSL Samples Shipping Log
TAL Target Analyte List
UCL Upper Control Limit
VTSR Validated Time of Sample Receipt

<u>Terms:</u>

Associated Samples
Any sample related to a particular QC analysis. For Example:
- For ICV, all samples run under the same calibration curve.
- For duplicate RPD, all SDG samples digested/distilled of the same matrix.

Case A finite, usually predetermined number of samples collected over a given time period for a particular site. A Case consists of one or more Sample Delivery Group(s).

Continuing Calibration Blank (CCB)
A deionized water sample run every ten (10) samples designed to detect any carryover contamination.

Continuing Calibration Verification (CCV)
A deionized water sample run every ten (10) samples designed to detect any carryover contamination.

Contract Compliance Screening (CCS)
A process in which the SMO inspects the data for contractual compliance and provides EMSL-LV laboratories and the Regions with their findings.

Contractual Holding Time
The time from VTSR (validated time of sample receipt) to laboratory extraction and /or analysis.

Data Validation Qualifier (DVQ)

This refers to the column on the data summary form in which EPA Region III and other qualifiers have been placed by the data validator.

Data Validation Result (DVR)

This refers to the column on the data summary form used to report results that have been modified by the data validator. A result in the DVR column that is qualified "U" indicates a modification of the reporting limit.

Field Blank Field blanks are intended to identify contaminants that may have been introduced in the field. Examples are rinsate blank (RB), field blanks (FB) and trip blank (TB).

Field Duplicate

A duplicate sample generated in the field; not in the laboratory.

Initial Calibration (ICAL)

The establishment of a calibration curve with the appropriate number of standards and concentration ranges. The calibration curve plots absorbancies and/or emissions versus concentration of the standards.

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Initial Calibration Blank (ICB)

First blank run after the calibration curve .

Initial Calibration Verification (ICV)

First standard run after the calibration curve .

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Introduction of a known concentration of a compound into a sample to provide information about the effect of sample matrix on the extraction and/or measurement methodology.

Post Digestion Spike

The addition of known amount of standard after digestion. (Also identified as analytical spike, or spike, for furnace analyses.)

Preparation Blank (PB)

Blank taken through the digestion process to detect internal laboratory contamination.

Sample Delivery Group (SDG)

Defined by one of the following, whichever occurs first:
- case of sample
- each twenty field samples in a case or
- each 14-day calendar period during which field samples in a case are received, beginning with the receipt of the first sample in the SDG.

Serial Dilution

A sample run at a specific dilution to determine whether any significant chemical or physical interferences exist due to sample matrix effect, for ICP only.

Technical Holding Time

The time from sample collection to laboratory extraction and /or analysis.

COMMUNICATION RECORDS

N/A

GLOSSARY OF DATA VALIDATION QUALIFIERS

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATED TO IDENTIFICATION:
(Confidence concerning presence or absence of compounds)

U	=	Not detected above the level of the associated value. The associated value is either the approximate sample quantitation or detection limit.
NO CODE	=	Confirmed identification
U1	=	Not detected substantially above the level reported in laboratory or field blanks.
R	=	Unusable results. Analyte may or may not be present in the sample.
N	=	Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION:
(Can be used for both positive results and sample quantitation limits)

J	=	Analyte present. Reported value may not be accurate or precise (estimated value).
J+	=	Analyte present. Reported value may be biased high. Result is estimated high.
J-	=	Analyte present. Reported value may be biased low. Result is estimated low.
UJ	=	Not detected. Quantitation limit may be inaccurate or imprecise (Estimated).
UJ-	=	Not detected. Quantitation limit is probably higher.

OTHER CODES:

NJ	=	Qualitative identification questionable. Presumptively present at approximate quantity.
Q	=	No analytical result.
X	=	Data not Validated.

DATA VALIDATION REPORT NARRATIVE

MCGI

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DATE: March 7, 2019

SUBJECT: USEPA Organic & Inorganic Data Validation Report
BTEX, PAH & CN
Lab SDG's No. FUL21, FUL22, FUL23, FUL24, FUL25, FUL26, FUL27, FUL28 & FUL29
Site: Fulton, NY
MCGI Project No. BC0061901-FUL21

FROM: Sherif N. Mina
Meridian Consultant Group, Inc.

TO: Mr. James L. Marolda
Brown and Caldwell

OVERVIEW

This report consists of nine (9) Sample Delivery Groups (SDGs) for a total of ninety-six (96) samples submitted to eurofins Laboratories, Lancaster, PA, for BTEX, Poly Aromatic Hydrocarbons (PAH) & Cyanide (CN) analyses according to SW-846 Methods 8260C, 8270D & 9012B, respectively. Details about each SDG are listed in separate sections below. The samples were analyzed in accordance with the Chain-of-Custody (COC).

The analytical results were validated according to the pertinent parts of U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review & USEPA National Functional Guidelines for Inorganic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses.

Deviation from USEPA NFG: The "U" qualifier recommended by USEPA NFG for blank contamination was replaced by the "U1" qualifier to clearly indicate blank contamination on the EDDs.

GENERAL NOTES

- ***Electronic Data Deliverable (EDD):*** Several rows in the electronic data deliverable (EDD) are marked with an "X" and hidden from the EDDs by the validator. These rows may include quality control samples such as Method Blanks, Laboratory Control Samples, Matrix Spikes, or Matrix Spike Duplicates which are not validated. Additionally, some field sample results may not be used since only one (1) result for each compound is reported after validation. The following list indicates some instances in which an "X" may be placed in the DVQ column:
  1. The compounds in an analysis that have exceeded the instrument calibration range.
  2. All compounds in a diluted analysis that were within the calibration range in the initial analysis.
  3. All compounds in either the initial analysis or re-analysis of a sample, depending on which analysis is not reported on the EDD.

  Although QC samples and some field samples results may not be used, all data were reviewed and considered in the overall assessment.

- ***Data Validation Qualifier (DVQ):*** This refers to the column on the data summary form in which EPA and other qualifiers have been placed by the data validator.

- ***Data Validation Result (DVR):*** This refers to the column on the data summary form used to report results that have been modified by the data validator. A result in the DVR column that is qualified "U" indicates a modification of the reporting limit. Results in the DVR column supersede those reported by the laboratory.

- ***Tentatively Identified Compounds (TICs):*** The TICs, if applicable, were reviewed during data validation.

- ***Compound Quantitation:*** Positive results for compounds which are below the CRQL were qualified as estimated "J" on the EDD.

1-SDG: FUL21

This SDG consisted of eight (8) soil & two (2) aqueous samples submitted to eurofins Laboratories, Lancaster, PA, for BTEX, PAH & Cyanide (CN) analyses according to SW-846 Methods 8260C, 8270D & 9012B, respectively. One (1) trip & one (1) field blanks; and one (1) soil field duplicate were identified in this SDG. The samples were analyzed in accordance with the Chain-of-Custody (COC), see Sample Identification Summary.

Sample Identification Summary

SAMPLE INFORMATION				Analysis		
Field ID	**Lab ID**	**SDG**	**Matrix**	**B**	**P**	**C**
B-134-9-11	9699419	FUL21	Soil	x	x	x
B-134-19-20	9699420		Soil	x	x	x
B-135-5-7	9699421		Soil	x	x	x
B-135-9-11	9699422		Soil	x	x	x
B-135-19-21	9699426		Soil	x	x	x
DUP	9699427		Soil	x	x	x
MW-121D-9-11	9699428		Soil	x	x	x
MW-121D-18-18.4	9699429		Soil	x	x	x
FB	9699430		Aqueous	x	x	x
TRIP BLANK	9699431		Aqueous	x		

B=BTEX, P=PAH, C=CN

Duplicates: DUP/B-135-19-21

- ***Field Duplicates:*** For the associated soil samples, an RPD of 30% was used as the QC limit for results >5x the CRQL; and for results <5x the CRQL, the difference between the two values must be less than the CRQL. Results < the CRQL have "NA", not applicable, placed in the RPD field.

Compound	DUP	B-135-19-21	RPD	Qualifier
BTEX/MTBE				
Benzene	11	19	53	J
Toluene	1 J	2 J	NA	
PAH				
Acenaphthene	17 J	15 J	NA	
Acenaphthylene	19	19 J	0	
Anthracene	43	56	26	
Benzo(a)anthracene	18 J	22	20	
Benzo(a)pyrene	7 J	10 J	NA	
Benzo(b)fluoranthene	8 J	9 J	NA	
Benzo(k)fluoranthene	5 J	6 J	NA	
Chrysene	14 J	23	49	J
Fluoranthene	73	62	16	
Fluorene	36	44	20	

Naphthalene	61	120	65	J
Phenanthrene	79	110	33	J
Pyrene	76	74	3	
Cyanide, total	ND	ND		

ND=None Detected   NA=Not Applicable

ORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods, except as noted in the Major Problem section. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

	Parameters	B			P		
		q	t	a	q	t	a
*	Data Completeness		10	0		9	0
*	Holding Time		10	0		9	0
*	Instrument Performance (BFB/DFTPP)		10	0		9	0
*	Calibrations		10	0		9	0
*	Laboratory and Field Blanks analyses		10	0		9	0
	Surrogate Recoveries	x	10	1		9	0
	Matrix Spike/Matrix Spike Duplicate	x	10	1		9	0
*	Laboratory Control Sample(LCS)		10	0		9	0
	Laboratory and/or Field Duplicates	x	10	2	x	9	2
	Internal Standards	x	10	1		9	0
*	Compound Identification		10	0		9	0
	Compound Quantitation	x	10	1		9	0
*	Sample Preservation		10	0		9	0
* All Criteria were met for that Parameter, B=BTEX, P=PAH							

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR PROBLEMS

- None noted.

MINOR PROBLEMS

- ***Compound Quantitation:*** The BTEX initial analysis of sample B-135-5-7 (9699421) displayed high concentration for benzene above the linear calibration range. The sample was reanalyzed without dilution with similar result. Positive result for benzene in this sample was reported from the initial analysis was qualified “J”.

- ***Surrogate Recovery:*** The BTEX analysis of sample B-135-5-7 (9699421) displayed high recovery for surrogate Toluene-d8. The sample was reanalyzed with similar results, results were reported from the initial analysis. Positive results for compounds (Ethylbenzene, Toluene & Xylenes) associated with this surrogate were qualified “J+”, unless superseded by the “J” qualifier.

- ***Internal Standards (IS):*** The BTEX analysis of sample B-135-5-7 (9699421) displayed low area counts for IS3 (CBZ) & IS4 (DCB) below the lower limit. The sample was reanalyzed with similar results, results were reported from the initial analysis. Positive results for compounds (Ethylbenzene, Toluene & Xylenes) associated with these IS's were qualified "J+", unless superseded by the "J" qualifier.

- ***Matrix Spike/Matrix Spike Duplicate (MS/MSD):*** The BTEX MS/MSD of sample B-135-9-11 (9699422) displayed high recoveries outside the QC limits for all compounds. Positive results in the parent sample were qualified "J+".

NOTES

- ***Blank Contaminants:*** The maximum concentration of all compounds found in the analyses of the trip, field or laboratory method blanks are listed in the following table. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analytical Fraction	**Compound**	Maximum Concentration	Units	Blank Type	Associated Samples
BTEX	None				
PAH	None				

*Common lab contaminant

- ***Quantitation:*** For the BTEX analysis, the laboratory stated that the weight of some soil samples were above the recommended range. However, the weight of these samples were taken into account during the calculation of the results. No action was taken.

- ***Matrix Spike/Matrix Spike Duplicate (MS/MSD):*** The PAH MSD of sample B-135-9-11 (9699422) displayed slightly low recovery @77% below the QC limit of 78% for Chrysene. However, the MS of the same sample, and the LCS displayed recoveries for this compound within the QC limits. It is the validator's professional judgement not to qualify the quantitation limit for this compound due to this minor difference in the recovery of the MSD,

INORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Inorganic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		C		
		q	t	a
*	Data Completeness		9	0
*	Holding Time		9	0
*	Calibration Verification		9	0
*	Laboratory and Field Blanks analyses		9	0
*	Matrix Spike recoveries (MS)		9	0
*	Laboratory and Field Duplicates		9	0
*	Laboratory Control Sample(LCS)		9	0
*	Analyte Identification		9	0
*	Analyte Quantitation		9	0
*	Sample Preservation		9	0
* All Criteria were met for that Parameter, C=CN				

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR ISSUES

- None noted.

MINOR ISSUES

- ***Laboratory and Field Blanks analyses:*** Analytes detected in the laboratory and/or equipment blanks, that affect sample results, with concentration above the instrument detection limit (IDL) are listed below. Associated samples with positive results of these contaminants maybe qualified “U1" or “J+”, based on the concentration level found in the samples, according to USEPA National Functional Guideline for Inorganic Data Review, dated August 2014.

Analyte	Blank Type
None	

CB = Container Blank
PB = Preparation Blank
ICB = Initial Calibration Blank
CCB = Continuing Calibration Blank
FB =   Field Blank

EB = Equipment Blank

NOTES

- None Noted.

2-SDG: BFUL22

This SDG consisted of three (3) soil & two (2) aqueous samples submitted to eurofins Laboratories, Lancaster, PA, for BTEX, PAH & Cyanide (CN) analyses according to SW-846 Methods 8260C, 8270D & 9012B, respectively. One (1) trip & one (1) field blanks were identified in this SDG. No field duplicate pairs were identified in this sample set. The samples were analyzed in accordance with the Chain-of-Custody (COC), see Sample Identification Summary.

Sample Identification Summary

SAMPLE INFORMATION				Analysis		
Field ID	**Lab ID**	**SDG**	**Matrix**	**B**	**P**	**C**
MW-124R-5-7	9720841	FUL22	Soil	x	x	x
MW-124R-7-9	9720842		Soil	x	x	x
MW-124R-19-20	9720843		Soil	x	x	x
FB	9720844		Aqueous	x	x	x
TRIP BLANK	9720845		Aqueous	x		

B=BTEX, P=PAH, C=CN

Duplicates: N/A

ORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods, except as noted in the Major Problem section. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		B			P		
		q	t	a	q	t	a
*	Data Completeness		5	0		4	0
*	Holding Time		5	0		4	0
*	Instrument Performance (BFB/DFTPP)		5	0		4	0
*	Calibrations		5	0		4	0
*	Laboratory and Field Blanks analyses		5	0		4	0
*	Surrogate Recoveries		5	0		4	0
*	Matrix Spike/Matrix Spike Duplicate		5	0		4	0
*	Laboratory Control Sample(LCS)		5	0		4	0
*	Laboratory and/or Field Duplicates		5	0		4	0
*	Internal Standards		5	0		4	0
*	Compound Identification		5	0		4	0
*	Compound Quantitation		5	0		4	0
*	Sample Preservation		5	0		4	0
* All Criteria were met for that Parameter, B=BTEX, P=PAH							

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR PROBLEMS

- None noted.

MINOR PROBLEMS

- None noted.

NOTES

- ***Blank Contaminants:*** The maximum concentration of all compounds found in the analyses of the trip, field or laboratory method blanks are listed in the following table. Associated samples with positive results of these contaminants maybe qualified “U1" or “J+”, based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analytical Fraction	**Compound**	Maximum Concentration	Units	Blank Type	Associated Samples
BTEX	None				
PAH	None				

*Common lab contaminant

- ***Quantitation:*** For the BTEX analysis, the laboratory stated that the weight of some soil samples were above the recommended range. However, the weight of these samples were taken into account during the calculation of the results. No action was taken.

INORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Inorganic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		C		
		q	t	a
*	Data Completeness		4	0
*	Holding Time		4	0
*	Calibration Verification		4	0
*	Laboratory and Field Blanks analyses		4	0
*	Matrix Spike recoveries (MS)		4	0
*	Laboratory and Field Duplicates		4	0
*	Laboratory Control Sample(LCS)		4	0
*	Analyte Identification		4	0
*	Analyte Quantitation		4	0
*	Sample Preservation		4	0
* All Criteria were met for that Parameter, C=CN				

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR ISSUES

- None noted.

MINOR ISSUES

- ***Laboratory and Field Blanks analyses:*** Analytes detected in the laboratory and/or equipment blanks, that affect sample results, with concentration above the instrument detection limit (IDL) are listed below. Associated samples with positive results of these contaminants maybe qualified “U1" or “J+”, based on the concentration level found in the samples, according to USEPA National Functional Guideline for Inorganic Data Review, dated August 2014.

Analyte	Blank Type
None	

CB = Container Blank
PB = Preparation Blank
ICB = Initial Calibration Blank

CCB = Continuing Calibration Blank
FB = Field Blank
EB = Equipment Blank

NOTES

- ***Matrix Spike/Matrix Spike Duplicate (MS/MSD):*** The CN displayed MS recovery @ 85%, within the QC limits. However, The post digestion spike displayed low recovery @ 3%. No action was taken based on the post digestion spike since both MS & LCS were within the QC limits.

3-SDG: FUL23

This SDG consisted of twelve (12)) aqueous samples submitted to eurofins Laboratories, Lancaster, PA, for BTEX, PAH & Cyanide (CN) analyses according to SW-846 Methods 8260C, 8270D & 9012B, respectively. One (1)trip & one (1) field blanks were identified in this SDG. No field duplicate pairs were identified in this sample set. The samples were analyzed in accordance with the Chain-of-Custody (COC), see Sample Identification Summary.

Sample Identification Summary

SAMPLE INFORMATION				Analysis		
Field ID	**Lab ID**	**SDG**	**Matrix**	**B**	**P**	**C**
MW-122RD	9812240	FUL23	Aqueous	x	x	x
MW-123R	9812241		Aqueous	x	x	x
MW-120R	9812242		Aqueous	x	x	x
MW-120D	9812243		Aqueous	x	x	x
MW-115D	9812244		Aqueous	x	x	x
MW-116D	9812245		Aqueous	x	x	x
MW-108	9812246		Aqueous	x	x	x
MW-119	9812247		Aqueous	x	x	x
FB	9812248		Aqueous	x	x	x
MW-112D	9812249		Aqueous	x	x	x
MW-112S	9812250		Aqueous	x	x	x
TRIP BLANK	9812254		Aqueous	x	x	x

B=BTEX, P=PAH, C=CN

Duplicates: N/A

ORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods, except as noted in the Major Problem section. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		B			P		
		q	t	a	q	t	a
*	Data Completeness		12	0		11	0
*	Holding Time		12	0		11	0
*	Instrument Performance (BFB/DFTPP)		12	0		11	0
*	Calibrations		12	0		11	0
*	Laboratory and Field Blanks analyses		12	0		11	0
	Surrogate Recoveries		12	0	x	11	1
*	Matrix Spike/Matrix Spike Duplicate		12	0		11	0
*	Laboratory Control Sample(LCS)		12	0		11	0
*	Laboratory and/or Field Duplicates		12	0		11	0
	Internal Standards		12	0	x	11	1
*	Compound Identification		12	0		11	0
*	Compound Quantitation		12	0		11	0
*	Sample Preservation		12	0		11	0
* All Criteria were met for that Parameter, B=BTEX, P=PAH							

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR PROBLEMS

- None noted.

MINOR PROBLEMS

- ***Holding Time:*** The PAH extraction of sample MW-115D (9812244) were performed one (1) day outside the technical holding time of seven (7) days. No positive results were detected in this sample. Quantitation limits were qualified "UJ".

- ***Surrogate Recovery:*** The PAH analysis of sample MW-122RD (9812240) displayed low recovery for surrogate Terphenyl-d14. The sample was reanalyzed with similar results, results were reported from the initial analysis. No positive results were detected in this samples. Quantitation limits for compound associated with this surrogate (Pyrene, Benzo(a)anthracene & Chrysene) were qualified "UJ".

NOTES

- ***Blank Contaminants:*** The maximum concentration of all compounds found in the analyses of the trip, field or laboratory method blanks are listed in the following table. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analytical Fraction	**Compound**	Maximum Concentration	Units	Blank Type	Associated Samples
BTEX	None				
PAH	None				

*Common lab contaminant

- ***Internal Standards (IS):*** The BTEX analysis of sample MW-122RD (9812240) displayed low area count for IS1 (TBA) below the lower limit. No compounds of interest were associated with this IS. No data were qualified.

INORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Inorganic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		C		
		q	t	a
*	Data Completeness		11	0
*	Holding Time		11	0
*	Calibration Verification		11	0
*	Laboratory and Field Blanks analyses		11	0
*	Matrix Spike recoveries (MS)		11	0
*	Laboratory and Field Duplicates		11	0
*	Laboratory Control Sample(LCS)		11	0
*	Analyte Identification		11	0
*	Analyte Quantitation		11	0
*	Sample Preservation		11	0
* All Criteria were met for that Parameter, C=CN				

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR ISSUES

- None noted.

MINOR ISSUES

- ***Laboratory and Field Blanks analyses:*** Analytes detected in the laboratory and/or equipment blanks, that affect sample results, with concentration above the instrument detection limit (IDL) are listed below. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Inorganic Data Review, dated August 2014.
-

Analyte	Blank Type
None	

CB = Container Blank
PB = Preparation Blank
ICB = Initial Calibration Blank

CCB = Continuing Calibration Blank
FB = Field Blank
EB = Equipment Blank

NOTES

- None noted.

4-SDG: FUL24

This SDG consisted of nine (9) aqueous samples submitted to eurofins Laboratories, Lancaster, PA, for BTEX, PAH & Cyanide (CN) analyses according to SW-846 Methods 8260C, 8270D & 9012B, respectively. One (1) trip blank and one (1) aqueous field duplicate were identified in this SDG. The samples were analyzed in accordance with the Chain-of-Custody (COC), see Sample Identification Summary.

Sample Identification Summary

SAMPLE INFORMATION				Analysis		
Field ID	**Lab ID**	**SDG**	**Matrix**	**B**	**P**	**C**
MW-121D	9816517	FUL24	Aqueous	x	x	x
MW-121S	9816518		Aqueous	x	x	x
MW-110S	9816519		Aqueous	x	x	x
MW-101	9816520		Aqueous	x	x	x
MW-102	9816521		Aqueous	x	x	x
MW-102D	9816522		Aqueous	x	x	x
DUP	9816523		Aqueous	x	x	x
MW-103	9816524		Aqueous	x	x	x
TRIP BLANK	9816525		Aqueous	x		

B=BTEX, P=PAH, C=CN

Duplicates: DUP/MW-102D

- ***Field Duplicates:*** For the associated aqueous samples, an RPD of 20% was used as the QC limit for results >5x the CRQL; and for results <5x the CRQL, the difference between the two values must be less than the CRQL. Results <5x the CRQL have "NA", not applicable, placed in the RPD field.

Compound	DUP	MW-102D	RPD	Qualifier
BTEX				
	ND	ND		
PAH				
Acenaphthene	6	5	18	
Acenaphthylene	1	1	0	
Anthracene	0.9	0.8	12	
Fluoranthene	0.4 J	0.3 J	NA	
Fluorene	3	3	0	
Naphthalene	1	1	0	
Phenanthrene	6	5	18	
Pyrene	0.6	0.5 J	18	
Cyanide, total	ND	ND		

ND=None Detected NA=Not Applicable

ORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods, except as noted in the Major Problem section. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		B			P		
		q	t	a	q	t	a
*	Data Completeness		9	0		8	0
*	Holding Time		9	0		8	0
*	Instrument Performance (BFB/DFTPP)		9	0		8	0
*	Calibrations		9	0		8	0
*	Laboratory and Field Blanks analyses		9	0		8	0
*	Surrogate Recoveries		9	0		8	0
*	Matrix Spike/Matrix Spike Duplicate		9	0		8	0
*	Laboratory Control Sample(LCS)		9	0		8	0
*	Laboratory and/or Field Duplicates		9	0		8	0
*	Internal Standards		9	0		8	0
*	Compound Identification		9	0		8	0
*	Compound Quantitation		9	0		8	0
*	Sample Preservation		9	0		8	0
* All Criteria were met for that Parameter, B=BTEX, P=PAH							

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR PROBLEMS

- None noted.

MINOR PROBLEMS

- None noted.

NOTES

- ***Blank Contaminants:*** The maximum concentration of all compounds found in the analyses of the trip, field or laboratory method blanks are listed in the following table. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analytical Fraction	**Compound**	Maximum Concentration	Units	Blank Type	Associated Samples
BTEX	None				
PAH	None				

*Common lab contaminant

INORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Inorganic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		C		
		q	t	a
*	Data Completeness		8	0
*	Holding Time		8	0
*	Calibration Verification		8	0
*	Laboratory and Field Blanks analyses		8	0
*	Matrix Spike recoveries (MS)		8	0
*	Laboratory and Field Duplicates		8	0
*	Laboratory Control Sample(LCS)		8	0
*	Analyte Identification		8	0
*	Analyte Quantitation		8	0
*	Sample Preservation		8	0
* All Criteria were met for that Parameter, C=CN				

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR ISSUES

- None noted.

MINOR ISSUES

- ***Laboratory and Field Blanks analyses:*** Analytes detected in the laboratory and/or equipment blanks, that affect sample results, with concentration above the instrument detection limit (IDL) are listed below. Associated samples with positive results of these contaminants maybe qualified “U1" or “J+”, based on the concentration level found in the samples, according to USEPA National Functional Guideline for Inorganic Data Review, dated August 2014.

Analyte	Blank Type
None	

CB = Container Blank
PB = Preparation Blank
ICB = Initial Calibration Blank
CCB = Continuing Calibration Blank
FB = Field Blank

EB = Equipment Blank

NOTES

- None noted.

5-SDG: FUL25

This SDG consisted of twelve (12) aqueous samples submitted to eurofins Laboratories, Lancaster, PA, for BTEX, PAH & Cyanide (CN) analyses according to SW-846 Methods 8260C, 8270D & 9012B, respectively. One (1) trip & one (1) field blanks were identified in this SDG. The samples were analyzed in accordance with the Chain-of-Custody (COC), see Sample Identification Summary.

Sample Identification Summary

SAMPLE INFORMATION				**Analysis**		
Field ID	**Lab ID**	**SDG**	**Matrix**	**B**	**P**	**C**
MW-103D	9821991	FUL25	Aqueous	x	x	x
MW-109S	9821992		Aqueous	x	x	x
MW-110D	9821993		Aqueous	x	x	x
MW-111S	9821994		Aqueous	x	x	x
MW-122R	9821995		Aqueous	x	x	x
MW-122D	9821996		Aqueous	x	x	x
MW-124R	9822000		Aqueous	x	x	x
MW-122S	9822001		Aqueous	x	x	x
MW-125R	9822002		Aqueous	x	x	x
MW-121R	9822003		Aqueous	x	x	x
TRIP BLANK	9822004		Aqueous	x	x	x
FB	9822005		Aqueous	x		

B=BTEX, P=PAH, C=CN

Duplicates: N/A

ORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods, except as noted in the Major Problem section. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		B			P		
		q	t	a	q	t	a
*	Data Completeness		12	0		11	0
*	Holding Time		12	0		11	0
*	Instrument Performance (BFB/DFTPP)		12	0		11	0
*	Calibrations		12	0		11	0
*	Laboratory and Field Blanks analyses		12	0		11	0
*	Surrogate Recoveries		12	0		11	0
*	Matrix Spike/Matrix Spike Duplicate		12	0		11	0
*	Laboratory Control Sample(LCS)		12	0		11	0
*	Laboratory and/or Field Duplicates		12	0		11	0
*	Internal Standards		12	0		11	0
*	Compound Identification		12	0		11	0
*	Compound Quantitation		12	0		11	0
*	Sample Preservation		12	0		11	0
* All Criteria were met for that Parameter, B=BTEX, P=PAH							

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR PROBLEMS

- None noted.

MINOR PROBLEMS

- None noted.

NOTES

- ***Blank Contaminants:*** The maximum concentration of all compounds found in the analyses of the trip, field or laboratory method blanks are listed in the following table. Associated samples with positive results of these contaminants maybe qualified “U1" or “J+”, based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analytical Fraction	**Compound**	Maximum Concentration	Units	Blank Type	Associated Samples
BTEX	None				
PAH	None				

*Common lab contaminant

INORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Inorganic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		C		
		q	t	a
*	Data Completeness		11	0
*	Holding Time		11	0
*	Calibration Verification		11	0
*	Laboratory and Field Blanks analyses		11	0
*	Matrix Spike recoveries (MS)		11	0
*	Laboratory and Field Duplicates		11	0
*	Laboratory Control Sample(LCS)		11	0
*	Analyte Identification		11	0
*	Analyte Quantitation		11	0
*	Sample Preservation		11	0
* All Criteria were met for that Parameter, C=CN				

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR ISSUES

- None noted.

MINOR ISSUES

- ***Laboratory and Field Blanks analyses:*** Analytes detected in the laboratory and/or equipment blanks, that affect sample results, with concentration above the instrument detection limit (IDL) are listed below. Associated samples with positive results of these contaminants maybe qualified “U1" or “J+”, based on the concentration level found in the samples, according to USEPA National Functional Guideline for Inorganic Data Review, dated August 2014.

Analyte	Blank Type
None	

CB = Container Blank
PB = Preparation Blank
ICB = Initial Calibration Blank

CCB = Continuing Calibration Blank
FB = Field Blank
EB = Equipment Blank

NOTES

- None noted.

6-SDG: FUL26

This SDG consisted of eight (8) aqueous samples submitted to eurofins Laboratories, Lancaster, PA, for BTEX, PAH & Cyanide (CN) analyses according to SW-846 Methods 8260C, 8270D & 9012B, respectively. One (1) trip blank and one (1) aqueous field duplicate were identified in this SDG. The samples were analyzed in accordance with the Chain-of-Custody (COC), see Sample Identification Summary.

Sample Identification Summary

SAMPLE INFORMATION				Analysis		
Field ID	**Lab ID**	**SDG**	**Matrix**	**B**	**P**	**C**
MW-114D	9827103	FUL26	Aqueous	x	x	x
MW-113D	9827104		Aqueous	x	x	x
MW-111D	9827105		Aqueous	x	x	x
MW-111R	9827106		Aqueous	x	x	x
BRB-1	9827107		Aqueous	x	x	x
MW-109D	9827108		Aqueous	x	x	x
DUP	9827109		Aqueous	x	x	x
TRIP BLANK	9827110		Aqueous	x		

B=BTEX, P=PAH, C=CN

Duplicates: DUP/MW-109D

- ***Field Duplicates:*** For the associated aqueous samples, an RPD of 20% was used as the QC limit for results >5x the CRQL; and for results <5x the CRQL, the difference between the two values must be less than the CRQL. Results <5x the CRQL have "NA", not applicable, placed in the RPD field.

Compound	DUP	MW-109D	RPD	Qualifier
BTEX				
Benzene	1	1	0	
Ethylbenzene	7	7	0	
Toluene	0.5 J	0.5 J	NA	
Xylenes, total	7	7	0	
PAH				
Acenaphthene	22	24	9	
Acenaphthylene	6	6	0	
Anthracene	0.4 J	0.5	NA	
Fluoranthene	0.8	0.8	0	
Fluorene	4	4	0	
Naphthalene	18	20	11	
Phenanthrene	1	1	0	
Pyrene	0.5 J	0.5 J	NA	
Cyanide, total	ND	0.0079 J	NA	

ND=None Detected NA=Not Applicable

ORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods, except as noted in the Major Problem section. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

	Parameters	B			P		
		q	t	a	q	t	a
*	Data Completeness		8	0		7	0
*	Holding Time		8	0		7	0
*	Instrument Performance (BFB/DFTPP)		8	0		7	0
*	Calibrations		8	0		7	0
*	Laboratory and Field Blanks analyses		8	0		7	0
*	Surrogate Recoveries		8	0		7	0
*	Matrix Spike/Matrix Spike Duplicate		8	0		7	0
*	Laboratory Control Sample(LCS)		8	0		7	0
*	Laboratory and/or Field Duplicates		8	0		7	0
*	Internal Standards		8	0		7	0
*	Compound Identification		8	0		7	0
*	Compound Quantitation		8	0		7	0
*	Sample Preservation		8	0		7	0
* All Criteria were met for that Parameter, B=BTEX, P=PAH							

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR PROBLEMS

- None noted.

MINOR PROBLEMS

- None noted.

NOTES

- ***Blank Contaminants:*** The maximum concentration of all compounds found in the analyses of the trip, field or laboratory method blanks are listed in the following table. Associated samples with positive results of these contaminants maybe qualified “U1" or “J+”, based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analytical Fraction	**Compound**	Maximum Concentration	Units	Blank Type	Associated Samples
BTEX	None				
PAH	None				

*Common lab contaminant

INORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Inorganic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		C		
		q	t	a
*	Data Completeness		7	0
*	Holding Time		7	0
*	Calibration Verification		7	0
*	Laboratory and Field Blanks analyses		7	0
*	Matrix Spike recoveries (MS)		7	0
*	Laboratory and Field Duplicates		7	0
*	Laboratory Control Sample(LCS)		7	0
*	Analyte Identification		7	0
*	Analyte Quantitation		7	0
*	Sample Preservation		7	0
* All Criteria were met for that Parameter, C=CN				

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR ISSUES

- None noted.

MINOR ISSUES

- ***Laboratory and Field Blanks analyses:*** Analytes detected in the laboratory and/or equipment blanks, that affect sample results, with concentration above the instrument detection limit (IDL) are listed below. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Inorganic Data Review, dated August 2014.

Analyte	Blank Type
None	

CB = Container Blank
PB = Preparation Blank
ICB = Initial Calibration Blank
CCB = Continuing Calibration Blank
FB = Field Blank

EB = Equipment Blank

NOTES

- None noted.

7-SDG: FUL27

This SDG consisted of fifteen (15) aqueous samples submitted to eurofins Laboratories, Lancaster, PA, for BTEX, PAH & Cyanide (CN) analyses according to SW-846 Methods 8260C, 8270D & 9012B, respectively. One (1) trip & one (1) field blanks were identified in this SDG. The samples were analyzed in accordance with the Chain-of-Custody (COC), see Sample Identification Summary.

Sample Identification Summary

SAMPLE INFORMATION				Analysis		
Field ID	**Lab ID**	**SDG**	**Matrix**	**B**	**P**	**C**
MW-123R	9889854	FUL27	Aqueous	x	x	x
MW-120R	9889855		Aqueous	x	x	x
MW-120D	9889856		Aqueous	x	x	x
MW-115D	9889860		Aqueous	x	x	x
MW-116D	9889861		Aqueous	x	x	x
MW-108	9889862		Aqueous	x	x	x
FB	9889863		Aqueous	x	x	x
MW-119	9889864		Aqueous	x	x	x
MW-112D	9889865		Aqueous	x	x	x
MW-112S	9889866		Aqueous	x	x	x
MW-121D	9889867		Aqueous	x	x	x
MW-121S	9889868		Aqueous	x	x	x
MW-110S	9889869		Aqueous	x	x	x
MW-101	9889870		Aqueous	x	x	x
TRIP BLANK	9889871		Aqueous	x		

B=BTEX, P=PAH, C=CN

Duplicates: N/A

ORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods, except as noted in the Major Problem section. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

	Parameters	B			P		
		q	t	a	q	t	a
*	Data Completeness		15	0		14	0
*	Holding Time		15	0		14	0
*	Instrument Performance (BFB/DFTPP)		15	0		14	0
*	Calibrations		15	0		14	0
*	Laboratory and Field Blanks analyses		15	0		14	0
	Surrogate Recoveries		15	0	x	14	1
*	Matrix Spike/Matrix Spike Duplicate		15	0		14	0
	Laboratory Control Sample(LCS)		15	0	x	14	1
*	Laboratory and/or Field Duplicates		15	0		14	0
*	Internal Standards		15	0		14	0
*	Compound Identification		15	0		14	0
*	Compound Quantitation		15	0		14	0
*	Sample Preservation		15	0		14	0
* All Criteria were met for that Parameter, B=BTEX, P=PAH							

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR PROBLEMS

- None noted.

MINOR PROBLEMS

- ***Laboratory Control Sample (LCS)/Surrogate Recoveries:*** The PAH LCS/LCSD associated with the initial analysis of sample MW-121S (9889868) displayed low recoveries for most of the compounds. The samples were re-extracted and reanalyzed within holding time, resulting in low recoveries for all surrogates. No positive results were detected in both initial & reanalysis of the sample. Reported quantitation limits for all compounds were qualified "UJ".

NOTES

- ***Blank Contaminants:*** The maximum concentration of all compounds found in the analyses of the trip, field or laboratory method blanks are listed in the following table. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analytical Fraction	**Compound**	Maximum Concentration	Units	Blank Type	Associated Samples
BTEX	None				
PAH	None				

*Common lab contaminant

INORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Inorganic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		C q	C t	C a
*	Data Completeness		14	0
*	Holding Time		14	0
*	Calibration Verification		14	0
*	Laboratory and Field Blanks analyses		14	0
*	Matrix Spike recoveries (MS)		14	0
*	Laboratory and Field Duplicates		14	0
*	Laboratory Control Sample(LCS)		14	0
*	Analyte Identification		14	0
*	Analyte Quantitation		14	0
*	Sample Preservation		14	0
* All Criteria were met for that Parameter, C=CN				

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR ISSUES

- None noted.

MINOR ISSUES

- ***Laboratory and Field Blanks analyses:*** Analytes detected in the laboratory and/or equipment blanks, that affect sample results, with concentration above the instrument detection limit (IDL) are listed below. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Inorganic Data Review, dated August 2014.

Analyte	Blank Type
None	

CB = Container Blank
PB = Preparation Blank
ICB = Initial Calibration Blank

CCB = Continuing Calibration Blank
FB = Field Blank
EB = Equipment Blank

NOTES

- None noted.

8-SDG: FUL28

This SDG consisted of twelve (12) aqueous samples submitted to eurofins Laboratories, Lancaster, PA, for BTEX, PAH & Cyanide (CN) analyses according to SW-846 Methods 8260C, 8270D & 9012B, respectively. One (1) trip blank and one (1) aqueous field duplicate were identified in this SDG. The samples were analyzed in accordance with the Chain-of-Custody (COC), see Sample Identification Summary.

Sample Identification Summary

SAMPLE INFORMATION				Analysis		
Field ID	**Lab ID**	**SDG**	**Matrix**	**B**	**P**	**C**
MW-102	9894103	FUL28	Aqueous	x	x	x
MW-102D	9894104		Aqueous	x	x	x
MW-103	9894105		Aqueous	x	x	x
MW-103D	9894106		Aqueous	x	x	x
DUP	9894107		Aqueous	x	x	x
MW-109S	9894108		Aqueous	x	x	x
MW-110D	9894109		Aqueous	x	x	x
MW-111S	9894110		Aqueous	x	x	x
MW-122S	9894111		Aqueous	x	x	x
MW-122D	9894112		Aqueous	x	x	x
MW-122R	9894113		Aqueous	x	x	x
TRIP BLANK	9894117		Aqueous	x		

B=BTEX, P=PAH, C=CN

Duplicates: DUP/MW-103D

- ***Field Duplicates:*** For the associated aqueous samples, an RPD of 20% was used as the QC limit for results >5x the CRQL; and for results <5x the CRQL, the difference between the two values must be less than the CRQL. Results <5x the CRQL have "NA", not applicable, placed in the RPD field.

Compound	DUP	MW-103D	RPD	Qualifier
BTEX				
Benzene	17	17	0	
Ethylbenzene	2	2	0	
Toluene	2	2	0	
Xylenes, total	4 J	4 J	NA	
PAH				
Acenaphthene	1	2	67	J
Acenaphthylene	0.5J	0.7	NA	
Anthracene	0.1J	0.3J	NA	
Benzo(a)anthracene	0.6	0.8	NA	
Benzo(a)pyrene	0.6	1	NA	
Benzo(b)fluoranthene	0.7	1	NA	
Benzo(g,h,i)perylene	0.2J	0.3J	NA	

Compound	DUP	MW-103D	RPD	Qualifier
Benzo(k)fluoranthene	0.3J	0.5J	NA	
Chrysene	0.4J	0.6	NA	
Dibenz(a,h)anthracene	ND	0.1J	NA	
Fluoranthene	0.7	1	NA	
Fluorene	0.4J	0.5	NA	
Indeno(1,2,3-c,d)pyrene	0.3J	0.4J	NA	
Naphthalene	2	3	40	J
Phenanthrene	0.2J	0.3J	NA	
Pyrene	0.9	1	11	
Cyanide, total	0.019	0.018	5	

ND=None Detected   NA=Not Applicable

ORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods, except as noted in the Major Problem section. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		B			P		
		q	t	a	q	t	a
*	Data Completeness		12	0		11	0
*	Holding Time		12	0		11	0
*	Instrument Performance (BFB/DFTPP)		12	0		11	0
*	Calibrations		12	0		11	0
*	Laboratory and Field Blanks analyses		12	0		11	0
*	Surrogate Recoveries		12	0		11	0
	Matrix Spike/Matrix Spike Duplicate	x	12	1		11	0
*	Laboratory Control Sample(LCS)		12	0		11	0
	Laboratory and/or Field Duplicates		12	0	x	11	2
*	Internal Standards		12	0		11	0
*	Compound Identification		12	0		11	0
*	Compound Quantitation		12	0		11	0
*	Sample Preservation		12	0		11	0
* All Criteria were met for that Parameter, B=BTEX, P=PAH							

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR PROBLEMS

- None noted.

MINOR PROBLEMS

- ***Matrix Spike/Matrix Spike Duplicate (MS/MSD):*** The BTEX MS/MSD of sample MW-122R displayed high recoveries for Benzene, Toluene & Ethylbenzene. Positive results for these compounds were qualified "J+" in the parent sample.

NOTES

- ***Blank Contaminants:*** The maximum concentration of all compounds found in the analyses of the trip, field or laboratory method blanks are listed in the following table. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analytical Fraction	**Compound**	Maximum Concentration	Units	Blank Type	Associated Samples
BTEX	None				
PAH	None				

*Common lab contaminant

- ***Matrix Spike/Matrix Spike Duplicate (MS/MSD):*** The BTEX MS/MSD of sample MW-122S displayed high recoveries for all compounds. No positive results were detected in the parent sample. No data were qualified.

  The PAH MS/MSD of sample MW-122R displayed high recoveries for Naphthalene. However, the native sample concentration was >4x the spiked amount. No action was taken.

INORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Inorganic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		C		
		q	t	a
*	Data Completeness		11	0
*	Holding Time		11	0
*	Calibration Verification		11	0
*	Laboratory and Field Blanks analyses		11	0
*	Matrix Spike recoveries (MS)		11	0
*	Laboratory and Field Duplicates		11	0
*	Laboratory Control Sample(LCS)		11	0
*	Analyte Identification		11	0
*	Analyte Quantitation		11	0
*	Sample Preservation		11	0
* All Criteria were met for that Parameter, C=CN				

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR ISSUES

- None noted.

MINOR ISSUES

- ***Laboratory and Field Blanks analyses:*** Analytes detected in the laboratory and/or equipment blanks, that affect sample results, with concentration above the instrument detection limit (IDL) are listed below. Associated samples with positive results of these contaminants maybe qualified “U1" or “J+”, based on the concentration level found in the samples, according to USEPA National Functional Guideline for Inorganic Data Review, dated August 2014.

Analyte	Blank Type
None	

CB = Container Blank
PB = Preparation Blank
ICB = Initial Calibration Blank

CCB = Continuing Calibration Blank
FB = Field Blank
EB = Equipment Blank

NOTES

- None noted.

9-SDG: FUL29

This SDG consisted of thirteen (13) aqueous samples submitted to eurofins Laboratories, Lancaster, PA, for BTEX, PAH & Cyanide (CN) analyses according to SW-846 Methods 8260C, 8270D & 9012B, respectively. One (1) trip & one (1) field blanks; and one (1) aqueous field duplicate were identified in this SDG. The samples were analyzed in accordance with the Chain-of-Custody (COC), see Sample Identification Summary.

Sample Identification Summary

SAMPLE INFORMATION				Analysis		
Field ID	**Lab ID**	**SDG**	**Matrix**	**B**	**P**	**C**
MW-122RD	9899633	FUL29	Aqueous	x	x	x
MW-125R	9899634		Aqueous	x	x	x
DUP	9899635		Aqueous	x	x	x
MW-124R	9899636		Aqueous	x	x	x
MW-121R	9899637		Aqueous	x	x	x
MW-113D	9899638		Aqueous	x	x	x
MW-114D	9899639		Aqueous	x	x	x
MW-109D	9899640		Aqueous	x	x	x
MW-111D	9899641		Aqueous	x	x	x
MW-111R	9899642		Aqueous	x	x	x
FB	9899643		Aqueous	x	x	x
BRB-1	9899644		Aqueous	x	x	x
TRIP BLANK	9899645		Aqueous	x		

B=BTEX, P=PAH, C=CN

Duplicates: DUP/MW-125R

- ***Field Duplicates:*** For the associated aqueous samples, an RPD of 20% was used as the QC limit for results >5x the CRQL; and for results <5x the CRQL, the difference between the two values must be less than the CRQL. Results <5x the CRQL have "NA", not applicable, placed in the RPD field.

Compound	**DUP**	**MW-125R**	**RPD**	**Qualifier**
BTEX				
Benzene	5	5	0	
Ethylbenzene	62	63	2	
Toluene	37	38	3	
Xylenes, total	180	180	0	
PAH				
Acenaphthene	29	29	0	
Acenaphthylene	10	11	10	
Anthracene	3	3	0	
Benzo(a)anthracene	0.1 J	0.1 J	NA	
Fluoranthene	2	3	40	J

Compound	DUP	MW-125R	RPD	Qualifier
Fluorene	20	19	5	
Naphthalene	130	210	47	J
Phenanthrene	9	6	40	J
Pyrene	2	2	0	
Cyanide, total	ND	ND		

ND=None Detected   NA=Not Applicable

ORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. All instruments and method sensitivities were according to the specified analytical methods, except as noted in the Major Problem section. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

	Parameters	B			P		
		q	t	a	q	t	a
*	Data Completeness		13	0		12	0
*	Holding Time		13	0		12	0
*	Instrument Performance (BFB/DFTPP)		13	0		12	0
*	Calibrations		13	0		12	0
*	Laboratory and Field Blanks analyses		13	0		12	0
	Surrogate Recoveries		13	0	x	12	1
	Matrix Spike/Matrix Spike Duplicate	x	13	2		12	0
	Laboratory Control Sample(LCS)		13	0	x	12	12
	Laboratory and/or Field Duplicates		13	0	x	12	2
*	Internal Standards		13	0		12	0
*	Compound Identification		13	0		12	0
*	Compound Quantitation		13	0		12	0
*	Sample Preservation		13	0		12	0
* All Criteria were met for that Parameter, B=BTEX, P=PAH							

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR PROBLEMS

- None noted.

MINOR PROBLEMS

- ***Matrix Spike/Matrix Spike Duplicate (MS/MSD):*** The BTEX MSD of sample MW-125R displayed high recoveries for all compounds. Positive results for these compounds were qualified "J+" in the parent sample.

  The BTEX MSD of sample BRB-1 displayed high recovery for Benzene. Positive result for this compound was qualified "J+" in the parent sample.

- ***Surrogate Recovery:*** The PAH analysis of sample MW-125R (9899633) displayed low recovery for surrogate Terphenyl-d14. The sample was reanalyzed with similar results, results were reported from the initial analysis. Quantitation limits for compounds associated with this surrogate (Pyrene, Benzo(a)anthracene & Chrysene) were qualified “UJ”.

- ***Laboratory Control Sample (LCS):*** The PAH LCS displayed low recovery for Fluorene. Positive results & quantitation limits for this compound in all samples were qualified “J-” & “UJ”, respectively, unless the “J-“ was superseded by the “J” qualifier.

NOTES

- ***Blank Contaminants:*** The maximum concentration of all compounds found in the analyses of the trip, field or laboratory method blanks are listed in the following table. Associated samples with positive results of these contaminants maybe qualified “U1" or “J+”, based on the concentration level found in the samples, according to USEPA National Functional Guideline for Organic Data Review, dated August 2014.

Analytical Fraction	**Compound**	Maximum Concentration	Units	Blank Type	Associated Samples
BTEX	None				
PAH	None				

*Common lab contaminant

INORGANIC VALIDATION

SUMMARY

All samples were successfully analyzed for all target compounds according to U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Inorganic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. Refer to Minor Problems for information regarding biases identified during data validation.

Data Validation Summary

Parameters		C q	C t	C a
*	Data Completeness		12	0
*	Holding Time		12	0
*	Calibration Verification		12	0
*	Laboratory and Field Blanks analyses		12	0
*	Matrix Spike recoveries (MS)		12	0
*	Laboratory and Field Duplicates		12	0
*	Laboratory Control Sample(LCS)		12	0
*	Analyte Identification		12	0
*	Analyte Quantitation		12	0
*	Sample Preservation		12	0
* All Criteria were met for that Parameter, C=CN				

q=qualified; t=total number of samples analyzed; a=number of samples affected

MAJOR ISSUES

- None noted.

MINOR ISSUES

- ***Laboratory and Field Blanks analyses:*** Analytes detected in the laboratory and/or equipment blanks, that affect sample results, with concentration above the instrument detection limit (IDL) are listed below. Associated samples with positive results of these contaminants maybe qualified "U1" or "J+", based on the concentration level found in the samples, according to USEPA National Functional Guideline for Inorganic Data Review, dated August 2014.

Analyte	Blank Type
None	

CB = Container Blank
PB = Preparation Blank
ICB = Initial Calibration Blank

CCB = Continuing Calibration Blank
FB = Field Blank
EB = Equipment Blank

NOTES

- None noted.

REPORT CONTENT STATEMENT

All data for this project were reviewed in accordance with the pertinent parts of the U.S. Environmental Protection Agency (USEPA) National Functional Guidelines for Organic Data Review & USEPA National Functional Guidelines for Inorganic Data Review, dated August 2014; Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, dated January 2009; along with the Quality Assurance/Quality Control (QA/QC) requirements for the analytical methods used for the analyses. The text of the report addresses only those problems affecting data usability.

ATTACHMENTS

1) Glossary of Data Qualifiers
2) Electronic Data Deliverable (EDD). These include:
   (a) All results for target compounds with qualifier codes where applicable.
   (b) All unusable detection limits (qualified "R"), where applicable.
3) Electronic Data Package (.pdf file) as Support Documentation

DCN: BC021901-FUL21

Respectfully Submitted,

Sherif N. Mina Date: March 7, 2019
Sherif N. Mina

QA/Review: SM

Appendix H: Electronic Data Deliverable (CD-ROM)