To: All Plan Holders of Record

From: Verdantas LLC
For the Owner

Re: ***Addendum No. 3***
Wellfield Development: Contr. A Refurbish Wells 3 & 4, Contr. B New Wells 5 & 6
Village of Piketon

Date: July 23, 2025

This Addendum forms a part of the contract documents and modifies the original bidding documents dated July 2025 and all previous addenda, if any. Acknowledge receipt of this addendum in the space provided in the bid forms. Failure to do so may subject the bidder to disqualification.

QUESTIONS AND ANSWERS

Q1. There are fire hydrants near each proposed new well site. Four total, two near the school… two near the road (approx. 300 ft from each well site)… Is it possible that you and the Village of Piketon would allow this use from a hydrant?

A1. There is concern that the required amount of flow from the hydrants would put too much of a strain on the City's water supply, which is why the 6-inch supply well was added. This is the well that will be left for ODNR to use for water-level monitoring.

Q2. Per Addendum 1, could you let us know the coupling we would need to discharge our water into the water main during the 24-hour test, and whether we need to supply the flow meter.

A2. A 6-inch coupling and flow meter will be provided to connect the discharge water hose to the raw water main for the 24-hour test. It is anticipated the piping will be installed by November 1, 2025.

Q3. The electrical connection to the pitless adapter is on the "Contract B" side" are we responsible for this?

A3. The Well Contractor shall run all electrical wiring in the well and at the pitless adapter. Contractor shall supply/install enough wire to come up out of the casing and extend approximately 50 feet beyond the pitless adapter. The raw water main is part of the water plant contract. The plant electrical contractor will install a local disconnect, as required, and extend the wires and make the connections to the panels.

Q4. Is there a specification for the piping on the contract B side?

A4. The pipe from the well up to the valve vault shall be ductile iron pipe in accordance with the details on Plan Sheet 11/14. Ductile iron pipe shall meet the requirements in Specification Section 331113 – Waterline Construction added by this Addendum.

BID FORMS

Replace Bid Form Page BF.9 with the attached page BF.9A - the Completion Date for Contract B is changed from "December 31, 2025" to "April 1, 2026".

SPECIFICATIONS

In the Advertisement, change the Contract B Completion Date from "12/31/25" to "4/1/26".

Add Specification Section 332110 – Pitless Adapter in its entirety to the project specifications.

Add Specification Section 331113 – Waterline Construction in its entirety to the project specifications.

Add the enclosed Appendix A - Well Site Application to the specifications in its entirety.

Add the enclosed Appendix B - Well Test Bore Report to the specifications in its entirety. This report was relied upon in the preparation of the plans and specifications. Copies of the report are provided for reference but are not considered to be part of the bid documents.

PLANS

On Plan Sheet 4/14 – Area Plan, swap the labels for "EXISTING WELL #3 (CONTRACT A)" and "EXISTING WELL #2".

On Plan Sheet 11/14, in the Well #5 and Well #6 Detail, replace the Pump Data Duty Point in its entirety for both New Well #5 and New Well #6 with "500 GPM @ 110 FT TDH".

On Plan Sheet 11/14, in the Well #5 and Well #6 Detail, change the Pump Motor data from "CYCLE: XX HZ SPEED: XXXX RPM" to "CYCLE: 60 HZ SPEED: 1800 RPM" for New Well #5 and New Well #6.

On Plan Sheet 11/14, in the Well #5 and Well #6 Detail, change the Pump Testing Duration of Test from "72 HR" to "24 HR" for New Well #5 and New Well #6.

NLD:mep

Enclosure

H:\2021\211118\SPEC\Wells - Wellfield Development - 3&4 And 5&6 - July 2025\Addenda\Addendum 3\Addendum 03.Docx

The Bidder hereby acknowledges that they have reviewed the following addenda:

Addendum No.						
Date:						

The undersigned, having full knowledge of the plans and specifications for the improvements and the conditions of the Proposal hereby agree to furnish all the services, labor, materials, and equipment necessary to complete the work according to the plans and specifications and to accept as full compensation the lump sum or the unit prices specified serving as deduct or extra compensation rates.

And We (or I) do hereby agree that in the event of failure on OUR part to contract as aforesaid (provided this Proposal is accepted) the Bid Bond, Check or Letter of Credit accompanying this Proposal shall be forfeited to the Owner as liquidated damages for the difference between this bid and the awarded Contract price, not to exceed the amount of bond. We further agree that the Owner may reject any or all bids.

By signature below, I hereby certify that **I AND MY Insurance Agent have examined the insurance requirements** in the specifications and that the types and amounts of same are currently in effect or will be obtained and kept in effect for the project duration and that my Insurance Agent has assured that notification of non-renewal, policy modification, and/or cancellation to all certificate holders will occur per the contract requirements. Verification will be provided to the Owner subsequent to the issuance of a Notice of Award.

BF.9A

Submitted by,

Firm, Corporation, or Individual	Officer's Name and Title (typed)	Telephone Number
Street Address	Officer's Signature	Fax Number
City, State, Zip Code	Date	E-Mail Address
Unique Entity Identifier Number (UEI) SAM.gov	Ohio Secretary of State ID Number	Federal Tax ID Number

Note: Evidence of authority to sign must be affixed and attested by the Secretary.

CONTRACT A, CONTRACT B, AND/OR COMBINED CONTRACTS A & B:

COMPLETION DATES: To be proposed by the Bidder but no later than: Contract A – September 30, 2025
Contract B - April 1, 2026

LIQUIDATED DAMAGES: $1,000.00 PER DAY

SECTION 332110 – PITLESS ADAPTER

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK:

A. Section includes complete assembled Pitless Unit System including well cap, lift-out bail, hold down hooks, lift out pipe, discharge body with support ring, spool with or without check valves and pressure equalizing passages.

1.2 SUBMITTALS

A. The Manufacturer and Model of the Pitless Unit to be installed.

B. Detailed specifications with drawings of the System furnished by the manufacturer.

PART 2 - PRODUCTS

2.1 PITLESS ADAPTER

A. The Pitless Unit shall be equal to Baker Manufacturing Company, Monitor Division. The unit should be factory assembled, before shipping to the site. The pitless unit must conform to Ohio EPA and the Recommended Standards for Water Works.

B. The pitless unit shall be NSF 61 Certified.

2.2 WELL CAP

A. The Watertight Cap shall be secured to the pitless casing with a compression gasket. The top of the cap can be removed without affecting the sealed conduit or wiring. The heavy-duty watertight cap will have a separate protected downward facing stainless steel screened well vent with pipe nipple. Construction of the cap and well vent will be of heavy-duty gray cast iron and painted with a green enamel finish.

2.3 UPPER CASING

A. The Upper Casing is factory assembled to the discharge body, and the lift out and hold down mechanism are factory assembled to the spool. Upper-casing thickness must conform to the Recommended Standards for Water Works and be coated with a rust protective coating. The upper casing must provide a watertight connection from the discharge body to the well cap. The discharge port center line to be 4-feet below grade (minimum), and the pitless upper casing to extend above grade in accordance with the drawings.

2.4 SPOOL

A. The spool shall include ANSI B 1.20.1 male or female drop pipe connection and shall be constructed of lead-free galvanized heavy duty gray cast iron, ductile iron, or steel with a lead-free galvanized plating on the wetted surface of over .010 inches thick. The spool will have o-ring grooves machined into the spool retaining the o-rings when setting or pulling the system.

B. The positive pressure o-ring seals shall be constructed of neoprene or equivalent. Spool shall be designed to accommodate probe tubes or water samplers and NPT ports for discharge pressure taps. O-ring protection should be provided to prevent the seals from dragging on the upper casing when the pump is installed or removed.

2.5 DISCHARGE BODY

A. The Discharge Body shall be constructed of lead-free galvanized ductile iron or lead-free galvanized steel. O-ring seat to be designed to prevent crevice and galvanic corrosion, dissimilar metals should be avoided. Discharge body designed to be strong enough to prevent distortion due to vertical movement of discharge pipe thereby allowing spool to bind in the discharge body. Minimum I.D. of the discharge body to be equal to or greater than I.D. of the well casing for ease in well servicing.

2.6 HOLD-DOWN MECHANISM

A. The Pitless Unit spool should have a hold down mechanism, factory assembled to spool and capable of preventing rotation of the pitless spool relative to the discharge body, at full rated locked rotor torque of the submersible pump motor. The spool must also have a factory assembled lift out pipe and bail, or spider, to allow lifting a water filled drop pipe and pump out of the well for service. Components to be constructed of ductile iron or steel with a corrosion resistant coating.

2.7 CHECK VALVES (OPTIONAL)

A. Optional Check Valves may or may not be provided in the removable spool of the pitless unit. These should be low pressure drop, self cleaning, swing type check valves, with elastomer seal at seat, and constructed of corrosion resistant materials.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Connect water distribution system in trench to well pipe at pitless adapter unit in accordance with the drawings.

3.2 FIELD QUALITY CONTROL

A. Perform tests and inspections in accordance with manufacturer’s recommendations.

B. Plumbness and Alignment Testing: Comply with AWWA A100.

END OF SECTION 332110

SECTION 331113 – WATERLINE CONSTRUCTION

PART 1 - GENERAL

1.1 REFERENCE

A. All applicable requirements of other portions of the Contract Documents apply to the Work of this Section, including but not limited to Division 1, General Requirements.

1.2 DESCRIPTION OF WORK

A. Water line piping, valves, hydrants and appurtenances.

B. Water line testing and disinfection.

1.3 QUALITY ASSURANCE

A. General: All materials shall be free from defects impairing strength and durability and be of the best quality for the purposes specified or shown on the Drawings. It shall have structural properties sufficient to solely sustain or withstand strain and stresses to which it is normally subjected and be true to detail.

B. Manufacturer's Qualifications

1. Provide piping and appurtenances that are standard products in regular production by manufacturers whose products have proven reliable in similar service for at least two years.
2. Provide piping and appurtenances of the same type from a single manufacturer.

C. The Contractor shall be responsible for making all field measurements prior to installation of his work. Any deviations in measurements between the field conditions and the Drawings shall be immediately reported to the Engineer.

D. Testing

1. Manufacturer's certified test results as defined for the type of pipe shall be stamped approved by the Contractor and forwarded to the Engineer as a Reference Submittal. No pipe shall be installed which does not meet the requirements of these Specifications.
2. All pipe, joints, and fittings shall be pressure tested as required by this Specification for the type of pipe. The Contractor shall notify the Engineer and Owner, in writing, at least 48 hours prior to performing the tests.

1.4 SUBMITTALS

A. Provide technical submittals in accordance with Section 017800, Submittals, demonstrating piping and accessories conform completely to the requirements of this Section.

B. Product Data

1. Catalog cut sheets and description of all items.
2. Construction materials.
3. Standard diameters, wall thickness and other pertinent dimensions of all sizes of piping and accessories.

C. Testing: Copies of all field test reports.

1.5 HANDLING, DELIVERY, AND STORAGE

A. General

1. Handling, delivery, and storage shall be in accordance with Section 410100 of the Project Manual and the manufacturer's recommendations.
2. In no case shall the pipe or appurtenance be dumped, dropped, or thrown.
3. Interior of piping shall be completely free of dirt and foreign matter.

PART 2 - PRODUCTS

2.1 POLYVINYL CHLORIDE (PVC) PIPE (AWWA C900)

A. General: Polyvinyl chloride (PVC) pipe shall be pressure rated pipe with push-on gasket joints (unless otherwise noted). Products delivered under this specification shall meet the requirements of AWWA C900.

B. Manufacturers: Pipe shall be as manufactured by Certain-Teed Products Corp., Valley Forge, Pennsylvania; Johns-Manville, New York, New York; Anesite Division, Clow Corporation, Chicago, Illinois, or approved equal.

C. Materials: Pipe shall be made from unplasticized PVC compounds having a minimum cell classification of 12454 as defined in ASTM D 1784. The compound shall qualify for Hydrostatic Design Basis (HDB) of 4000 psi for water at 73.4ºF, in accordance with the requirements of ASTM D 2837.

D. The outside diameter of the pipe shall be identical to that of ductile iron pipe for similar diameters, requiring no special adaptors to allow the use of cast or ductile iron fittings where necessary.

E. Dimensions: Nominal outside diameters and wall thicknesses of restrained join pipe shall conform to the requirements of AWWA C900. Integral bell joint pipe shall be furnished in 4", 6", 8", 10" and 12" sizes, in Class 165(DR25), Class 235(DR18) and Class 305(DR14). Pipe shall be furnished in standard lengths of 20 feet.

F. Joints: Where push-on joints are utilized, pipe shall incorporate a formed bell complete with a single rubber gasket conforming to ASTM F477. Where restrained joints are specified, pipe shall be joined using non-metallic couplings to form an integral system for maximum reliability and interchangeability. high-strength, flexible thermoplastic splines shall be inserted into mating, precision machined grooves in the pipe and coupling to

provide full 360° restraint with evenly distributed loading. Couplings shall be designed for use at or above the pressure class of the pipe with which they are utilized, and shall incorporate twin elastomeric sealing gaskets meeting the requirements of ASTM F 477. Joints shall be designed to meet the zero leakage test requirements of ASTM D 3139.

G. Workmanship: Pipe shall be homogeneous throughout and free from voids, cracks, inclusions and other defects, and shall be as uniform as commercially practicable in color, density and other physical characteristics.

H. Quality Control: Every pipe shall pass the AWWA C900 hydrostatic proof test requirements of 4 times the pressure class for 5 seconds.

I. Marking: Pipe shall be legibly and permanently marked in ink with the following minimum information:

1. Nominal Size (for example, 4")
2. PVC
3. Dimension Ratio (for example, DR25)
4. AWWA pressure class (for example, PC165)
5. ANSI/AWWA C900-07 (or latest edition)
6. Manufacturer's name or trademark and production record code
7. Seal (mark) of the testing agency verifying the suitability of the pipe material for potable water service

J. Markings of pipe-printing shall be color coded for pressure class identification. Pipe shall be furnished with a minimum of one (1) contrasting color circumferential stripe painted on the plain end or uncoupled end of each length to allow field checking of pipe construction joints.

K. Each lot shipment of pipe and related materials shall include a shipment itemized check list for recording damages and/or deficiencies.

L. Materials of construction, including joints and gaskets, shall be suitable for exposure to raw sewage, and shall also be UV stabilized with either 2% carbon black or titanium dioxide.

2.2 DUCTILE IRON PIPE

A. Ductile iron pipe shall conform to AWWA C151 with wall thickness provided in accordance with AWWA C150 for the depth of cover shown on the Drawings using a minimum rated working pressure of 350 psi and Laying Condition 4; minimum Pressure Class 350, unless otherwise shown or specified.

B. Pipe shall have standard asphaltic coating on the exterior

C. Pipe shall have a standard thickness cement mortar lining in accordance with ANSI/AWWA C104/A21.4.

D. The class or nominal thickness, net weight without lining, and casting period shall be clearly marked on each length of pipe. Additionally, the manufacturer's mark, country where cast, year in which the pipe was produced, and the letters "Dl" or "Ductile" shall be cast or stamped on the pipe.

E. Push-on and mechanical joint ends shall conform to AWWA C110 with gaskets conforming to AWWA C111.

F. Flange joints shall conform to AWWA C110 with gaskets and bolts conforming to AWWA C110, Appendix A.

G. Restrained joints for push-on joint piping shall be the equal of TR Flex by U.S. Pipe and Foundry Co., Flex-Ring by American Cast Iron Pipe Co., or Tyton Joint with Field Lok Gasket instant joint restraint by U.S. Pipe and Foundry Co.

H. Restrained joints for mechanical joint piping shall be the equal of Megalug by EBBA Iron, Inc.; MJ Gripper Gland by U.S. Pipe and Foundry Co.; or Lok-Fast Joint by American Cast Iron Pipe Co.

2.3 D.I. FITTINGS AND ACCESSORIES

A. All fittings shall be ductile iron unless otherwise specified. Fittings shall have mechanical joints unless otherwise noted. Ductile iron standard fittings shall conform to AWWA C110 and compact fittings shall conform to AWWA C153. Pressure rating shall be 250 unless otherwise noted.

B. All lining and coating for fittings shall be as specified for ductile iron pipe.

C. Fittings shall be as manufactured by U.S. Pipe and Foundry Co., American Cast Iron Pipe Co., Clow Corp. or approved equal.

D. Mechanical and push-on joint fittings shall conform to AWWA C111/ANSI 21.11.

E. Flange joint fittings shall conform to AWWA C110 with gaskets and bolts conforming to AWWA C110, Appendix A.

F. Long radius elbows, reducing elbows, reducing-on-the-run tees, side outlets, eccentric reducers and laterals supplied as flanged fittings shall conform to ANSI B16.1.

G. All flanged joint fittings shall be furnished with 1/8 inch thick rubber gaskets. The bolts shall have American Standard heavy unfinished hexagonal head and nut dimensions all as specified in American Standard for Wrench Head Bolts and Nuts and Wrench Openings (ANSI B18.2). Material for bolts and nuts shall conform to ASTM A307 Grade B.

H. Anchor pipe and fittings shall consist of plain end MJ pipe fittings furnished with integral fixed or split rotatable ring follower glands. A mechanical joint anchoring tee may be substituted for a mechanical joint tee with anchoring piece.

2.4 GATE VALVES

A. All gate valves installed under this contract shall be resilient wedge gate valves and shall be of the same class as the pipe on which they are installed. Valves shall have joint ends compatible with type of pipe used, non-rising stems, 2" square operating nut and shall open "left".

B. Approved Manufacturers: US Pipe & Foundry, Mueller Co., or Kennedy Valve Mfg. Co. or approved equal.

C. Valves shall conform to AWWA C509 and shall incorporate an iron body, bronze-mounted, and parallel seat. Valve seals shall be O-ring type in lieu of a stuffing box. Valve stems shall be manganese bronze, non-rising type.

D. Gate valves 4-inch and larger shall be cast iron with bronze gate rings.

E. All gate valves 2 1/2" and smaller shall be of an Engineer approved manufacture and suitable for the service required. All valves shall have openings through the body of the same circular area as that of the pipe to which they are attached. All valves shall be designed to take the full unbalanced pressure upon either face.

F. Except as otherwise stated or indicated upon the plans, underground valves shall be fitted with standard, two-inch square operating nut. All valves in interior or above ground piping shall be fitted with hand wheels and shall have flanged or screwed ends depending upon the size of pipe with which they are being used, or as shown on the plans. Underground valves will be provided with boxes, covers and operating nuts extended to grade. All underground valves shall have cast iron bodies.

G. All hand-operated gate valves shall open by turning counter clockwise (left). The direction of opening shall be indicated by an arrow on hand wheels and on operating nuts.

H. All submerged valves shall be furnished with "o" ring packing.

I. All gate valves shall be designed for a minimum working pressure equivalent to that of the connecting pipe.

J. The valve body and bonnet shall be coated with fusion bonded epoxy, interior and exterior, in accordance with AWWA C550. The coating material shall comply with NSF Standard 61.

K. All valves shall have the manufacturer’s name, pressure rating and year of manufacture cast into the body.

2.5 HYDRANTS

A. The fire hydrants shall meet the requirements of the AWWA Specifications C502, latest revision. The hydrant shall have two 2-1/2" hose nozzles and one 4-1/2" steamer nozzle.

B. Fire hydrants shall be Mueller 421 Centurian, Kennedy K 11 Safetop Drytop, Darling B 50 B Quickfix, Smith H205 Dry Top, Mueller Centurion A 423, Dressler 500 or approved equal.

C. The 2-1/2" and 4-1/2" nozzles shall have Owner's Standard Threads.

D. Fire hydrants shall have trench depth of 5'-0".

E. The hydrant shall open to the left (counter-clockwise).

F. The hydrants shall be of the compression type with the main valve opening against the pressure and closing with the pressure.

G. The upper section of the hydrant which houses the upper stem threads and bronze operation nut shall be designed so that all threaded and bearing metal surfaces are sealed away from line pressure when the hydrant is in either the open or closed position. The seal shall be made by use of "O" rings. All threaded and bearing parts shall be in a lubricated state at all times. The lubricant must be either grease or oil.

H. All fire hydrants shall be of the traffic model type. The design shall be such that the upper- and lower-barrel flanges are an integral cast part of the barrel. The upper and lower barrels are to be joined at the ground line by means of a breakable cast iron collar, four-part segmental coupling or a two part breakable flange.

I. The operating stem nut is to be bronze and of one-piece construction.

J. The operating nut is to be sealed with three rubber "O" rings in cover plate and cap.

K. Operating and cap nuts are to be National Standard Operating nuts. The nuts shall be pentagon in shape, measuring 1-1/4" from point to opposite flat.

L. The operating stem thread to be not less than one inch outside diameter.

M. Not more than three (3) parts to be removed for removal of stem and all internal parts from top of standpipe.

N. Main valve opening shall be 4-1/2" minimum.

O. All working parts, except the valve rod, are to be constructed of bronze.

P. The hydrant shall be so constructed that all internal parts may be removed from the top of the barrel.

Q. Provide restrained joint system from hydrant to hydrant valve to hydrant tee.

R. One adjustable hydrant wrench shall be supplied with each five (5) or less hydrants purchased.

S. Each hydrant shall have the name of the maker and the year when made cast upon it in raised letters, and a number signifying the order in point of time in which it was cast.

T. The different parts of all hydrants shall be perfectly interchangeable. Each part shall also be interchangeable between other hydrants to be furnished under this contract.

2.6 CONCRETE BLOCKING

A. Concrete blocking will be placed at all tees, bends, and valve locations unless otherwise noted. Blocking shall be placed in accordance with the details shown in the Drawings.

B. Concrete shall be ready mix concrete with a minimum compressive strength of 2,500 psi at 28 days.

2.7 VALVE BOXES

A. Valve boxes shall be supplied for all buried valves.

B. The assembly shall consist of three (3) pieces and a cover. The cover shall be marked "Water". The valve box shall be screw-type, cast iron with 5-1/4-inch shaft. A round base that will enclose the valve bonnet shall be furnished with 6-inch and 8-inch valves. An oval base shall be supplied with valves larger than 8-inches.

C. The valve box shall be supported at the base on concrete blocking to stabilize the assembly.

2.8 UTILITY MARKING TAPE

A. Three (3) inch wide detectable utility marking tape bearing the word "CAUTION…WATERLINE" permanently printed on the tape. Tape shall be blue as specified by the APWA color code.

2.9 SERVICE SADDLES AND CORPORATION STOPS

A. Service Saddles

1. Service saddles shall be permanently hinged type, of brass with brass screws, confined "o" ring seal and AWWA thread outlet. Service saddles shall be of a design which accurately fit plastic pipe (O.D.) to provide a positive seal between plastic main and saddle at a minimum working pressure of 200 psi. Approved manufacturers/models include: Ford S90.
2. The service saddles shall be marked to indicate size of plastic main (O.D.) and outlet size on body and strap.

B. Corporation Stops

1. Corporation stops shall be brass, designed and manufactured in accordance with AWWA C800, latest edition and shall be individually inspected and tested for leaks at the factory prior to shipment. Corporation stops shall be of a design with will permit use with drilling machines of current design.

2. Corporation stops shall be plug type furnished with AWWA inlet thread and grip joint outlet for PE tubing, Ford Type F1000.

2.10 SERVICE LINE

A. Service line shall be high performance, high molecular weight, high density polyethylene pipe. PE tubing shall conform to AWWA C901, latest revision. Diameter ration shall be as required to meet nominal CTS (copper tube size). Tubing shall be rated for a maximum working pressure of 200 psi.

B. Where service line pressures exceed 200 psi, copper tubing, Type K, shall be utilized in lieu of polyethylene tubing.

C. In addition to service line, appropriately sized insert stiffeners shall be provided to permit use of polyethylene pipe with the various service materials specified herein.

PART 3 - EXECUTION

3.1 EXECUTION

A. Size, Type and Joining: All materials shall conform to the size and type shown on the drawings or called for in the specification. In joining two dissimilar types of pipe, standard fittings shall be used when available. In the event fittings are not available, the method of joining shall be selected by the Contractor and submitted for review by the Engineer.

B. Installation Standards: Except where noted or specified, all underground waterline shall be laid in accordance with AWWA C600 or AWWA C605 for ductile iron or PVC pipe, respectively. All clearances and separations between water lines and sewer lines shall be in accordance with OEPA guidelines.

C. General Excavation:

1. Contractor shall do all excavation, undercutting, dewatering and backfilling necessary for work under this contract unless otherwise noted.
2. Work shall conform to other sections of Division 2 except where modified by this section.
3. The width of trench below the top of the pipe shall not exceed the nominal diameter of the pipe plus 2 feet for all pipelines.
4. Where the maximum trench width is exceeded, the pipe shall be placed in a concrete cradle or a stronger pipe shall be used as necessary. If the maximum trench width is exceeded for any reason other than by request of the Engineer, the concrete cradle or the stronger pipe shall be placed at the Contractor’s expense.
5. Excavation shall include all necessary clearing of excavated areas, tree removal, all grubbing, all wet, dry, fill and rock excavation, the removal of pavement and all incidental work thereto.
6. Contractor shall excavate whatever materials are encountered as required to place the pipe and appurtenances at the elevations noted.

7. The trench shall be constructed in accordance with Section 312316.13 – Trench Excavation, Bedding and Backfill.
8. Excavations at the crossing of all underground utility services in place shall be as narrow as practicable.
9. Unless otherwise noted, all existing underground services shall be protected from damage and maintained in service at their original location and grade during the process of the work. Any damage to underground services shall be replaced or repaired at no cost to the Owner or to the owner of the service. The present underground services shown on the drawings are located in accordance with available data. Encountering these services at a different location or encountering services not shown shall not release the Contractor from the previous stated conditions.
10. Any service connections encountered which are to be removed shall be cut off at the limits of the excavation and capped in accordance with the requirements of owners of such connections.
11. Excavated material that is unsuitable or not required for filling shall be wasted.
12. Materials to be used for fill and suitable for this purpose shall be deposited where required, except that no fill shall be placed where trenches for sewers, water lines or other services will be located until after the trench work is completed.
13. Contractor shall provide adequate shoring, sheet piling and bracing to prevent earth from caving or washing into the excavation, and shall do all shoring and underpinning necessary to properly support adjacent or adjoining structures. All shoring, sheet piling and underpinning must be maintained until permanent support is provided.

D. Laying Pipe:

1. Piping shall be installed in accordance with the manufacturer's published instructions, modified only as may be directed herein or by the Engineer. All pipe installations shall comply with applicable paragraphs contained as part of these construction specifications.
2. Pipe Bury Depth - normal laying depth shall be 48" of cover depth minimum regardless of pipe diameter. Where rock is encountered, the minimum cover over top of the pipe shall be 48". Where rock is encountered on the trench bottom at the normal laying depth, a minimum of 6 inches of granular bedding shall be required.
3. All piping shall be assembled in accordance with the layout shown on the plans with only such modifications as may be necessary to conform to the final detail dimensions or location of existing water mains, hydrants, existing utilities, tanks, valve vaults, booster stations, valves, county roads, highway and stream crossings, etc. In crossing under ditches and streams the minimum depth of the trench required for the project shall be maintained. Standard fittings shall be used if required to depress the pipe but in no case shall the approach to the crossing be laid at a steeper angle than forty-five (45) degrees with the horizontal.
4. All pipe installed under this contract shall be installed in accordance with the applicable sections of AWWA C600 or AWWA C605 for ductile iron and PVC pipe, respectively. Type B laying conditions shall be maintained for both ductile iron and PVC installations. Trench width at the top of the pipe shall not exceed the pipe diameter plus 2 feet unless approved by the Engineer. Minimum trench width shall be 1 foot greater than the maximum outside pipe diameter. Pipe shall be laid

directly on a bedded trench bottom containing coupling or bell joint holes with trench shaped to provide continuous contact with the pipe between coupling or bell joint holes as recommended by the pipe manufacturer or as directed by the Engineer.

5. If, in the course of construction, ground water is encountered, the Contractor shall reduce the water level to the invert of the main or bottom of the structure. The Contractor shall maintain this dewatered condition until the area around the structure has been backfilled to existing grade. No pipe shall be laid in water, or when the trench conditions or the weather is unsuitable for such work, except by permission of the Engineer. At times when pipe installation is not in progress, the open ends of the pipe shall be closed by approved means and no trench water shall be permitted to enter the pipe. It shall be borne in mind that precautions must be taken to prevent empty pipe from floating, should the trench become flooded before backfilling has been completed.
6. Prior installation the interior of each piece of pipe and each fitting shall be inspected and any dirt and debris shall be removed. Swabbing may be required. After installation, inspect again and remove any accumulated dirt and debris.
7. Each piece of pipe shall be lowered into trench and installed separately. All pieces of pipe shall be laid in the trench so that it is firmly supported on the bedding material throughout its length.
8. As shown on the plans, or as directed by the Engineer, the Contractor shall provide concrete anchors or thrust blocks (against undisturbed earth), joint harness, and concrete encasement where required. This work shall be included in the unit prices bid for installing pipe, fittings, and appurtenances.
9. Pieces of pipe or fitting which are known to be defective shall not be laid or placed. Any defective piece of pipe or fitting discovered after the piping is laid shall be removed and replaced with satisfactory pipe or fitting. In case a length of pipe is cut to fit in a line, it shall be so cut as to leave a smooth end at right angles to the longitudinal axis of the pipe. Cuts shall be made with proper tools for cutting the pipe. In the event the pipe is damaged as a result of the pipe being cut, the affected joint shall be rejected.
10. Bed the pipe as indicated and specified in Section 312316.13.
11. Material used for backfilling trenches over the pipe shall be free from any rock or debris that may be a potential source of damage to the pipe. Where material originally excavated from the trench is deemed unsuitable, the contractor shall obtain other suitable material for use as backfill.
12. Contractor shall provide, operate and maintain all pumps or other equipment necessary to drain and keep all excavation pits and trenches and the entire subgrade area free from water under any circumstances that may arise.
13. All trees, shrubs and improved areas outside of the excavation shall be protected from damage.
14. Where indicated water line shall be installed with tracer wire.
15. Pipe must be kept clean of mortar, cement, clay, sand or other material. Prior to installation the interior of each piece of pipe and each fitting shall be inspected and any dirt and debris shall be removed. Swabbing may be required. After installation, the pipe and fittings shall be inspected again and any accumulated dirt and debris removed.

E. Restrained Joints:

1. Except where noted or indicated, all bends, caps, plugs, tees and other fittings shall be restrained with flexible restrained joints. In addition, restrained joints shall be utilized for a minimum of one joint or 20 feet, whichever is greater, to each side of the fitting. Restrained joints shall be provided regardless of the use of concrete thrust blocking.
2. Mechanical joints for ductile iron pipe shall be restrained by Megalug 1100 or 1100SD Series by EBAA Iron Sales, Inc., a comparable product manufactured by Star Pipe Products, or an equal restraining system.
3. Ductile iron push-on joint pipe shall be restrained by Lok-Ring Joint by American Ductile Iron Pipe, TRFLEX by U.S. Pipe, or equal.
4. Joints in AWWA C900/C905 PVC pipe shall be restrained by Megalug 2800 Series by EBAA Iron Sales, Inc., a comparable product manufactured by Star Pipe Products, or an equal restraining system.
5. Joints between AWWA C900/C905 PVC pipe and mechanical joint ductile iron fittings shall be restrained by Megalug 2000PV Series by EBAA Iron Sales, Inc., a comparable product manufactured by Star Pipe Products, or an equal restraining system.

3.2 TESTING

A. All testing must be witnessed by the Engineer. Non-witnessed testing will not be accepted. Contractor shall provide engineer with 48-hour notice prior to commencing with testing.

B. The Contractor shall make all valves tight under their working pressure after they have been installed and before they are placed in operation. Any defective parts shall be replaced at the Contractor's expense.

C. All valves shall be pressure tested in conjunction with their adjoining piping.

D. All water lines shall be disinfection tested in accordance with AWWA C 651.

E. Pressure Testing:

1. A hydrostatic test as required in applicable sections of AWWA C600 or AWWA C605 for ductile iron or PVC pipe, respectively, shall be applied to the whole or individually isolated sections of the water lines and hydrant leads.
2. The test pressure shall be maintained at 150 psi or one and a half times the working pressure (whichever is greater), in any section being tested. The duration of each pressure test shall be at least 2 hours.
3. The Contractor shall furnish and Owner verifies gauges for the test. Furthermore, the Contractor shall furnish all materials, make all taps required and furnish a pump, piping, all other equipment and all assistance necessary for conducting the tests. Gauges provided by the Contractor shall only be used for potable water or be new.
4. Before applying the specified pressure, all air shall be expelled from the pipe. To accomplish this, taps shall be made by the Contractor at points of highest elevation or as required. Taps shall be of the sizes as shown on the drawings, or as directed by the Engineer.

F. Leakage Testing:

1. Leakage shall be defined as the quantity of water that must be supplied into the newly laid pipe, or any valved section thereof, to maintain pressure within 5 psi of the specified test pressure after the air in the pipeline has been expelled and the pipe has been filled with water.
2. No pipe installation will be accepted until this leakage (evaluated on a pressure basis of 150 psi) is less than 1.99 U.S. gallons per hour per 100 joints of 12-inch nominal diameter pipe and corrected for the other sizes of pipe as provided in the AWWA Specification.

G. Any testing performed against existing valves shall be at the Contractor's risk and in strict compliance with the requirements of the Owner. If unable to achieve the required test, the Contractor shall disconnect from the existing valve, plug the line and retest until satisfactory results are obtained. Any damage caused to existing facilities shall be repaired at the Contractor's expense.

3.3 DISINFECTION

A. After satisfactory hydrostatic testing, the completed pipe shall be chlorinated in accordance with AWWA C651, latest edition. All labor, material, and equipment including chlorination taps and blow-off taps necessary to complete the work shall be furnished and paid for by the Contractor. Taps shall include tapping valves, sufficient tubing or pipe to extend outside the trench, and operable valve above ground. Blow-offs shall be installed as required. The time and section of line to be chlorinated shall be approved by the Engineer.

B. Upon completing the chlorination and the subsequent flushing of the line, the Contractor shall take the necessary water samples from the pipe for testing by an approved laboratory. Engineer must be present to witness the samples being taken. Testing shall be performed in accordance with Ohio Environmental Protection Agency rules and regulations, copies of which are available from the Ohio Environmental Protection Agency. A certified copy of the test results shall be sent to the Owner. The cost of testing shall be borne by the Contractor.

3.4 CONNECTIONS

A. Contractor is responsible for connecting to existing pipe where indicated in the Drawings.

B. Expose and determine the type and diameter of existing pipe and ensure that the proper fittings gaskets necessary for interface are available in advance of initiating work on the connection.

C. The Contractor shall be responsible for the valving off the existing main, flushing, and bleeding air from the existing line once the connection is made. The existing line shall not be valved off until the Contractor has all necessary equipment and materials at the site to make the proper connection. All work shall be performed in coordination with the Owner.

3.5 VALVE TESTING

A. The Contractor shall make all valves tight under their working pressure after they have been installed and before they are placed in operation. Any defective parts shall be replaced at the Contractor's expense.

B. All valves shall be pressure tested in conjunction with their adjoining piping.

3.6 VALVE INSTALLATION AND STORAGE

A. The valves and appurtenances shall be installed in accordance with the installation manual furnished by the valve manufacturer. Extreme care shall be used in the handling, storage and installation of these valves to prevent damage or distortion of the equipment and to insure proper performance.

3.7 UTILITY MARKING TAPE INSTALLATION

A. Install detectable utility marking tape above all plastic pipelines, eighteen (18) to twenty-four (24) inches below final grade.

3.8 SERVICE LINE INSTALLATION

A. Service line shall be installed where required to interface the pressure transducer installation at the tank to the inlet water line.

3.9 SPARE PARTS AND TOOLS

A. Repair or service parts for one of each type and size of valve and hydrant supplied shall be furnished and stored as directed by the Owner.

B. The equipment shall include, in general, the following items:

1. Special tools required for maintenance or operation of valves.
2. Gaskets, rings, seals, packing, lubricants, bolts, washers, operation manuals, drawings, etc., required to maintain valves in proper operating service.

END OF SECTION 331113

APPENDIX A
WELL SITE APPLICATION

EAGON & ASSOCIATES, INC.

445 Hutchinson Avenue
Suite 900
Columbus, Ohio 43235
(614) 888-5760
eagoninc.com

September 25, 2024

SUBMITTED VIA OEPA-SEDO PORTAL

Mr. Ryan Ellis
Environmental Specialist
Ohio EPA – Southeast District Office
Division of Drinking and Ground Waters
2195 East Front Street
Logan, Ohio 43138
DDAGW.ENGINEERING@EPA.OHIO.GOV

RE: Request for Well Site Approval
PWS OH6600712
Village of Piketon, Ohio

Dear Mr. Ellis:

The following is a request for well site approval for two new public water supply wells submitted on behalf of the Village of Piketon, Ohio (Village). Figure 1 displays the location of the two proposed wells to be installed at a new well field approximately 0.2 miles southwest of the existing well field on Piketon Road at the Piketon High School. As referenced on the attached well site application, the wells will be referred to as Well 5 and Well 6. Production from the new wells will eventually replace production from the existing wells, pending supplying groundwater to the new water treatment plant after completion.

The well locations were chosen to meet the applicable provisions of OAC 3745-9-04 relative to well siting. The wells will have a 300-foot isolation radius based on the anticipated withdrawal rate. There are no known potential contaminant sources within the isolation radii of the proposed well locations. The wells are located on a property that is not currently owned by the Village, but in accordance with OAC 3745-9-04(B)(1), the Village will own or obtain an easement or lease of the sanitary isolation radius for both wells prior to plan approval. The coordinates for the wells are:

Well 5: 39.06520782, -83.02383225
Well 6: 39.06581096, -83.02234889

Pending Ohio EPA consideration of this request, the Village will proceed with drilling the wells and conducting the necessary aquifer pumping tests and groundwater quality sampling.

Please contact me at 614-888-5760 if you need additional information.

Sincerely,

Christopher P. Gordon
Hydrogeologist

CPG/kj/encl.
cc: Kent Bryan, CT Consultants, w/encl. (PDF) kbryan@ctconsultants.com

Ohio Environmental Protection Agency

RE: Village of Piketon, OH - Wells 5 and 6
Plan
Application and Support
Plan Classification: Well Site Approval
Drinking Water Program
Pike County
PWS ID: OH6600712
Package Number: (Rev0)

NEW PUBLIC WATER SYSTEM/WELL APPLICATION PACKAGE

PWS-0903-PR_AP1

(Appendix B of PWS-0903-PR)

NEW PUBLIC WATER SYSTEM/WELL APPLICATION PACKAGE: PART 1 - CONTACT INFORMATION

Fill out all applicable sections as appropriate:							
***Property Owner* (PO)** (Legal owner as described by the County Auditor)							
Name	Scioto Valley Local School Dist			Primary Phone	740-289-2425		
Street	425 Second St	City	Piketon	State	OH	Zip	45661
Email							
***Business Owner* (OW) and Financial Contact (FC)** (Individual responsible for water system through lease or other written agreement, if different from property owner.)							
Name	Billy Spencer, Mayor - Village of Piketon			Primary Phone	740-289-8154		
Street	411 West Street	City	Piketon	State	OH	Zip	45661
Emergency Phone	- -	Email	PiketonMayor@yahoo.com				
***Administrative Contact* (AC)** (Individual responsible for ensuring water system compliance.)							
Name	Same as Business Owner			Primary Phone	- -		
Street		City		State		Zip	
Emergency Phone	- -	Email					
Operating Organization (LE) (Organization/individual responsible for operation and/or sampling, if different from owner)							
Org. Name				Office Phone	- -		
Street		City		State		Zip	
Email							
Water Treatment Plant (WTP) (Physical Address)							
PWS Name	Village of Piketon						
WTP Name	TBD - New Plant to be built	PWSID, if available	OH6600712				
Street	Piketon Road	City	Piketon	State	OH	Zip	43062
County	Pike						
Applicant (Person completing this application)							
Name	Christopher P. Gordon	Title	Hydrogeologist				
Street	445 Hutchinson Avenue, Suite 900	City	Columbus	State	OH	Zip	43235
Primary Phone	614-888-5760	Emergency Phone	216-406-1814				
Email	cgordon@eagoninc.com						

OHIO EPA USE ONLY

Primary Service Area	Day Care Center Subdivision Industrial/Agricultural Highway Rest Area Institution Hotel/Motel Medical Facility	Other Non-Transient Area Recreation Area Other Transient Area Restaurant Interstate Carrier Retail Employees Other Area	School Service Station Homeowners Association Summer Camp Mobile Home Park Municipality Other Residential Area

Well FAC ID		PWS ID	OH	TP ID			
Source Type	GW / GWP / SW / SWP			Minimal Treatment	Y / N		

NEW PUBLIC WATER SYSTEM/WELL APPLICATION PACKAGE: PART 2 - PUBLIC WATER SYSTEM (PWS) INFORMATION

1. Is this an existing public water system? ☒ Y ☐ N *If yes, PWS ID:* OH6600712

2. Is your facility connected to a drinking water supplier (city, village, other water system)? ☐ Y ☐ N *If yes, name of supplier:* N/A

3. Is your facility served by a potable well? ☒ Y ☐ N *If Yes, how many many potable wells are located on site?* 3

4. Are additional wells under consideration for the future? ☒ Y ☐ N *If Yes,when?* 2024-2025

5. Are multiple wells already in use at the site? ☒ Y ☐ N *If yes, complete "Existing Well Information" table below.*

6. The well will be used for (Check all that apply):

☒ Drinking ☒ Cooking ☒ Dishwashing ☒ Hand Washing ☒ Bathing/Showering ☒ Soda Fountain ☒ Coffee ☒ Ice ☒ Oral hygiene

7. This facility has its own (Check all that apply): ☒ Well(s) ☐ Cistern ☐ Spring ☐ Lake/Pond ☐ Other:_____

8. Does this facility plan to sell and/or treat water? ☒ Y ☐ N *If yes, do you currently intend to submeter or resell water?* ☐ Y ☐ N

9. Will this well increase the withdrawal of groundwater? ☒ Y ☐ N *If yes for a new system, include an outline of your proposed Asset Management Program with the submission of this application by completing Part 3. If yes for an existing system, revise your asset management program as necessary to include the new well and submit the revised pages.*

10. Are other sources of water available, including a regional water system to tie into? ☐ Y ☒ N *If yes, complete Part 3.*

11. Will the well result in new or increased consumption of more than two million gallons per day?

☐ Y *Proceed to question 12.a. below.*

☒ N *Proceed to question 13. below.*

12. a. Was the public water system in operation on June 29, 1988 and no substantial changes in design capacity are proposed?

☐ Y *Your facility is required to apply for a permit through the Ohio Department of Natural Resources (ODNR), Water Resources Division (WRD), in accordance with ORC Section 1521.23. Submit to Ohio EPA a copy of any certification, continuing monitoring, or other data or reports required by the chief of the ODNR WRD pursuant to a permit issued under either ORC Section 1521.29 or 1522.12 and any revised ground water model required by the chief.*

☐ N *Proceed to question 12.b. below.*

12. b. Do the proposed changes include only water distribution facilities?

☐ Y *Proceed to question 13 below.*

☐ N *Your facility is required to apply for a permit through the Ohio Department of Natural Resources (ODNR), Water Resources Division (WRD), in accordance with ORC Section 1521.23. Submit to Ohio EPA a copy of any certification, continuing monitoring, or other data or reports required by the chief of the ODNR WRD pursuant to a permit issued under either ORC Section 1521.29 or 1522.12 and any revised ground water model required by the chief.*

13. Is the total capacity of the proposed well greater than 100,000 gallons per day (70 gallons/minute)?

☒ Y *If yes, applicant shall submit to the Ohio EPA a general plan for approval and verification of registration with ODNR's WWFR Program, pursuant to ORC Section 1521.16.*

☐ N

Section 1521.16 of the Ohio Revised Code requires any facility with the capacity to withdraw 100,000 or more gallons per day to register with the ODNR's Water Withdrawal Facilities Registration (WWFR) Program.

PROPOSED WELL INFORMATION

Have the well driller complete the proposed well information below. For public water systems with existing wells, provide available information in the "Existing Well Information" table below.

Well Name (e.g., Well 1)	Pump design rate (GPM)	Proposed Casing/ Well Depth	Casing Material (PVC or Steel)	Drilling Method (Rotary, Cable Tool, Other)	Aquifer Type (e.g., Sand and Gravel, Limestone, Shale)	If More Than 1 Well, Pumping Simultaneously or Alternately?	Well Screen?	Replacement for Existing Well?
Well 5	TBD	80	Steel	Bucket Auger/Cable Tool	Sand and Gravel	Both	☒ Y ☐ N	☒ Y ☒ N
Well 6	TBD	80	Steel	Bucket Auger/Cable Tool	Sand and Gravel	Both	☒ Y ☐ N	☒ Y ☒ N
							☐ Y ☐ N	☐ Y ☐ N

EXISTING WELL INFORMATION

Complete the table below for the existing wells on the property, including non-potable wells. Attach map and well data from the source water assessment to this application, if available.

If there are multiple wells, are the wells pumped simultaneously or alternately? ☒ Simultaneously ☒ Alternately **Are the existing wells all in the same aquifer?** ☒ Y ☐ N

***(if there are more than three existing wells, provide attachment)*:**

Well Name (e.g., N. Well, Well 1)	Pump design rate (GPM)	Casing Depth/ Well Depth	Screened Interval or Open Hole Length	Aquifer Type (e.g., Sand and Gravel, Limestone, Shale)	ODNR Well Log Number	Usage (potable, non-potable, other)
Well 1	310	72 feet, bgs	52-72	Sand and Gravel	606760	Potable
Well 3	400	77 feet, bgs	57-77	Sand and Gravel	407792	Potable
Well 4	300	68.5 feet, bgs	40.5-68.5	Sand and Gravel	450900	Potable

NEW PWS/WELL APPLICATION PACKAGE: PART 3 - FACILITY DESCRIPTION AND PWS EVALUATION

Ohio EPA will use the information on this page to determine whether the facility meets the requirements to be regulated as a public water system under the ORC 6109 and rules adopted thereunder. Ohio EPA will also use the type of population your facility will serve, to estimate how much water your facility will need, and to determine the isolation radius for your well. Complete the appropriate box(es) below based on your facility type. Complete "Other" if your facility type is not listed elsewhere.

SCHOOL/DAYCARE*	
Total number of employees	
Average number employees per day	
Maximum enrollment	
Number of days staffed per week	
Kitchen	☐ Y ☐ N

***Note:** For religious institutions and schools that also function as day care centers, provide information for both functions.

RELIGIOUS INSTITUTION*	
Total number of employees	
Average number of employees per day	
Seating capacity	
Number of days staffed per week	
No. of Parishioners that attend services	
Kitchen	☐ Y ☐ N
Other functions during the week	☐ Y ☐ N
If yes, describe:	

RESTAURANT/TAVERN	
Hours/day & days/year of operation	/
Total number of employees	
Average number of employees per day	
No. employees working 4 days per week	
Seating capacity	
Average number of customers per day	

NURSING HOME/HOSPITAL/INSTITUTION	
Maximum number of beds	
Total number of employees	
Average number of employees per day	
No. employees working 4 days per week	
Resident employees	
Non-resident employees	

RETAIL/INDUSTIAL/COMMERCIAL (circle one)	
Hours of operation	
Total number of employees	
No. employees working 4 days per week	
Average number of customers per day	
Food Service	☐ Y ☐ N
Shopping Center	☐ Y ☐ N
Showers	☐ Y ☐ N

MULTI FAMILY DWELLING (APARTMENT, CONDO)	
Number of one-bedroom units	
Number of two-bedroom units	
Number of three-bedroom units	

ALLOTMENT/SUBDIVISION	
Number of single-family homes	
Number of multi-family homes	

CAMPGROUNDS/VACATION COTTAGES	
Seasonal start date	
Seasonal ed date	
Number of year-round occupants	
Maximum number of units	
Number of units with water and sewer	
Number of units with water only	
Number of units without water	
Number of shower and bathhouses	
Water line usage in off season:	
☐ Partially drained ☐ Fully drained ☐ Keep pressurized	
Describe additional amenities supplied with water:	

MOBILE HOME PARK	
Number of spaces or lots	

OTHER	
Hours of operation	
Total number of employees	
Average number of employees per day	
No. employees working 4 days per week	
Average no. visitors/customers per day	
Seating capacity	
Number of service connections	
Number of days open to the public	
Seasonal start date (if applicable)	
Seasonal end date (if applicable)	
Describe facility:	

CLUB/MEETING HALL	
Maximum occupancy	
Number of operating days per year	
Food service	☐ Y ☐ N

NEW PUBLIC WATER SYSTEM/WELL APPLICATION PACKAGE: PART 3 – ALTERNATIVES AND ASSET MANAGEMENT INFORMATION

For a new public water system or an existing public water system that proposes an increase in the withdrawal of groundwater:

Provide a summary of potential alternatives for the provision of drinking water that have been considered, including the potential for tie-in to a regional water system, and why these alternatives were not pursued (as an attachment as needed).

N/A

Your public water system is required to have an asset management program. The contents of an asset management program are outlined in OAC Chapter 3745-87. Prior to detailed plan approval, the public water system must submit one of the following:

i. An outline describing what the asset management program will entail prior to operation, or
ii. An acceptable written description of the asset management program, or
iii. An acceptable written completed asset management program

Once in operation your public water must have a written asset management program in place and the program must be reviewed annually and updated as necessary.

Will your public water system include the sections outlined in OAC 3745-87 in your asset management program outline, written description or completed plan, as applicable?

☒ Y ☐ N

To assist with completing your asset management program, templates are available online at: https://epa.ohio.gov/ddagw/pws/assetmanagement

NEW PWS/WELL APPLICATION PACKAGE: PART 5 - WELL DRILLER ACKNOWLEDGEMENT

If this application is for a proposed new well, a well driller acknowledgement is required.

If this application is for an existing well that has already been drilled, a well driller acknowledgement is not required.

I acknowledge I hold a valid registration with the Ohio Department of Health, as required by Chapter 3701-28 of the Ohio Administrative Code, to drill or construct a public water system well and install a pitless adapter or pitless unit into the casing of a public water system well in accordance with OAC Rule 3745-9-02.

I acknowledge that in accordance with OAC Rule 3745-9-07, prior acceptance by the Director is required if the dry driven grouting method will be used for a public water system well. Well construction using cable tool, hammer-driven casing or any other method where the permanent casing is driven, and where temporary outer casing or an oversized borehole is not used, must include a collar, flared joint or weld bead extending beyond the outside diameter of the permanent casing and dry granular bentonite shall be poured around the permanent casing as it is being driven. Dry driven grouting may only be used where the well will be installed through thick deposits of low permeability, clayey glacial till or where other low permeable materials overlie the aquifer and the well site is not located in an area of microbiological or chemical contamination.

Well Driller

Name	Title	Signature	Date
Driller not selected yet			

Company Name	Ohio Department of Health Registration Number

PUBLIC WATER SYSTEM ACKNOWLEDGMENT

By signing this application, you are acknowledging that you are operating or intend to operate a public water system as defined by Ohio Revised Code (ORC) Section 6109.01 and OAC Rule 3745-81-01 and are subject to ORC Chapter 6109 and all rules promulgated thereunder.

PWS Name: Village of Piketon **PWS ID (if available): OH6600712**

PWS Owner

Name	Title	Signature	Date
Billy Spencer	Mayor		

Applicant (If different from owner)

Name	Title	Signature	Date
Christopher P. Gordon	Hydrogeologist	Christoph P. Gordon	9/24/2024


Layer Credits: Esri Community Maps Contributors, VGIN, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS
N
Well 4
Well 3
Piketon Well Field
Well 1
Existing Treatment Plant
N West St
W 2nd St
Well 6
Well 5
W 4th St
W 5th St
S West St
Piketon High School
Piketon Rd
Piketon Rd
Seal Ave
e Ave
New Piketon Treatment Plant
0
400
800
Feet
Proposed Production Well
Piketon Production Well (Existing)
Parcels
300' Isolation Radius
Compiled By: CPG
Created By: SMC
Checked By: ADG
Approved By: ADG
Date: 9/24/2024
Title: Well Location Map
Project Title: Village of Piketon, Ohio
Prepared By: EAGON & ASSOCIATES, INC.
Figure: 1
Date Saved: 9/24/2024 10:41 AM
Document Path: F:\ArcGIS\PIKETON\Piketon Pro\Piketon Pro.aprx

APPENDIX B
WELLFIELD TEST BORE REPORT

EAGON & ASSOCIATES, INC.

445 Hutchinson Avenue
Suite 900
Columbus, Ohio 43235
(614) 888-5760
eagoninc.com

September 16, 2024

Mr. Kent Bryan, P.E.
CT Consultants, Inc.
7965 North High Street
Suite 340
Columbus, Ohio 43235
kbryan@ctcounsultants.com

RE: Test Drilling Results
Battle, Burkitt, and Piketon High School Properties
Piketon, Ohio

Dear Mr. Bryan:

Enclosed please find the report "Test Drilling Results, Battle, Burkitt, and Piketon High School Properties, Piketon, Ohio." The report presents the results and recommendations from the test drilling performed on the Battle, Burkitt, and Piketon High School properties for the purpose of identifying favorable drilling sites for new production wells

Please call or email me at (614) 271-4582 or a.graham@eagoninc.com with any questions or comments regarding the information or recommendations contained within this report.

Sincerely,

Andrew D. Graham
Groundwater Scientist

encl.

TEST DRILLING RESULTS
BATTLE, BURKITT, AND PIKETON HIGH SCHOOL PROPERTIES

PIKETON, OHIO

Prepared for:

CT Consultants, Inc.
&
Village of Piketon, Ohio

Prepared by:

EAGON & ASSOCIATES, INC.

September 2024

EAGON & ASSOCIATES, INC.
445 Hutchinson Avenue, Suite 900
Columbus, Ohio 43235
(614) 888-5760

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

TEST DRILLING RESULTS
BATTLE, BURKITT, AND PIKETON HIGH SCHOOL PROPERTIES
PIKETON, OHIO

INTRODUCTION

The purpose of this report is to summarize the analysis of test drilling results on the Battle, Burkitt (now Piketon), and Piketon High School (Scioto Valley Local School District) properties and to provide recommendations for locating, installing, and testing of high-capacity groundwater production wells. The testing is part of an effort to replace the existing, aging production wells at the Piketon Wellfield (Figure 1) with new wells that exceed the minimum capacity needed to support the Village's new water treatment plant (1 million gallons per day; MGD).

Test drilling locations were selected based on available hydrogeologic data, including regional boring logs and existing groundwater reports for the Scioto River Valley aquifer near Piketon, Ohio. Well construction and performance data from the existing production wells were reviewed and proximity to the new water treatment plant and infrastructure was also considered. Ultimately, specific test sites were selected based on the probability of entering into agreements with property owners necessary to meet Ohio EPA siting criteria (e.g., 300-foot isolation radius) within the Scioto River Valley aquifer. Expanding the existing well field was not practical due to siting concerns with proposed testing locations.

Testing sites on the Battle and Burkitt properties, adjacent to and across the road from the new treatment plant, as well as on the Piketon High School (HS) property were selected (Figure 2). Test borings were drilled at two locations on the Battle property (TB-1 and TB-2B), one location on the Burkitt property (TB-3), and two locations on the Piketon HS property (TB-4 and TB-5). The test drilling was conducted in two phases. In April 2023, Moody's of Dayton (Moody's) completed test borings TB-1 and TB-2B to determine if aquifer materials of sufficient depth, thickness, and grain size properties were present to support the installation of new production wells. In July 2024, CinDrill completed test borings TB-3, TB-4, and TB-5. Figure 1 shows the locations of each of the test well locations and their proximity to the existing wellfield and new

water treatment plant. The test well locations, proximity to property lines, and required 300-foot isolation radii are shown on Figure 2.

TEST DRILLING OVERVIEW

In order to characterize the hydrogeologic properties of each test site, the borings (TB-1, TB-2B, TB-3, TB-4, and TB-5) were drilled through unconsolidated materials to the underlying shale bedrock or basal clay using 4-1/4-inch inner diameter (ID) hollow stem augers (HSAs). Formation samples were continuously collected from approximately 30 feet below ground surface (feet, bgs), or shallower, to the total boring depth using either a 24-inch or 30-inch split spoon sampler that was driven with a 140-pound hammer and advanced ahead of the augers. Samples of the formation materials were collected by a geologist from Eagon & Associates, Inc. (Eagon) for logging and characterization purposes, as well as for performing grain-size analysis. Grain-size analysis of the soil samples collected from TB-1 and TB-2B were performed by the drilling contractor (Moody's). Samples from TB-3, TB-4, and TB-5 were analyzed by Geotechnical Consultants, Inc. (GCI) of Westerville, Ohio. The well logs that describe the geologic profile at each test boring are included in Appendix A and boring and well construction details, including the top and bottom of the aquifer, are summarized on Table 1. The results of the grain-size analysis are provided on the grain size graphs and testing reports included in Appendix B and are discussed in more detail later in the report.

MONITORING WELL INSTALLATION

Monitoring wells were set inside the test borings so that water-level measurements and water-quality samples could be collected. Two-inch diameter PVC wells with approximately 20-foot screens were installed in each borehole near the bottom of the aquifer. A sand pack of No.5 silica sand was placed outside of the screened interval and the annuli above the sand pack was backfilled with bentonite grout placed to ground surface. A 4-inch diameter steel protective casing with a concrete surface seal were installed around each of the PVC well casings and secured with padlocks. Table 1 summarizes the well construction details of each test well.

Following installation, each well was developed using a Grundfos RediFlo-2 submersible pump until the water was clear and free of fine-grained sediments. Results of well development are presented on the bottom of the monitoring well installation reports in Appendix A. Once development was completed, water-quality samples were collected. Samples from the initial test borings (TB-1 and TB-2B) were analyzed for the full Ohio EPA Community Public Water Supply drinking water list of parameters to characterize the groundwater quality at those locations. Water samples from test wells TB-3, TB-4, and TB-5 were analyzed for an abbreviated list of drinking water parameters based on the results from TB-1 and TB-2B. Groundwater-quality sample results are provided in the laboratory analytical reports in Appendix C. The results are also summarized on Table 2 and discussed later in the report.

TEST DRILLING RESULTS

Battle and Burkitt Properties

Three test borings were completed on the Battle (TB-1 and TB-2B) and Burkitt (TB-3) properties (Figure 2) as discussed previously. As shown on the well logs and as summarized on Table 1, the top of the sand (aquifer) was encountered at depths of approximately five to 14 feet below ground surface (bgs). The bottom of the aquifer (i.e., termination in shale bedrock or clay) varied from 69.2 feet, bgs at TB-2B to 82.3 feet, bgs at TB-3. In all three borings, sand and gravel was encountered continuously and no confining layers were identified. Water levels ranged from approximately 20 to 38 feet, bgs, indicating an average saturated aquifer thickness across the Battle and Burkitt sites of approximately 50 feet. As shown on Table 1, this indicates slightly greater saturated aquifer thicknesses than thicknesses reported at the exiting wellfield (~40 feet).

Grain Size Results

Sieve analysis of saturated aquifer materials in test borings TB-1, TB-2, and TB-3 were evaluated to determine if large-scale supply wells could be installed. Grain-size results from the three test borings are compiled on individual graphs that are included in the front of Appendix B.

At TB-1, 30 feet of samples were collected and sieved from 50 to 80 feet, bgs. At TB-2B, 25 feet of samples were sieved from 45 to 70 feet, bgs. At TB-3, 37.3 feet of samples were sieved from 43.8 to 81.1 feet, bgs. The formation samples indicated that the aquifer consists of predominantly fine-grained sand at all three locations and all formation samples consisted of less than 10-percent fines (silt and clay), with the exception of the 69.4 – 70.0-foot interval at TB-3 (~15-percent fines). A percentage of fines above 10 percent could cause plugging of the aquifer at the well that could create long-term well performance and maintenance issues. Due to the fine-grained aquifer materials, a gravel pack would maximize the transmitting capacity of large-scale supply well and minimize plugging and maintenance. A theoretical 20-inch gravel pack well with 15 feet well screen drilled at TB-1 and TB-2B would likely provide optimal transmitting capacities. Actual well yields would be determined by analysis of long-term pumping tests.

We recommend drilling and testing large-scale supply wells near TB-1 and TB-2B. A third well should also be drilled to provide the Village with additional capacity. However, the third well location should not be finalized until analysis of the data collected from pumping tests performed on the supply wells installed near TB-1 and TB-2B has been completed. Analysis of the long-term pumping test data would identify interference drawdown and help to optimize the location of the third supply well.

Due to the variable nature of the formation, we recommend that the supply wells are installed using cable tool drilling methods and that final well screen and gravel pack design is based on formation samples collected from that location during drilling.

Piketon High School Property

The Piketon High School (Piketon HS) property was chosen for exploration based on an access agreement with the Scioto Valley School District and proximity to planned infrastructure relative to the new water treatment plant. In addition, Ohio EPA recommended the property be explored based on the perceived ease of meeting siting requirements with the school district. However, the limited available regional hydrogeologic data indicated diminishing formation

thicknesses and yields toward the south and east of the existing well field. There were no site-specific data that definitively showed the extent of the aquifer.

Two test borings were completed on the Piketon HS property (TB-4 and TB-5; Figure 2). The test borings were completed to the bottom of the sand to determine the presence and thickness of the aquifer. As shown on the well logs and summarized on Table 1, depth to the top of the sand varied from 10.3 to 15.3 feet, bgs and both borings encountered sand and gravel overlying shale bedrock with no predominant confining layer. Water levels ranged from approximately 31.0 to 32.0 feet, bgs, indicating an average saturated aquifer thickness across the Piketon HS property of approximately 50 feet. These conditions are similar to those encountered at the Battle and Burkitt properties, and as shown on Table 1, indicates slightly greater saturated aquifer thicknesses than reported at the exiting wellfield (~40 feet).

Grain Size Results

Sieve analysis of saturated aquifer materials in test borings TB-4 and TB-5 were evaluated to determine if large-scale supply wells could be installed. Grain-size results from the test borings are compiled on individual graphs that are included in Appendix B.

At TB-4, 42.4 feet of samples were collected and sieved from 37.6 to 80 feet, bgs. At TB-5, 36.5 feet of samples were sieved from 41 to 77.5 feet, bgs. Grain-size analysis indicates that the aquifer consists predominantly of fine sand similar to that encountered at the Battle and Burkitt properties. However, the sand was slightly finer than the sands encountered at those properties, particularly in the bottom 20 feet where a potential well screen would be placed, and some of the intervals had fines exceeding 10 percent. Large-scale supply wells could be designed for both locations on the high school property, but the Battle and Burkitt properties have slightly coarser formation and less fines (silts and clays) and are the preferred initial locations for installation and testing of large-scale supply wells.

GROUNDWATER-QUALITY TESTING AND RESULTS

Groundwater samples were collected from all five test wells following installation and development. Samples were sent to Alloway Laboratories in Marion, Ohio for analyses. Groundwater samples from test wells TB-1 an TB-2B were analyzed in April 2023 for all parameters included on Ohio EPA's Community Public Water Supply to screen the locations for general characterization and possible sources of contamination, including PFAS chemicals, which were analyzed in anticipation of future required testing by Ohio EPA. None of the results indicated groundwater quality contamination and were consistent with water-quality results in the Scioto Valley aquifer.

Based on the results from TB-1 and TB-2B, a subset of the Ohio EPA drinking water list was analyzed from test wells TB-3, TB-4, and TB-5 in July 2024, including PFAS chemicals. None of the results indicated contamination and were consistent with results from the existing wellfield. The results from each test well (TB-1, TB-2B, TB-3, TB-4, and TB-5) are summarized for comparison purposes on Table 2. As shown on Table 2, results were consistent at each of the wells with the exception of iron, which ranged from 0.5 mg/L at TB-2B to 1.8 mg/L at TB-3 on the Battle and Burkitt properties and 2.5 mg/L (TB-4) and 2.3 mg/L (TB-5) on the high school property. High iron concentrations are a persistent maintenance issue and primary source of fouling at the existing wellfield. Iron and manganese results at all five wells exceeded secondary maximum contaminant limits, which is common for wells in the area. No other parameters were detected above any established drinking water standards.

CONCLUSIONS AND RECOMMENDATIONS

Test drilling results generally show similar aquifer thicknesses, grain-size distribution, and water quality concentrations across all three properties. However, test borings TB-1 and TB-2B indicated slightly more favorable conditions for installation of production wells, based on slightly coarser grain materials with less fines content and lower iron concentrations than the other well sites. Based on the test drilling results, we recommend installing production wells at locations TB-1 (Well 5) and TB-2B (Well 6). The production wells should be offset from the test wells by

approximately 10 feet (Figure 3) at these locations. After installing the new production wells, and during the required post-installation 24-hour pumping tests, we recommend measuring water levels in all test wells, including the production wells. Data from these tests will aid in selecting the optimal location for the third production well on the Battle or Burkitt property.

TB-4 and TB-5 at the Piketon HS are also viable large-capacity production well locations. Only slight differences in aquifer materials and groundwater quality between the high school and Battle/Burkitt properties were observed, including slightly higher fines and iron content at the high school.

For production well installations, we can provide specifications for construction of the well and performance of stepped-rate and constant-rate pumping tests. We recommend using the cable tool method for production well installation. Based on the grain-size analysis, production well screens should be set near the bottom of the aquifer, and no longer than 20 feet in length. The design of the well screen should be based on grain-size analysis of the samples taken at the chosen production well location.

We can also help prepare the application to obtain well siting approval from Ohio EPA for any new production well and can work with CT Consultants and the Village to ensure the appropriate easement requirements are requested from adjacent property owners, as needed.

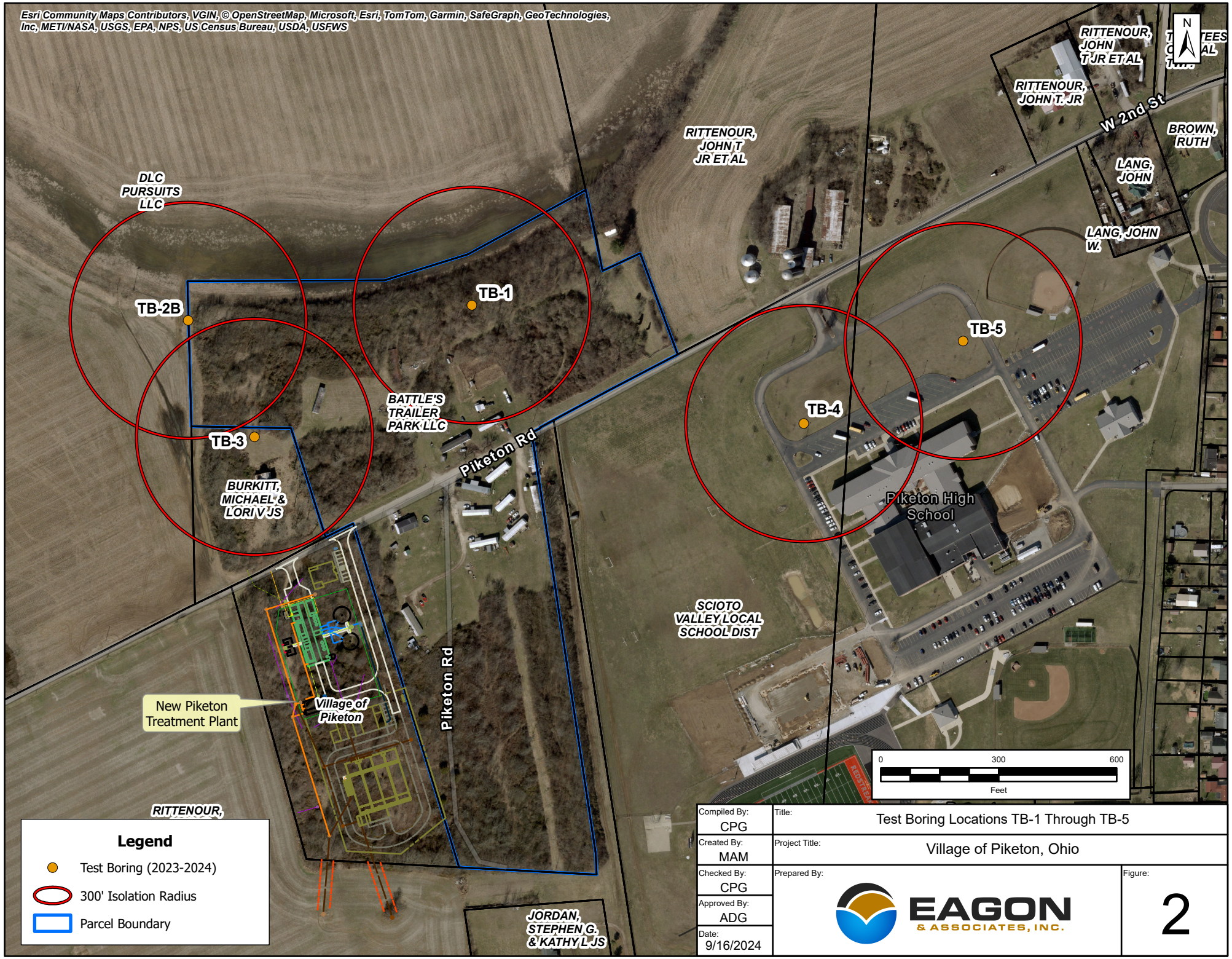
FIGURES

Test Boring (2023-2024)
Piketon Production Well
Portsmouth Gaseous Diffusion Plant Wells

Compiled By: CPG	Title: Well Location Map	
Created By: MAM	Project Title: Village of Piketon, Ohio	
Checked By: CPG	Prepared By: EAGON & ASSOCIATES, INC.	Figure: 1
Approved By: ADG		
Date: 9/16/2024		

Date Saved: 8/21/2024 11:16 AM

Folder: F:\ArcGIS\PIKETON\Piketon Pro\


Esri Community Maps Contributors, VGIN, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS
Date Saved: 9/16/2024 10:15 AM
N
RITTENOUR, JOHN T JR ET AL
RITTENOUR, JOHN T. JR
W 2nd St
BROWN, RUTH
LANG, JOHN
LANG, JOHN W.
RITTENOUR, JOHN T JR ET AL
DLC PURSUITS LLC
TB-2B
TB-1
TB-5
TB-4
TB-3
BATTLE'S TRAILER PARK LLC
Piketon Rd
BURKITT, MICHAEL & LORI V JS
Piketon High School
SCIOTO VALLEY LOCAL SCHOOL DIST
New Piketon Treatment Plant
Village of Piketon
Piketon Rd
RITTENOUR,
JORDAN, STEPHEN G. & KATHY L JS
0
300
600
Feet
Legend
Test Boring (2023-2024)
300' Isolation Radius
Parcel Boundary
Compiled By: CPG
Created By: MAM
Checked By: CPG
Approved By: ADG
Date: 9/16/2024
Title: Test Boring Locations TB-1 Through TB-5
Project Title: Village of Piketon, Ohio
Prepared By: EAGON & ASSOCIATES, INC.
Figure: 2


Esri Community Maps Contributors, VGIN, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS
Date Saved: 8/21/2024 11:16 AM
N
W 2nd St
Well 6
TB-2B
TB-1
Well 5
TB-3
TB-5
TB-4
Piketon Rd
Piketon High School
Piketon Treatment Plant
Piketon Rd
0
300
600
Feet
Legend
Recomended Production Well Location
Test Boring (2023-2024)
Potential Production Well Location
300' Isolation Radius
Parcel Boundary
Compiled By: CPG
Created By: MAM
Checked By: CPG
Approved By: ADG
Date: 9/16/2024
Title: Proposed Production Well Locations
Project Title: Village of Piketon, Ohio
Prepared By: EAGON & ASSOCIATES, INC.
Figure: 3

TABLES

TABLE 1. TEST WELL CONSTRUCTION SUMMARY
PIKETON, OHIO

Well ID	Date Installed	Coordinates		Ground Elevation (ft., MSL)	Measuring Point Elevation (ft., MSL)	Internal Casing Stick Up (feet)	Well Diam. (in.)	Screened Interval (ft., BGS)	Screen Length (feet)	Measured Total Depth (ft., TOC)	Total Depth (ft., bgs)	Static Water Level (ft., TOC)	Top of Sand (Aquifer) (ft., bgs)	Bottom of Sand (Aquifer) (ft., bgs)	Approx. Saturated Thickness (feet)
		Northing	Easting												
Battle/Burkitt (Piketon) Property Borings															
TB-1	4/10/2023	388704.55	1818931.43	563.0	565.5	2.5	2	60.6 - 80.4	19.8	84.18	84.5	27.48	10.5	81.1	56.1
TB-2B	4/6/2023	388665.87	1818210.04	557.0	559.5	2.5	2	50.0 - 69.6	19.6	72.43	71.2	22.33	13.3	69.2	49.4
TB-3	7/23/2024	388389.49	1818363.70	571.0	573.5	2.5	2	62.3 - 81.9	19.6	84.61	82.7	38.55	~5	82.3	46.3
Piketon High School Property Borings															
TB-4	7/17/2024	388397.67	1819766.49	567.0	569.5	2.5	2	59.9 - 79.6	19.7	82.40	82.5	33.52	10.3	81.0	50.0
TB-5	7/23/2024	388617.93	1820184.00	567.3	569.8	2.5	2	60.0 - 79.6	19.6	84.03	82.5	34.40	15.3	80.9	49.0
Existing Production Wells															
Well 1	11/14/1981	389698.01	1820756.91	566.3	--	--	12	52 - 72	20	--	72.0	34.9*	~12	> 72	37.1 +
Well 3	7/11/1972	390034.62	1820769.99	556.5	--	--	12	57 - 77	20	--	77.0	20.0*	~8	~68	40.0
Well 4	6/22/1977	390046.49	1820451.01	555.8	--	--	12	40.5 - 68.5	18	--	68.5	26.4*	~10	~68	41.6

bgs - below ground surface * - water level obtained from drillers report.

TOC - top of 2-inch PVC well casing

TABLE 2. GROUNDWATER QUALITY DATA SUMMARY
BATTLE, BURKITT, AND HIGH SCHOOL PROPERTIES

Parameter Name	MCL	PQL	Units	Location				
				TB-1	TB-2B	TB-3	TB-4	TB-5
Alkalinity, Total	--	5.0	mg/L	290	260	--	--	--
Ammonia-N	--	0.05	mg/L	0.14	0.1	0.07	0.14	0.1
Antimony, Total	6	3.0	ug/L	<3.0	<3.0	--	--	--
Arsenic, Total	10	3.0	ug/L	4.2	<3.0	3.0	4.3	<3.0
Barium, Total	2000	10	ug/L	220	230	--	--	--
Beryllium, Total	4	0.50	ug/L	<0.50	<0.50	--	--	--
Cadmium, Total	5	0.5	ug/L	<0.5	<0.5	--	--	--
Calcium, Total	--	2.00	mg/L	103	88.9	87.9	94.1	88.3
Chloride	250 (SMCL)	5.0	mg/L	29	30	27	42	31
Chromium, Total	100	10	ug/L	<10	<10	--	--	--
Copper, Total	1300 (AL)	10	ug/L	<10	<10	--	--	--
Cyanide, Total	0.2	0.005	mg/L	<0.005	<0.005	--	--	--
Fluoride	4	0.100	mg/L	0.146	0.149	--	--	--
Iron, Total	300 (SMCL)	40	ug/L	1500	500	1800	2500	2200
Lead, Total	15 (AL)	2.0	ug/L	7.2	5.1	--	--	--
Magnesium, Total	--	2.00	mg/L	31.1	25.6	27.8	30.3	28
Manganese, Total	50 (SMCL)	10	ug/L	340	420	360	340	370
Mercury, Total	2	0.2	ug/L	<0.2	<0.2	--	--	--
Nickel, Total	--	10	ug/L	<10	<10	--	--	--
Nitrate/Nitrite-N	10	0.10	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrate-N	10	0.10	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrite-N	1	0.10	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
pH	7.0-10.5 (SMCL)	1.0	S.U.	7.9	7.9	7.23	7.13	7.21
Selenium, Total	50	5.0	ug/L	<5.0	<5.0	--	--	--
Silver, Total	100	5.0	ug/L	<5.0	<5.0	--	--	--
Sodium, Total	--	0.40	mg/L	15.5	13.5	--	--	--
Solids, Dissolved	500 (SMCL)	20	mg/L	400	350	--	--	--
Sulfate	250 (SMCL)	5.0	mg/L	51	48	44	47	53
Thallium, Total	2	1.0	ug/L	<1.0	<1.0	--	--	--
Zinc, Total	5000 (SMCL)	10	ug/L	<10	<10	--	--	--
1,1,1-Trichloroethane	200	0.50	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	5	0.50	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethene	7	0.50	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50
1,2,4-Trichlorobenzene	70	0.50	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichlorobenzene	600	0.50	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloroethane	5	0.50	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloropropane	5	0.50	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50
1,4-Dichlorobenzene	75	0.50	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	5	0.50	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon Tetrachloride	5	0.50	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50
Chlorobenzene	100	0.50	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50
cis-1,2-Dichloroethene	70	0.50	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	700	0.50	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50
m,p-Xylene	--	0.30	ug/L	<0.30	<0.30	<0.30	<0.30	<0.30
Methylene Chloride	5	0.50	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50
o-Xylene	--	0.20	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20
Styrene	100	0.50	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethylene	5	0.50	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50

TABLE 2. GROUNDWATER QUALITY DATA SUMMARY
BATTLE, BURKITT, AND HIGH SCHOOL PROPERTIES

Parameter Name	MCL	PQL	Units	Location				
				TB-1	TB-2B	TB-3	TB-4	TB-5
Toluene	1000	0.50	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,2-Dichloroethene	100	0.50	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethylene	5	0.50	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50
Vinyl Chloride	2	0.50	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50
Xylene (Total)	10000	0.50	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50
Atrazine	3	0.07	ug/L	<0.07	<0.07	--	--	--
Alachlor	2	0.1	ug/L	<0.10	<0.10	--	--	--
Simazine	4	0.05	ug/L	<0.05	<0.05	--	--	--
HFPO-DA	10	1.9	ng/L	<1.9	<1.9	<1.9	<1.9	<1.9
PFBS	1	1.9	ng/L	<1.9	<1.9	<1.9	<1.9	<1.9
PFHxS	10	1.9	ng/L	<1.9	<1.9	<1.9	<1.9	<1.9
PFNA	10	1.9	ng/L	<1.9	<1.9	<1.9	<1.9	<1.9
PFOA	Zero	1.9	ng/L	<1.9	<1.9	<1.9	<1.9	<1.9
PFOS	Zero	1.9	ng/L	<1.9	<1.9	<1.9	<1.9	<1.9
ALPHA, Gross	15 (MCL), 5 (AL)	3.00	pCi/L	<3.0	5.86	--	--	--
BETA, Gross	rem/yr (MCL), 50 (	4.00	pCi/L	<4.0	5.11	--	--	--
Radium-228	5 (sum with 226)	1.00	pCi/L	<1.0	<1.0	--	--	--

SMCL - Secondary Maximum Contaminant Level; Advisory Limit Only
AL - Action Level; requires action to be taken

APPENDIX A.

BORING LOGS AND WELL INSTALLATION DIAGRAMS

TB-1 THROUGH TB-5

Eagon & Associates, Inc.

BOREHOLE LOG

Site Name and Location: **Piketon WF, Piketon, Ohio**	Drilling Methods: 4" ID Auger				Boring Number: **TB-1**
Drilling Firm: *Moody's of Dayton*	DATE	TIME	DEPTH DRILLED (ft)	WATER LEVEL (ft)	
Driller / Rig: *Jake Patrick/Acker Soilmax*	4/10/23	1200	75	28	*Page 1 of 4*
Logged by: *Nick A. Karow*	Sampling Methods: ST = Shelby Tube; S = Sonic; SP = Sand Pump; GP or DP = Direct Push; CT = Cuttings; SS = Split Spoon; CS = Continuous Sampler; C = Coring; NS = Not Sampled; B = Bailer				Start / Finish
Coordinates: *388704.55N 1818931.43E*					*Time 1300* / *Time 1330*
Surface Elevation: *563.0 ft/MSL*					*Date 4/6/23* / *Date 4/10/23*
Surface Conditions / Weather: *Wet wood chips / ~50°F, Overcast, calm*					

Remarks: In cleared area of woods behind chicken coop and trailer homes.

Depth (feet)	Sample Method	Sample Recovery (feet or %)	Blows/6 in or RQD	SAMPLE DESCRIPTION	Graphic Log	Remarks	USCS
1–4	NS			Topsoil to CLAY with little silt.		Split-spoon sample every 5 feet for the top 30 feet, then continuous split-spoon sampled to bottom with 140 lb manual hammer. Drill with 4" internal diameter augers with 8" external diameter. Sample with 2 1/2 foot split-spoon with 1 1/2" internal diameter and 2" external diameter. Eagon not present until SS-7.	CL
5–6	SS-1	0.5	5 6 6 3			SS-1 Dry.	
7–9	NS						
10	SS-2	0.25	11 21 20 13	Change at ~10.5'. Could be as high as 9.5' or as low as 11.5'. Poorly sorted SAND with little silt and trace clay and small gravel. Nonuniform.		SS-2 Dry.	SW SM
12–14	NS						
15–16	SS-3	2.0	15 13 8 13			SS-3 Dry.	
17–19	NS						
	SS-4	1.25	7				

Piketon WF Piketon, Ohio	**BOREHOLE LOG**	Boring Number TB-1

Remarks: In cleared area of woods behind chicken coop and trailer homes.

Depth (feet)	Sample Method	Sample Recovery (feet or %)	Blows/6 in or RQD	SAMPLE DESCRIPTION	Graphic Log	Remarks	USCS
21	SS-4	1.25	12 14 19	Poorly sorted SAND. (Cont'd.)		Eagon not present until SS-7. SS-4 Wet.	SW SM
22 23 24	NS						
25 26	SS-5	1.10	6 10 7 7			SS-5 Wet.	
27 28 29	NS						
30 31	SS-6	2.0	7 7 7 6			SS-6 Wet.	
32 33 34	SS-7	1.55	10 9 6 10	Sand is medium to fine. No silt. Trace clay.		SS-7 Wet. Start 4/7/23 at 0745.	
35 36 37	SS-8	1.65	5 6 7 9			SS-8 Wet.	
38 39	SS-9	2.0	8 8 15 11	Fine gravel content increases to some in small layers (<0.25').		SS-9 Wet.	
40 41 42	SS-10	1.35	8 7 4 5			SS-10 Wet.	
43 44	SS-11	1.40	15 15 8 7	Below ~43.0' silt content increases to some in small layers (<0.4').		SS-11 Wet.	
	SS-12	1.55	7				

Piketon WF Piketon, Ohio	**BOREHOLE LOG**	Boring Number TB-1

Remarks: In cleared area of woods behind chicken coop and trailer homes.

Depth (feet)	Sample Method	Sample Recovery (feet or %)	Blows/6 in or RQD	SAMPLE DESCRIPTION	Graphic Log	Remarks	USCS
46	SS-12	1.55	12 16 21	Poorly sorted SAND. (Cont'd.) Below ~46.5' almost no silt and clay content.		SS-12 Very wet.	SW/SM
47							
48	SS-13	1.95	4 7 11 17			SS-13 Wet.	
49							
50	SS-14	1.30	6 10 13 17	~49.85' - 49.95' Clay seam.		SS-14 Wet.	
51							
52	SS-15	1.60	10 8 7 5			SS-15 Wet.	
53							
54							
55	SS-16	1.40	7 9 4 15	Below 55.7' seemingly increased gravel content and size.		SS-16 Wet.	
56							
57	SS-17	1.65	14 14 10 9			SS-17 Very wet.	
58							
59							
60	SS-18	1.70	15 21 12 8			SS-18 Very wet.	
61							
62	SS-19	1.75	10 26 7 12			SS-19 Wet.	
63							
64							
65	SS-20	1.50	11 4 3 3	Below 66.0' median sand grain size increasing, with coarse grains increasing to little.		SS-20 Wet.	
66							
67	SS-21	1.70	12 16 16 18			SS-21 Wet.	
68							
69							
	SS-22	1.95	8				

BOREHOLE LOG V.2 PIKETON.GPJ 9/13/24

Eagon & Associates, Inc.

Piketon WF Piketon, Ohio	**BOREHOLE LOG**	Boring Number TB-1

Remarks: In cleared area of woods behind chicken coop and trailer homes.

Depth (feet)	Sample Method	Sample Recovery (feet or %)	Blows/6 in or RQD	SAMPLE DESCRIPTION	Graphic Log	Remarks	USCS
			11	Poorly sorted SAND. (Cont'd.)			SW/SM
71	SS-22	1.95	15 17	Gravel content increasing to little and becoming more angular.		SS-22 Wet.	
72						End 4/7/23 at 1400. Restart 4/10/23 at 1000.	
73	SS-23	1.25	12 15 12			SS-23 Wet.	
74			14				
75			14				
76	SS-24	2.30	14 15	At ~76.25' medium subangular gravel pieces ~1 1/2" diameter.		SS-24 Wet.	
77			15				
78	SS-25	1.90	8 5 6			SS-25 Wet.	
79			14				
80			9				
81	SS-26	1.85	18 6 5	Change at 81.1'.		SS-26 Wet to damp.	
82				CLAY with silt.			CL/ML
83	SS-27	1.50	5 6 3			SS-27 Damp.	
84			10				
85				Bottom of Borehole = 84.5'. Install Monitoring Well TB-1 in borehole.		Ran augers with plug to 84.5' to clear borehole.	
86							
87							
88							
89							
90							
91							
92							
93							
94							

BOREHOLE LOG V.2 PIKETON.GPJ 9/13/24

Eagon & Associates, Inc.

Well Number TB-1

Monitoring Well Installation Report

Site Name and Location: *Piketon WF, Piketon, Ohio*	Completion Date: *4/10/23*
Coordinates: *388704.55N 1818931.43E*	Borehole Depth (ft): *84.5*
Elevation Top of Casing (ft/MSL): *565.50*	Borehole Diameter (in):*8"*
Elevation Ground Surface (ft/MSL): *563.0*	Drilling Methods: *4" ID Auger*
Installed By: *Jake Patrick/Moody's of Dayton*	Completed Drilling: *4/10/23*
Supervised By: *Nick A. Karow/Eagon & Associates*	Drilling Water Used (gals): *0*

Well Design

Component	Materials	Depth (LSD)	Elevation
Well Protector	4" Round Steel	-3.0 - 2.0	566.0 - 561.0
Riser	2" Schedule 40 PVC	-2.5 - 60.6	565.5 - 502.4
Surface Seal	Concrete	0.0 - 1.0	563.0 - 562.0
Grout Seal	20% Solids Bentonite Grout	1.0 - 55.0	562.0 - 508.0
Bentonite Seal	3/8" Bentonite Pellets	55.0 - 58.0	508.0 - 505.0
Sand Pack	#5 Silica Sand	58.0 - 81.0	505.0 - 482.0
Screen	2" 0.030" (30-Slot) Sch. 40 PVC	60.6 - 80.4	502.4 - 482.6
Well Point Blank	2" Threaded Flat Bottom Sch. 40 PVC	80.4 - 81.0	482.6 - 482.0
Sand Pack Bottom	#5 Silica Sand	81.0 - 84.5	482.0 - 478.5

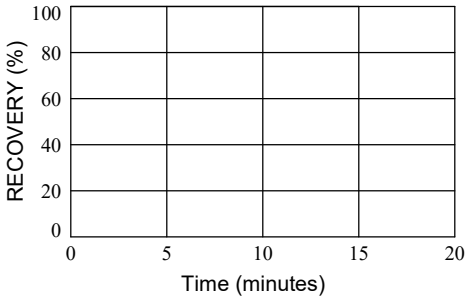
Well Development

Well Depth (ft,TOC):	Depth to Water (ft,TOC):	Well Volume (gals):	Volume Purged (gals):
84.18	*27.48*	*9.24*	*240.0*

Development Method:
Surge with Grundfos pump

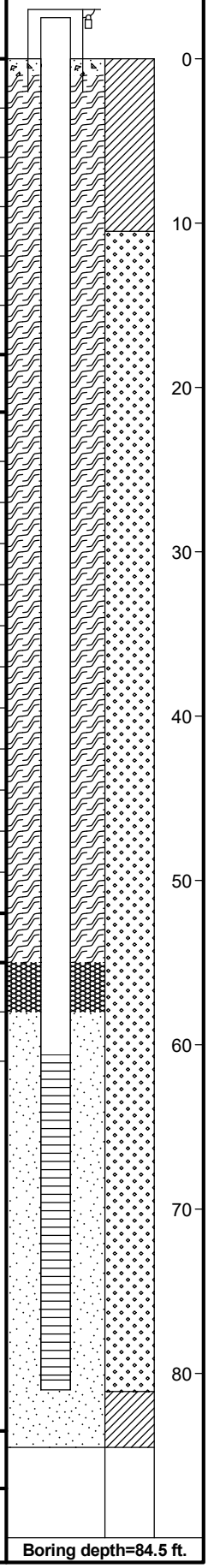
Date	Time	Cumulative Volume Removed (gals)	Temp (°C)	Specific Conductivity (µmhos/cm)	pH (S.U.)	Turbidity (NTU)
5/11/23	1612	40	14.7	730	6.90	--
5/11/23	1617	80	14.7	724	7.02	--
5/11/23	1622	120	14.5	723	7.00	--
5/11/23	1627	160	14.6	735	7.11	2.5
5/11/23	1632	200	14.4	722	7.07	1.9
5/11/23	1637	240	14.4	723	7.07	1.0

Recovery Data



Sampling Equipment:
Spectra bladder pump

Comments:



MONITOR WELL INSTALLATION 2 PIKETON.GPJ 9/13/24

Eagon & Associates, Inc.

BOREHOLE LOG

Site Name and Location: **Piketon WF, Piketon, Ohio**	Drilling Methods: 4" ID Auger				Boring Number: **TB-2B**
Drilling Firm: *Moody's of Dayton*	DATE	TIME	DEPTH DRILLED (ft)	WATER LEVEL (ft)	
Driller / Rig: *Jake Patrick/Acker Soilmax*	4/5/23	1300	70.0	22	*Page 1 of 4*
Logged by: *Nick A. Karow*	Sampling Methods:				Start / Finish
Coordinates: *388665.87N 1818210.04E*	ST = Shelby Tube; S = Sonic; SP = Sand Pump; GP or DP = Direct Push; CT = Cuttings; SS = Split Spoon; CS = Continuous Sampler; C = Coring; NS = Not Sampled; B = Bailer				Time: *0930* / *0830*
Surface Elevation: *557.0 ft/MSL*					Date: *4/3/23* / *4/6/23*
Surface Conditions / Weather: *Wet grass*					

Remarks: In grass on top of hill/berm next to treeline and powerlines at confluence of two fields.

Depth (feet)	Sample Method	Sample Recovery (feet or %)	Blows/6 in or RQD	SAMPLE DESCRIPTION	Graphic Log	Remarks	USCS
1–3	NS			Topsoil to CLAY with little silt.		Split-spoon sample every 5 feet for the top 30 feet, then continuous split-spoon sampled to bottom with 140-lb manual hammer. Drill with 4" internal diameter augers with 8" external diameter. Sample with 2 1/2 foot split spoon with 1 1/2" internal diameter and 2" external diameter.	CL
3–5	SS-1	1.26	4 7 11 15			SS-1 Damp.	
5–8	NS						
8–10	SS-2	1.25	4 4 4 7			SS-2 Damp/wet.	
10–13	NS						
13–15	SS-3	1.25	6 8 13 11	Change at ~13.3'. Poorly sorted SAND with little silt and trace clay and small gravel. Nonuniform.		SS-3 Damp.	SW SM
15–18	NS						
18–19	SS-4	1.10	6 5 6 5	Sample becoming well sorted fine to medium grained SAND with trace clay between 15'-19'.		SS-4 Wet.	

Eagon & Associates, Inc.

Piketon WF Piketon, Ohio	**BOREHOLE LOG**	Boring Number TB-2B

Remarks: In grass on top of hill/berm next to treeline and powerlines at confluence of two fields.

Depth (feet)	Sample Method	Sample Recovery (feet or %)	Blows/6 in or RQD	SAMPLE DESCRIPTION	Graphic Log	Remarks	USCS
21	NS			Poorly sorted SAND. (Cont'd.)			SW/SM
22							
23							
24	SS-5	1.50	5 8 11 8			SS-5 Wet.	
25							
26	NS						
27							
28							
29	SS-6	1.75	4 8 4 15	Below ~29' increasing subrounded fine gravel content to little.		SS-6 Wet.	
30							
31	SS-7	1.55	4 9 14 19			SS-7 Wet.	
32							
33							
34	SS-8	1.28	6 9 11 9			SS-8 Wet.	
35							
36	SS-9	1.50	9 6 9 14			SS-9 Wet.	
37							
38				37.7' - 38.0' Oxidized.			
39	SS-10	1.75	10 13 14 15	Below 37.7' increased median grain size. Poorly sorted. Coarse sand and fine gravel with some finer grains.		SS-10 Wet.	
40							
41	SS-11	1.51	3 6 11 14	Below ~40.5' reduced fines and gravel. Median grain size is medium grained sand.		SS-11 Wet.	
42							
43							
44	SS-12	1.70	5 4 5	At ~44.8', 0.10' clay seam.		SS-12 Wet.	

BOREHOLE LOG V.2 PIKETON.GPJ 9/13/24

Eagon & Associates, Inc.

Piketon WF Piketon, Ohio	**BOREHOLE LOG**	Boring Number TB-2B

Remarks: In grass on top of hill/berm next to treeline and powerlines at confluence of two fields.

Depth (feet)	Sample Method	Sample Recovery (feet or %)	Blows/6 in or RQD	SAMPLE DESCRIPTION	Graphic Log	Remarks	USCS
			14	Poorly sorted SAND. (Cont'd.)			SW SM
46	SS-13	1.70	10 15 10 17	Below ~47.2' gravel content increases to little.		SS-13 Wet.	
47							
48	SS-14	2.10	7 5 7 7			SS-14 Wet.	
49							
50						End 4/3/23 at 1815 at 50.5'. Start 4/4/23 at 0900 on SS-15.	
51	SS-15	1.35	9 14 10 15			SS-15 Wet.	
52							
53	SS-16	1.20	3 7 14 16	55.15' - 55.28' Cobble.		SS-16 Wet.	
54							
55							
56	SS-17	1.30	11 17 19 20	Below 57.5' sand is fine grained with some silt and trace gravel.		SS-17 Wet.	
57							
58	SS-18	1.55	4 19 10 11	Below 59.8' gravel content increases to some.		SS-18 Wet.	
59							
60							
61	SS-19	1.60	9 7 12 19			SS-19 Wet.	
62							
63	SS-20	2.00	24 18 7 8			SS-20 Wet.	
64							
65							
66	SS-21	1.40	24 16 21 11	66.60' Sandstone cobble.		SS-21 Wet. Cobble may have blocked feed on SS-21.	
67							
68	SS-22	1.35	14 7 5 >110	Change at 69.2' (could be as low as 70.0'). SHALE.		SS-22 Wet.	
69							

BOREHOLE LOG V.2 PIKETON.GPJ 9/13/24

Eagon & Associates, Inc.

Piketon WF Piketon, Ohio	**BOREHOLE LOG**	Boring Number TB-2B

Remarks: In grass on top of hill/berm next to treeline and powerlines at confluence of two fields.

Depth (feet)	Sample Method	Sample Recovery (feet or %)	Blows/6 in or RQD	SAMPLE DESCRIPTION	Graphic Log	Remarks	USCS
71	NS			SHALE. (Cont'd.)			
				Bottom of Borehole = 71.2'. Install Monitoring Well TB-2B in borehole.		Advanced augers and plug to 71.2' to clear 8" borehole to a confirmed 71.2' TD.	
72							
73							
74							
75							
76							
77							
78							
79							
80							
81							
82							
83							
84							
85							
86							
87							
88							
89							
90							
91							
92							
93							
94							

BOREHOLE LOG V.2 PIKETON.GPJ 9/13/24

Eagon & Associates, Inc.

Well Number TB-2B

Monitoring Well Installation Report

Site Name and Location: *Piketon WF, Piketon, Ohio*	Completion Date: *4/6/23*
Coordinates: *388665.87N 1818210.04E*	Borehole Depth (ft): *71.2*
Elevation Top of Casing (ft/MSL): *559.50*	Borehole Diameter (in):*8"*
Elevation Ground Surface (ft/MSL): *557.0*	Drilling Methods: *4" ID Auger*
Installed By: *Jake Patrick/Moody's of Dayton*	Completed Drilling: *4/6/23*
Supervised By: *Nick A. Karow/Eagon & Associates*	Drilling Water Used (gals): *0*

Well Design

Component	Materials	Depth (LSD)	Elevation
Well Protector	4" Round Steel	-3.0 - 2.0	560.0 - 555.0
Riser	2" Schedule 40 PVC	-2.5 - 50.0	559.5 - 507.0
Surface Seal	Concrete	0.0 - 1.0	557.0 - 556.0
Bentonite Seal	3/8" Bentonite Chips	1.0 - 18.0	556.0 - 539.0
Natural Fill	Natural Pack Formation	18.0 - 45.0	539.0 - 512.0
Sand Pack	#5 Silica Sand	45.0 - 71.2	512.0 - 485.8
Screen	2" 0.030" (30-Slot) Sch. 40 PVC	50.0 - 69.6	507.0 - 487.4
Well Point Blank	2" Threaded Flat Bottom Sch. 40 PVC	69.6 - 70.0	487.4 - 487.0

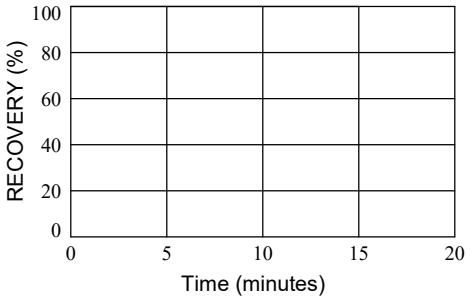
Well Development

Well Depth (ft,TOC):	Depth to Water (ft,TOC):	Well Volume (gals):	Volume Purged (gals):
72.43	*22.33*	*8.16*	*336.0*

Development Method:
Surge with Grundfos pump

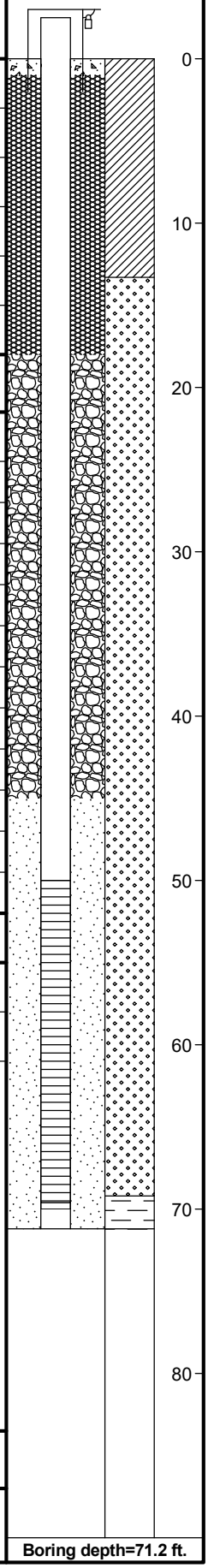
Date	Time	Cumulative Volume Removed (gals)	Temp (°C)	Specific Conductivity (µmhos/cm)	pH (S.U.)	Turbidity (NTU)
5/11/23	1021	72	13.3	676	7.32	1.6
5/11/23	1026	96	13.3	681	7.24	0.9
5/11/23	1036	216	13.4	673	7.30	--
5/11/23	1041	256	13.3	672	7.22	--
5/11/23	1046	296	13.3	674	7.25	--
5/11/23	1051	336	13.3	675	7.23	0.6

Recovery Data



Sampling Equipment:
Spectra bladder pump

Comments:



Boring depth=71.2 ft.

MONITOR WELL INSTALLATION 2 PIKETON.GPJ 9/13/24

Eagon & Associates, Inc.

BOREHOLE LOG

Site Name and Location: **Piketon WF, Piketon, Ohio**	Drilling Methods: 8" Hollow Stem Auger				Boring Number: **TB-3**
Drilling Firm: *CinDrill*	DATE	TIME	DEPTH DRILLED (ft)	WATER LEVEL (ft)	
Driller / Rig: *Dan Caprioni/CME Offroad*					*Page 1 of 4*
Logged by: *Nick A. Karow*	Sampling Methods:				Start: *Time 1430, Date 7/22/24* / Finish: *Time 1030, Date 7/23/24*
Coordinates: *388389.49N 1818363.70E*	ST = Shelby Tube; S = Sonic; SP = Sand Pump; GP or DP = Direct Push; CT = Cuttings; SS = Split Spoon; CS = Continuous Sampler; C = Coring; NS = Not Sampled; B = Bailer				
Surface Elevation: *571.0 ft/MSL*					
Surface Conditions / Weather: *Dry, grass / Sunny, ~80°F, calm*					

Remarks: In brush-hogged area behind old farmhouse, W of small barn.

Depth (feet)	Sample Method	Sample Recovery (feet or %)	Blows/6 in or RQD	SAMPLE DESCRIPTION	Graphic Log	Remarks	USCS
1–5	NS			Brown (7.5Y 5/3 - 5/4) TOPSOIL changing to GRAVELLY SAND. Little silt. Trace clay. Gravel is subrounded to subangular. Poorly sorted.		Auger to 5' then sample 2'-2.5' past augers with a 2" split-spoon sampler. Split-spoon samples taken using 140 lb auto hammer.	SW / SM
5–7	SS-1	1.9	8, 11, 9, 12, 16			SS-1 Dry.	
8–9	NS						
10–12	SS-2	0	12, 13, 12, 12			SS-2 No recovery. Driller thinks likely pushed cobble in front of sampler.	
13–14	NS						
15–16	SS-3	1.7	10, 9, 7, 6	From 16.0' - 17.0' poorly sorted brown (7.5Y 5/3 - 5/4) SAND with little clay and trace silt and small gravel. Nonuniform. Could be as low as 20.0'.		SS-3 Damp.	
17–19	NS						

Piketon WF Piketon, Ohio	**BOREHOLE LOG**	Boring Number TB-3

Remarks: In brush-hogged area behind old farmhouse, W of small barn.

Depth (feet)	Sample Method	Sample Recovery (feet or %)	Blows/6 in or RQD	SAMPLE DESCRIPTION	Graphic Log	Remarks	USCS
21	SS-4	1.2	8 12 18 17	GRAVELLY SAND. (Cont'd.)		SS-4 Damp.	SW SM
22							
23	NS						
24							
25							
26	SS-5	1.0	4 3 2 1	Material appears to be increasingly loose. Below 25.9' fines content increased with oxidized zone.		SS-5 Damp.	
27							
28	NS						
29							
30							
31	SS-6	1.0	8, 9, 13, 21, 21	30.3' Cobble. Below 30.7' poorly sorted SAND with little silt and trace clay. 31.0' - 32.8' Medium SAND with gravel.		SS-6 Damp to wet. Large cobble blocked feed, likely sand below it.	
32							
33	SS-7	1.9	8, 9, 13, 13, 11	Density increases below 32.8'. 32.8' - 33.1' Medium to fine sand. Abrupt change at 34.1'.		Top of SS-7 wet.	
34				Medium SAND. Some silt and little clay. Trace subrounded gravel. Wet. Poorly sorted.			SW
35							
36	SS-8	1.3	12, 8, 8, 9, 9			SS-8 Wet.	
37							
38	SS-9	1.4	1, 1, 3, 7, 8	37.7' - 37.8' Increased gravel content.		SS-9 Wet.	
39							
40							
41	SS-10	2.2	3, 5, 11, 11, 15			SS-10 Wet.	
42							
43	SS-11	2.5	9, 9, 11, 14, 15	43.1' - 43.8' Fine sand. Change at 43.8'.		SS-11 Wet.	
44				GRAVELLY SAND. Little silt. Trace clay. Gravel is small and subrounded.			SW SM

BOREHOLE LOG V.2 PIKETON.GPJ 9/13/24

Eagon & Associates, Inc.

Piketon WF Piketon, Ohio	**BOREHOLE LOG**	Boring Number TB-3

Remarks: In brush-hogged area behind old farmhouse, W of small barn.

Depth (feet)	Sample Method	Sample Recovery (feet or %)	Blows/6 in or RQD	SAMPLE DESCRIPTION	Graphic Log	Remarks	USCS
46	SS-12	1.7	4, 4, 9, 9, 11	GRAVELLY SAND. (Cont'd.)		SS-12 Wet.	SW/SM
47							
48	SS-13	2.3	4, 8, 12, 14, 14	47.5' - 48.2' Poorly sorted SAND, likely drilling induced sorting.		SS-13 Wet.	
49							
50				49.5' - 49.8' Oxidized.			
51	SS-14	1.3	4, 8, 7, 8, 11	50.4' - 50.5' Oxidized. 50.5' - 51.2' Gravel size increases.		SS-14 Wet.	
52							
53	SS-15	1.8	3, 3, 5, 6, 9	Abrupt change at 53.2'. Medium SAND. Trace to little silt and clay. Poorly sorted.		SS-15 Wet.	SP
54							
55							
56	SS-16	2.0	5, 12, 15, 22, 17	55.6' - 57.5' Grain size decreased. 56.2' - 56.3' Coarse sand layer. Few gravel.		SS-16 Wet.	
57							
58	SS-17	1.9	5, 9, 12, 11, 13	58.7' - 59.1' Coarse sand layer. Few gravel.		SS-17 Wet.	
59							
60						End 7/22/24 at ~1800 with SS-17. Start 7/23/24 at ~0730 with SS-18.	
61	SS-18	1.2	4, 8, 9, 9, 14	60.7' - 61.2' Coarse sand layer. Bottom may be as low as 62.5'. Few to trace fines. Few gravel.		SS-18 Very wet.	
62							
63	SS-19	1.9	4, 7, 11, 15, 15			SS-19 Damp.	
64							
65	SS-20	1.4	4, 7, 10, 13, 15			Top of SS-20 damp. Bottom of SS-20 wet.	
66				65.7' - 67.7' Corse sand layer. Trace gravel.			
67							
68	SS-21	2.1	16, 15, 15, 19, 25			SS-21 Damp.	
69				69.4' - 70.0' Very poorly sorted. Approximately equal amounts of every grain size from clay to small, subangular gravel.			

BOREHOLE LOG V.2 PIKETON.GPJ 9/13/24

Eagon & Associates, Inc.

Piketon WF Piketon, Ohio	**BOREHOLE LOG**	Boring Number TB-3

Remarks: In brush-hogged area behind old farmhouse, W of small barn.

Depth (feet)	Sample Method	Sample Recovery (feet or %)	Blows/6 in or RQD	SAMPLE DESCRIPTION	Graphic Log	Remarks	USCS
				Medium SAND. (Cont'd).			SP
71	SS-22	2.1	2, 9, 14, 18, 21	70.0' - 71.1 Coarse sand layer. 70.0' - 72.5' Sample appears to be gradually fining downwards, but gravel content increases to trace.		SS-22 Wet to damp.	
72							
73	SS-23	2.0	6, 10, 9, 12, 13			SS-23 Damp.	
74							
75							
76	SS-24	1.7	5, 6, 10, 13, 14			SS-24 Damp.	
77							
78							
79	SS-25	2.1	5, 6, 12, 19, 22	At 79.2' large broken cobble.		SS-25 Damp.	
80							
81	SS-26	2.0	7, 8, 4, 47, 100/4	Gradual change at 81.1'. Coarse SAND with COBBLES. Oxidized. Some clay and silt. Small (<0.1') clay layer above shale		SS-26 Damp. Dry at bedrock.	SW/SM
82				Change at 82.3'.			
	SS-27	0.2	100/2	Gray SHALE.		SS-27 Damp.	
83				Bottom of Borehole = 82.7'. Installed monitoring well TB-3 in borehole. See Monitoring Well Installation Report for well details.			
84							
85							
86							
87							
88							
89							
90							
91							
92							
93							
94							

BOREHOLE LOG V.2 PIKETON.GPJ 9/13/24

Eagon & Associates, Inc.

Well Number TB-3

Monitoring Well Installation Report

Site Name and Location: *Piketon WF, Piketon, Ohio*	Completion Date: *7/23/24*
Coordinates: *388389.49N 1818363.70E*	Borehole Depth (ft): *82.7*
Elevation Top of Casing (ft/MSL):	Borehole Diameter (in):*8"*
Elevation Ground Surface (ft/MSL): *571.0*	Drilling Methods: *8" Hollow Stem Auger*
Installed By: *Dan Caprioni/CinDrill*	Completed Drilling: *7/23/24*
Supervised By: *Nick A. Karow/Eagon & Associates, Inc.*	Drilling Water Used (gals): *200*

Well Design

Component	Materials	Depth (LSD)	Elevation
Well Protector	4" Round Steel	-3.0 - 2.0	574.0 - 569.0
Riser	2" Schedule 40 PVC	-2.5 - 62.3	573.5 - 508.7
Surface Seal	Concrete	0.0 - 1.0	571.0 - 570.0
Grout Seal	20% Solids Bentonite Grout	1.0 - 57.0	570.0 - 514.0
Bentonite Seal	3/8" Bentonite Chips	57.0 - 60.0	514.0 - 511.0
Sand Pack	No. 5 Silica Sand	60.0 - 82.3	511.0 - 488.7
Screen	2" 0.010 (10 Slot) Schedule 40 PVC	62.3 - 81.9	508.7 - 489.1
Well Point Blank	2" Schedule 40 PVC Flat	81.9 - 82.3	489.1 - 488.7
Sand Pack Bottom	Natural Sand Pack	82.3 - 82.7	488.7 - 488.3

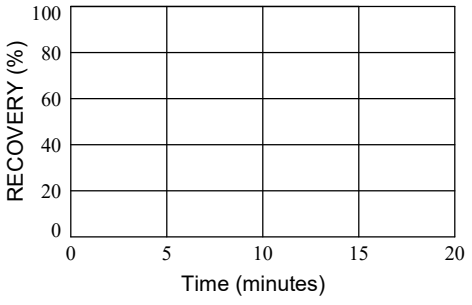
Well Development

Well Depth (ft,TOC):	Depth to Water (ft,TOC):	Well Volume (gals):	Volume Purged (gals):
84.61	*38.55*	*13.8*	*399.0*

Development Method:
Purge with 12V submersible pump

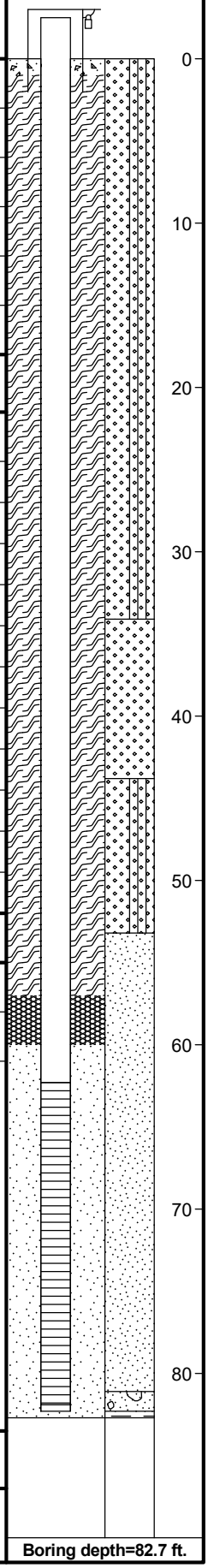
Date	Time	Cumulative Volume Removed (gals)	Temp (°C)	Specific Conductivity (µmhos/cm)	pH (S.U.)	Turbidity (NTU)
7/31/24	1305	196.5	15.8	700	7.40	3.4
7/31/24	1443	343.5	16.3	726	7.43	10.6
7/31/24	1510	384	16.0	749	7.40	9.0
7/31/24	1520	399	15.0	659	7.23	6.0

Recovery Data



Sampling Equipment:
QED-brand sample pro bladder pump

Comments:



Boring depth=82.7 ft.

MONITOR WELL INSTALLATION 2 PIKETON.GPJ 9/13/24

Eagon & Associates, Inc.

BOREHOLE LOG

Site Name and Location: **Piketon WF Piketon, Ohio**	Drilling Methods: 8" Hollow Stem Auger				Boring Number: **TB-4**
Drilling Firm: *CinDrill*	DATE	TIME	DEPTH DRILLED (ft)	WATER LEVEL (ft)	
Driller / Rig: *Dan Caprioni/CME Offroad*					*Page 1 of 4*
Logged by: *Nick A. Karow*	Sampling Methods:				Start / Finish
Coordinates: *388397.67N 1819766.49E*	ST = Shelby Tube; S = Sonic; SP = Sand Pump; GP or DP = Direct Push; CT = Cuttings; SS = Split Spoon; CS = Continuous Sampler; C = Coring; NS = Not Sampled; B = Bailer				Time: *1040* / *1630*
Surface Elevation: *567.0 ft/MSL*					Date: *7/17/24* / *7/17/24*
Surface Conditions / Weather: *Flat ground, dry*					

Remarks: In mown grass off of west corner of high school by parking lot.

Depth (feet)	Sample Method	Sample Recovery (feet or %)	Blows/6 in or RQD	SAMPLE DESCRIPTION	Graphic Log	Remarks	USCS
1				(7.5YR 4/3 - 4/4) TOPSOIL to CLAYEY SILT.		Auger to 5' then sample 2'-2.5' past augers with a 2" split-spoon sampler. Split-spoon samples taken using 140 lb auto hammer.	ML
2	NS			Grain size decreasing with depth.			
3							
4							
5			5				
6	SS-1	1.82	7 9 11			SS-1 Dry.	
7							
8	NS						
9							
10				Gradual change at 10.3'.			
11	SS-2	1.80	5 7 6 8	Poorly sorted SAND with small GRAVEL. Trace silt. Sand is primarily medium grained. Subrounded to rounded. Primarily gray in color.		SS-2 Dry.	SW
12							
13	NS						
14							
15							
16	SS-3	1.5	4 7 10 8	Below 16.1' gravel content decreases to trace to none.		SS-3 Dry.	
17							
18	NS						
19							

Piketon WF Piketon, Ohio	**BOREHOLE LOG**	Boring Number TB-4

Remarks: In mown grass off of west corner of high school by parking lot.

Depth (feet)	Sample Method	Sample Recovery (feet or %)	Blows/6 in or RQD	SAMPLE DESCRIPTION	Graphic Log	Remarks	USCS
21	SS-4	1.65	2 6 8 7	Poorly sorted SAND with small GRAVEL. (Con't.d). At 20.0' gravel content increases. 20.0' - 20.5' Darker bank (black/brown). 20.0' - 21.1' Some clay content.		SS-4 Dry.	SW
22 23 24 25	NS			Below 20.5' color changes to brown with decreased gravel and gravel size.			
26	SS-5	2.0	9 12 9 9	Below ~25.3' color returns to more gray.		SS-5 Damp.	
27 28 29 30	NS						
31	SS-6	1.6	6 10 11 7	30.0' - 30.4' Uniform sand. No gravel. Below 30.6' overall grain size increasing. Still little to no silt or clay. Change at 32.2'.		SS-6 Wet.	
33 34 35	SS-7	2.0	4, 4, 5, 6, 6, 11	Poorly sorted SAND. Predominant grain size is medium sand. Trace silt in places. Fining downwards.		SS-7 Damp.	SW SM
36 37	SS-8	2.2	2, 8, 12, 16, 21	Change at 36.2'. Poorly sorted SAND with GRAVEL. Sand grain size appears to be increasing with depth to ~40.0'. Gravel content decreasing with depth. Trace to no silt or clay.		SS-8 Damp.	SW
38 39 40	SS-9	2.2	4, 9, 10, 11, 14			SS-9 Damp.	
41 42 43	SS-10	2.1	6, 8, 11, 12, 12	40.9' - 41.0' Oxidized and increased sand grain size. Below 41.0' trace gravel.		SS-10 Damp.	
44	SS-11	1.85	4, 5, 10, 14, 16			SS-11 Damp.	

BOREHOLE LOG V.2 PIKETON.GPJ 9/13/24

Piketon WF Piketon, Ohio	**BOREHOLE LOG**	Boring Number TB-4

Remarks: In mown grass off of west corner of high school by parking lot.

Depth (feet)	Sample Method	Sample Recovery (feet or %)	Blows/6 in or RQD	SAMPLE DESCRIPTION	Graphic Log	Remarks	USCS
46	SS-12	2.5	4, 9, 17, 17, 16	Poorly sorted SAND with GRAVEL. (Cont'd.)		SS-12 Damp.	SW
47							
48	SS-13	2.2	5, 6, 11, 13, 16			SS-13 Damp.	
49							
50	SS-14	2.2	4, 8, 14, 17, 22	Below ~51.0' increased fines.		SS-14 Damp.	
51							
52				52.5' - 53.3' Uniform sand.			
53	SS-15	2.2	5, 14, 16, 17, 14			SS-15 Damp.	
54							
55	SS-16	2.0	4, 5, 7, 14, 12			SS-16 Damp.	
56							
57	SS-17	1.9	4, 8, 10, 14, 12			SS-17 Damp.	
58							
59				60.0' - 60.6' Oxidized zone.			
60	SS-18	2.0	4, 5, 12, 8, 11	Below 60.6' grain size is overall finer with trace large gravel. Color becomes darker gray.		SS-18 Damp.	
61							
62				62.5' - 63.6' Increased gravel content.			
63	SS-19	2.0	8, 8, 13, 15, 17	63.6' - 65.0' Increase silt/clay content. Gravel less present.		SS-19 Damp.	
64							
65	SS-20	1.5	5, 9, 9, 11, 15			SS-20 Damp.	
66							
67	SS-21	1.55	7, 8, 12, 12, 14	68.0' - 69.05' Distinct change at 68' to finer sand (medium-fine). No gravel. Some clay and silt.		SS-21 Damp.	
68							
69							

Piketon WF Piketon, Ohio	**BOREHOLE LOG**	Boring Number TB-4

Remarks: In mown grass off of west corner of high school by parking lot.

Depth (feet)	Sample Method	Sample Recovery (feet or %)	Blows/6 in or RQD	SAMPLE DESCRIPTION	Graphic Log	Remarks	USCS
71	SS-22	2.2	2, 3, 6, 11, 30	Poorly sorted SAND with GRAVEL. (Cont'd.) 70.8' - 71.2' More medium sized sand. 71.0' - 71.2' Gravel within medium-fine sand.		SS-22 Damp.	SW
72				72.0' - 72.5' Gravel with medium-fine sand, tan, broken cobble. 72.5' - 73.7' Fine sand with some medium sand.			
73	SS-23	1.9	11, 10, 11, 14, 14	73.7' - 74.0' Broken 2" cobble. 74.0' - 74.6' Medium-fine sand with trace gravel.		SS-23 Damp.	
74							
75							
76	SS-24	1.8	12, 11, 7, 6, 8	76.1' - 76.2' Sandstone cobble with fine sand and gravel, tan. 76.5' Organic seam ~1 cm thick.		SS-24 Damp.	
77							
78	SS-25	2.0	WOH, 3, 4, 7, 16	Color change at 78.3' from gray to tan. Trace cobble from 78.3' - 78.5'.		WOH = weight of hammer. SS-25 Damp.	
79							
80							
81	SS-26	1.5	9, 4, 8, 10, 12	Change at 81.0'. CLAY with SILT. Some organic root structures observed.		SS-26 Damp. Overdrilled with augers to 82.5'.	CL
82							
83				Bottom of Borehole = 82.5'. Installed well TB-4 in borehole. See Monitoring Well Installation Report for TB-4 for well details.			
84							
85							
86							
87							
88							
89							
90							
91							
92							
93							
94							

BOREHOLE LOG V.2 PIKETON.GPJ 9/13/24

Eagon & Associates, Inc.

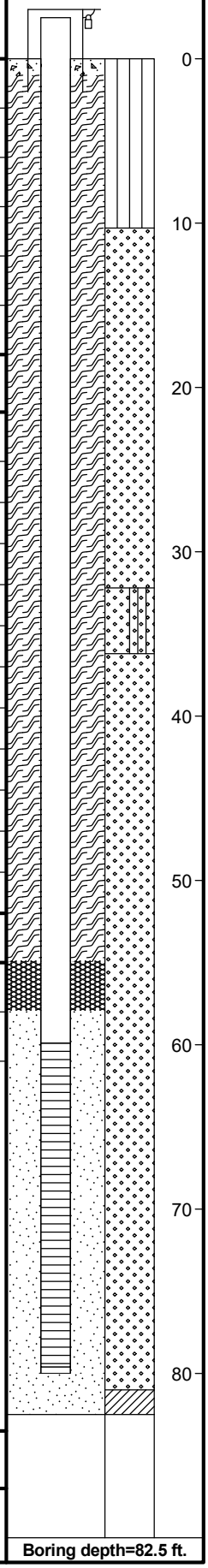
Well Number TB-4

Monitoring Well Installation Report

Site Name and Location: *Piketon WF, Piketon, Ohio*	Completion Date: *7/18/24*
Coordinates: *388397.67N 1819766.49E*	Borehole Depth (ft): *82.5*
Elevation Top of Casing (ft/MSL):	Borehole Diameter (in):*8"*
Elevation Ground Surface (ft/MSL): *567.0*	Drilling Methods: *8" Hollow Stem Auger*
Installed By: *Dan Caprioni/CinDrill*	Completed Drilling: *7/17/24*
Supervised By: *N.Karow/J.Duty-Marcus/Eagon & Associates, Inc.*	Drilling Water Used (gals): *200*

Well Design

Component	Materials	Depth (LSD)	Elevation
Well Protector	4" Round Steel	-3.0 - 2.0	570.0 - 565.0
Riser	2" Schedule 40 PVC	-2.5 - 59.9	569.5 - 507.1
Surface Seal	Concrete	0.0 - 1.0	567.0 - 566.0
Grout Seal	20% Solids Bentonite Grout	1.0 - 54.9	566.0 - 512.1
Bentonite Seal	3/8" Bentonite Chips	54.9 - 57.9	512.1 - 509.1
Sand Pack	No. 5 Silica Sand	57.9 - 80.0	509.1 - 487.0
Screen	2" 0.010 (10 Slot) Schedule 40 PVC	59.9 - 79.6	507.1 - 487.4
Well Point Blank	2" Schedule 40 PVC Threaded Point	79.6 - 80.0	487.4 - 487.0
Sand Pack Bottom	No. 5 Silica Sand	80.0 - 82.5	487.0 - 484.5



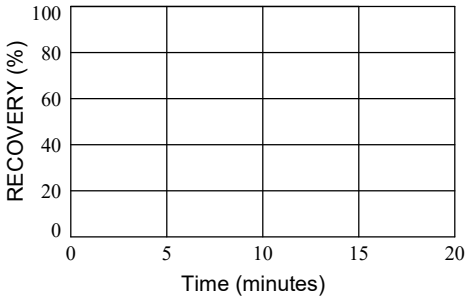
Well Development

Well Depth (ft,TOC):	Depth to Water (ft,TOC):	Well Volume (gals):	Volume Purged (gals):
82.40	*33.52*	*13.43*	*1156.0*

Development Method:
Surge with Grundfos pump

Date	Time	Cumulative Volume Removed (gals)	Temp (°C)	Specific Conductivity (µmhos/cm)	pH (S.U.)	Turbidity (NTU)
7/30/24	1622	1108	16.9	737	7.32	12.8
7/30/24	1627	1128	16.7	730	7.18	13.0
7/30/24	1632	1148	16.7	727	7.15	9.8
7/30/24	1634	1156	16.6	728	7.13	8.8

Recovery Data



Sampling Equipment:
QED-brand sample pro bladder pump

Comments:

MONITOR WELL INSTALLATION 2 PIKETON.GPJ 9/13/24

Eagon & Associates, Inc.

BOREHOLE LOG

Site Name and Location: **Piketon WF Piketon, Ohio**	Drilling Methods: 8" Hollow Stem Auger				Boring Number: **TB-5**
Drilling Firm: *CinDrill*	DATE	TIME	DEPTH DRILLED (ft)	WATER LEVEL (ft)	
Driller / Rig: *Dan Caprioni/CME Offroad*					*Page 1 of 4*
Logged by: *Nick A. Karow/Justin Duty-Marcus*	Sampling Methods: ST = Shelby Tube; S = Sonic; SP = Sand Pump; GP or DP = Direct Push; CT = Cuttings; SS = Split Spoon; CS = Continuous Sampler; C = Coring; NS = Not Sampled; B = Bailer				Start / Finish
Coordinates: *388617.93N 1820184.00E*					*Time 1015* / *Time 1830*
Surface Elevation: *567.3 ft/MSL*					*Date 7/18/24* / *Date 7/18/24*
Surface Conditions / Weather: *Flat ground, dry*					

Remarks: In mown grass off of east corner of high school by parking lot.

Depth (feet)	Sample Method	Sample Recovery (feet or %)	Blows/6 in or RQD	SAMPLE DESCRIPTION	Graphic Log	Remarks	USCS
1–5	NS			Reworked FILL to CLAYEY SILT.		Auger to 5' then sample 2'-2.5' past augers with 2" split-spoon sampler. Split-spoon samples taken using 140 lb auto hammer.	ML
5–7	SS-1	2.3	10, 13, 14, 15, 15			SS-1 Dry.	
7–9	NS						
9–11	SS-2	1.9	11 11 10 15			SS-2 Dry.	
11–13	NS						
13–15				Change at 15.3'.			
15–17	SS-3	1.6	7 12 8 6	SILTY SAND with GRAVEL. Medium sand with some gravel. Subrounded to rounded gravel. Trace to little clay and silt.		SS-3 Damp.	SM/SC
17–19	NS						

Piketon WF
Piketon, Ohio

BOREHOLE LOG

Boring Number TB-5

Remarks: In mown grass off of east corner of high school by parking lot.

Depth (feet)	Sample Method	Sample Recovery (feet or %)	Blows/6 in or RQD	SAMPLE DESCRIPTION	Graphic Log	Remarks	USCS
21	SS-4	1.5	7 11 10 8	SILTY SAND with GRAVEL. (Cont'd.) 21.0' - 21.5' Less gravel.		SS-4 Damp.	SM/SC
22							
23	NS						
24							
25							
26	SS-5	1.4	11 12 16 16			SS-5 Damp.	
27							
28	NS						
29							
30				Change at 30.0'.			
31	SS-6	2.2	12, 16, 22, 24, 24	Poorly graded SAND with SILT. Trace clay. Medium to fine grained sand. 31.6' Color change from orange to more gray.		SS-6 Damp.	SP SM
32							
33	SS-7	2.2	4, 5, 12, 9, 12	34.2' More gravel, rounded to subrounded. Change at 34.4'.		SS-7 Damp.	
34							
35	SS-8	2.2	5, 5, 7, 10, 11	Well graded SAND with small GRAVEL. Trace silt.		SS-8 Damp.	SW SM
36							
37							
38	SS-9	2.7	5, 9, 9, 15, 16	38.0' - 38.3' Oxidized, light orange/gray. 38.2' - 38.4' More gravel. 38.3' - 41.0' Trace cobble, sand becoming more fine with depth.		SS-9 Damp.	
39							
40							
41	SS-10	2.3	5, 6, 11, 14, 19	Change at 41.0'. SILTY SAND. Trace gravel.		SS-10 Damp.	SM
42							
43	SS-11	2.4	6, 8, 10, 13, 14	Change at 43.0'. Well graded SAND with SILT and some little GRAVEL.		SS-11 Damp.	SW SM
44							

BOREHOLE LOG V.2 PIKETON.GPJ 9/13/24

Piketon WF Piketon, Ohio	**BOREHOLE LOG**	Boring Number TB-5

Remarks: In mown grass off of east corner of high school by parking lot.

Depth (feet)	Sample Method	Sample Recovery (feet or %)	Blows/6 in or RQD	SAMPLE DESCRIPTION	Graphic Log	Remarks	USCS
46	SS-12	2.2	3, 6, 11, 18, 22	Well graded SAND with SILT. (Cont'd.) Change at 46.2'. Poorly graded SAND with SILT and GRAVEL.		SS-12 Damp.	SW/SM SP/SM
47							
48	SS-13	2.3	12, 10, 14, 16, 14	Change at 49.0'.			
49				Poorly graded SAND with SILT and CLAY. Sand size more fine.		SS-13 Damp.	SP/SC
50							
51	SS-14	2.5	7, 11, 13, 17, 21	51.0' - 51.8' More gravel.		SS-14 Damp.	
52				51.8' - 52.5' More clay/silt.			
53				Change at 53.6'.			
54	SS-15	2.2	5, 14, 23, 23, 20	SILTY SAND with little clay. Trace gravel. Medium density. Cohesiveness increased.		SS-15 Damp. Driller adding more water.	SM
55				Change at 55.0'.			
56	SS-16	1.9	5, 11, 11, 12, 12	Well graded SAND with SILT and CLAY. Less cohesive. 55.0' - 55.9' More coarse sand with some gravel. 55.9' - 56.3' Finer sand with no gravel.		SS-16 Damp.	SW/SC
57				Change at 57.5'.			
58	SS-17	2.1	8, 10, 17, 27, 21	Well graded SAND with SILT and GRAVEL. 57.5' - 58.8' Increased gravel content.		SS-17 Damp.	SW/SM
59							
60	SS-18	1.9	7, 9, 13, 12, 15	60.0' - 60.9' Little gravel. 60.9' - 61.1' Finer sand. 61.1' - 61.9' Little gravel.		SS-18 Damp.	
61							
62							
63	SS-19	2.0	9, 8, 8, 11, 11	Below 63.0' increase in gravel. Little gravel. Trace cobble. Less silt.		SS-19 Damp.	
64							
65							
66	SS-20	2.0	6, 9, 11, 11, 16	Change at 66.0'. Poorly graded SAND with SILT. Sand is fine grained. No gravel. Trace clay.		SS-20 Damp.	SP/SM
67							
68	SS-21	1.9	5, 10, 16, 18, 21				
69							

BOREHOLE LOG V.2 PIKETON.GPJ 9/13/24

Eagon & Associates, Inc.

Piketon WF Piketon, Ohio	**BOREHOLE LOG**	Boring Number TB-5

Remarks: In mown grass off of east corner of high school by parking lot.

Depth (feet)	Sample Method	Sample Recovery (feet or %)	Blows/6 in or RQD	SAMPLE DESCRIPTION	Graphic Log	Remarks	USCS
71	SS-22	2.2		SAND with SILT. (Cont'd.) 71.2' - 71.5' Sand more coarse, well graded. Change at 72.5'.		SS-22 Damp. Missed blow counts.	SP/SM
73	SS-23	2.1	7, 13, 17, 9, 10	Well graded SAND with SILT. Little gravel. Trace cobble.		SS-23 Damp.	SW/SM
76	SS-24	1.9	5, 5, 5, 6, 6	76.6' - 76.9' Five 1" gravel inclusions. Few gravel.		SS-24 Damp.	
78	SS-25	0	3, 6, 8, 7, 11			SS-25 sample lost. No clay on split spoon. Driller says interval drove through like sand.	
81	SS-26	2.1	3, 4, 5, 7, 9	Change at 80.9'. SILTY CLAY. Medium plasticity. Cohesive.		SS-26 Damp.	CL
83				Bottom of Borehole = 82.5'. Installed Monitoring Well TB-5 in borehole. See Monitoring Well Installation Report for well details.			

BOREHOLE LOG V.2 PIKETON.GPJ 9/13/24

Eagon & Associates, Inc.

Well Number TB-5

Monitoring Well Installation Report

Site Name and Location: *Piketon WF, Piketon, Ohio*	Completion Date: *7/23/24*
Coordinates: *388617.93N 1820184.00E*	Borehole Depth (ft): *82.5*
Elevation Top of Casing (ft/MSL):	Borehole Diameter (in):*8"*
Elevation Ground Surface (ft/MSL): *567.3*	Drilling Methods: *8" Hollow Stem Auger*
Installed By: *Dan Caprioni/CinDrill*	Completed Drilling: *7/18/24*
Supervised By: *N.Karow/J.Duty-Marcus/Eagon & Associates, Inc.*	Drilling Water Used (gals): *200*

Well Design

Component	Materials	Depth (LSD)	Elevation
Well Protector	4" Round Steel	-3.0 - 2.0	570.3 - 565.3
Riser	2" Schedule 40 PVC	-2.5 - 60.0	569.8 - 507.3
Surface Seal	Concrete	0.0 - 1.0	567.3 - 566.3
Grout Seal	20% Solids Bentonite Grout	1.0 - 55.0	566.3 - 512.3
Bentonite Seal	3/8" Bentonite Chips	55.0 - 58.0	512.3 - 509.3
Sand Pack	No. 5 Silica Sand	58.0 - 80.0	509.3 - 487.3
Screen	2" 0.010 (10 Slot) Schedule 40 PVC	60.0 - 79.6	507.3 - 487.7
Well Point Blank	2" Schedule 40 PVC Point	79.6 - 80.0	487.7 - 487.3
Sand Pack Bottom	No. 5 Silica Sand	80.0 - 82.5	487.3 - 484.8

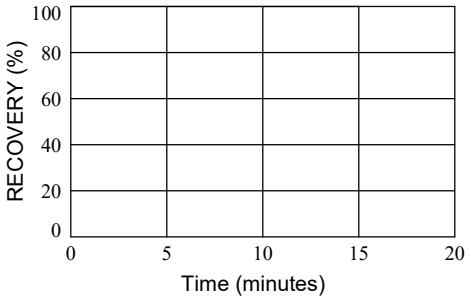
Well Development

Well Depth (ft,TOC):	Depth to Water (ft,TOC):	Well Volume (gals):	Volume Purged (gals):
84.03	*34.40*	*13.71*	*750.0*

Development Method:
Surge with Grundfos pump

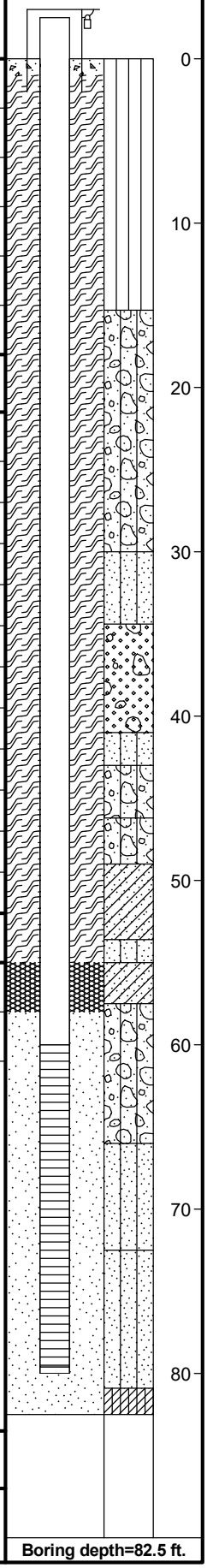
Date	Time	Cumulative Volume Removed (gals)	Temp (°C)	Specific Conductivity (µmhos/cm)	pH (S.U.)	Turbidity (NTU)
7/31/24	1133	170	17.7	768	7.10	6.0
7/31/24	1354	452	17.7	782	7.14	9.8
7/31/24	1623	750	17.0	814	7.21	4.6
7/31/24	1637	770	17.0	746	7.21	3.0

Recovery Data



Sampling Equipment:
QED-brand sample pro bladder pump

Comments:



MONITOR WELL INSTALLATION 2 PIKETON.GPJ 9/13/24

EXISTING PRODUCTION WELLS

WELL LOG AND DRILLING REPORT

9a

NO CARBON PAPER NECESSARY – SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

606760

#1 ? well

COUNTY Pike TOWNSHIP SEAL SECTION OF TOWNSHIP 5

OWNER Village of Piketon ADDRESS Piketon, Ohio

LOCATION OF PROPERTY Approx. 80 ft W. of N.W. corner of water plant

CONSTRUCTION DETAILS

Casing diameter 12" Length of casing 52'

Type of screen St. Steel, .030 slot Length of screen 20'

Type of pump vert. turbine, Layne

Capacity of pump 500 gpm

Depth of pump setting 42'

Date of completion Nov. 14, 1981

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 500 gpm Duration of test 24 hrs

Drawdown 14.1 ft Date 10/14/81

Static level (depth to water) 34.9 ft ft

Quality (clear, cloudy, taste, odor) good

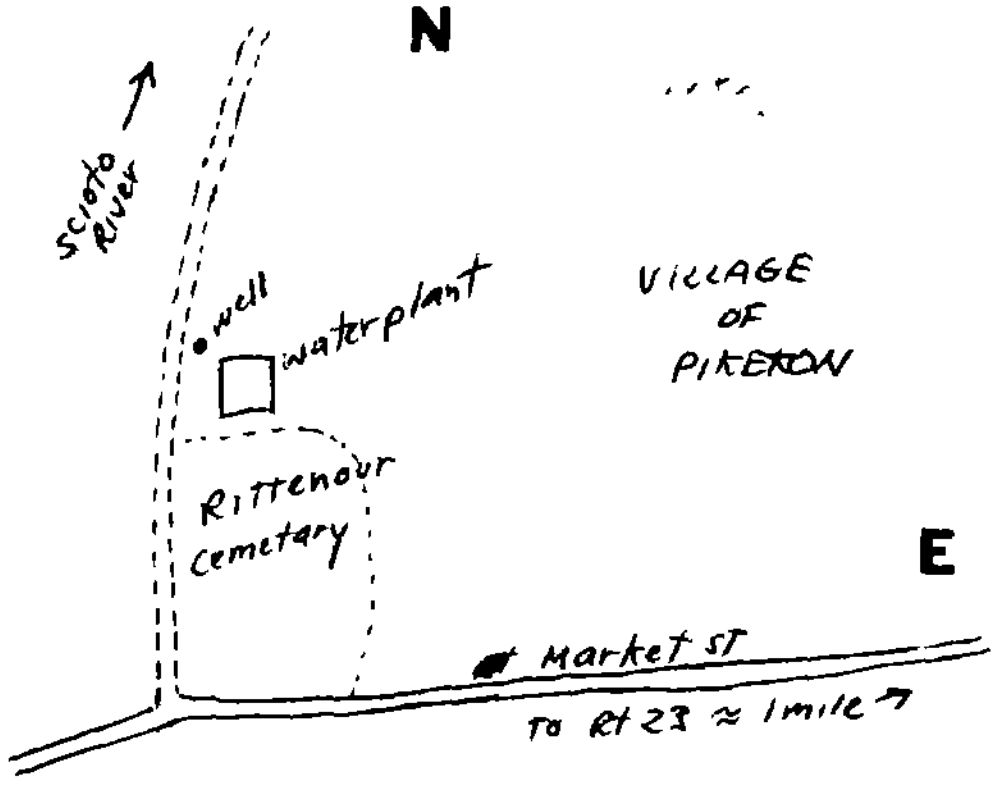
Pump installed by Ohio Drilling Co

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
clay	0 ft	12 ft
sand & little gravel	12	45
sand & gravel	45	72
sand	72	?

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM Ohio Drilling Co DATE 5/14/82

ADDRESS Massillon, Ohio SIGNED Tom Lykens

*If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINAL COPY - ODNR, DIVISION OF WATER, FOUNTAIN SQ., COLS., OHIO 43224

18

WELL LOG AND DRILLING REPORT

ORIGINAL

9c

NO CARBON PAPER NECESSARY— SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
65 S. Front St., Rm. 815 Phone (614) 469-2646
Columbus, Ohio 43215

No. 407792

5

County Pike Township Seal Section of Township

Owner Village of Piketon Address Piketon, Ohio

Location of property 250 ft north of plant on east side of Canal

CONSTRUCTION DETAILS

Casing diameter 12" Length of casing 57'
Type of screen Gold Bronze Length of screen 20'
Type of pump Layne
Capacity of pump
Depth of pump setting 60'
Date of completion 7-11-72

BAILING OR PUMPING TEST
(Specify one by circling)

Test Rate 600 G.P.M. Duration of test 24 hrs.
Drawdown 18 ft. Date
Static level-depth to water 20 ft.
Quality (clear, ~~cloudy, taste, odor~~)
Pump installed by Layne Ohio Co

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
Clay	0 Feet	8 Ft.
Yellow sand	8	20
Fine gray sand	20	30
Brown sand & gravel	30	40
Leaky sand & gravel	40	60
Sand and large gravel	60	68
Blue shale	68	70

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.

N.
W.
E.
S.

Drilling Firm Layne Ohio Co Date 12-5-72
Address Columbus, Ohio Signed R. S. McEntire
Layne Ohio Co

*If additional space is needed to complete well log, use next consecutive numbered form.

16

WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER NECESSARY— SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
65 S. Front St., Rm. 815 Phone (614) 469-2646
Columbus, Ohio 43215

450900

Well #3

County Pike Township Seal Section of Township 5

Owner Village of Piketon Address Piketon, Ohio

Location of property 300' north of water plant

CONSTRUCTION DETAILS

Casing diameter 12" 10" Length of casing 40'7" 21'6"

Type of screen Cook Ham. 12" Length of screen 20'

Type of pump LAYNE

Capacity of pump 500 GPM

Depth of pump setting 62' (on 10' Tower)

Date of completion 6-22-77

BAILING OR PUMPING TEST
(Specify one by circling)

Test Rate 457 G.P.M. Duration of test 24 hrs.

Drawdown 38.0 ft. Date 6-22-77

Static level-depth to water 26'5" = 26.4 ft.

Quality (clear, cloudy, taste, odor) Clear

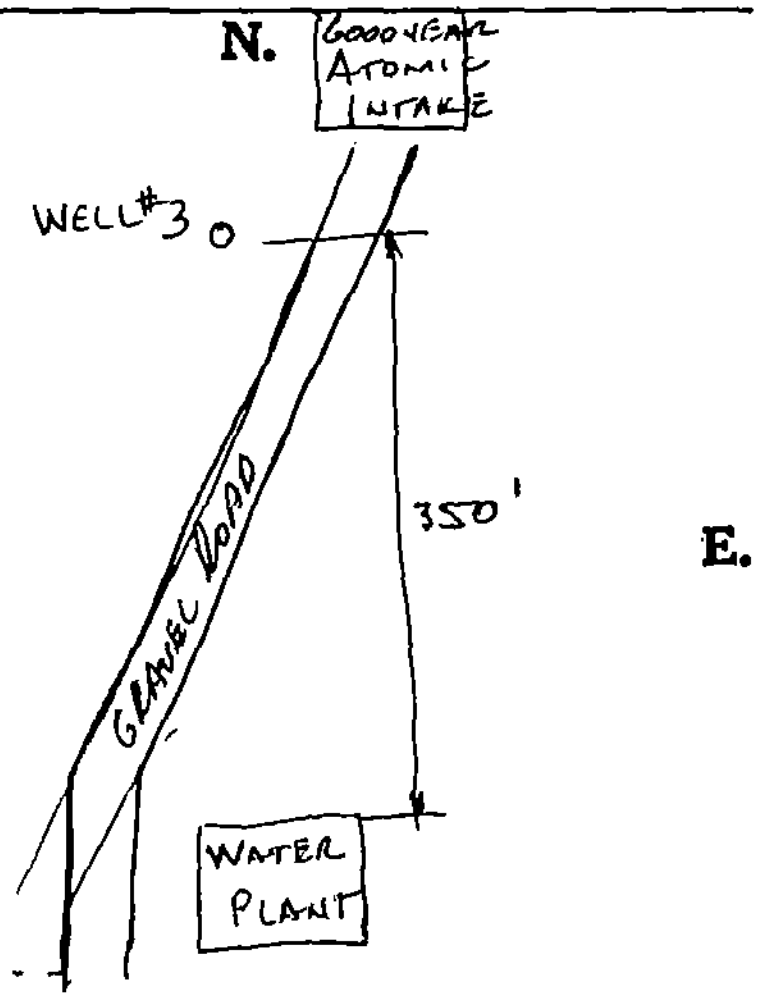
Pump installed by J. Workman

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
Topsoil & clay	0 Feet	5 Ft.
Brown sand, gravel, clay (some sand)	5'	10'
Brown sand, gravel	10'	15'
Brown sand, gravel	15'	20'
Brown sand, lg. gravel	20'	40'
Gray sand & course gravel	40'	45'
Gray sand & lg. gravel	45'	50'
Gray sand & course gravel	50'	55'
Course gray sand, gravel (not much)	55'	63'
Gray sand & course gravel	63'	66'
Gray sand & large gravel	66'	68'
Gray clay	68'	68'-7"

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



Drilling Firm Layne Ohio Company Date 2-28-78

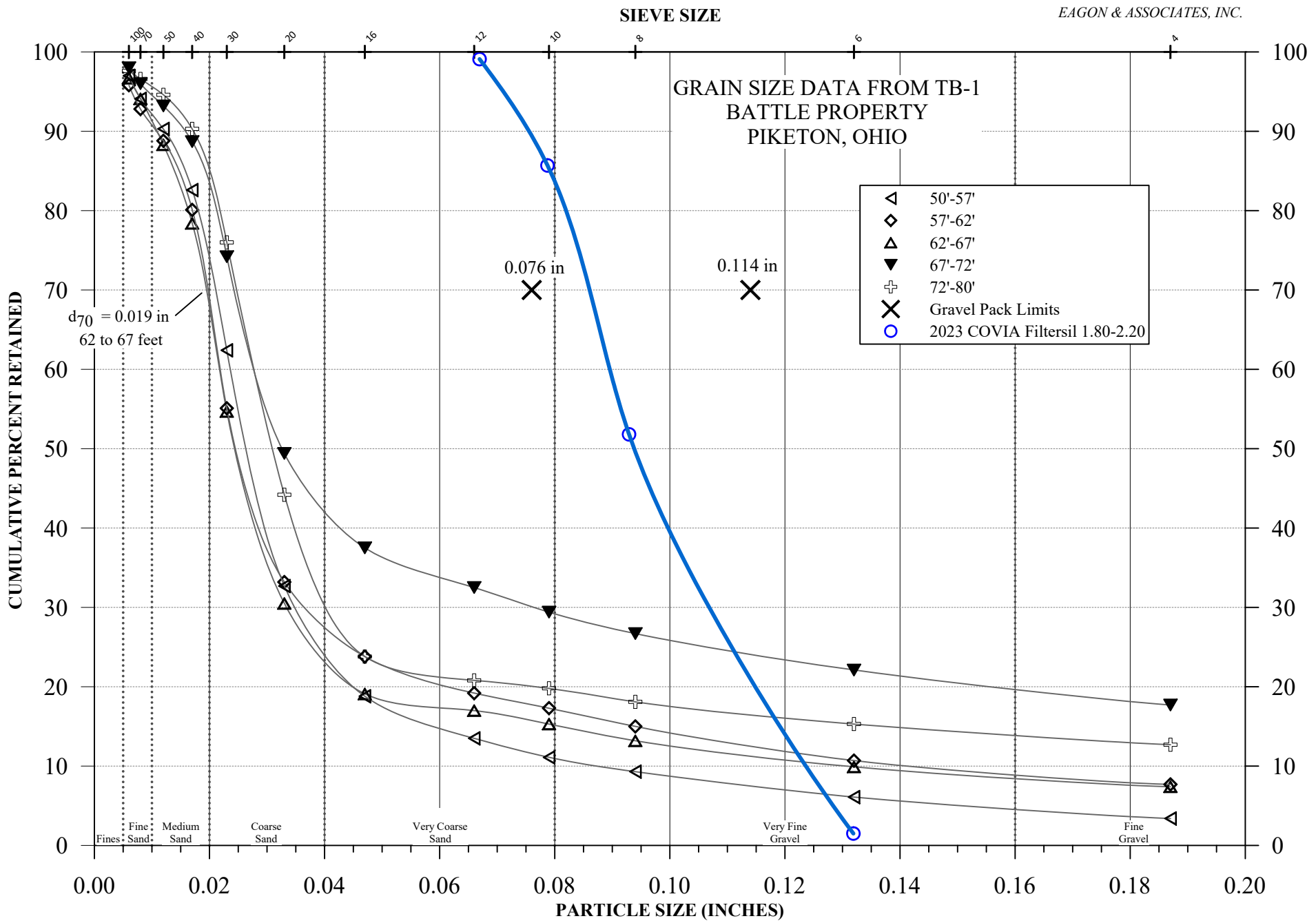
Address 4921 Vulcan Ave, Cols, Ohio 43228 Signed J. Workman

*If additional space is needed to complete well log, use next consecutive numbered form.

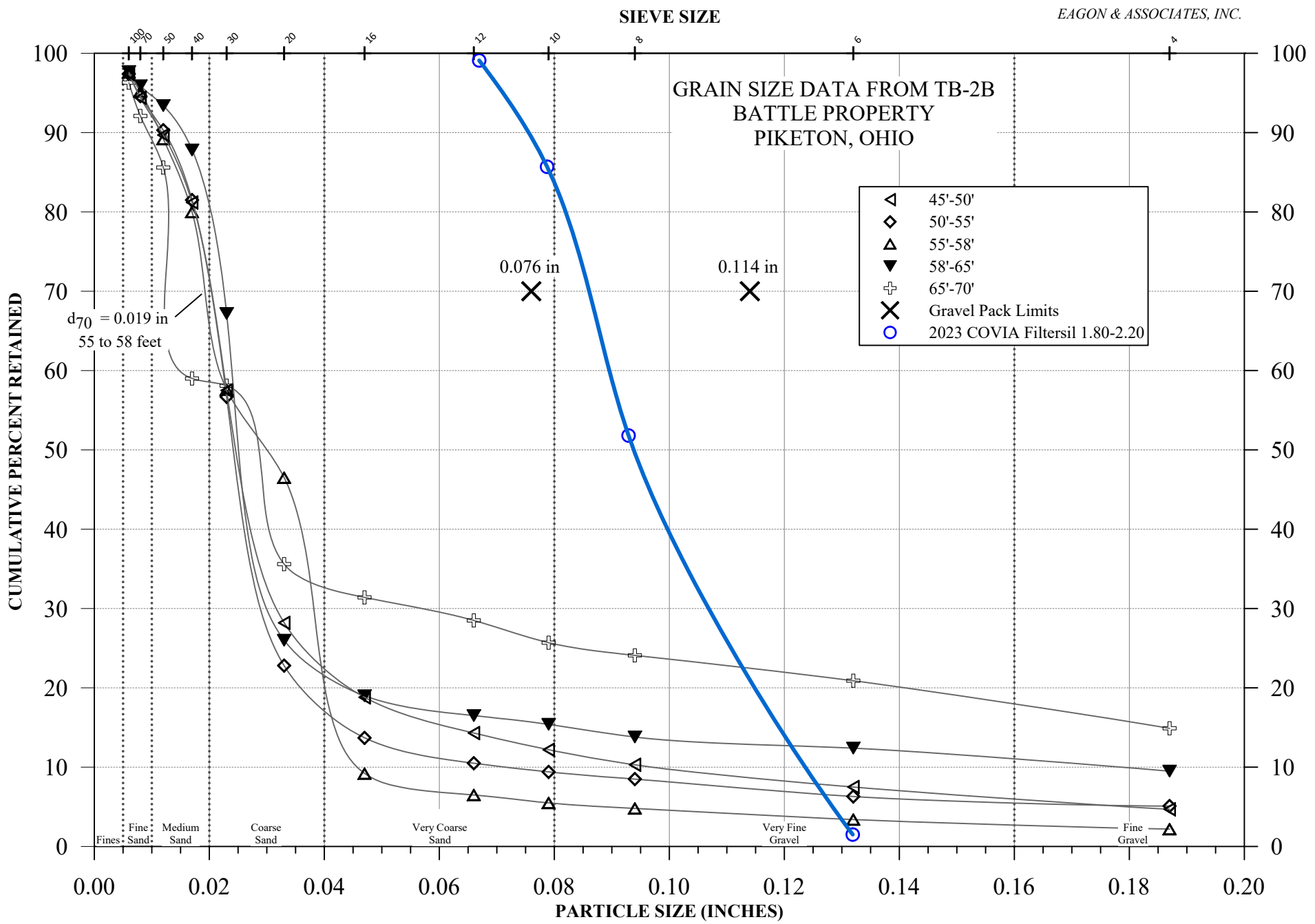
17

APPENDIX B.

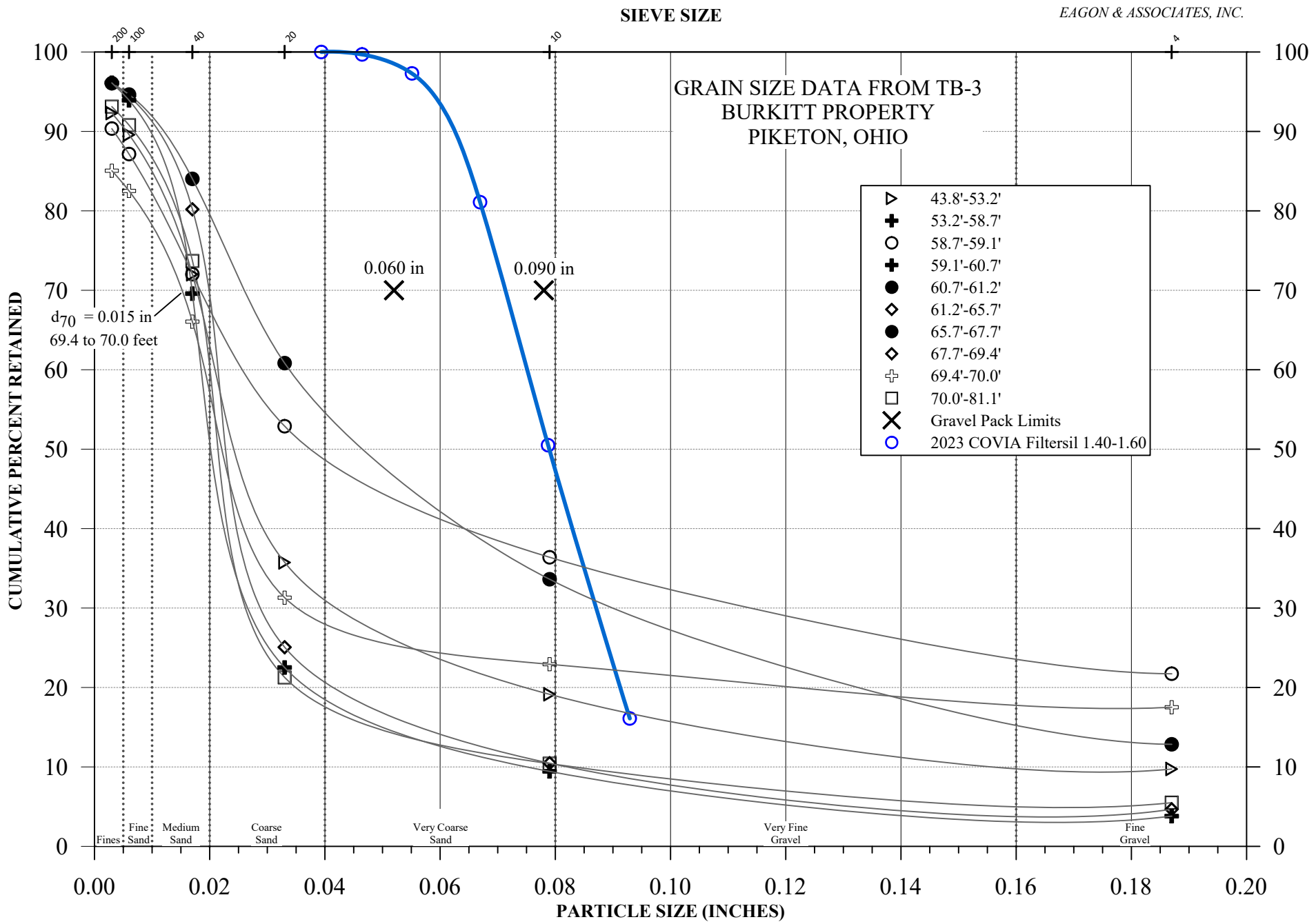
GRAIN-SIZE ANALYSIS REPORTS



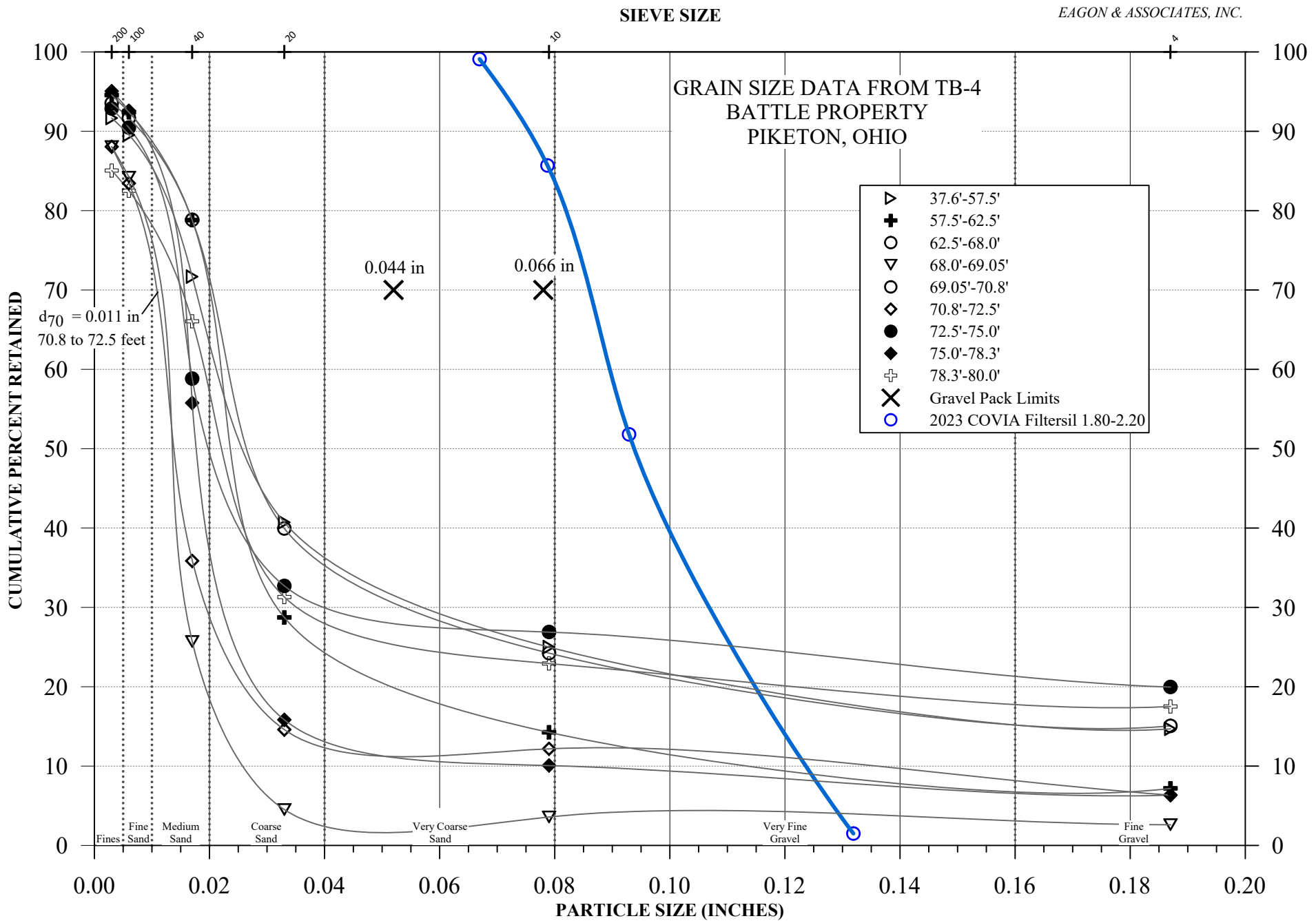
Piketon WF/TB-1 Grain Size.GRF
9/16/24



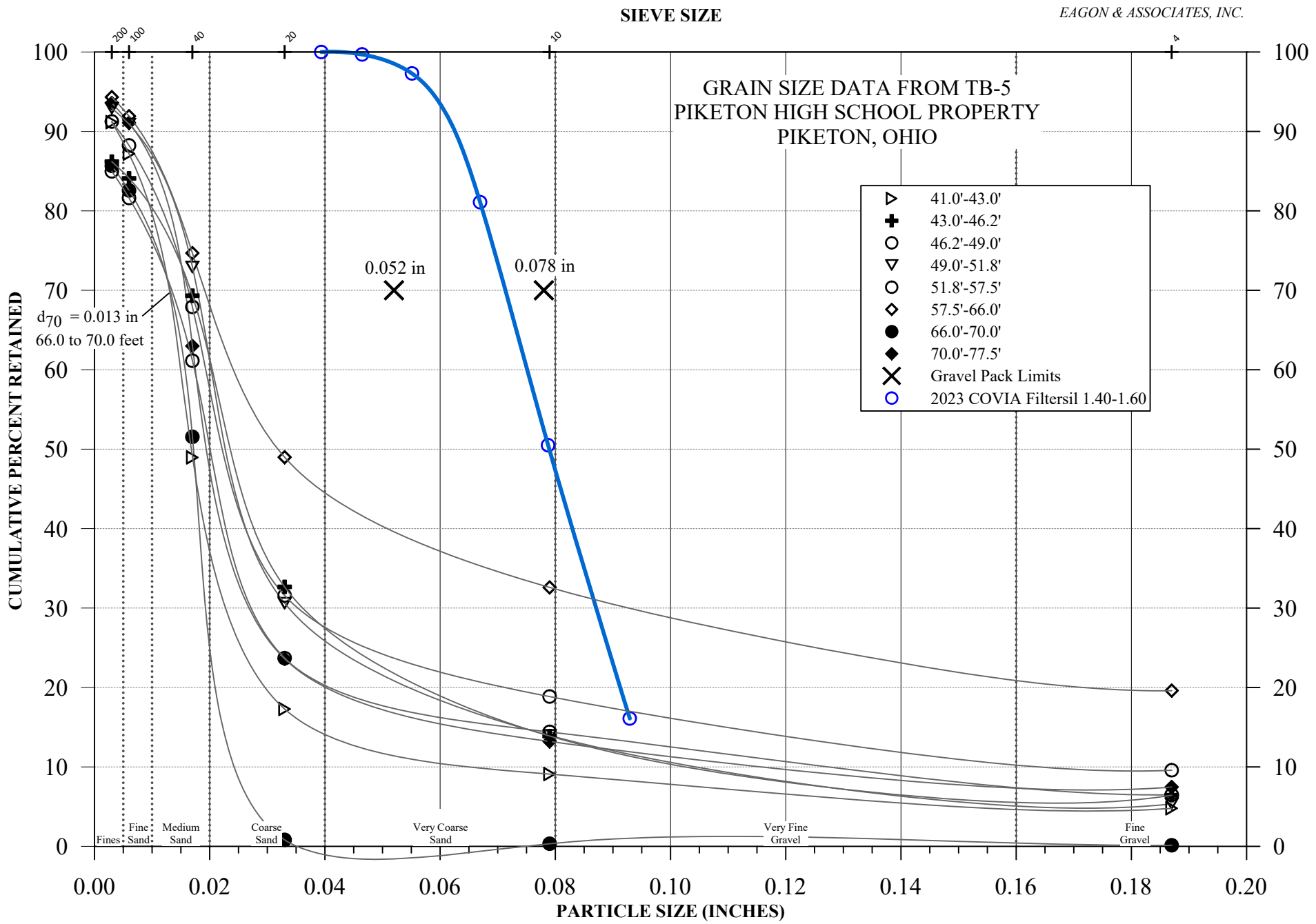
Piketon WF/TB-2B Grain Size.GRF
9/16/24



Piketon WF/TB-1 Grain Size.GRF
9/16/24



Piketon WF/TB-1 Grain Size.GRF
9/16/24



Piketon WF/TB-1 Grain Size.GRF
9/16/24

TB-1 AND TB-2B

MOODY'S

Consultant:	Eagon	**Boring No.:**	1	**Job No.:**	23095
Owner:	Village of Piketon	**Date Started:**			
Location:		**Date Finished:**			
Driller/Crew:		**Weather:**			

MOODY'S of Dayton, Inc. DBA
G.M. BAKER & SON
"Where Service and Quality Never Go Out of Fashion"
2091 CAMARO AVE
COLUMBUS, OHIO 43207
PHONE 614-443-3898
FAX 614-443-4909
www.moodysofdayton.com

Test Boring Log

Depth	Color	Soil Description and Remarks	Moisture	Sample No.	Sample Type	Sample Depth	Blow Counts	Recovery
3-5	Brown	Soil/Clay	Dry	1	A	5'	4, 7, 11, 15	16"
8-10	Brown	Soil/Clay	Dry	2	A	10'	4, 4, 4, 7	14"
13-15	Brown	Some clay, sand/small gravel	Dry	3	A	15'	6, 8, 13, 11	12"
18-20	Brown	Sand, some small gravel	Wet	4	A	20'	6, 5, 6, 5	13"
23-25	Brown	Sand/some gravel	Wet	5	A	25'	5, 8, 11, 8	17"
28-30	Brown	Sand/some gravel	Wet	6	A	30'	8, 4, 8, 15	19"
30-32	Brown	Sand/some gravel	Wet	7	A	32'	4, 9, 19, 19	17"
33-35	Brown	Sand/gravel	Wet	8	A	35'	6, 9, 11, 9	16"
35-37.5	Brown	Sand/gravel	Wet	9	A	37'	9, 8, 9, 13	15"
38-40	Brown	Sand/gravel	Wet	10	A	40'	10, 13, 14, 15	20"
40-42.5	Grey/ Brown	Sand/gravel	Wet	11	A	42'	3, 6, 11, 14	17"
43-45	Grey/ Brown	Sand/gravel	Wet	12	A	45'	5, 4, 5, 14	18"
45-47.5	Grey/ Brown	Sand/gravel	Wet	13	A	47'	10, 15, 10, 17	21"
48-50	Grey/ Brown	Sand/gravel	Wet	14	A	50'	5, 7, 7, 7	Full
50-52.5	Grey/ Brown	Sand/gravel	Wet	15	A	52'	9, 14, 10, 15	15"

Water Levels	Method of Drilling:	Type and Size Sampler:	
Initial: 20'	Auger X Size: 4 1/4	A. Split Spoon: 2" X 3"	Machine
Final: 22'	Rotary Size(s):	B. Shelby Tube ( )	Hammer:
24 HR.:	Air Mud Water	C. NX Core	140 lb 300 lb

Consultant: Eagon **Boring No.:** 1 **Job No.:** 23095

Owner: Village of Piketon **Date Started:**

Location: **Date Finished:**

Driller/Crew: **Weather:**

MOODY'S of Dayton, Inc. DBA
G.M. BAKER & SON
"Where Service and Quality Never Go Out of Fashion"
2001 CAMARO AVE
COLUMBUS, OHIO 43207
PHONE 614-443-3898
FAX 614-443-4909
www.moodysofdayton.com

Test Boring Log

Depth	Color	Soil Description and Remarks	Moisture	Sample No.	Sample Type	Sample Depth	Blow Counts	Recovery
53-55	Grey/ Brown	Sand/gravel, 1 rock	Wet	16	A	55'	3, 7, 14, 16	12"
55-57.5	Grey/ Brown	Sand/gravel, some rock	Wet	17	A	57'	11, 17, 19, 20	20"
57.5-60	Grey/ Brown	Sand/gravel, some rock	Wet	18	A	60'	4, 9, 10, 14	17"
60-62.5	Grey/ Brown	Sand/gravel, some rock	Wet	19	A	62'	9, 7, 12,19	18"
62.5-65	Grey/ Brown	Sand/gravel	Wet	20	A	65'	24, 16, 21, 11	Full
65-67.5	Grey/ Brown	Sand/gravel	Wet	21	A	67'	24, 16, 21, 11	16"
67.5-70	Grey/ Brown	Sand/gravel/rock	Wet	22	A	70'	14, 7, 5, 109	14"
		hole caved to 18'						

Water Levels	Method of Drilling:	Type and Size Sampler:	
Initial: 20'	Auger X Size: 4 1/4	A. Split Spoon: 2" X 3"	Machine
Final: 22'	Rotary Size(s):	B. Shelby Tube ( )	Hammer:
24 HR.:	Air Mud Water	C. NX Core	140 lb 300 lb

MOODY'S of Dayton, Inc. DBA
G.M. BAKER & SON

"Where Service and Quality Never Go Out of Fashion"

2001 CAMARO AVE
COLUMBUS, OHIO 43207
PHONE 614-443-3898
FAX 614-443-4909
www.moodysofdayton.com

	Samples 13, 14		Samples 15, 16	
Sieve	45-50		50-55	
Size	WT.	%	WT.	%
0.187	20	4.7%	18	5.1%
0.132	32	7.5%	22	6.3%
0.094	44	10.3%	30	8.5%
0.079	52	12.2%	33	9.4%
0.066	61	14.3%	37	10.5%
0.047	80	18.8%	48	13.7%
0.033	120	28.2%	80	22.8%
0.023	245	57.5%	199	56.7%
0.017	346	81.2%	286	81.5%
0.012	382	89.7%	317	90.3%
0.008	402	94.4%	332	94.6%
0.006	415	97.4%	342	97.4%
Pan	426	100%	351	100%

NAME: Piketon TB #1

JOB:

NOTES:

	Sample 17		Samples 18-20	
Sieve	55-58		58-65	
Size	WT.	%	WT.	%
0.187	9	2.2%	42	9.5%
0.132	14	3.4%	55	12.4%
0.094	20	4.8%	61	13.8%
0.079	23	5.5%	68	15.4%
0.066	27	6.5%	73	16.5%
0.047	38	9.2%	84	19.0%
0.033	193	46.5%	115	26.0%
0.023	239	57.6%	297	67.2%
0.017	332	80.0%	388	87.8%
0.012	370	89.2%	413	93.4%
0.008	395	95.2%	424	95.9%
0.006	405	97.6%	432	97.7%
Pan	415	100%	442	100%

NAME:

JOB:

NOTES:

MOODY'S of Dayton, Inc. DBA
G.M. BAKER & SON

"Where Service and Quality Never Go Out of Fashion"

2001 CAMARO AVE
COLUMBUS, OHIO 43207
PHONE 614-443-3898
FAX 614-443-4909
www.moodysofdayton.com

Samples 21, 22

Sieve Size	65-70 WT.	%	WT.	%
0.187	57	14.9%		#DIV/0!
0.132	80	20.9%		#DIV/0!
0.094	92	24.1%		#DIV/0!
0.079	98	25.7%		#DIV/0!
0.066	109	28.5%		#DIV/0!
0.047	120	31.4%		#DIV/0!
0.033	136	35.6%		#DIV/0!
0.023	222	58.1%		#DIV/0!
0.017	300	78.5%		#DIV/0!
0.012	327	85.6%		#DIV/0!
0.008	352	92.1%		#DIV/0!
0.006	368	96.3%		#DIV/0!
Pan	382	100%		#DIV/0!

NAME: Piketon TB #1

JOB:

NOTES: Remove 2 1/2" rocks

Sieve Size	WT.	%	WT.	%
0.187		#DIV/0!		#DIV/0!
0.132		#DIV/0!		#DIV/0!
0.094		#DIV/0!		#DIV/0!
0.079		#DIV/0!		#DIV/0!
0.066		#DIV/0!		#DIV/0!
0.047		#DIV/0!		#DIV/0!
0.033		#DIV/0!		#DIV/0!
0.023		#DIV/0!		#DIV/0!
0.017		#DIV/0!		#DIV/0!
0.012		#DIV/0!		#DIV/0!
0.008		#DIV/0!		#DIV/0!
0.006		#DIV/0!		#DIV/0!
Pan		#DIV/0!		#DIV/0!

NAME:

JOB:

NOTES:

MOODY'S of Dayton, Inc. DBA
G.M. BAKER & SON

"Where Service and Quality Never Go Out of Fashion"

2001 CAMARO AVE
COLUMBUS, OHIO 43207
PHONE 614-443-3898
FAX 614-443-4909
www.moodysofdayton.com

Sieve Size	Sample #6 28-30 WT.	Sample #6 28-30 %	Sample #7 30-32 WT.	Sample #7 30-32 %
0.187	33	8.5%	44	9.9%
0.132	43	11.0%	69	15.5%
0.094	51	13.1%	81	18.2%
0.079	59	15.1%	91	20.4%
0.066	61	15.6%	101	22.7%
0.047	73	18.7%	127	28.5%
0.033	90	23.1%	168	37.8%
0.023	140	35.9%	253	56.9%
0.017	273	70.0%	359	80.7%
0.012	340	87.2%	401	90.1%
0.008	370	94.9%	423	95.1%
0.006	381	97.7%	433	97.3%
Pan	390	100%	445	100%

NAME: Piketon TB #1

4/25/2023

JOB:

NOTES:

Sieve Size	Samples #8-10 33-40 WT.	Samples #8-10 33-40 %	Sample #11 40-42 WT.	Sample #11 40-42 %
0.187	35	7.8%	46	13.5%
0.132	43	9.6%	53	15.5%
0.094	75	16.8%	60	17.6%
0.079	89	20.0%	62	18.2%
0.066	104	23.3%	66	19.4%
0.047	132	29.6%	79	23.2%
0.033	175	39.2%	102	29.9%
0.023	260	58.3%	197	57.8%
0.017	367	82.3%	275	80.6%
0.012	411	92.2%	305	89.4%
0.008	433	97.1%	324	95.0%
0.006	443	99.3%	332	97.4%
Pan	446	100%	341	100%

NAME:

JOB:

NOTES:

MOODY'S of Dayton, Inc. DBA
G.M. BAKER & SON
"Where Service and Quality Never Go Out of Fashion"
2001 CAMARO AVE
COLUMBUS, OHIO 43207
PHONE 614-443-3898
FAX 614-443-4909
www.moodysofdayton.com

Samples #12

Sieve Size	43-45 WT.	43-45 %	WT.	%
0.187	14	4.1%		#DIV/0!
0.132	24	7.0%		#DIV/0!
0.094	36	10.5%		#DIV/0!
0.079	42	12.2%		#DIV/0!
0.066	51	14.9%		#DIV/0!
0.047	71	20.7%		#DIV/0!
0.033	102	29.7%		#DIV/0!
0.023	185	53.9%		#DIV/0!
0.017	290	84.5%		#DIV/0!
0.012	316	92.1%		#DIV/0!
0.008	328	95.6%		#DIV/0!
0.006	335	97.7%		#DIV/0!
Pan	343	100%		#DIV/0!

Sieve Size	WT.	%	WT.	%
0.187		#DIV/0!		#DIV/0!
0.132		#DIV/0!		#DIV/0!
0.094		#DIV/0!		#DIV/0!
0.079		#DIV/0!		#DIV/0!
0.066		#DIV/0!		#DIV/0!
0.047		#DIV/0!		#DIV/0!
0.033		#DIV/0!		#DIV/0!
0.023		#DIV/0!		#DIV/0!
0.017		#DIV/0!		#DIV/0!
0.012		#DIV/0!		#DIV/0!
0.008		#DIV/0!		#DIV/0!
0.006		#DIV/0!		#DIV/0!
Pan		#DIV/0!		#DIV/0!

NAME: Piketon TB #1

4/25/2023

JOB:

NOTES:

NAME:

JOB:

NOTES:

Consultant: Eagon **Boring No.:** 2 **Job No.:** 23095

Owner: Village of Piketon **Date Started:**

Location: **Date Finished:**

Driller/Crew: **Weather:**

MOODY'S of Dayton, Inc. DBA
G.M. BAKER & SON
"Where Service and Quality Never Go Out of Fashion"
2001 CAMARO AVE
COLUMBUS, OHIO 43207
PHONE 614-443-3898
FAX 614-443-4909
www.moodysofdayton.com

Test Boring Log

Depth	Color	Soil Description and Remarks	Moisture	Sample No.	Sample Type	Sample Depth	Blow Counts	Recovery
5-7	Grey/ Brown	Some soil/sand/gravel	Dry	1	A	5'	5, 6, 6, 3	6"
10-12	Brown	Clay, sand	Dry	2	A	10'	11, 21, 20, 13	2"
15-17	Brown	Sand/gravel	Dry	3	A	15'	15, 13, 8, 13	Full
20-22	Brown	Sand/gravel	Wet	4	A	20'	7, 12, 14, 19	15"
25-27	Brown	Sand/gravel	Wet	5	A	25'	6, 10, 7, 7	13"
30-32	Brown	Sand/small-large gravel	Wet	6	A	30'	7, 7, 7, 6	Full
32-35	Brown	Sand	Wet	7	A	32'	10, 9, 6, 10	16"
35-37.5	Brown	Sand/gravel	Wet	8	A	35'	5, 6, 7, 9	Full
37.5-40	Brown	Sand/gravel	Wet	9	A	37'	8, 8, 15, 11	Full
40-42.5	Brown	Sand/gravel	Wet	10	A	40'	8, 7, 4, 5	15"
42.5-45	Brown	Sand	Wet	11	A	42'	15, 15, 8, 7	16"
45-47.5	Brown	Sand	Wet	12	A	45'	7, 12, 16, 21	18"
47.5-50	Brown	Sand	Wet	13	A	47'	4, 7, 11, 17	Full
50-52.5	Brown	Sand/gravel	Wet	14	A	50'	6, 10, 13, 17	14"
52.5-55	Grey/ Brown	Sand/gravel	Wet	15	A	52'	10, 8, 7, 5	18"

Water Levels	Method of Drilling:	Type and Size Sampler:	
Initial: 20'	Auger X Size: 4 1/4	A. Split Spoon: 2" X 3"	Machine
Final: 23'	Rotary Size(s):	B. Shelby Tube ( )	Hammer:
24 HR.:	Air Mud Water	C. NX Core	140 lb 300 lb

Consultant: Eagon **Boring No.:** 2 **Job No.:** 23095

Owner: Village of Piketon **Date Started:**

Location: **Date Finished:**

Driller/Crew: **Weather:**

MOODY'S of Dayton, Inc. DBA
G.M. BAKER & SON
"Where Service and Quality Never Go Out of Fashion"
2001 CAMARO AVE
COLUMBUS, OHIO 43207
PHONE 614-443-3898
FAX 614-443-4909
www.moodysofdayton.com

Test Boring Log

Depth	Color	Soil Description and Remarks	Moisture	Sample No.	Sample Type	Sample Depth	Blow Counts	Recovery
55-57.5	Grey/ Brown	Sand/gravel	Wet	16	A	55'	7, 9, 4, 15	13"
57.5-60	Grey/ Brown	Sand/gravel	Wet	17	A	57'	14, 14, 10, 9	18"
60-62.5	Grey/ Brown	Sand	Wet	18	A	60'	16, 21, 12, 8	19"
62.5-65	Grey/ Brown	Sand/some gravel	Wet	19	A	62'	10, 26, 7, 12	20'
65-67.5	Grey/ Brown	Sand/gravel	Wet	20	A	65'	11, 4, 4, 3	15"
67.5-70	Grey/ Brown	Sand/gravel	Wet	21	A	67'	12, 16, 16, 18	19"
70-72.5	Grey/ Brown	Sand/gravel	Wet	22	A	70'	13, 11, 15, 17	21"
72.5-75	Grey/ Brown	Sand/gravel	Wet	23	A	72'	12, 15, 12, 14	13"
75-77.5	Grey/ Brown	Sand/gravel	Wet	24	A	75'	14, 14, 15, 15	Full
77.5-80	Grey/ Brown	Sand/gravel	Wet	25	A	77'	8, 3, 6, 9	Full
80-82	Grey/ Brown	Sand/gravel, clay	Wet	26	A	80'	9, 18, 6, 5	18"
82-85.5	Grey	Clay	Wet	27	A	82'	5, 6, 3, 10	Full

Water Levels	Method of Drilling:	Type and Size Sampler:	
Initial: 20'	Auger X Size: 4 1/4	A. Split Spoon: 2" X 3"	Machine
Final: 22'	Rotary Size(s):	B. Shelby Tube ( )	Hammer:
24 HR.:	Air Mud Water	C. NX Core	140 lb 300 lb

MOODY'S of Dayton, Inc. DBA
G.M. BAKER & SON
"Where Service and Quality Never Go Out of Fashion"
2001 CAMARO AVE
COLUMBUS, OHIO 43207
PHONE 614-443-3898
FAX 614-443-4909
www.moodysofdayton.com

Sieve Size	Samples #6-8 30-37 WT.	%	Samples 9,10 38-42 WT.	%
0.187	17	4.3%	25	7.4%
0.132	32	8.0%	35	10.4%
0.094	52	13.1%	46	13.7%
0.079	68	17.1%	152	45.2%
0.066	92	23.1%	160	47.6%
0.047	109	27.4%	175	52.1%
0.033	144	36.2%	194	57.7%
0.023	203	51.0%	205	61.0%
0.017	289	72.6%	219	65.2%
0.012	338	84.9%	284	84.5%
0.008	370	93.0%	312	92.9%
0.006	383	96.2%	324	96.4%
Pan	398	100%	336	100%

Sieve Size	Samples 11, 12 42-47 WT.	%	Sample 13 48-50 WT.	%
0.187	5	1.6%	12	3.7%
0.132	13	4.3%	16	5.0%
0.094	25	8.2%	21	6.5%
0.079	30	9.9%	24	7.5%
0.066	36	11.8%	27	8.4%
0.047	46	15.1%	34	10.6%
0.033	59	19.4%	49	15.3%
0.023	86	28.3%	150	46.7%
0.017	182	59.9%	248	77.3%
0.012	239	78.6%	283	88.2%
0.008	272	89.5%	303	94.4%
0.006	290	95.4%	311	96.9%
Pan	304	100%	321	100%

NAME: Piketon TB #2

4/25/2023

JOB:

NOTES:

NAME:

JOB:

NOTES:

MOODY'S of Dayton, Inc. DBA
G.M. BAKER & SON
"Where Service and Quality Never Go Out of Fashion"
2001 CAMARO AVE
COLUMBUS, OHIO 43207
PHONE 614-443-3898
FAX 614-443-4909
www.moodysofdayton.com

Sieve Size	Samples 14, 16 50-57 WT.	Samples 14, 16 50-57 %	Samples 17, 18 57-62 WT.	Samples 17, 18 57-62 %
0.187	17	3.4%	33	7.7%
0.132	31	6.1%	46	10.7%
0.094	47	9.3%	64	15.0%
0.079	56	11.1%	74	17.3%
0.066	68	13.5%	82	19.2%
0.047	95	18.8%	102	23.8%
0.033	165	32.7%	142	33.2%
0.023	315	62.4%	236	55.1%
0.017	417	82.6%	343	80.1%
0.012	456	90.3%	380	88.8%
0.008	475	94.1%	397	92.8%
0.006	490	97.0%	410	95.8%
Pan	505	100%	428	100%

NAME: Piketon TB #2

JOB:

NOTES: Sample 14-16-remove 2 - 1 1/2" rocks

Sieve Size	Samples 19, 20 62-67 WT.	Samples 19, 20 62-67 %	Samples 21, 22 67-70 WT.	Samples 21, 22 67-70 %
0.187	29	7.4%	80	17.7%
0.132	39	9.9%	100	22.1%
0.094	52	13.2%	121	26.7%
0.079	60	15.3%	133	29.4%
0.066	67	17.0%	147	32.5%
0.047	75	19.1%	170	37.5%
0.033	120	30.5%	224	49.4%
0.023	215	54.7%	336	74.2%
0.017	308	78.4%	402	88.7%
0.012	347	88.3%	422	93.2%
0.008	370	94.1%	435	96.0%
0.006	380	96.7%	444	98.0%
Pan	393	100%	453	100%

NAME:

JOB:

NOTES: Sample 19, 20-remove 1 - 1 1/2" rock

Sample 21, 22-remove 1 - 1" rock

MOODY'S of Dayton, Inc. DBA
G.M. BAKER & SON
"Where Service and Quality Never Go Out of Fashion"
2001 CAMARO AVE
COLUMBUS, OHIO 43207
PHONE 614-443-3898
FAX 614-443-4909
www.moodysofdayton.com

Samples 23-25

Sieve Size	72-80 WT.	72-80 %	WT.	%
0.187	63	12.7%		#DIV/0!
0.132	76	15.3%		#DIV/0!
0.094	90	18.1%		#DIV/0!
0.079	98	19.8%		#DIV/0!
0.066	103	20.8%		#DIV/0!
0.047	118	23.8%		#DIV/0!
0.033	219	44.2%		#DIV/0!
0.023	377	76.0%		#DIV/0!
0.017	448	90.3%		#DIV/0!
0.012	469	94.6%		#DIV/0!
0.008	479	96.6%		#DIV/0!
0.006	484	97.6%		#DIV/0!
Pan	496	100%		#DIV/0!

NAME: Piketon TB #2

JOB:

NOTES:

Sieve Size	WT.	%	WT.	%
0.187		#DIV/0!		#DIV/0!
0.132		#DIV/0!		#DIV/0!
0.094		#DIV/0!		#DIV/0!
0.079		#DIV/0!		#DIV/0!
0.066		#DIV/0!		#DIV/0!
0.047		#DIV/0!		#DIV/0!
0.033		#DIV/0!		#DIV/0!
0.023		#DIV/0!		#DIV/0!
0.017		#DIV/0!		#DIV/0!
0.012		#DIV/0!		#DIV/0!
0.008		#DIV/0!		#DIV/0!
0.006		#DIV/0!		#DIV/0!
Pan		#DIV/0!		#DIV/0!

NAME:

JOB:

NOTES:

TB-3 THROUGH TB-5

GCI

GEOTECHNICAL
CONSULTANTS INC.

MAIN OFFICE
720 Green Crest Drive
Westerville, OH 43081
614.895.1400 **phone**
614.895.1171 **fax**

YOUNGSTOWN OFFICE
8433 South Avenue
Building 1, Suite 1
Boardman, OH 44514
330.965.1400 **phone**
330.965.1410 **fax**

DAYTON OFFICE
2155 Bellbrook Avenue
Xenia, OH 45385
937.736.2053 **phone**

www.gci2000.com

GEOTECHNICAL CONSULTANTS INC.

MAIN OFFICE
720 Green Crest Drive
Westerville, OH 43081
614.895.1400 **phone**
614.895.1171 **fax**

YOUNGSTOWN OFFICE
8433 South Avenue
Building 1, Suite 1
Boardman, OH 44514
330.965.1400 **phone**
330.965.1410 **fax**

DAYTON OFFICE
2155 Bellbrook Avenue
Xenia, OH 45385
937.736.2053 **phone**

www.gci2000.com

August 14, 2024

Mr. Andrew Graham
Eagon & Associates, Inc.
445 Hutchinson Avenue – Suite 900
Columbus, Ohio 43235

Reference: Laboratory Test Results
Piketon Wellfield – Piketon, Ohio
GCI Project No. 24-G-29340

Dear Mr. Graham:

As requested and authorized, GCI performed mechanical sieve analysis on samples provided to our lab by your representative on August 6, 2024. The samples were provided to us in large sealable plastic bags with boring designations (TB-3 to TB-5) and various and intermixed depths. The attached results reference these borings and use the topmost depth listed in the provided sample log sheet.

In general, the samples were classified as silty sand (SM), poorly graded sand (SP) with silt and with silt and gravel (SP-SM), and well graded sand (SW) with silt and gravel (SW-SM). Fines content ranged from 3.9 to 15 percent. We attach the lab results to this letter and we also will provide an electronic spreadsheet for ease of data reduction in your analysis.

If you have any questions or need for any additional information, please contact our office. It has been a pleasure to serve you on this project and we hope to continue our services in the future.

Respectfully submitted,
Geotechnical Consultants, Inc.

Ryan D. Folsom, P.E.
Manager of Engineering Services

Attached: Summary of Lab Testing (ASTM/USCS Classification)
Grain Size Plots (4 Sheets)
Electronic Sieve Data (Excel Spreadsheet, unsecured)

GEOTECHNICAL
CONSULTANTS INC.

ATTACHMENTS

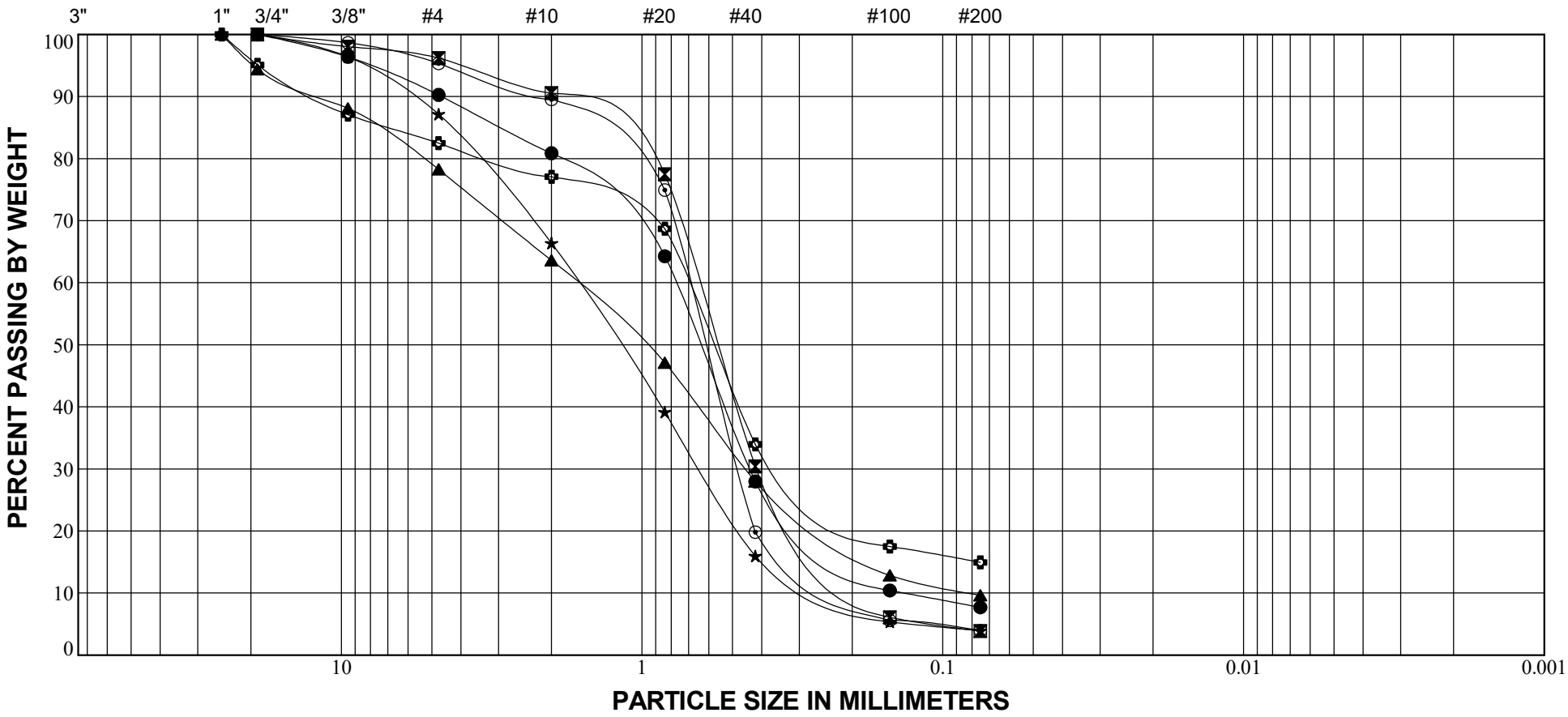
Summary of Laboratory Results

Piketon Wellfield

GCI Job Number: 24-G-29430

Test Hole	Depth	Water Content (%)	% Fines (< #200 Sieve)	ASTM Class-ification	ASTM Description
TB-3	43.8	13.9	7.7	SP-SM	Poorly Graded Sand With Silt
TB-3	53.2	17.9	3.9	SP	Poorly Graded Sand
TB-3	58.7	9.9	9.6	SW-SM	Well-Graded Sand With Silt And Gravel
TB-3	60.7	13.1	3.9	SW	Well-Graded Sand
TB-3	61.2	16.6	3.9	SP	Poorly Graded Sand
TB-3	69.4	11.3	14.9	SM	Silty Sand With Gravel
TB-3	70.0	15.8	6.9	SP-SM	Poorly Graded Sand With Silt
TB-4	37.6	12.3	8.3	SW-SM	Well-Graded Sand With Silt
TB-4	57.5	17.9	5.4	SP-SM	Poorly Graded Sand With Silt
TB-4	62.5	10.5	6.4	SP-SM	Poorly Graded Sand With Silt And Gravel
TB-4	68.0	16.9	11.9	SW-SM	Well-Graded Sand With Silt
TB-4	70.8	14.2	12.0	SW-SM	Well-Graded Sand With Silt
TB-4	72.5	11.3	7.1	SP-SM	Poorly Graded Sand With Silt And Gravel
TB-4	75.0	17.4	5.0	SP	Poorly Graded Sand
TB-4	78.3	15.6	7.8	SP-SM	Poorly Graded Sand With Silt
TB-5	41.0	12.4	8.8	SP-SM	Poorly Graded Sand With Silt
TB-5	43.0	11.8	13.8	SM	Silty Sand
TB-5	46.2	9.6	8.8	SW-SM	Well-Graded Sand With Silt
TB-5	49.0	12.9	7.1	SP-SM	Poorly Graded Sand With Silt
TB-5	51.8	11.2	15.0	SM	Silty Sand
TB-5	57.5	8.8	5.7	SP-SM	Poorly Graded Sand With Silt And Gravel
TB-5	66.0	18.1	14.3	SM	Silty Sand
TB-5	70.0	12.3	6.4	SP-SM	Poorly Graded Sand With Silt

August 2024



GRAVEL		SAND			SILT	CLAY
coarse	fine	coarse	medium	fine		

LEGEND:

	TEST HOLE	DEPTH	LL	w_n	PL	ASTM CLASSIFI-CATION	ASTM SOIL DESCRIPTION
●	TB-3	43.8	NP	13.9	NP	SP-SM	Poorly Graded Sand With Silt
⊠	TB-3	53.2	NP	17.9	NP	SP	Poorly Graded Sand
▲	TB-3	58.7	NP	9.9	NP	SW-SM	Well-Graded Sand With Silt And Gravel
★	TB-3	60.7	NP	13.1	NP	SW	Well-Graded Sand
⊙	TB-3	61.2	NP	16.6	NP	SP	Poorly Graded Sand
✿	TB-3	69.4	NP	11.3	NP	SM	Silty Sand With Gravel

Job No.: *24-G-29430*

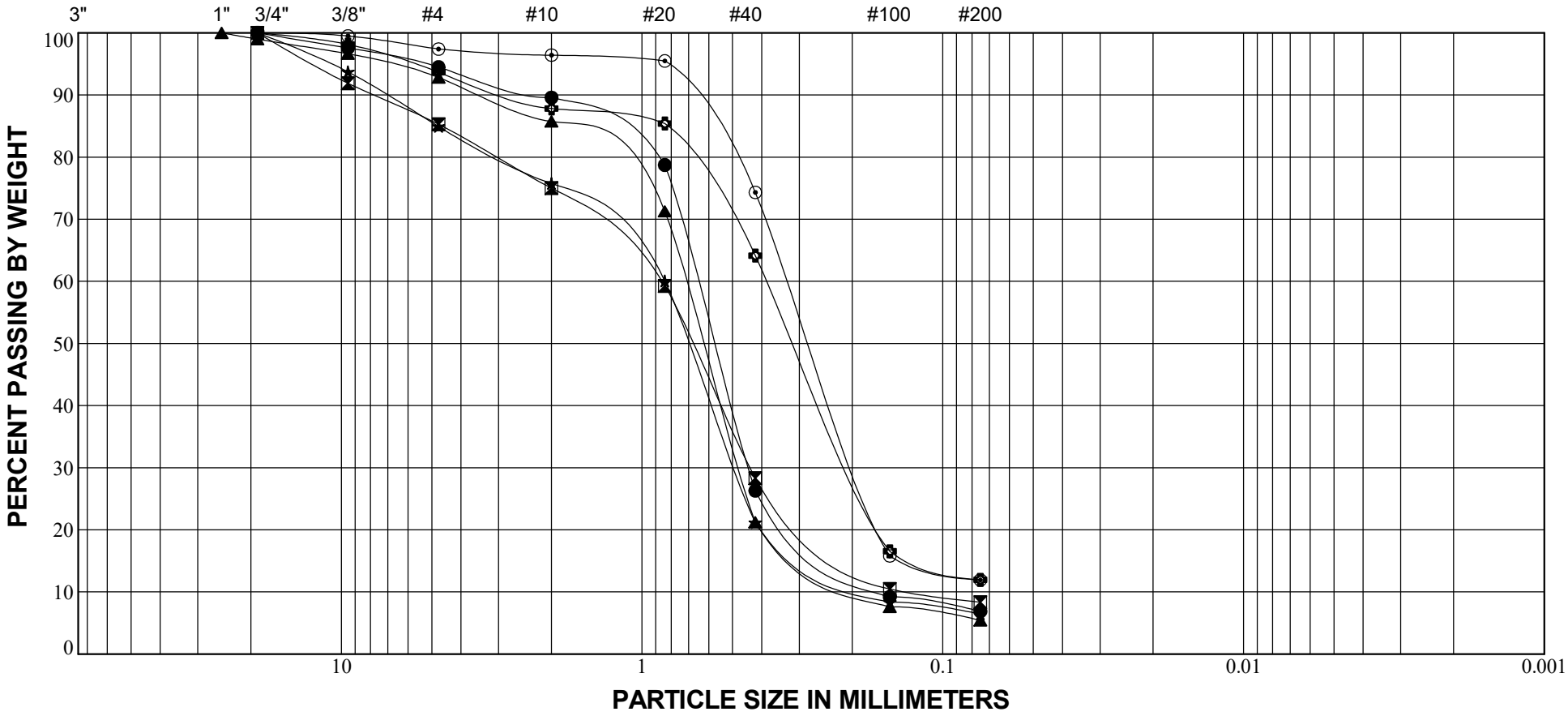
Method: *ASTM D421 D422*

Date: *August 2024*

COMBINED PARTICLE SIZE DISTRIBUTION

Piketon Wellfield -

Geotechnical Consultants, Inc. - Westerville, Ohio 43081



GRAVEL		SAND			SILT	CLAY
coarse	fine	coarse	medium	fine		

LEGEND:

	TEST HOLE	DEPTH	LL	w_n	PL	ASTM CLASSIFI-CATION	ASTM SOIL DESCRIPTION
●	TB-3	70.0	NP	15.8	NP	SP-SM	Poorly Graded Sand With Silt
⊠	TB-4	37.6	NP	12.3	NP	SW-SM	Well-Graded Sand With Silt
▲	TB-4	57.5	NP	17.9	NP	SP-SM	Poorly Graded Sand With Silt
★	TB-4	62.5	NP	10.5	NP	SP-SM	Poorly Graded Sand With Silt And Gravel
⊙	TB-4	68.0	NP	16.9	NP	SW-SM	Well-Graded Sand With Silt
✿	TB-4	70.8	NP	14.2	NP	SW-SM	Well-Graded Sand With Silt

Job No.: *24-G-29430*

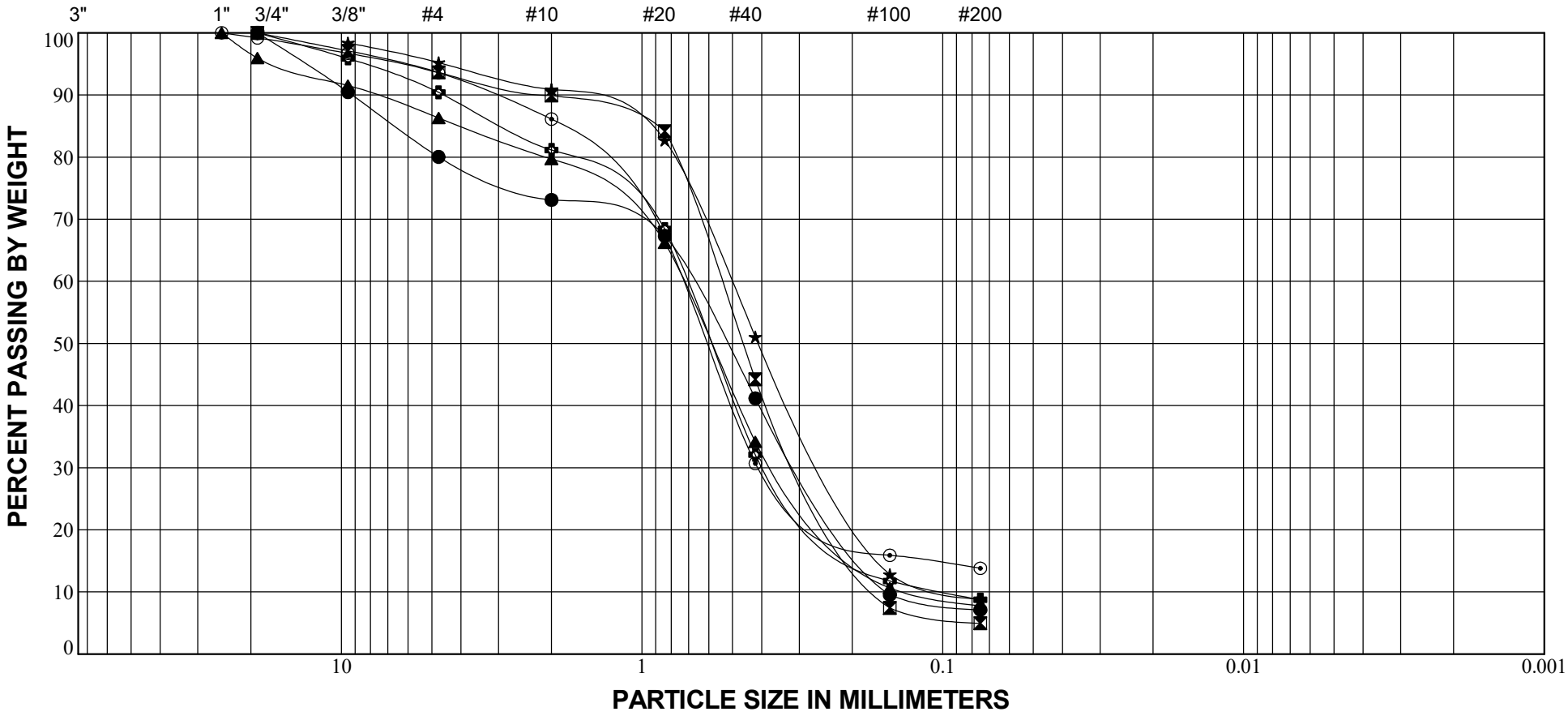
Method: *ASTM D421 D422*

Date: *August 2024*

COMBINED PARTICLE SIZE DISTRIBUTION

Piketon Wellfield -

Geotechnical Consultants, Inc. - Westerville, Ohio 43081



GRAVEL		SAND			SILT	CLAY
coarse	fine	coarse	medium	fine		

LEGEND:

	TEST HOLE	DEPTH	LL	w_n	PL	ASTM CLASSIFI-CATION	ASTM SOIL DESCRIPTION
●	TB-4	72.5	NP	11.3	NP	SP-SM	Poorly Graded Sand With Silt And Gravel
⊠	TB-4	75.0	NP	17.4	NP	SP	Poorly Graded Sand
▲	TB-4	78.3	NP	15.6	NP	SP-SM	Poorly Graded Sand With Silt
★	TB-5	41.0	NP	12.4	NP	SP-SM	Poorly Graded Sand With Silt
⊙	TB-5	43.0	NP	11.8	NP	SM	Silty Sand
✿	TB-5	46.2	NP	9.6	NP	SW-SM	Well-Graded Sand With Silt

Job No.: *24-G-29430*

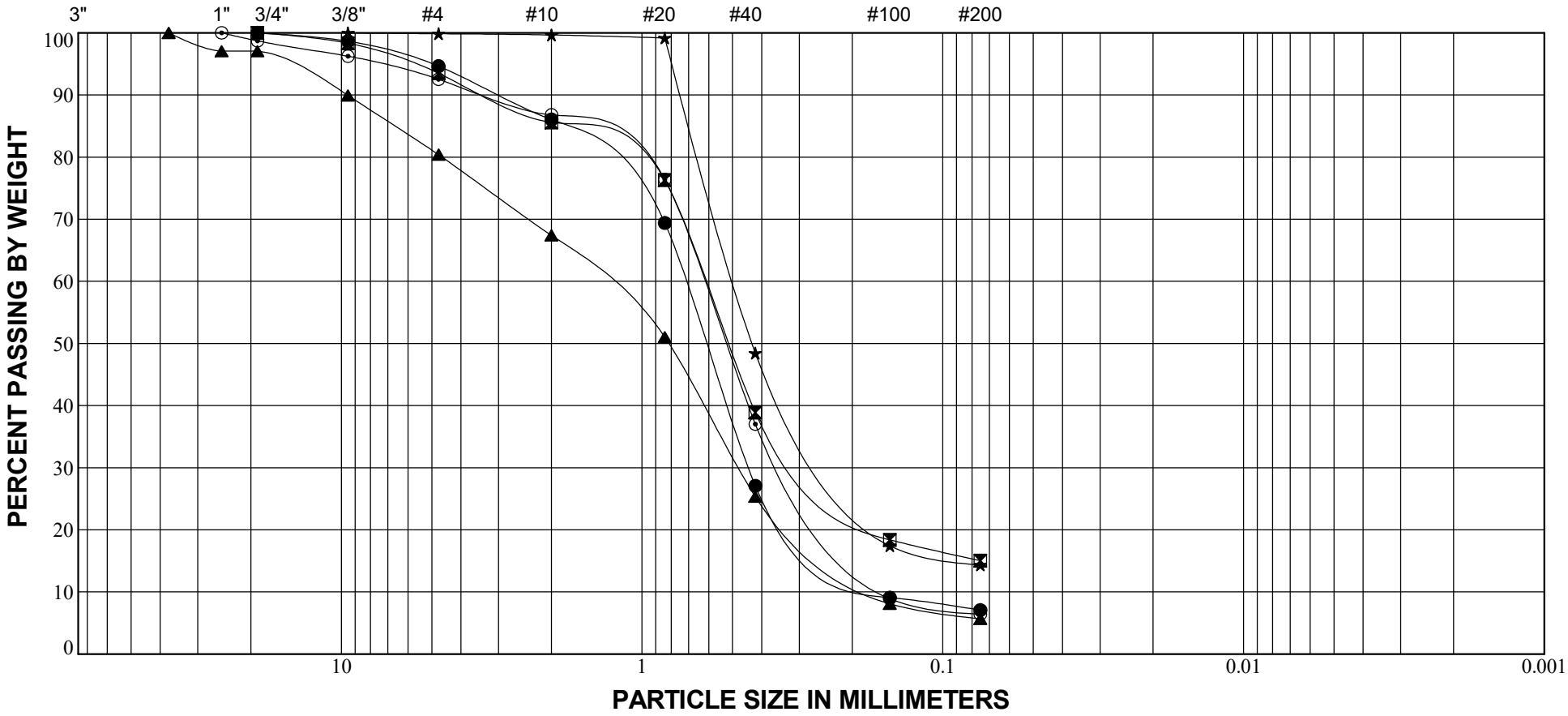
Method: *ASTM D421 D422*

Date: *August 2024*

COMBINED PARTICLE SIZE DISTRIBUTION

Piketon Wellfield -

Geotechnical Consultants, Inc. - Westerville, Ohio 43081



GRAVEL		SAND			SILT	CLAY
coarse	fine	coarse	medium	fine		

LEGEND:

	TEST HOLE	DEPTH	LL	w_n	PL	ASTM CLASSIFI-CATION	ASTM SOIL DESCRIPTION
●	TB-5	49.0	NP	12.9	NP	SP-SM	Poorly Graded Sand With Silt
⊠	TB-5	51.8	NP	11.2	NP	SM	Silty Sand
▲	TB-5	57.5	NP	8.8	NP	SP-SM	Poorly Graded Sand With Silt And Gravel
★	TB-5	66.0	NP	18.1	NP	SM	Silty Sand
⊙	TB-5	70.0	NP	12.3	NP	SP-SM	Poorly Graded Sand With Silt

Job No.: *24-G-29430*

Method: *ASTM D421 D422*

Date: *August 2024*

COMBINED PARTICLE SIZE DISTRIBUTION

Piketon Wellfield -

Geotechnical Consultants, Inc. - Westerville, Ohio 43081

APPENDIX C.

GROUNDWATER QUALITY ANALYTICAL REPORTS

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Lab Project # 2316358

Received: 5/12/2023

Reported: 5/26/2023

Eagon & Associates
Attn: Chris Gordon
100 Old Wilson Bridge Rd. Suite 115
Worthington, OH 43085

Date/Time Sampled: 05/11/2023 18:20
Sampled By: JP
Sampled Matrix: Groundwater
Containers: 11
Collection Method: Grab

Project Name: Piketon

Sample ID: TB-1

Lab Sample # 2316358-01

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time
Analytical Method: SM 2320B-97,11	Preparation Method:				Validation Date:	5/26/2023
Alkalinity, Total (pH 4.5)	290	mg/L	5.0	LGE		05/16/2023 15:00
Analytical Method: EPA 350.1 Rev. 2.0	Preparation Method:	Undistilled			Validation Date:	5/26/2023
Ammonia-N	0.14	mg/L	0.05	TLL		05/15/2023 11:26
Analytical Method: EPA 300.0 Rev 2.1	Preparation Method:				Validation Date:	5/26/2023
Chloride	29	mg/L	5.0	DAW		05/18/2023 00:59
Analytical Method: EPA 335.4 Rev. 1.0	Preparation Method:				Validation Date:	5/26/2023
Cyanide, Total	<0.005	mg/L	0.005	BCM	05/24/2023	05/25/2023 15:51
Analytical Method: SM 4500-F B,C-11, SM 4500-F C-97	Preparation Method:	Undistilled			Validation Date:	5/26/2023
Fluoride	0.146	mg/L	0.100	LGE		05/13/2023 06:15
Analytical Method: EPA 353.2 Rev. 2.0/SM4500-NO3 F-00,16	Preparation Method:				Validation Date:	5/26/2023
Nitrite-N	<0.10	mg/L	0.10	BCM		05/12/2023 16:47
Analytical Method: EPA 353.2 Rev. 2.0/SM4500-NO3 F-00,16	Preparation Method:				Validation Date:	5/26/2023
Nitrate/Nitrite-N	<0.10	mg/L	0.10	TLL		05/16/2023 13:36
Analytical Method: EPA 353.2 Rev. 2.0/SM4500-NO3 F-00,16	Preparation Method:				Validation Date:	5/26/2023
Nitrate-N	<0.10	mg/L	0.10	TLL		05/18/2023 12:06
Analytical Method: SM 4500-H B-11	Preparation Method:				Validation Date:	5/26/2023
pH, Laboratory Analyzed (Estimate)	7.9	S.U.	1.0	LGE		05/13/2023 08:45
Analytical Method: EPA 300.0 Rev 2.1	Preparation Method:				Validation Date:	5/26/2023

Analysis Certified By: Rhonda C. Morris

Rhonda C Morris

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Lab Project # 2316358

Received: 5/12/2023

Reported: 5/26/2023

Eagon & Associates
Attn: Chris Gordon
100 Old Wilson Bridge Rd. Suite 115
Worthington, OH 43085

Date/Time Sampled: 05/11/2023 18:20
Sampled By: JP
Sampled Matrix: Groundwater
Containers: 11
Collection Method: Grab

Project Name: Piketon

Sample ID: TB-1

Lab Sample # 2316358-01

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time
Sulfate	51	mg/L	5.0	DAW		05/18/2023 00:59
Analytical Method: SM 2540C-15	Preparation Method:				Validation Date:	5/26/2023
Solids, Dissolved	400	mg/L	20	RAS		05/18/2023 15:20
The relative percent difference between the sample and sample duplicate is above 5%.						
Analytical Method: EPA 200.7 Rev. 4.4	Preparation Method: EPA-200.7				Validation Date:	5/26/2023
Arsenic, Total	4.2	ug/L	3.0	CMB		05/17/2023 08:54
Barium, Total	220	ug/L	10	CMB		05/30/2023 13:19
Cadmium, Total	<0.5	ug/L	0.5	CMB		05/17/2023 08:54
Calcium, Total	103	mg/L	2.00	CMB		05/17/2023 08:54
Chromium, Total	<10	ug/L	10	CMB		05/17/2023 08:54
Copper, Total	<10	ug/L	10	CMB		05/17/2023 08:54
Iron, Total	1500	ug/L	40	CMB		05/17/2023 08:54
Lead, Total	7.2	ug/L	2.0	CMB		05/17/2023 08:54
Magnesium, Total	31.1	mg/L	2.00	CMB		05/17/2023 08:54
Manganese, Total	340	ug/L	10	CMB		05/17/2023 08:54
Nickel, Total	<10	ug/L	10	CMB		05/17/2023 08:54
Selenium, Total	<5.0	ug/L	5.0	CMB		05/17/2023 08:54
Silver, Total	<5.0	ug/L	5.0	CMB		05/17/2023 08:54
Sodium, Total	15.5	mg/L	0.40	CMB		05/17/2023 08:54
Zinc, Total	<10	ug/L	10	CMB		05/17/2023 08:54
Analytical Method: EPA 200.8 Rev. 5.4	Preparation Method: EPA-200.8				Validation Date:	5/26/2023
Antimony, Total	<3.0	ug/L	3.0	SLB		05/24/2023 10:53
Beryllium, Total	<0.50	ug/L	0.50	SLB		05/24/2023 10:53
Thallium, Total	<1.0	ug/L	1.0	SLB		05/24/2023 10:53

Analysis Certified By: Rhonda C. Morris

Rhonda C Morris

CERTIFICATE OF ANALYSIS
Reported by Alloway - Marion
Chain of Custody attached

Lab Project # 2316358
Received: 5/12/2023
Reported: 5/26/2023

Eagon & Associates
Attn: Chris Gordon
100 Old Wilson Bridge Rd. Suite 115
Worthington, OH 43085

Date/Time Sampled: 05/11/2023 18:20
Sampled By: JP
Sampled Matrix: Groundwater
Containers: 11
Collection Method: Grab

Project Name: Piketon

Analytical Method: EPA 245.1 Rev. 3.0	Preparation Method: EPA-245.1			Validation Date:	5/26/2023
Mercury, Total	<0.2	ug/L	0.2	PTE	05/17/2023 08:09
Analytical Method: EPA 524.2 Rev. 4.1	Preparation Method:			Validation Date:	5/26/2023
Benzene	<0.50	ug/L	0.50	BSR	05/15/2023 18:20
Carbon Tetrachloride	<0.50	ug/L	0.50	BSR	05/15/2023 18:20
Chlorobenzene	<0.50	ug/L	0.50	BSR	05/15/2023 18:20
1,2-Dichlorobenzene	<0.50	ug/L	0.50	BSR	05/15/2023 18:20
1,4-Dichlorobenzene	<0.50	ug/L	0.50	BSR	05/15/2023 18:20
1,2-Dichloroethane	<0.50	ug/L	0.50	BSR	05/15/2023 18:20
1,1-Dichloroethene	<0.50	ug/L	0.50	BSR	05/15/2023 18:20
cis-1,2-Dichloroethene	<0.50	ug/L	0.50	BSR	05/15/2023 18:20
trans-1,2-Dichloroethene	<0.50	ug/L	0.50	BSR	05/15/2023 18:20
1,2-Dichloropropane	<0.50	ug/L	0.50	BSR	05/15/2023 18:20
Ethylbenzene	<0.50	ug/L	0.50	BSR	05/15/2023 18:20
Methylene Chloride	<0.50	ug/L	0.50	BSR	05/15/2023 18:20
Styrene	<0.50	ug/L	0.50	BSR	05/15/2023 18:20
Tetrachloroethylene	<0.50	ug/L	0.50	BSR	05/15/2023 18:20
Toluene	<0.50	ug/L	0.50	BSR	05/15/2023 18:20
1,1,1-Trichloroethane	<0.50	ug/L	0.50	BSR	05/15/2023 18:20
1,1,2-Trichloroethane	<0.50	ug/L	0.50	BSR	05/15/2023 18:20
Trichloroethylene	<0.50	ug/L	0.50	BSR	05/15/2023 18:20
o-Xylene	<0.20	ug/L	0.20	BSR	05/15/2023 18:20
m,p-Xylene	<0.30	ug/L	0.30	BSR	05/15/2023 18:20
1,2,4-Trichlorobenzene	<0.50	ug/L	0.50	BSR	05/15/2023 18:20
Vinyl Chloride	<0.50	ug/L	0.50	BSR	05/15/2023 18:20
Xylene (Total)	<0.50	ug/L	0.50	BSR	05/15/2023 18:20
(Surrogate) 1,2-Dichlorobenzene-d4	90.4	%		BSR	05/15/2023 18:20
70-130					
(Surrogate) Bromofluorobenzene	94.4	%		BSR	05/15/2023 18:20
70-130					

Analysis Certified By: Rhonda C Morris

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Eagon & Associates
Attn: Chris Gordon
100 Old Wilson Bridge Rd. Suite 115
Worthington, OH 43085

Lab Project # 2316358
Received: 5/12/2023
Reported: 5/26/2023
Date/Time Sampled: 05/11/2023 18:20
Sampled By: JP
Sampled Matrix: Groundwater
Containers: 11
Collection Method: Grab

Project Name: Piketon

Sample ID: TB-1

Lab Sample # 2316358-01

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time
Analytical Method: EPA 525.2 Rev. 2.0	Preparation Method:				Validation Date: 5/26/2023	
Atrazine	<0.07	ug/L	0.07	MVM	05/16/2023	05/17/2023 22:18
Alachlor	<0.10	ug/L	0.10	MVM	05/16/2023	05/17/2023 22:18
Simazine	<0.05	ug/L	0.05	MVM	05/16/2023	05/17/2023 22:18
(Surrogate) 1,3-Dimethyl-2-nitrobenzene	95.4	%		MVM	05/16/2023	05/17/2023 22:18
70-130						
(Surrogate) Triphenylphosphate	102.1	%		MVM	05/16/2023	05/17/2023 22:18
70-130						
(Surrogate) Perylene-d12	108.9	%		MVM	05/16/2023	05/17/2023 22:18
70-130						

Analysis Certified By: Rhonda C. Morris

Rhonda C Morris

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Lab Project # 2316358

Received: 5/12/2023

Reported: 5/26/2023

Eagon & Associates
Attn: Chris Gordon
100 Old Wilson Bridge Rd. Suite 115
Worthington, OH 43085

Date/Time Sampled: 05/11/2023 12:51
Sampled By: JP
Sampled Matrix: Groundwater
Containers: 11
Collection Method: Grab

Project Name: Piketon

Sample ID: TB-2B

Lab Sample # 2316358-02

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time
Analytical Method: SM 2320B-97,11	Preparation Method:				Validation Date:	5/26/2023
Alkalinity, Total (pH 4.5)	260	mg/L	5.0	LGE		05/16/2023 15:00
Analytical Method: EPA 350.1 Rev. 2.0	Preparation Method:	Undistilled			Validation Date:	5/26/2023
Ammonia-N	0.10	mg/L	0.05	TLL		05/15/2023 11:26
Analytical Method: EPA 300.0 Rev 2.1	Preparation Method:				Validation Date:	5/26/2023
Chloride	30	mg/L	5.0	DAW		05/18/2023 00:59
Analytical Method: EPA 335.4 Rev. 1.0	Preparation Method:				Validation Date:	5/26/2023
Cyanide, Total	<0.005	mg/L	0.005	BCM	05/24/2023	05/25/2023 15:51
Analytical Method: SM 4500-F B,C-11, SM 4500-F C-97	Preparation Method:	Undistilled			Validation Date:	5/26/2023
Fluoride	0.149	mg/L	0.100	LGE		05/13/2023 06:15
Analytical Method: EPA 353.2 Rev. 2.0/SM4500-NO3 F-00,16	Preparation Method:				Validation Date:	5/26/2023
Nitrite-N	<0.10	mg/L	0.10	BCM		05/12/2023 16:47
Analytical Method: EPA 353.2 Rev. 2.0/SM4500-NO3 F-00,16	Preparation Method:				Validation Date:	5/26/2023
Nitrate/Nitrite-N	<0.10	mg/L	0.10	TLL		05/16/2023 13:36
Analytical Method: EPA 353.2 Rev. 2.0/SM4500-NO3 F-00,16	Preparation Method:				Validation Date:	5/26/2023
Nitrate-N	<0.10	mg/L	0.10	TLL		05/18/2023 12:06
Analytical Method: SM 4500-H B-11	Preparation Method:				Validation Date:	5/26/2023
pH, Laboratory Analyzed (Estimate)	7.9	S.U.	1.0	LGE		05/13/2023 08:45
Analytical Method: EPA 300.0 Rev 2.1	Preparation Method:				Validation Date:	5/26/2023

Analysis Certified By: Rhonda C. Morris

Rhonda C Morris

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Lab Project # 2316358

Received: 5/12/2023

Reported: 5/26/2023

Eagon & Associates
Attn: Chris Gordon
100 Old Wilson Bridge Rd. Suite 115
Worthington, OH 43085

Date/Time Sampled: 05/11/2023 12:51
Sampled By: JP
Sampled Matrix: Groundwater
Containers: 11
Collection Method: Grab

Project Name: Piketon

Sample ID: TB-2B

Lab Sample # 2316358-02

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time
Sulfate	48	mg/L	5.0	DAW		05/18/2023 00:59
Analytical Method: SM 2540C-15	Preparation Method:				Validation Date:	5/26/2023
Solids, Dissolved	350	mg/L	20	RAS		05/18/2023 15:20
Analytical Method: EPA 200.7 Rev. 4.4	Preparation Method: EPA-200.7				Validation Date:	5/26/2023
Arsenic, Total	<3.0	ug/L	3.0	CMB		05/17/2023 08:54
Barium, Total	230	ug/L	10	CMB		05/30/2023 13:19
Cadmium, Total	<0.5	ug/L	0.5	CMB		05/17/2023 08:54
Calcium, Total	88.9	mg/L	2.00	CMB		05/17/2023 08:54
Chromium, Total	<10	ug/L	10	CMB		05/17/2023 08:54
Copper, Total	<10	ug/L	10	CMB		05/17/2023 08:54
Iron, Total	500	ug/L	40	CMB		05/17/2023 08:54
Lead, Total	5.1	ug/L	2.0	CMB		05/17/2023 08:54
Magnesium, Total	25.6	mg/L	2.00	CMB		05/17/2023 08:54
Manganese, Total	420	ug/L	10	CMB		05/17/2023 08:54
Nickel, Total	<10	ug/L	10	CMB		05/17/2023 08:54
Selenium, Total	<5.0	ug/L	5.0	CMB		05/17/2023 08:54
Silver, Total	<5.0	ug/L	5.0	CMB		05/17/2023 08:54
Sodium, Total	13.5	mg/L	0.40	CMB		05/17/2023 08:54
Zinc, Total	<10	ug/L	10	CMB		05/17/2023 08:54
Analytical Method: EPA 200.8 Rev. 5.4	Preparation Method: EPA-200.8				Validation Date:	5/26/2023
Antimony, Total	<3.0	ug/L	3.0	SLB		05/24/2023 10:53
Beryllium, Total	<0.50	ug/L	0.50	SLB		05/24/2023 10:53
Thallium, Total	<1.0	ug/L	1.0	SLB		05/24/2023 10:53

Analysis Certified By: Rhonda C Morris

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Lab Project # 2316358

Received: 5/12/2023

Reported: 5/26/2023

Eagon & Associates
Attn: Chris Gordon
100 Old Wilson Bridge Rd. Suite 115
Worthington, OH 43085

Date/Time Sampled: 05/11/2023 12:51
Sampled By: JP
Sampled Matrix: Groundwater
Containers: 11
Collection Method: Grab

Project Name: Piketon

Sample ID: TB-2B

Lab Sample # 2316358-02

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time
Analytical Method: EPA 245.1 Rev. 3.0	Preparation Method: EPA-245.1				Validation Date: 5/26/2023	
Mercury, Total	<0.2	ug/L	0.2	PTE		05/17/2023 08:09
Analytical Method: EPA 524.2 Rev. 4.1	Preparation Method:				Validation Date: 5/26/2023	
Benzene	<0.50	ug/L	0.50	BSR		05/15/2023 18:52
Carbon Tetrachloride	<0.50	ug/L	0.50	BSR		05/15/2023 18:52
Chlorobenzene	<0.50	ug/L	0.50	BSR		05/15/2023 18:52
1,2-Dichlorobenzene	<0.50	ug/L	0.50	BSR		05/15/2023 18:52
1,4-Dichlorobenzene	<0.50	ug/L	0.50	BSR		05/15/2023 18:52
1,2-Dichloroethane	<0.50	ug/L	0.50	BSR		05/15/2023 18:52
1,1-Dichloroethene	<0.50	ug/L	0.50	BSR		05/15/2023 18:52
cis-1,2-Dichloroethene	<0.50	ug/L	0.50	BSR		05/15/2023 18:52
trans-1,2-Dichloroethene	<0.50	ug/L	0.50	BSR		05/15/2023 18:52
1,2-Dichloropropane	<0.50	ug/L	0.50	BSR		05/15/2023 18:52
Ethylbenzene	<0.50	ug/L	0.50	BSR		05/15/2023 18:52
Methylene Chloride	<0.50	ug/L	0.50	BSR		05/15/2023 18:52
Styrene	<0.50	ug/L	0.50	BSR		05/15/2023 18:52
Tetrachloroethylene	<0.50	ug/L	0.50	BSR		05/15/2023 18:52
Toluene	<0.50	ug/L	0.50	BSR		05/15/2023 18:52
1,1,1-Trichloroethane	<0.50	ug/L	0.50	BSR		05/15/2023 18:52
1,1,2-Trichloroethane	<0.50	ug/L	0.50	BSR		05/15/2023 18:52
Trichloroethylene	<0.50	ug/L	0.50	BSR		05/15/2023 18:52
o-Xylene	<0.20	ug/L	0.20	BSR		05/15/2023 18:52
m,p-Xylene	<0.30	ug/L	0.30	BSR		05/15/2023 18:52
1,2,4-Trichlorobenzene	<0.50	ug/L	0.50	BSR		05/15/2023 18:52

Analysis Certified By: Rhonda C. Morris

Rhonda C Morris

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Lab Project # 2316358

Received: 5/12/2023

Reported: 5/26/2023

Eagon & Associates
Attn: Chris Gordon
100 Old Wilson Bridge Rd. Suite 115
Worthington, OH 43085

Date/Time Sampled: 05/11/2023 12:51
Sampled By: JP
Sampled Matrix: Groundwater
Containers: 11
Collection Method: Grab

Project Name: Piketon

Sample ID: TB-2B

Lab Sample # 2316358-02

Analyte		Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time
Vinyl Chloride		<0.50	ug/L	0.50	BSR		05/15/2023 18:52
Xylene (Total)		<0.50	ug/L	0.50	BSR		05/15/2023 18:52
(Surrogate) 1,2-Dichlorobenzene-d4		95.4	%		BSR		05/15/2023 18:52
	70-130						
(Surrogate) Bromofluorobenzene		99.3	%		BSR		05/15/2023 18:52
	70-130						
Analytical Method: EPA 525.2 Rev. 2.0		Preparation Method:				Validation Date:	5/26/2023
Atrazine		<0.07	ug/L	0.07	MVM	05/16/2023	05/17/2023 22:52
Alachlor		<0.10	ug/L	0.10	MVM	05/16/2023	05/17/2023 22:52
Simazine		<0.05	ug/L	0.05	MVM	05/16/2023	05/17/2023 22:52
(Surrogate) 1,3-Dimethyl-2-nitrobenzene		97.6	%		MVM	05/16/2023	05/17/2023 22:52
	70-130						
(Surrogate) Triphenylphosphate		99.5	%		MVM	05/16/2023	05/17/2023 22:52
	70-130						
(Surrogate) Perylene-d12		106.9	%		MVM	05/16/2023	05/17/2023 22:52
	70-130						

Analysis Certified By: Rhonda C. Morris

Rhonda C Morris

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Lab Project # 2316358

Received: 5/12/2023

Reported: 5/26/2023

Eagon & Associates
Attn: Chris Gordon
100 Old Wilson Bridge Rd. Suite 115
Worthington, OH 43085

Date Sampled: 05/11/2023
Sampled By: JP
Sampled Matrix: Water
Containers: 1
Collection Method: -

Project Name: Piketon

Sample ID: Trip Blank Cert.

Lab Sample # 2316358-03

Method 524.2: No analytes of interest detected in the sample. The Trip Blank is not required.

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time

Analytical Method: Preparation Method: Validation Date: 5/26/2023

Analysis Certified By: Rhonda C Morris

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Eagon & Associates
Attn: Chris Gordon
100 Old Wilson Bridge Rd. Suite 115
Worthington, OH 43085

Lab Project #	2316359
Received:	5/12/2023
Reported:	6/21/2023
Date/Time Sampled:	05/11/2023 18:20
Sampled By:	JP
Sampled Matrix:	Groundwater
Containers:	3
Collection Method:	Grab

Project Name: **Piketon**

Sample ID: **TB-1**

Lab Sample # **2316359-01**

PFAS were subcontracted to eurofins, see attached results.
Radiologicals were subcontracted to Summit, see attached results.

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time

Analytical Method: **Preparation Method:** **Validation Date:** **6/21/2023**

Analysis Certified By: Rhonda C. Morris

Rhonda C Morris

Client Sample ID: 2316359-01
Date Collected: 05/11/23 18:20
Date Received: 05/17/23 08:30

Lab Sample ID: 810-63321-1
Matrix: Drinking Water

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	<1.9		1.9	ng/L		05/19/23 08:12	05/20/23 16:04	1
Perfluorooctanoic acid (PFOA)	<1.9		1.9	ng/L		05/19/23 08:12	05/20/23 16:04	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9	ng/L		05/19/23 08:12	05/20/23 16:04	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9	ng/L		05/19/23 08:12	05/20/23 16:04	1
Perfluorononanoic acid (PFNA)	<1.9		1.9	ng/L		05/19/23 08:12	05/20/23 16:04	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9	ng/L		05/19/23 08:12	05/20/23 16:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*106*		*70 - 130*	*05/19/23 08:12*	*05/20/23 16:04*	*1*
13C2 PFDA	*99*		*70 - 130*	*05/19/23 08:12*	*05/20/23 16:04*	*1*
13C3 HFPO-DA	*101*		*70 - 130*	*05/19/23 08:12*	*05/20/23 16:04*	*1*
d5-NEtFOSAA	*84*		*70 - 130*	*05/19/23 08:12*	*05/20/23 16:04*	*1*

Client Sample ID: 2316359-02
Date Collected: 05/11/23 12:51
Date Received: 05/17/23 08:30

Lab Sample ID: 810-63321-2
Matrix: Drinking Water

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	<1.9		1.9	ng/L		05/19/23 08:12	05/20/23 17:28	1
Perfluorooctanoic acid (PFOA)	<1.9		1.9	ng/L		05/19/23 08:12	05/20/23 17:28	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9	ng/L		05/19/23 08:12	05/20/23 17:28	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9	ng/L		05/19/23 08:12	05/20/23 17:28	1
Perfluorononanoic acid (PFNA)	<1.9		1.9	ng/L		05/19/23 08:12	05/20/23 17:28	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9	ng/L		05/19/23 08:12	05/20/23 17:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*106*		*70 - 130*	*05/19/23 08:12*	*05/20/23 17:28*	*1*
13C2 PFDA	*102*		*70 - 130*	*05/19/23 08:12*	*05/20/23 17:28*	*1*
13C3 HFPO-DA	*99*		*70 - 130*	*05/19/23 08:12*	*05/20/23 17:28*	*1*
d5-NEtFOSAA	*91*		*70 - 130*	*05/19/23 08:12*	*05/20/23 17:28*	*1*

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **23051218**

Date Reported: **6/19/2023**

CLIENT: Alloway
Project: 2316359
Lab ID: 23051218-001
Client Sample ID: 2316359-01

Collection Date: 5/11/2023 6:20:00 PM

Matrix: NON-POTABLE WATER

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
GROSS ALPHA / GROSS BETA RADIOACTIVITY (EPA 900.0)					**E900.0**	**E900**	Analyst: **DHF**
ALPHA, Gross	ND	3.00		pCi/L	± 2.24	1	5/26/2023 11:59:00 AM
BETA, Gross	ND	4.00		pCi/L	± 1.06	1	5/26/2023 11:59:00 AM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **HDJ**
Radium-228	ND	1.00		pCi/L	± 0.58	1	6/15/2023 3:01:00 PM
Yield	1.00					1	6/15/2023 3:01:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
MC	Value is below Minimum Compound Limit.
ND	Not Detected
P	Second column confirmation exceeds
E	Value above quantitation range
M	Manual Integration used to determine area response
N	Tentatively identified compounds
OGI	
PL	Permit Limit

CERTIFICATE OF ANALYSIS
Reported by Alloway - Marion
Chain of Custody attached

Eagon & Associates
Attn: Chris Gordon
100 Old Wilson Bridge Rd. Suite 115
Worthington, OH 43085

Lab Project #	2316359
Received:	5/12/2023
Reported:	6/21/2023
Date/Time Sampled:	05/11/2023 12:51
Sampled By:	JP
Sampled Matrix:	Groundwater
Containers:	3
Collection Method:	Grab

Project Name: **Piketon**

Sample ID: **TB-2B**

Lab Sample # **2316359-02**

PFAS were subcontracted to eurofins, see attached results.
Radiologicals were subcontracted to Summit, see attached results.

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time
Analytical Method:	**Preparation Method:**				**Validation Date:**	**6/21/2023**

Analysis Certified By: Rhonda C. Morris

Rhonda C Morris

Client Sample ID: 2316359-01
Date Collected: 05/11/23 18:20
Date Received: 05/17/23 08:30

Lab Sample ID: 810-63321-1
Matrix: Drinking Water

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	<1.9		1.9	ng/L		05/19/23 08:12	05/20/23 16:04	1
Perfluorooctanoic acid (PFOA)	<1.9		1.9	ng/L		05/19/23 08:12	05/20/23 16:04	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9	ng/L		05/19/23 08:12	05/20/23 16:04	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9	ng/L		05/19/23 08:12	05/20/23 16:04	1
Perfluorononanoic acid (PFNA)	<1.9		1.9	ng/L		05/19/23 08:12	05/20/23 16:04	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9	ng/L		05/19/23 08:12	05/20/23 16:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*106*		*70 - 130*	*05/19/23 08:12*	*05/20/23 16:04*	*1*
13C2 PFDA	*99*		*70 - 130*	*05/19/23 08:12*	*05/20/23 16:04*	*1*
13C3 HFPO-DA	*101*		*70 - 130*	*05/19/23 08:12*	*05/20/23 16:04*	*1*
d5-NEtFOSAA	*84*		*70 - 130*	*05/19/23 08:12*	*05/20/23 16:04*	*1*

Client Sample ID: 2316359-02
Date Collected: 05/11/23 12:51
Date Received: 05/17/23 08:30

Lab Sample ID: 810-63321-2
Matrix: Drinking Water

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	<1.9		1.9	ng/L		05/19/23 08:12	05/20/23 17:28	1
Perfluorooctanoic acid (PFOA)	<1.9		1.9	ng/L		05/19/23 08:12	05/20/23 17:28	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9	ng/L		05/19/23 08:12	05/20/23 17:28	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9	ng/L		05/19/23 08:12	05/20/23 17:28	1
Perfluorononanoic acid (PFNA)	<1.9		1.9	ng/L		05/19/23 08:12	05/20/23 17:28	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9	ng/L		05/19/23 08:12	05/20/23 17:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*106*		*70 - 130*	*05/19/23 08:12*	*05/20/23 17:28*	*1*
13C2 PFDA	*102*		*70 - 130*	*05/19/23 08:12*	*05/20/23 17:28*	*1*
13C3 HFPO-DA	*99*		*70 - 130*	*05/19/23 08:12*	*05/20/23 17:28*	*1*
d5-NEtFOSAA	*91*		*70 - 130*	*05/19/23 08:12*	*05/20/23 17:28*	*1*

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **23051218**

Date Reported: **6/19/2023**

CLIENT: Alloway
Project: 2316359
Lab ID: 23051218-002
Client Sample ID: 2316359-02

Collection Date: 5/11/2023 12:51:00 PM

Matrix: NON-POTABLE WATER

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
GROSS ALPHA / GROSS BETA RADIOACTIVITY (EPA 900.0)					**E900.0**	**E900**	Analyst: **DHF**
ALPHA, Gross	5.86	3.00		pCi/L	± 2.31	1	5/26/2023 11:59:00 AM
BETA, Gross	5.11	4.00		pCi/L	± 1.18	1	5/26/2023 11:59:00 AM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **HDJ**
Radium-228	ND	1.00		pCi/L	± 0.57	1	6/15/2023 3:01:00 PM
Yield	1.00					1	6/15/2023 3:01:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
MC	Value is below Minimum Compound Limit.
ND	Not Detected
P	Second column confirmation exceeds
E	Value above quantitation range
M	Manual Integration used to determine area response
N	Tentatively identified compounds
OG1	
PL	Permit Limit

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Eagon & Associates
Attn: Chris Gordon
100 Old Wilson Bridge Rd. Suite 115
Worthington, OH 43085

Lab Project #	2316359
Received:	5/12/2023
Reported:	6/21/2023
Date/Time Sampled:	05/11/2023 18:20
Sampled By:	JP
Sampled Matrix:	Water
Containers:	1
Collection Method:	-

Project Name: **Piketon**

Sample ID: **TB-1 FB**

Lab Sample # **2316359-03**

PFAS not required. All analytes were non-detect in the associated sample.

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time

Analytical Method: **Preparation Method:** **Validation Date:** **6/21/2023**

Analysis Certified By: Rhonda C. Morris

Rhonda C Morris

Alloway
Your Resource for Defensible Data

CERTIFICATE OF ANALYSIS
Reported by Alloway - Marion
Chain of Custody attached

Eagon & Associates
Attn: Chris Gordon
100 Old Wilson Bridge Rd. Suite 115
Worthington, OH 43085

Project Name: **Piketon**

Sample ID: **TB-2B FB**
Lab Sample # **2316359-04**

Lab Project #	2316359
Received:	5/12/2023
Reported:	6/21/2023
Date/Time Sampled:	05/11/2023 12:51
Sampled By:	JP
Sampled Matrix:	Water
Containers:	1
Collection Method:	-

PFAS not required. All analytes were non-detect in the associated sample.

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time

Analytical Method: **Preparation Method:** **Validation Date:** **6/21/2023**

Analysis Certified By: Rhonda C. Morris
Rhonda C Morris

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Eagon & Associates
Attn: Chris Cobel
445 Hutchinson Avenue
Suite 900
Columbus, OH 43235

Project Name: Piketon Wellfield

Sample ID: TB-3

Lab Sample # 2428533-01

Lab Project # 2428533

Received: 8/2/2024

Reported: 8/16/2024

Date/Time Sampled: 08/01/2024 12:05

Sampled By: Unknown

Sampled Matrix: Groundwater

Containers: 10

Collection Method: Grab

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time
Analytical Method: EPA 350.1 Rev. 2.0	Preparation Method: Undistilled				Validation Date: 8/16/2024	
Ammonia-N	0.07	mg/L	0.05	TLL		08/06/2024 09:36
Analytical Method: EPA 300.0 Rev 2.1	Preparation Method:				Validation Date: 8/16/2024	
Chloride	27	mg/L	5.0	DAW		08/05/2024 17:35
Analytical Method: EPA 353.2 Rev. 2.0	Preparation Method:				Validation Date: 8/16/2024	
Nitrite-N	<0.10	mg/L	0.10	BCM		08/02/2024 17:49
Analytical Method: EPA 353.2 Rev. 2.0	Preparation Method:				Validation Date: 8/16/2024	
Nitrate/Nitrite-N	<0.10	mg/L	0.10	TLL		08/07/2024 09:11
Analytical Method: EPA 353.2 Rev. 2.0	Preparation Method:				Validation Date: 8/16/2024	
Nitrate-N	<0.10	mg/L	0.10	TLL		08/15/2024 09:48
Analytical Method: EPA 300.0 Rev 2.1	Preparation Method:				Validation Date: 8/16/2024	
Sulfate	44	mg/L	5.0	DAW		08/05/2024 17:35
Analytical Method: EPA 200.7 Rev. 4.4	Preparation Method: EPA-200.7				Validation Date: 8/16/2024	
Calcium, Total	87.9	mg/L	2.00	PTP		08/15/2024 13:16
Iron, Total	1800	ug/L	40	PTP		08/15/2024 13:16
Magnesium, Total	27.8	mg/L	2.00	PTP		08/15/2024 13:16
Manganese, Total	360	ug/L	10	PTP		08/15/2024 13:16
Analytical Method: EPA 200.8 Rev. 5.4	Preparation Method: EPA-200.8				Validation Date: 8/16/2024	
Arsenic, Total	3.0	ug/L	3.0	SLB		08/15/2024 15:49
Analytical Method: EPA 524.2 Rev. 4.1	Preparation Method:				Validation Date: 8/16/2024	

Analysis Certified By: Erin L. Hohman

Erin L. Hohman

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Eagon & Associates
Attn: Chris Cobel
445 Hutchinson Avenue
Suite 900
Columbus, OH 43235

Lab Project # 2428533
Received: 8/2/2024
Reported: 8/16/2024

Date/Time Sampled: 08/01/2024 12:05
Sampled By: Unknown
Sampled Matrix: Groundwater
Containers: 10
Collection Method: Grab

Project Name: Piketon Wellfield

Sample ID: TB-3

Lab Sample # 2428533-01

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time
Benzene	<0.50	ug/L	0.50	TMB		08/06/2024 12:12
Carbon Tetrachloride	<0.50	ug/L	0.50	TMB		08/06/2024 12:12
Chlorobenzene	<0.50	ug/L	0.50	TMB		08/06/2024 12:12
1,2-Dichlorobenzene	<0.50	ug/L	0.50	TMB		08/06/2024 12:12
1,4-Dichlorobenzene	<0.50	ug/L	0.50	TMB		08/06/2024 12:12
1,2-Dichloroethane	<0.50	ug/L	0.50	TMB		08/06/2024 12:12
1,1-Dichloroethene	<0.50	ug/L	0.50	TMB		08/06/2024 12:12
cis-1,2-Dichloroethene	<0.50	ug/L	0.50	TMB		08/06/2024 12:12
trans-1,2-Dichloroethene	<0.50	ug/L	0.50	TMB		08/06/2024 12:12
1,2-Dichloropropane	<0.50	ug/L	0.50	TMB		08/06/2024 12:12
Ethylbenzene	<0.50	ug/L	0.50	TMB		08/06/2024 12:12
Methylene Chloride	<0.50	ug/L	0.50	TMB		08/06/2024 12:12
Styrene	<0.50	ug/L	0.50	TMB		08/06/2024 12:12
Tetrachloroethylene	<0.50	ug/L	0.50	TMB		08/06/2024 12:12
Toluene	<0.50	ug/L	0.50	TMB		08/06/2024 12:12
1,1,1-Trichloroethane	<0.50	ug/L	0.50	TMB		08/06/2024 12:12
1,1,2-Trichloroethane	<0.50	ug/L	0.50	TMB		08/06/2024 12:12
Trichloroethylene	<0.50	ug/L	0.50	TMB		08/06/2024 12:12
o-Xylene	<0.20	ug/L	0.20	TMB		08/06/2024 12:12
m,p-Xylene	<0.30	ug/L	0.30	TMB		08/06/2024 12:12
1,2,4-Trichlorobenzene	<0.50	ug/L	0.50	TMB		08/06/2024 12:12
Vinyl Chloride	<0.50	ug/L	0.50	TMB		08/06/2024 12:12
Xylene (Total)	<0.50	ug/L	0.50	TMB		08/06/2024 12:12
(Surrogate) 1,2-Dichlorobenzene-d4	97.5	%		TMB		08/06/2024 12:12
70 - 130						

Analysis Certified By: Erin L. Hohman

Erin L. Hohman

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Eagon & Associates
Attn: Chris Cobel
445 Hutchinson Avenue
Suite 900
Columbus, OH 43235

Project Name: Piketon Wellfield

Sample ID: TB-3

Lab Sample # 2428533-01

Lab Project # 2428533

Received: 8/2/2024

Reported: 8/16/2024

Date/Time Sampled: 08/01/2024 14:45

Sampled By: Unknown

Sampled Matrix: Groundwater

Containers: 10

Collection Method: Grab

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time
(Surrogate) Bromofluorobenzene	89.7	%		TMB		08/06/2024 12:12
70 - 130						

Analysis Certified By: Erin L. Hohman

Erin L. Hohman

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Eagon & Associates
Attn: Chris Cobel
445 Hutchinson Avenue
Suite 900
Columbus, OH 43235

Project Name: Piketon Wellfield

Sample ID: TB-4

Lab Sample # 2428533-02

Lab Project # 2428533

Received: 8/2/2024

Reported: 8/16/2024

Date/Time Sampled: 08/01/2024 14:45

Sampled By: Unknown

Sampled Matrix: Groundwater

Containers: 10

Collection Method: Grab

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time
Analytical Method: EPA 350.1 Rev. 2.0	Preparation Method: Undistilled				Validation Date: 8/16/2024	
Ammonia-N	0.14	mg/L	0.05	TLL		08/06/2024 09:36
Analytical Method: EPA 300.0 Rev 2.1	Preparation Method:				Validation Date: 8/16/2024	
Chloride	42	mg/L	5.0	DAW		08/05/2024 17:35
Analytical Method: EPA 353.2 Rev. 2.0	Preparation Method:				Validation Date: 8/16/2024	
Nitrite-N	<0.10	mg/L	0.10	BCM		08/02/2024 17:49
Analytical Method: EPA 353.2 Rev. 2.0	Preparation Method:				Validation Date: 8/16/2024	
Nitrate/Nitrite-N	<0.10	mg/L	0.10	TLL		08/07/2024 09:11
Analytical Method: EPA 353.2 Rev. 2.0	Preparation Method:				Validation Date: 8/16/2024	
Nitrate-N	<0.10	mg/L	0.10	TLL		08/15/2024 09:48
Analytical Method: EPA 300.0 Rev 2.1	Preparation Method:				Validation Date: 8/16/2024	
Sulfate	47	mg/L	5.0	DAW		08/05/2024 17:35
Analytical Method: EPA 200.7 Rev. 4.4	Preparation Method: EPA-200.7				Validation Date: 8/16/2024	
Calcium, Total	94.1	mg/L	2.00	PTP		08/15/2024 13:16
Iron, Total	2500	ug/L	40	PTP		08/15/2024 13:16
Magnesium, Total	30.3	mg/L	2.00	PTP		08/15/2024 13:16
Manganese, Total	340	ug/L	10	PTP		08/15/2024 13:16
Analytical Method: EPA 200.8 Rev. 5.4	Preparation Method: EPA-200.8				Validation Date: 8/16/2024	
Arsenic, Total	4.3	ug/L	3.0	SLB		08/15/2024 15:49
Analytical Method: EPA 524.2 Rev. 4.1	Preparation Method:				Validation Date: 8/16/2024	

Analysis Certified By: Erin L. Hohman

Erin L. Hohman

CERTIFICATE OF ANALYSIS
Reported by Alloway - Marion
Chain of Custody attached

Lab Project # 2428533
Received: 8/2/2024
Reported: 8/16/2024

Eagon & Associates
Attn: Chris Cobel
445 Hutchinson Avenue
Suite 900
Columbus, OH 43235

Date/Time Sampled: 08/01/2024 14:45
Sampled By: Unknown
Sampled Matrix: Groundwater
Containers: 10
Collection Method: Grab

Project Name: Piketon Wellfield

Sample ID: TB-4
Lab Sample # 2428533-02

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time
Benzene	<0.50	ug/L	0.50	TMB		08/06/2024 12:43
Carbon Tetrachloride	<0.50	ug/L	0.50	TMB		08/06/2024 12:43
Chlorobenzene	<0.50	ug/L	0.50	TMB		08/06/2024 12:43
1,2-Dichlorobenzene	<0.50	ug/L	0.50	TMB		08/06/2024 12:43
1,4-Dichlorobenzene	<0.50	ug/L	0.50	TMB		08/06/2024 12:43
1,2-Dichloroethane	<0.50	ug/L	0.50	TMB		08/06/2024 12:43
1,1-Dichloroethene	<0.50	ug/L	0.50	TMB		08/06/2024 12:43
cis-1,2-Dichloroethene	<0.50	ug/L	0.50	TMB		08/06/2024 12:43
trans-1,2-Dichloroethene	<0.50	ug/L	0.50	TMB		08/06/2024 12:43
1,2-Dichloropropane	<0.50	ug/L	0.50	TMB		08/06/2024 12:43
Ethylbenzene	<0.50	ug/L	0.50	TMB		08/06/2024 12:43
Methylene Chloride	<0.50	ug/L	0.50	TMB		08/06/2024 12:43
Styrene	<0.50	ug/L	0.50	TMB		08/06/2024 12:43
Tetrachloroethylene	<0.50	ug/L	0.50	TMB		08/06/2024 12:43
Toluene	<0.50	ug/L	0.50	TMB		08/06/2024 12:43
1,1,1-Trichloroethane	<0.50	ug/L	0.50	TMB		08/06/2024 12:43
1,1,2-Trichloroethane	<0.50	ug/L	0.50	TMB		08/06/2024 12:43
Trichloroethylene	<0.50	ug/L	0.50	TMB		08/06/2024 12:43
o-Xylene	<0.20	ug/L	0.20	TMB		08/06/2024 12:43
m,p-Xylene	<0.30	ug/L	0.30	TMB		08/06/2024 12:43
1,2,4-Trichlorobenzene	<0.50	ug/L	0.50	TMB		08/06/2024 12:43
Vinyl Chloride	<0.50	ug/L	0.50	TMB		08/06/2024 12:43
Xylene (Total)	<0.50	ug/L	0.50	TMB		08/06/2024 12:43
(Surrogate) 1,2-Dichlorobenzene-d4	106.5	%		TMB		08/06/2024 12:43
70 - 130						

Analysis Certified By: Erin L. Hohman

Erin L. Hohman

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Eagon & Associates
Attn: Chris Cobel
445 Hutchinson Avenue
Suite 900
Columbus, OH 43235

Project Name: Piketon Wellfield

Sample ID: TB-4

Lab Sample # 2428533-02

Lab Project # 2428533

Received: 8/2/2024

Reported: 8/16/2024

Date/Time Sampled: 08/01/2024 18:51

Sampled By: Unknown

Sampled Matrix: Groundwater

Containers: 10

Collection Method: Grab

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time
(Surrogate) Bromofluorobenzene	103.6	%		TMB		08/06/2024 12:43
70 - 130						

Analysis Certified By: Erin L. Hohman

Erin L. Hohman

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Eagon & Associates
Attn: Chris Cobel
445 Hutchinson Avenue
Suite 900
Columbus, OH 43235

Project Name: Piketon Wellfield

Sample ID: TB-5

Lab Sample # 2428533-03

Lab Project # 2428533

Received: 8/2/2024

Reported: 8/16/2024

Date/Time Sampled: 08/01/2024 18:51

Sampled By: Unknown

Sampled Matrix: Groundwater

Containers: 10

Collection Method: Grab

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time
Analytical Method: EPA 350.1 Rev. 2.0	Preparation Method: Undistilled				Validation Date: 8/16/2024	
Ammonia-N	0.10	mg/L	0.05	TLL		08/06/2024 09:36
Analytical Method: EPA 300.0 Rev 2.1	Preparation Method:				Validation Date: 8/16/2024	
Chloride	31	mg/L	5.0	DAW		08/06/2024 00:17
Analytical Method: EPA 353.2 Rev. 2.0	Preparation Method:				Validation Date: 8/16/2024	
Nitrite-N	<0.10	mg/L	0.10	BCM		08/02/2024 17:49
Analytical Method: EPA 353.2 Rev. 2.0	Preparation Method:				Validation Date: 8/16/2024	
Nitrate/Nitrite-N	<0.10	mg/L	0.10	TLL		08/07/2024 09:11
Analytical Method: EPA 353.2 Rev. 2.0	Preparation Method:				Validation Date: 8/16/2024	
Nitrate-N	<0.10	mg/L	0.10	TLL		08/15/2024 09:48
Analytical Method: EPA 300.0 Rev 2.1	Preparation Method:				Validation Date: 8/16/2024	
Sulfate	53	mg/L	5.0	DAW		08/06/2024 00:17
Analytical Method: EPA 200.7 Rev. 4.4	Preparation Method: EPA-200.7				Validation Date: 8/16/2024	
Calcium, Total	88.3	mg/L	2.00	PTP		08/15/2024 13:16
Iron, Total	2200	ug/L	40	PTP		08/15/2024 13:16
Magnesium, Total	28.0	mg/L	2.00	PTP		08/15/2024 13:16
Manganese, Total	370	ug/L	10	PTP		08/15/2024 13:16
Analytical Method: EPA 200.8 Rev. 5.4	Preparation Method: EPA-200.8				Validation Date: 8/16/2024	
Arsenic, Total	<3.0	ug/L	3.0	SLB		08/15/2024 15:49
Analytical Method: EPA 524.2 Rev. 4.1	Preparation Method:				Validation Date: 8/16/2024	

Analysis Certified By: Erin L. Hohman

Erin L. Hohman

CERTIFICATE OF ANALYSIS
Reported by Alloway - Marion
Chain of Custody attached

Lab Project # 2428533
Received: 8/2/2024
Reported: 8/16/2024

Eagon & Associates
Attn: Chris Cobel
445 Hutchinson Avenue
Suite 900
Columbus, OH 43235

Date/Time Sampled: 08/01/2024 18:51
Sampled By: Unknown
Sampled Matrix: Groundwater
Containers: 10
Collection Method: Grab

Project Name: Piketon Wellfield

Sample ID: TB-5
Lab Sample # 2428533-03

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time
Benzene	<0.50	ug/L	0.50	TMB		08/06/2024 13:15
Carbon Tetrachloride	<0.50	ug/L	0.50	TMB		08/06/2024 13:15
Chlorobenzene	<0.50	ug/L	0.50	TMB		08/06/2024 13:15
1,2-Dichlorobenzene	<0.50	ug/L	0.50	TMB		08/06/2024 13:15
1,4-Dichlorobenzene	<0.50	ug/L	0.50	TMB		08/06/2024 13:15
1,2-Dichloroethane	<0.50	ug/L	0.50	TMB		08/06/2024 13:15
1,1-Dichloroethene	<0.50	ug/L	0.50	TMB		08/06/2024 13:15
cis-1,2-Dichloroethene	<0.50	ug/L	0.50	TMB		08/06/2024 13:15
trans-1,2-Dichloroethene	<0.50	ug/L	0.50	TMB		08/06/2024 13:15
1,2-Dichloropropane	<0.50	ug/L	0.50	TMB		08/06/2024 13:15
Ethylbenzene	<0.50	ug/L	0.50	TMB		08/06/2024 13:15
Methylene Chloride	<0.50	ug/L	0.50	TMB		08/06/2024 13:15
Styrene	<0.50	ug/L	0.50	TMB		08/06/2024 13:15
Tetrachloroethylene	<0.50	ug/L	0.50	TMB		08/06/2024 13:15
Toluene	<0.50	ug/L	0.50	TMB		08/06/2024 13:15
1,1,1-Trichloroethane	<0.50	ug/L	0.50	TMB		08/06/2024 13:15
1,1,2-Trichloroethane	<0.50	ug/L	0.50	TMB		08/06/2024 13:15
Trichloroethylene	<0.50	ug/L	0.50	TMB		08/06/2024 13:15
o-Xylene	<0.20	ug/L	0.20	TMB		08/06/2024 13:15
m,p-Xylene	<0.30	ug/L	0.30	TMB		08/06/2024 13:15
1,2,4-Trichlorobenzene	<0.50	ug/L	0.50	TMB		08/06/2024 13:15
Vinyl Chloride	<0.50	ug/L	0.50	TMB		08/06/2024 13:15
Xylene (Total)	<0.50	ug/L	0.50	TMB		08/06/2024 13:15
(Surrogate) 1,2-Dichlorobenzene-d4	109.0	%		TMB		08/06/2024 13:15
70 - 130						

Analysis Certified By: Erin L. Hohman

Erin L. Hohman

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Eagon & Associates
Attn: Chris Cobel
445 Hutchinson Avenue
Suite 900
Columbus, OH 43235

Project Name: Piketon Wellfield

Sample ID: TB-5

Lab Sample # 2428533-03

Lab Project # 2428533

Received: 8/2/2024

Reported: 8/16/2024

Date/Time Sampled: 08/01/2024 18:51

Sampled By: Unknown

Sampled Matrix: Groundwater

Containers: 10

Collection Method: Grab

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time
(Surrogate) Bromofluorobenzene	102.1	%		TMB		08/06/2024 13:15
70 - 130						

Analysis Certified By: Erin L. Hohman

Erin L. Hohman

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Eagon & Associates
Attn: Andy Graham
445 Hutchinson Avenue
Suite 900
Columbus, OH 43235

Project Name: **Piketon Wellfield**

Lab Project #	2429720
Received:	8/2/2024
Reported:	8/19/2024
Date/Time Sampled:	08/01/2024 12:05
Sampled By:	Unknown
Sampled Matrix:	Groundwater
Containers:	1
Collection Method:	Grab

Sample ID: **TB-3**

Lab Sample # **2429720-01**

PFAS were subcontracted to Eurofins; see attached results.

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time

Analytical Method: **Preparation Method:** **Validation Date:** **8/19/2024**

Analysis Certified By: Rhonda C. Morris

Rhonda C Morris

Client Sample ID: 2429720-01
Date Collected: 08/01/24 12:05
Date Received: 08/09/24 09:30

Lab Sample ID: 810-115293-1
Matrix: Drinking Water

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
Perfluorohexanoic acid (PFHxA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
Perfluorooctanoic acid (PFOA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
Perfluorononanoic acid (PFNA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
Perfluorotetradecanoic acid (PFTeDA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
Perfluorotridecanoic acid (PFTrDA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*102*		*70 - 130*	*08/12/24 09:26*	*08/13/24 14:08*	*1*
13C2 PFDA	*97*		*70 - 130*	*08/12/24 09:26*	*08/13/24 14:08*	*1*
13C3 HFPO-DA	*99*		*70 - 130*	*08/12/24 09:26*	*08/13/24 14:08*	*1*
d5-NEtFOSAA	*89*		*70 - 130*	*08/12/24 09:26*	*08/13/24 14:08*	*1*

Client Sample ID: 2429720-02
Date Collected: 08/01/24 14:45
Date Received: 08/09/24 09:30

Lab Sample ID: 810-115293-2
Matrix: Drinking Water

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
Perfluorohexanoic acid (PFHxA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
Perfluorooctanoic acid (PFOA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
Perfluorononanoic acid (PFNA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
Perfluorotetradecanoic acid (PFTeDA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
Perfluorotridecanoic acid (PFTrDA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1

CERTIFICATE OF ANALYSIS
Reported by Alloway - Marion
Chain of Custody attached

Eagon & Associates
Attn: Andy Graham
445 Hutchinson Avenue
Suite 900
Columbus, OH 43235

Project Name: **Piketon Wellfield**

Lab Project #	2429720
Received:	8/2/2024
Reported:	8/19/2024
Date/Time Sampled:	08/01/2024 14:45
Sampled By:	Unknown
Sampled Matrix:	Groundwater
Containers:	1
Collection Method:	Grab

Sample ID: **TB-4**

Lab Sample # **2429720-02**

PFAS were subcontracted to Eurofins; see attached results.

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time

Analytical Method: **Preparation Method:** **Validation Date:** **8/19/2024**

Analysis Certified By: Rhonda C. Morris

Rhonda C Morris

Client Sample ID: 2429720-01
Date Collected: 08/01/24 12:05
Date Received: 08/09/24 09:30

Lab Sample ID: 810-115293-1
Matrix: Drinking Water

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
Perfluorohexanoic acid (PFHxA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
Perfluorooctanoic acid (PFOA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
Perfluorononanoic acid (PFNA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
Perfluorotetradecanoic acid (PFTeDA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
Perfluorotridecanoic acid (PFTrDA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*102*		*70 - 130*	*08/12/24 09:26*	*08/13/24 14:08*	*1*
13C2 PFDA	*97*		*70 - 130*	*08/12/24 09:26*	*08/13/24 14:08*	*1*
13C3 HFPO-DA	*99*		*70 - 130*	*08/12/24 09:26*	*08/13/24 14:08*	*1*
d5-NEtFOSAA	*89*		*70 - 130*	*08/12/24 09:26*	*08/13/24 14:08*	*1*

Client Sample ID: 2429720-02
Date Collected: 08/01/24 14:45
Date Received: 08/09/24 09:30

Lab Sample ID: 810-115293-2
Matrix: Drinking Water

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
Perfluorohexanoic acid (PFHxA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
Perfluorooctanoic acid (PFOA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
Perfluorononanoic acid (PFNA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
Perfluorotetradecanoic acid (PFTeDA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
Perfluorotridecanoic acid (PFTrDA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1

Client Sample ID: 2429720-02
Date Collected: 08/01/24 14:45
Date Received: 08/09/24 09:30

Lab Sample ID: 810-115293-2
Matrix: Drinking Water

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*99*		*70 - 130*	*08/12/24 09:26*	*08/13/24 14:19*	*1*
13C2 PFDA	*97*		*70 - 130*	*08/12/24 09:26*	*08/13/24 14:19*	*1*
13C3 HFPO-DA	*95*		*70 - 130*	*08/12/24 09:26*	*08/13/24 14:19*	*1*
d5-NEtFOSAA	*92*		*70 - 130*	*08/12/24 09:26*	*08/13/24 14:19*	*1*

Client Sample ID: 2429720-03
Date Collected: 08/01/24 18:51
Date Received: 08/09/24 09:30

Lab Sample ID: 810-115293-3
Matrix: Drinking Water

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
Perfluorohexanoic acid (PFHxA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
Perfluorooctanoic acid (PFOA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
Perfluorononanoic acid (PFNA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
Perfluorotetradecanoic acid (PFTeDA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
Perfluorotridecanoic acid (PFTrDA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*104*		*70 - 130*	*08/12/24 09:26*	*08/13/24 14:29*	*1*
13C2 PFDA	*102*		*70 - 130*	*08/12/24 09:26*	*08/13/24 14:29*	*1*
13C3 HFPO-DA	*102*		*70 - 130*	*08/12/24 09:26*	*08/13/24 14:29*	*1*
d5-NEtFOSAA	*83*		*70 - 130*	*08/12/24 09:26*	*08/13/24 14:29*	*1*

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Eagon & Associates
Attn: Andy Graham
445 Hutchinson Avenue
Suite 900
Columbus, OH 43235

Project Name: **Piketon Wellfield**

Lab Project #	2429720
Received:	8/2/2024
Reported:	8/19/2024
Date/Time Sampled:	08/01/2024 18:51
Sampled By:	Unknown
Sampled Matrix:	Groundwater
Containers:	1
Collection Method:	Grab

Sample ID: **TB-5**

Lab Sample # **2429720-03**

PFAS were subcontracted to Eurofins; see attached results.

Analyte	Results	Units	PQL	Analyst	Extraction Date	Analysis Start Date/Time

Analytical Method: **Preparation Method:** **Validation Date:** **8/19/2024**

Analysis Certified By: Rhonda C. Morris

Rhonda C Morris

Client Sample ID: 2429720-02
Date Collected: 08/01/24 14:45
Date Received: 08/09/24 09:30

Lab Sample ID: 810-115293-2
Matrix: Drinking Water

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*99*		*70 - 130*	*08/12/24 09:26*	*08/13/24 14:19*	*1*
13C2 PFDA	*97*		*70 - 130*	*08/12/24 09:26*	*08/13/24 14:19*	*1*
13C3 HFPO-DA	*95*		*70 - 130*	*08/12/24 09:26*	*08/13/24 14:19*	*1*
d5-NEtFOSAA	*92*		*70 - 130*	*08/12/24 09:26*	*08/13/24 14:19*	*1*

Client Sample ID: 2429720-03
Date Collected: 08/01/24 18:51
Date Received: 08/09/24 09:30

Lab Sample ID: 810-115293-3
Matrix: Drinking Water

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
Perfluorohexanoic acid (PFHxA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
Perfluorooctanoic acid (PFOA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
Perfluorononanoic acid (PFNA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
Perfluorotetradecanoic acid (PFTeDA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
Perfluorotridecanoic acid (PFTrDA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		1.9	ng/L		08/12/24 09:26	08/13/24 14:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*104*		*70 - 130*	*08/12/24 09:26*	*08/13/24 14:29*	*1*
13C2 PFDA	*102*		*70 - 130*	*08/12/24 09:26*	*08/13/24 14:29*	*1*
13C3 HFPO-DA	*102*		*70 - 130*	*08/12/24 09:26*	*08/13/24 14:29*	*1*
d5-NEtFOSAA	*83*		*70 - 130*	*08/12/24 09:26*	*08/13/24 14:29*	*1*

2/2

Form 6002-2

Project # 24 28533 Cooler Temp 3.7 C° Analyst: GH

	Sample ID	Metals (HNO3) pH		(H2SO4) pH - (EXCLUDES O&G)			Cyanide (NaOH) pH		Cyanide Chlorine check	
		Bottle A	Bottle B	Bottle A	Bottle B	Bottle C	Bottle A	Bottle B	Bottle A	Bottle B
1	01	<2		<2						
2	02	<2		<2						
3	03	<2		<2						
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

Alloway
Your Resource for Defensible Data

Chain of Custody Record

This is a legal document that authorizes Alloway to perform testing on samples submitted under this agreement.

○ 1101 North Cole Street, Lima, OH 45805
(P) 800-436-1243 (F) 419-227-3792

☒ 1776 Marion-Waldo Road, Marion OH 43302
(P) 800-873-2835 (F) 740-389-1481

○ 1500 W. Fourth Street, Suite 4, Mansfield, OH 44906
(P) 419-525-1644 (F) 419-524-5575

Report To:
Name: Chris Gordon
Company: Eagon & Associates, Inc.
Address:

Invoice To (If Different):
Name:
Company:
Address:

Phone #: 614-388-5760 Fax #:
E-mail: cgordon@eagoninc.com PO#: Piketon

Notes/Comments:
No Bacteria Samples
Not Reportable to Ohio EPA
Hold PFAS Field Reagent Blank Analysis - Analyze only if detections in TB-1 or TB-2B.

Project Name: Piketon

Sampler (Print): Joe Paille (Signature):

Turnaround: (*Rush Charges May Apply*)
Next Day ☐ 3 Working Days ☐ Routine ☒
2 Working Days ☐ 5 Working Days ☐

	Customer Sample ID / Sample Location	Sample Date	Sample Time	Composite	Grab	Matrix Code	Number of Containers	Preservation Code #	Analysis Required	Alloway LIMS # For Lab Use Only
1	TB-1	5/11/23	18:20	—	X	GW	15	multiple	New Community PWS Well + Ammonia	
2	TB-2B	5/11/23	12:51	—	X	GW	15	Multiple	New Community PWS Well + Ammonia	
3	Trip Blank	—	—	-	-	W	1			
4										
5										
6										
7										
8										

	Relinquished by:	Received by:	Date	Time
1	Nick A Karon/FEDEX		5/12/23	1400
2				
3				
4				
5				
6				

Received for Laboratory By: (circle one): Mansfield Lima Marion
(Signature)

Method of Delivery
UPS ☐
Fed Ex ☐
Client ☐
Alloway Pick Up ☒
Alloway Sampling ☐
Other ☐

Matrix Codes:
ww - wastewater
gw - groundwater
dw - drinking water
sw - surface water
w - water
oil - oil
s - solid
sg - sludge
l - leachate
a - acid
p - product
o - other

Preservation Codes:
1 - None
2 - HNO_3
3 - H_2SO_4
4 - HCl
5 - NaOH
6 - NaOH & Zinc Acetate
7 - Sodium Thiosulfate
8 - Ascorbic Acid
9 - Maleic Acid
10 - EDA
11 - Ammonium Chloride
12 - $(NH_4)_2SO_4$ & NH_4OH
13 - Zinc Acetate
14 - Sodium Sulfite
15 - Potassium Dihydrogen Citrate
16 - Sodium Sulfite/Sodium Bisulfate

Sample Receiving (For Lab Use Only)
Ice Present? Y ☐ N ☐
Proper Preservation? Y ☐ N ☐
Container Temperature: _____

Transported to: Lima Marion By: _____ Received By: _____ Date: _____ Time: _____
Transported to: Lima Marion By: _____ Received By: _____ Date: _____ Time: _____

REV 01-16

Alloway ENVIRONMENTAL COMPANY

Chain of Custody Record

This is a legal document that authorizes Alloway to perform testing on samples submitted under this agreement.

1 1x2 GW 8/1/24

○ 1101 North Cole Street, Lima, OH 45805
(P) 800-436-1243 (F) 419-227-3792

☒ 1776 Marion-Waldo Road, Marion OH 43302
(P) 800-873-2835 (F) 740-389-1481

○ 1500 West Fourth Street, Suite 4, Mansfield, OH 44906
(P) 419-525-1644 (F) 419-524-5575

Report To:
Name: Andy Graham
Company: Eagon & Associates
Address: 445 Hutchinson Avenue Suite 900
Columbus, Ohio 43235

Invoice To (If Different):
Name: SAME AS REPORT TO
Company:
Address: Andy Graham
PO #:

Phone #: 614-271-4582 E-mail: a.graham@eagoninc.com

Project Name: Pickton Wellfield

Sampler: (Print) (Signature)

Notes/Comments:
PARAMETERS LIST 8 *
- New well drinking water list VOCs
- Ammonia, Nitrate, Chloride, Sulfate
- Metals (Ca, Mg, Mn, Fe, As)
- PFAS

SHORT HOLD (NITRATE)

Turnaround: *(Rush charges will apply to non-routine turnaround)*
2 Business Days ☐ 5-6 Business Days ☐
3-4 Business Days ☐ Routine 10 Business Days ☒

	Customer Sample ID / Sample Location	Sample Date	Sample Time	Composite	Grab	Matrix Code	Number of Containers	Preservation Code #	Analysis Required	Alloway LIMS # For Lab Use Only
1	TB-3	8/1/24	1205	—	X	GW	6 7 10	1,3,14,17	VOCs, Amm., NO_2, Cl, SO_4, Metals, PFAS*	01
2	TB-4	8/1/24	1445	—	X	GW	6 7 10	1,3,14,17	↓	02
3	TB-5	8/1/24	1851	—	X	GW	6 7 10	1,3,14,17	↓	03
4										
5										
6										
7										
8										

Project: 2428533

	Relinquished by:	Received by:	Date	Time
1			8-2-24	0855
2				
3				
4				
5				
6				

Method of Delivery: UPS ☐ Fed Ex ☐ Client ☐ Alloway Pick Up ☒ Alloway Sampling ☐ Other ☐

Matrix Codes: ww - wastewater; gw - groundwater; dw - drinking water; sw - surface water; w - water; oil - oil; s - solid; sg - sludge; l - leachate; a - acid; p - product; o - other

Preservation Codes: 1 - None; 2 - HNO_3; 3 - H_2SO_4; 4 - HCl; 5 - NaOH; 6 - NaOH & Zinc Acetate; 7 - Sodium Thiosulfate; 8 - Ascorbic Acid; 9 - Maleic Acid; 10 - EDA; 11 - Ammonium Chloride; 12 - $(NH_4)_2SO_4$ & NH_4OH; 13 - Zinc Acetate; 14 - Sodium Sulfite; 15 - Potassium Dihydrogen Citrate; 16 - Sodium Sulfite/Sodium Bisulfate; 17 - Trizma

Sample Receiving *(For Lab Use Only)*
Ice Present? Y ☒ N ☐
Proper Preservation? Y ☐ N ☐
Thermometer ID: Mar HOT
Container Temperature (°C): 3.7c

Received for Laboratory By: (circle one) Columbus Mansfield Lima Marion
(Signature) 8/2/2024 16:35

Transported to: Lima Marion By: _____ Received By: _____ Date: _____ Time: _____

Transported to: Lima Marion By: _____ Received By: _____ Date: _____ Time: _____

REV 04-2024

Alloway ENVIRONMENTAL COMPANY

Chain of Custody Record

1/1

This is a legal document that authorizes Alloway to perform testing on samples submitted under this agreement.

○ 1101 North Cole Street, Lima, OH 45805
(P) 800-436-1243 (F) 419-227-3792

☒ 1776 Marion-Waldo Road, Marion OH 43302
(P) 800-873-2835 (F) 740-389-1481

○ 1500 West Fourth Street, Suite 4, Mansfield, OH 44906
(P) 419-525-1644 (F) 419-524-5575

Report To:
Name: Andy Graham
Company: Eagon & Associates
Address: 445 Hutchinson Avenue Suite 900
Columbus, Ohio 43235

Invoice To (If Different):
Name: SAME AS REPORT TO
Company:
Address: Andy Graham
PO #:

Phone #: 614-271-4582 E-mail: a.graham@eagoninc.com

Project Name: Pickton Wellfield

Sampler (Print) (Signature)

Notes/Comments:
PARAMETERS LIST 8 ✱
- New well drinking water list VOCs
- Ammonia, Nitrate, chloride, sulfate
- Metals (Ca, Mg, Mn, Fe, As)
- PFAS

SHORT VOCS (NITRATE)
✱PFAS Only

Turnaround: *(Rush charges will apply to non-routine turnaround)*
2 Business Days ☐ 5-6 Business Days ☐
3-4 Business Days ☐ Routine 10 Business Days ☒

	Customer Sample ID / Sample Location	Sample Date	Sample Time	Composite	Grab	Matrix Code	Number of Containers	Preservation Code #	Analysis Required	Alloway LIMS # For Lab Use Only
1	TB-3	8/1/24	1205	—	X	GW	6 7 10	1,3,2,4,17	VOCs, Amm., NO_2, Cl, SO_4, Metals, PFAS✱	01
2	TB-4	8/1/24	1445	—	X	GW	6 7 10	1,3,2,4,17	↓	02
3	TB-5	8/1/24	1851	—	X	GW	6 7 10	1,3,2,4,17	↓	03
4										
5										
6										
7										
8										

Project: 2429720

	Relinquished by:	Received by:	Date	Time
1			8/2/24	0955
2				
3				
4				
5				
6				

Method of Delivery: UPS ☐ Fed Ex ☐ Client ☐ Alloway Pick Up ☒ Alloway Sampling ☐ Other ☐

Matrix Codes: ww - wastewater; gw - groundwater; dw - drinking water; sw - surface water; w - water; oil - oil; s - solid; sg - sludge; l - leachate; a - acid; p - product; o - other

Preservation Codes: 1 - None; 2 - HNO_3; 3 - H_2SO_4; 4 - HCl; 5 - NaOH; 6 - NaOH & Zinc Acetate; 7 - Sodium Thiosulfate; 8 - Ascorbic Acid; 9 - Maleic Acid; 10 - EDA; 11 - Ammonium Chloride; 12 - $(NH_4)_2SO_4$ & NH_4OH; 13 - Zinc Acetate; 14 - Sodium Sulfite; 15 - Potassium Dihydrogen Citrate; 16 - Sodium Sulfite/Sodium Bisulfate; 17 - Trisma

Sample Receiving *(For Lab Use Only)*
Ice Present? Y ☒ N ☐
Proper Preservation? Y ☐ N ☐
Thermometer ID: Mar HOT
Container Temperature (°C): 3.7°C

Received for Laboratory By: (circle one) Columbus Mansfield Lima Marion
(Signature) 8/2/2024 16:35

Transported to: Lima Marion By: _____ Received By: _____ Date: _____ Time: _____
Transported to: Lima Marion By: _____ Received By: _____ Date: _____ Time: _____

REV 04-2024