



*Environmental & Geotechnical  
Engineers & Hydrogeologists*

July 18, 2023  
File No. 2023-047

Ms. Amy T. Renzi, P.G.  
Hazardous Waste Remediation Bureau  
New Hampshire Department of Environmental Services  
29 Hazen Drive, P.O. Box 95  
Concord, New Hampshire 03302-0095  
[amy.t.renzi@des.nh.gov](mailto:amy.t.renzi@des.nh.gov)

Re: Notification of Manganese in Groundwater  
Exceeding an Ambient Groundwater Quality Standard  
Brox Industries, Inc.  
Construction Aggregate Excavation  
Barrington, New Hampshire  
NHDES AoT Permits 0034 and 2313  
Tax Map 222, Lots 12 and 13; Map 236, Lots 2, 3, and 4

Dear Ms. Renzi:

On behalf of Brox Industries, Inc. (Brox), Aries Engineering, LLC (Aries) is notifying New Hampshire Department of Environmental Services (NHDES) of an exceedance of Ambient Groundwater Quality Standards (AGQS) at their property located off Tolend Road in Barrington, New Hampshire (site). The Brox excavation area extends from Barrington into Rochester, New Hampshire and is accessed via a driveway with an address of 489 Rochester Neck Road, Rochester, New Hampshire.

Aries is providing this notification for exceedances of the AGQS for manganese (Mn) detected in groundwater samples collected from Brox property monitoring wells NAR-1 and NAR-2. In addition, water was sampled from amounts accumulated within the excavation pit at an area referred to as the "sump basin." As described below, Mn is naturally occurring and has been observed in the groundwater and sump sample at naturally occurring levels that exceed AGQS. In accordance with Env-Or 604.02(b), Aries is providing the following notification information below.

#### **Background Information**

At the request of the Town of Barrington under their January 18, 2022, Planning Board conditions of approval, Brox performed water quality sampling for several constituents including Mn starting May 2023. On March 8, 2023, NHDES approved Alteration of Terrain (AoT) permit (AoT-2313) for Tax Map 236 Lot 4 in Barrington with a permit condition requiring Brox to conduct a hydrogeologic study after submittal of a work scope to NHDES. On May 15, 2023, Aries submitted a hydrogeologic study work scope to NHDES Land Resources Management Bureau for review. Aries' hydrogeologic study work scope proposed to collect similar

information to a Site Investigation (SI) conducted in accordance with Env-Or 606.03. This letter is subject to the attached limitations.

### **Name & Contact Information of Person Notifying NHDES**

Peter McGlew, P.G.  
Aries Engineering, LLC  
104 Pleasant Street  
Concord, NH 03301  
Phone : 603-228-0008  
Email : [pmcglew@aries-eng.com](mailto:pmcglew@aries-eng.com)

### **Landowner Contact Information**

Brox Industries, Inc.  
Mr. Erik Stevenson, Vice President Real Estate  
1471 Methuen St.  
Dracut, MA 01826  
Phone: 978-805-9744  
Email: [estevenson@broxindustries.com](mailto:estevenson@broxindustries.com)

### **Site Location**

The property is located off Tolend Road in Barrington, and Rochester Neck Road in Rochester NH and is subject to a March 8, 2023, NHDES AoT permit approval (AoT-2313) for Tax Map 236 Lot 4. Additionally, there is a 2009 AoT permit, and the following lots are involved Tax Map 222, Lots 12 and 13 and Tax Map 236, Lots 2 and 3. These lots comprise approximately 160 acres and are located about 1,000 feet west from the Cocheco River; 1,800 feet west-northwest from the Dover Municipal Landfill Superfund site on Tolend Road; and 3,500 feet south from the Turnkey Landfill on Rochester Neck Road in Rochester. The City of Dover's Campbell and Calderwood Wells are located approximately 500 feet and 1,500 feet southeast from the site property boundary. A site locus map is provided on Figure 1.

### **Nature and Location of the Exceedance**

The Town of Barrington's January 18, 2022, notice of decision with conditional approval for the requested Brox excavation operation for Map 236 Lot 4 required Brox to sample sump water for various constituents including Mn starting in May of 2023. On May 25, 2023, Aries sampled the sump water directly ponded in the excavation for TPH, Chloride, Nitrate, TKN, pH, Specific Conductance, Sulfate, Iron, Manganese and Arsenic. The total Mn test result was 1.46 mg/l. Laboratory results were reported to Brox, through Aries, on June 9, 2023.

To confirm the sump water Mn result a second sample was collected on June 26, 2023 and sampled for dissolved and total Mn. Also on June 26, 2023, additional samples of the Brox facility groundwater were collected and analyzed from monitoring wells NAR-1, NAR-2, BII1, MWII-1 and residential well W-262. Locations of the sampled wells are shown on attached Figure 1. Laboratory results of the second confirmatory sampling were reported to Brox, through Aries, on July 5, 2023. Brox facility analytical data are attached, and data are summarized in attached Table 1.

Aries sampled groundwater from monitoring wells NAR-1 and NAR-2 on June 26, 2023, and the Mn concentration exceeded the ambient groundwater quality standard (AGQS) of 0.3 mg/l. Groundwater sample NAR-1 had a total Mn concentration of 0.558 and NAR-2 had a total Mn concentration of 0.563.

Also, total Mn was detected in the June 26, 2023, sump water sample at a concentration of 1.32 mg/l and dissolved Mn was detected at a concentration of 0.99 mg/l. The residential well W-262 total Mn was 0.312 mg/l and the dissolved was at 0.290 mg/l. The occupant does not use the well water for drinking and cooking.

Mn occurs naturally in the earth's crust and is released into water by the weathering process. Since the sump receives stormwater runoff and much of the area where runoff flows is an exposed and working earth excavation floor, one would anticipate somewhat higher suspended and dissolved Mn in the sump water, which is still consistent with the concentrations measured in the vicinity, as well as other zones in NH based on available groundwater data. According to the NHDES iron and manganese fact sheet DWGB-3-8, both elements are very common in both shallow and deep groundwater samples in New Hampshire. The fact sheet indicates that Mn groundwater concentrations vary widely depending on the local geology and groundwater chemistry.

Aries reviewed Mn groundwater concentrations from past available hydrogeologic studies to assess naturally occurring manganese concentrations in the Brox facility area. Based on the following studies, Aries anticipates the observed Mn concentrations are due to naturally occurring processes and would therefore be exempt from regulation as a discharge per Env-Or 602.03 and 602.07.

1. According to the *Water-Resources Investigations Report 90-4161(WRIR)*<sup>1</sup>, "iron and manganese concentrations above USEPA SMCLs for drinking water are common in ground water from the stratified-drift aquifers in New Hampshire." The maximum concentration in the WRIR for manganese in groundwater was 3.1 mg/l with a mean concentration of 0.300 mg/l, which is the present AGQS. The Secondary Maximum Contaminant Level (SMCL) for manganese is 0.05 mg/l.
2. According to the 1971, *Report on Groundwater Investigation at the Hoppers for the City of Dover*<sup>2</sup> page one summary prior to initiating their test program in the Hoppers, "three sites along the easterly side of Willand Pond on City owned land were explored. Only one site showed very limited promise and the quality of the water indicated unacceptable amounts of iron and manganese." The Hoppers aquifer discussed in the subject report is adjacent to the Brox facility's eastern property boundary.
3. Based on a 2012 and 2013 United States Geological Survey (USGS) study<sup>3</sup> with testing for iron and Mn in private bedrock wells located in southeastern NH as of 2010 the USGS estimated that Mn exceeded the 0.3 mg/l AGQS in 14,900 residential wells. From a sample population of 232 samples for Mn in southeastern NH the median concentration was .010 mg/l with a maximum of 1.7 mg/l. Mn was detected in more

---

<sup>1</sup> Geohydrology and Water Quality of Stratified-Drift Aquifers in the Bellamy, Cocheco, and Salmon Falls River Basins, Southeastern NH by Thomas J. Mack and Sean M. Lawlor, Water-Resources Investigations Report 90-4161.

<sup>2</sup> Report on Groundwater Investigation at the Hoppers, for the City of Dover, by Camp Dresser & McKee of Boston, MA, 1971.

<sup>3</sup> Arsenic, Lead, Iron, Manganese and Uranium Concentrations in Private Bedrock Wells in Southeastern New Hampshire, 2012-2013, by Sarah M. Flanagan, Marcel Belaval, and Joseph D. Ayotte.

than 50% of the samples and 5% of the samples exceeded the AGQS. USGS found that the geologic units and bedrock categories were markedly different in terms of constituents such as iron and Mn that exceeded the AGQS. According to the 2013 USGS study, “high concentrations of Fe and Mn occurred throughout the study area. However, geologic units in which more than 30 percent of water samples had Fe and Mn concentrations exceeding their respective SMCLs (50 µg/L for Mn and 300 µg/L for Fe) were predominantly from the metasedimentary bedrock category. Only samples from wells in the Concord Granite, a member of the felsic igneous bedrock category, had similarly high percentages of Mn (53.9 percent) and Fe (30.8 percent) concentrations exceeding SMCLs.” Based on the NH bedrock geologic map<sup>4</sup> the Site sump area is underlain by Concord Granite and immediately to the east is the Berwick formation, which is metasedimentary bedrock. Table 2 of the subject USGS report indicated that 15.4% of the samples exceeded the AGQS and 53.9 % of the samples exceeded the SMCL in the Concord Granite from the USGS sampling conducted. As observed by the USGS in their 2013 study, Mn is naturally occurring in the soils and bedrock that the soils are composed of, and variability of the Mn concentrations are anticipated due to the rock and soil types as well as the biogeochemical conditions.

4. Data from the Dover Municipal landfill Superfund Site wells GW-1 and GW-3, which appear to be upgradient and northwest of the landfill based on groundwater elevation plans both show Mn ranging from 0.7 mg/l to up to 1.6 mg/l in the sample results from 2020 and 2021 in the Second Five-Year Review Report<sup>5</sup>. Based on NHDES file information for the Turnkey Landfill release detection permit a September 2022 report<sup>6</sup> by Sanborn, Head Associates, Inc. indicates that monitoring wells MW-401 and MW-402 are representative of upgradient groundwater quality from the landfill. The total Mn for MW-401 was 1.42 mg/l and MW-402 was 0.667 mg/l.
5. City of Dover Master Plan<sup>7</sup>, June 28, 2022, indicates that they treat elevated Mn levels from the Bouchard well, Hughes well, and the Lowell Avenue Treatment Plant removes Mn. The Campbell well and Calderwood well located southeast of the Brox Facility are reported on page 69 to have excellent water quality elevated Mn was not mentioned for these wells. The 2022 Consumer Confidence Report City of Dover PWS ID#: 0651010 states, “Dover residents drink groundwater from eight wells located throughout the City. These wells provide access to four underground aquifers of high-quality water to supply our multifaceted needs. The water is treated for Iron and Manganese. It is also disinfected and fluoridated.” The 2022 Consumer Confidence Report indicates that Hughes and Griffin wells have Mn at 0.056 mg/l and 0.216 mg/l, respectively, exceeding the SMCL.

In summary, the groundwater Mn results are elevated in numerous samples from areas in the vicinity of the Brox facility and in the watershed within which the facility lies. These elevated Mn concentrations are due to the mineralogy of the underlying bedrock and soils and not related to the earth excavation operations. Available site data indicate that the site NAR-1 and NAR-2 groundwater sample total Mn concentrations are consistent with site area Mn concentrations detected in numerous nearby locations, as referenced above. Based on these findings, Aries

---

<sup>4</sup> Bedrock Geologic Map of New Hampshire Lyons, J.B., Bothner, W.A., Moench, R.H. and Thompson, J.B., Jr., 1997,

<sup>5</sup> Second Five-Year Review Report for Dover Municipal Landfill Superfund Site, by EPA 9-19-2022.

<sup>6</sup> 2022 Annual Groundwater Quality Report by Sanborn, Head & Associates, Inc. 9-29-2022

<sup>7</sup> City of Dover Master Plan Adopted 6-28-2022.

concludes that the Mn concentrations detected in the NAR-1 and NAR-2 groundwater samples and the excavation dewatering sump samples are representative of background conditions and are considered to be naturally occurring, although elevated in concentration.

### **Potential Receptors**

The Brox facility has operated at this location since the 1980's and has been recharging sump water to the adjacent "Hoppers" area since 2014 with no known impacts to the nearby Dover Public Water Supply (PWS) wells. The "Hoppers" area is located approximately 600 feet east of the site sump excavation in a wooded and hummocky area along the site's eastern property boundary and approximately 500 feet and 1,500 feet from the City of Dover's Campbell and Calderwood water supply wells, respectively. Available NHDES PWS data for Campbell and Calderwood PWS do not indicate elevated Mn concentrations at these nearby water wells, and the City of Dover also reports that these two closest downgradient water supply wells have excellent water quality.

Based on inferred regional hydrogeology, and while Brox' proposed hydrogeologic study is pending NHDES confirmation, Aries does not anticipate that groundwater containing Mn at or under the Brox facility are likely to migrate to the water supply wells in concentrations that exceed current AGQS.

### **Schedule**

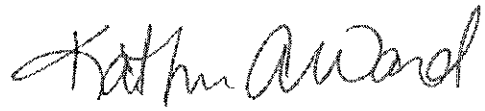
Aries is waiting to receive comments on the scope of hydrogeologic inquiry submitted in response to its AoT conditions of approval. Further, Aries anticipates meeting with NHDES Water Supply staff to discuss all pending withdrawal, discharge and sampling issues. In addition, Brox is following the sampling and reporting schedule for numerous constituents that the Town of Barrington has requested from the sump water and two on-site monitoring wells.

Please contact the undersigned at (603) 228-0008 with any questions that you may have.

Sincerely,  
Aries Engineering, LLC



Peter J. McGlew, P.G.  
Principal Hydrogeologist



Kathryn A. Ward, P.E.  
Principal Engineer

PM:pj

Attachments: Limitations  
Table and Figure 1  
Laboratory Results

Cc: Steve Roy NHDES  
Ridge Mauck NHDES  
Vanessa Price, Town Planner, Town of Barrington  
Gretchen Young, PE, Environmental Projects Manager, City of Dover  
Ari Pollack, Esq., Gallagher, Callahan & Gartrell, P.C.

## LIMITATIONS

## **LIMITATIONS**

---

Aries prepared this Notification Information (report) on behalf of and for the exclusive use of Brox Industries, Inc. (Client) solely for use at the 489 Rochester Neck Road in Rochester, New Hampshire. This report shall not be transmitted to any other party, or relied upon by any other party, without Aries' written consent. However, Aries acknowledges the report may be conveyed to the New Hampshire Department of Environmental Services.

Aries made the reported observations under the conditions stated herein. Aries based the report conclusions solely on the services described herein, and not on scientific tasks or procedures beyond the scope of described services.

In preparing this report, Aries relied on certain information provided by state officials, federal officials and other parties referenced herein, and on information contained in the files of federal, state and local agencies available to Aries at the time of the report. Although there may have been some degree of overlap in the information provided by these various sources, Aries did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this report.

Aries made site observations as reported. Where access to portions of the sites were unavailable or limited, Aries renders no opinion as to the presence of hazardous material, petroleum product, or to the presence of indirect evidence relating to hazardous material or petroleum product, in those portions of the site. In addition, Aries renders no opinion as to the presence of hazardous material, petroleum product, or to the presence of indirect evidence relating to hazardous material or petroleum product, where direct observation was obstructed by objects or coverings, including snow cover, on or over the hazardous material or petroleum product.

Aries' conclusions are based solely on the site observations made during the site reconnaissances. If variations or other latent conditions later appear evident, Aries may need to reevaluate and may change the report conclusions and/or recommendations.

Aries conducted this report to assess the physical site characteristics with respect to the presence of manganese in the site soil and groundwater, as defined pursuant to Env-Or 600. Aries did not attempt to check the compliance of present or past site owners or operators with federal, state or local laws and regulations, environmental or otherwise.

Aries anticipates variations in actual site conditions beyond those interpreted, and would have to reevaluate the report conclusions and recommendations if additional site data are made available.

Laboratory testing was performed as part of the study. Where such analyses were conducted by an outside laboratory, Aries relied upon the data provided, and did not conduct an independent evaluation of the reliability of these data.

Chemical analyses were performed for specific parameters during the course of this study, as described in the text. Additional chemical constituents not searched for during the current study may be present in soil and/or groundwater at the site.

Aries conducted this report in general accordance with accepted consulting practices. Aries makes no warranty, either expressed or implied.



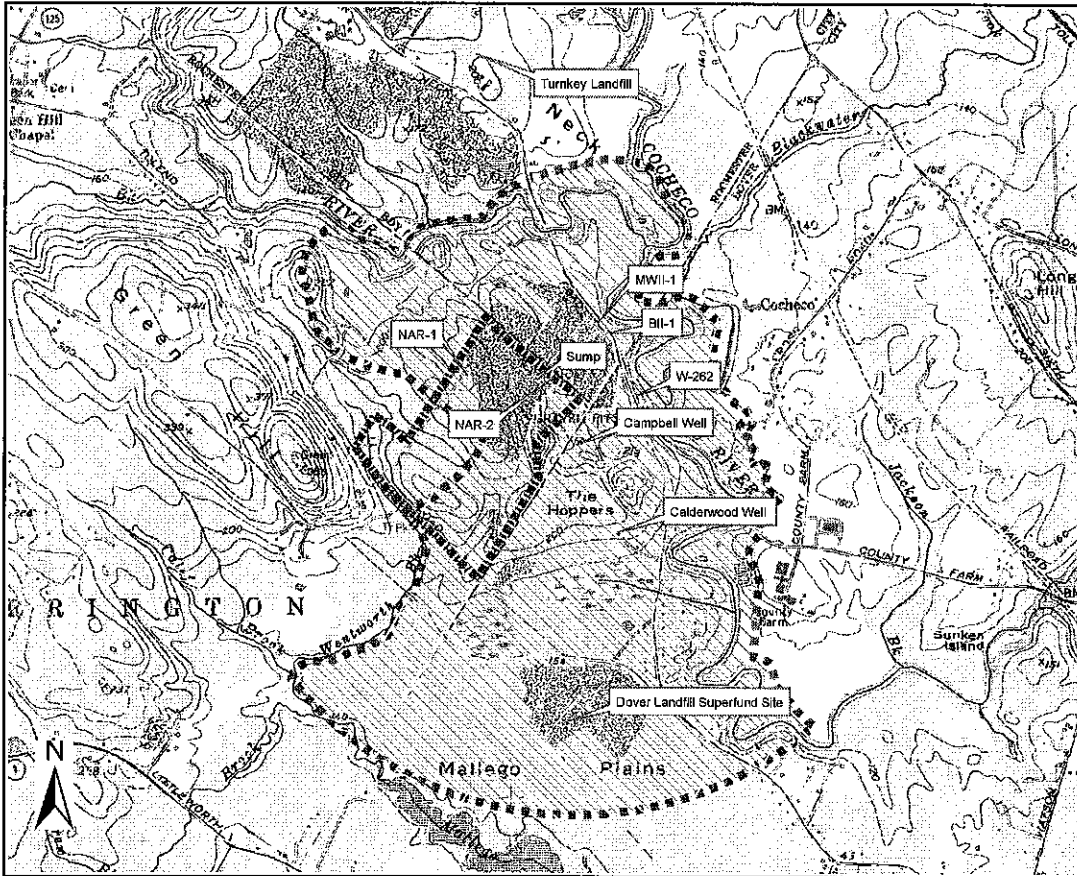
## TABLES & FIGURES

TABLE 1  
GROUNDWATER ANALYTICAL RESULT  
BROX FACILITY  
BARRINGTON, NEW HAMPSHIRE

Analytical Parameter		Conductivity (umhos/cm)	pH	Total Arsenic	Total Iron	Total Manganese	Dissolved Manganese	Nitrate-N	Sulfate	Total Kjeldahl Nitrogen (TKN)	TPH-DRO
NHDES AGQS		NS	NS	0.005	NS	0.3	0.3	10	500	NS	NS
NHDES GW-1		NS	NS	0.005	NS	0	0	10	500	NS	NS
Location	Date										
Bedrock Sump	05/25/23	630	6.87	<0.0010	0.25	1.46	-	8.4	218	0.25	<5.0
	06/26/23	-	-	-	-	1.32	0.999	-	-	-	-
NAR-1	06/26/23	312	-	-	-	0.568	0.585	-	-	-	-
NAR-2	06/26/23	365	-	-	-	0.563	0.092	-	-	-	-
MW-II1	06/26/23	-	6.90	-	-	0.076	0.118	-	-	-	-
B-II1	06/26/23	-	-	-	-	0.024	0.023	-	-	-	-
W-262	6/28/2023	-	-	-	-	0.312	0.290	-	-	-	-

NOTES:

1. All results are in milligrams per liter (mg/L), except for conductivity and pH
2. <5.0 Indicates the analyte was not detected above the listed detection limit.
3. **Bold** indicates results exceed Ambient Groundwater Quality Standard (AGQS) established in Env-Or 603.03 and NHDES GW-1 Standards.
5. NS indicates no applicable compliance standard for the designated parameter.



#### NOTES

1. Plan prepared from Geographic Information System (GIS) data provided by the New Hampshire Geographic Information System (NHGIS) and the New Hampshire Department of Environmental Services (NHDES).
2. Site boundary locations are based on an overlay of the site features on NH GRANIT GIS data. Therefore, all site features are approximately located.
3. This plan is not to be used for construction, survey or boundary purposes.

#### Legend

- Surface Water
- Act Areas
- Property Boundaries
- Dover PWS Wellhead Protection Area
- Surface Water

0 750 1,500 3,000 4,500 6,000 Feet

Aries Project # 2023-047  
File # 2023-047.mxd(117.23.MXD)



104 PLEASANT STREET  
CONCORD, NH 03301  
(603) 228-0008  
www.aries-eng.com

REPORTING Mn EXCEEDANCE  
BROX PIT  
TOLAND ROAD  
BARRINGTON, NEW HAMPSHIRE

#### SITE LOCUS PLAN

JULY 2023

FIGURE 1

## LABORATORY RESULTS

# NELSON ANALYTICAL LAB

RP230608006

490 East Industrial Park Drive  
Manchester, NH 03109  
(603)622-0200

NH ELAP Accreditation #NH1005  
Maine Certification # NH01005  
Vermont State Certification # VT1005  
[www.nelsonanalytical.com](http://www.nelsonanalytical.com)

Client: Aries Engineering, LLC:

08 June 2023


104 Pleasant Street Concord NH , 03301:

Enclosed are the results of analytical testing performed on the following samples:

Laboratory ID	Client Sample ID	Sample Location	Sample matrix	Date sampled	Date received
123052567.01	Brox Industries, Barrington, NH #2023-047:	<b>Surface Water, Bedrock Sump</b>	Water	25-May-23 13:15	25-May-23 16:30

The results in this report relate only to the submitted samples. If you have any questions concerning this report, please feel free to contact us at (603)622-0200.

Approved By:



Andrew Nelson Laboratory Director



Notes: mg/L=ppm; ug/L=ppb; ng/L=ppb. \*C\* denotes "less than". This report of analysis may not be modified in any way, or reproduced except in full, without written approval from Nelson Analytical, LLC. Results reported above relate only to samples as submitted, unless specifically noted otherwise. Nelson Analytical, LLC is currently accredited by the New Hampshire Environmental Lab Accreditation Program, the Vermont Laboratory Accreditation Program, the Massachusetts Laboratory Certification Program and the Maine Laboratory Accreditation Program. For a list of current accredited tests, please visit the websites listed below. Sampling performed by the lab is according to the lab document "Water Sampling Instructions". EPA standards list pH & Chlorine as field parameters which should be tested immediately upon sample collection. Samples tested for pH after submission are beyond the hold time. Samples will be analyzed as quickly as laboratory operations allow. Metals samples may be analyzed the same day they are received. #=Sample(s) received at laboratory

do not meet method specified temperature criteria.

Solid samples are reported on a dry weight basis unless noted otherwise.

Subcontract Laboratories: SUB2: Nelson Analytical Maine NH2018 SUB 7: Nelson Analytical EAL Div. NH1007, SUB4:NH2073, SUB5:NH2530, SUB8:NH2136, SUB9:NH2557

<http://www.nh.gov/organizations/divisions/water/dwqph/nhldag>

[http://health.vermont.gov/info/ph\\_lab/PublicHealthLaboratory.aspx](http://health.vermont.gov/info/ph_lab/PublicHealthLaboratory.aspx)

<https://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml>

<https://www.mass.gov/info-details/nelson-analytical-lab>

490 East Industrial Park Drive  
Manchester, NH 03109  
(603)622-0200

NH ELAP Accreditation #NH1005  
Maine State Certification #NH01005  
Vermont State Certification #VT1005  
www.nelsonanalytical.com

Date Reported : 08-Jun-23 10:26

## REPORT OF ANALYSIS

sampled Date: 25-May-2023 01:15

123052567.01

Brox Industries, Barrington, NH  
#2023-047

Surface Water, Bedrock Sump

### Conductivity

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Analyst
Conductivity	630	10	umhos/cm	05/26/2023 11:10	SM 2510B	LS

### Metals by ICP/MS

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Analyst
Arsenic	<0.0010	0.001	mg/L	05/26/2023 13:28	EPA 200.8	NN
Iron	0.250	0.03	mg/L	05/26/2023 13:28	EPA 200.8	NN
Manganese	1.46	0.01	mg/L	05/26/2023 13:28	EPA 200.8	NN

### Nitrate

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Analyst
Nitrate-N	8.4	1	mg/L	05/25/2023 17:00	SM 4500 NO3 D	LS

### pH

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Analyst
pH	6.87	N/A	SU	05/25/2023 17:00	SM 4500H B	LS

### Sulfate

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Analyst
Sulfate	218	5.0	mg/L	05/30/2023 12:00	E300.0-2.1	SUB8

### Total Kjeldahl Nitrogen

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Analyst
Total Kjeldahl Nitrogen (TKN)	0.23	0.10	mg/L	06/06/2023 12:00	E351.1	SUB8

Notes: mg/L=ppm; ug/L=ppb; ng/L=ppt, "<" denotes "less than". This report of analysis may not be modified in any way, or reproduced except in full, without written approval from Nelson Analytical, LLC. Results reported above relate only to samples as submitted, unless specifically noted otherwise. Nelson Analytical, LLC is currently accredited by the New Hampshire Environmental Lab Accreditation Program, the Vermont Laboratory Accreditation Program, the Massachusetts Laboratory Certification Program and the Maine Laboratory Accreditation Program. For a list of current accredited tests, please visit the websites listed below. Sampling performed by the lab is according to the lab document "Water Sampling Instructions". EPA standards list pH & Chlorine as field parameters which should be tested immediately upon sample collection. Samples tested for pH after submission are beyond the hold time. Samples will be analyzed as quickly as laboratory operations allow. Metals samples may be analyzed the same day they are received. #Sample(s) received at laboratory do not meet method specified temperature criteria.

Solid samples are reported on a dry weight basis unless noted otherwise.  
Subcontract Laboratories: SUB2: Nelson Analytical Maine NH2018 SUB 7: Nelson Analytical EAL Div. RH1007, SUB4:NH2073, SUB5:NH2530, SUB8:NH2136, SUB9:NH2557  
<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/>  
[http://healthvermont.gov/enviro/ph\\_lab/PublicHealthLaboratory.aspx](http://healthvermont.gov/enviro/ph_lab/PublicHealthLaboratory.aspx)  
<https://www.maine.gov/dhhs/mecdc/environmental-health/cwp/professionals/labCert.shtml>  
<https://www.mass.gov/certified-laboratories>

# NELSON ANALYTICAL LAB

RP230608006

490 East Industrial Park Drive  
Manchester, NH 03109  
(603)622-0200

NH ELAP Accreditation #NH1005  
Maine State Certification #NH01005  
Vermont State Certification #VT1005  
www.nelsonanalytical.com

Date Reported : 08-Jun-23 10:26

## REPORT OF ANALYSIS

sampled Date: 25-May-2023 01:15

123052567.01

Brox Industries, Barrington, NH  
#2023-047

Surface Water, Bedrock Sump

### TPH by GC (Extractable Products)

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Analyst
Aviation Fuel/Kerosene	ND	0.5	mg/L	06/02/2023 12:00	SW8015D DRO	SUB8
Fuel Oil 2/Diesel Fuel	ND	0.5	mg/L	06/02/2023 12:00	SW8015D DRO	SUB8
Fuel Oil 4	ND	0.5	mg/L	06/02/2023 12:00	SW8015D DRO	SUB8
Fuel Oil 6	ND	0.5	mg/L	06/02/2023 12:00	SW8015D DRO	SUB8
Motor Oil	ND	0.5	mg/L	06/02/2023 12:00	SW8015D DRO	SUB8
Other Oil (Cutting and Lubricating)	ND	0.5	mg/L	06/02/2023 12:00	SW8015D DRO	SUB8
Unidentified	ND	0.5	mg/L	06/02/2023 12:00	SW8015D DRO	SUB8

Notes: mg/L=ppm; ug/L=ppb; ng/L=ppt. "c" denotes "less than". This report of analysis may not be modified in any way, or reproduced except in full, without written approval from Nelson Analytical, LLC. Results reported above relate only to samples as submitted, unless specifically noted otherwise. Nelson Analytical, LLC is currently accredited by the New Hampshire Environmental Lab Accreditation Program, the Vermont Laboratory Accreditation Program, the Massachusetts Laboratory Certification Program and the Maine Laboratory Accreditation Program. For a list of current accredited tests, please visit the websites listed below. Sampling performed by the lab is according to the lab document "Water Sampling Instructions". EPA standards list pH & Chlorine as field parameters which should be tested immediately upon sample collection. Samples tested for pH after submission are beyond the hold time. Metals samples may be analyzed the same day they are received. #Sample(s) received at laboratory do not meet method specified temperature criteria.

Solid samples are reported on a dry weight basis unless noted otherwise.

Subcontract Laboratories: SUB2: Nelson Analytical Maine NH2018 SUB 7; Nelson Analytical EAI Div, NH1007, SUB4:NH2073, SUB5:NH2530, SUB6:NH2136, SUB9:NH2557

<http://des.nh.gov/organization/divisions/water/dwgh/nhelap/>

[http://healthvermont.gov/enviro/ph\\_lab/PublicHealthLaboratory.aspx](http://healthvermont.gov/enviro/ph_lab/PublicHealthLaboratory.aspx)

<https://www.maine.gov/dhhs/inccdc/environmental-health/dwsp/professionals/labCert.shtml>

<https://www.mass.gov/certified-laboratories>

490 East Industrial Park Drive  
Manchester, NH 03109  
Phone: (603) 783-9097  
Fax: (603) 622-0200  
E-Mail: info@nelsonanalytical.com

# NELSON ANALYTICAL LAB

12305-2507

Date Rec'd: 5/25/23 Time Rec'd: 10:30 AM Temp Rec'd: 15.4  
Rec'd by: [Signature] Location: FC  
Container: 100mL Pos Neg N/A  
Boilies: 40mL HCL 40mL MDDP 4oz. Glass 2 TPN  
11. Amber HCL MIN 250mL LC amber  
Other: [Signature]

Turnaround Requirements		Project Information	
Please inquire about rush service. If we are able to meet your needs, we will not charge a rush fee. Please call for prior approval. Same day _____ One Day _____ Two Day _____ Three Day _____ Normal <input checked="" type="checkbox"/>		Project #: 2023-047 Project Name: Brox Industries Town/Site: Barrington, NH Sampler: Kathleen Baxter Company: Aries Engineering Project Manager: Peter McGlew Report to: K Hedglin @ aries-eng.com Invoice to: K Hedglin @ aries-eng.com Phone: 603-208-0008 E-Mail: kbaxter@aries-eng.com	
Detection Requirements: Please specify any detection requirements:		Sample Matrix Key: Please indicate the sample matrix in the sample matrix column by using the respective codes below: S Soil DW Drinking Water GW Groundwater WW Wastewater SW Surface Water O Oil X Other (specify):	
Receipt Conditions (Lab Use Only): Laboratory Supplier Containers? Yes ___ No ___ Containers intact/Properly Labeled? Yes ___ No ___ Were samples delivered on ice? Yes ___ No ___ Shipped directly from field? Yes ___ No ___ Sample storage requirements: ROOM TEMP / FREEZER / REFRIGERATOR		Project Requirements: Quote #: NH Cont Fund: Y / N MCP: Y / N Notes:	
Sample Information		Sample Matrix Key	
Sample ID	Collection Date/Time	Sample Matrix (see key)	Lab ID
Bedrock Dump	5/25/23 11:15	SW	12305-2507
		VOCs: EPA 826 VOCs: EPA 824.2 Drinking Water 1,4-dioxane: EPA 825.0 (SW) SVOC: EPA 827.0 Toluene SVOC: EPA 827.0 PAH: Chrys. PCB Analysis: EPA 8082 Pesticides: EPA 8061 Herbicides: EPA 8151 TPH Fuel Oil - GRO: EPA 8100.015M TPH Gasoline - GRO: SW 8015 MADEP EPH MADEP YPH Petroleum: Petroleum PCB Analysis: Total PCB Analysis: Dissolved Additional Metals: (Total / Dissolved) TCF Metals: Chlorides: Strontium / Nitrate Fluoride: (Total / Dissolved) EPA SW 846 - Reactivity Flammability / Ignitability Oil & Grease (specify): Total Dissolved Solids Total Suspended Solids PFAS (specify): ATEX (Total / Dissolved)	
Relinquished by: Kathleen Baxter		Date: 5/25/23	Received by: [Signature]
Relinquished by:		Time: 3:56 PM	Received by:
Relinquished by:		Date:	Received by:
		Time:	
NOTES: Metals Iron, Manganese Arsenic FRM-NH-Environmental Sample Submission-01 09.05.2019			



NELSON ANALYTICAL LAB

12305-256  RP230608006

Date Rec'd: \_\_\_\_\_ Time Rec'd: \_\_\_\_\_ Temp Rec'd: \_\_\_\_\_  
 Rec'd by: *ones* Location: *FC*  
 Cooler: \_\_\_\_\_ Ice: *YN*  
 Chlorine: \_\_\_\_\_ Pux: *Neg* MSA: \_\_\_\_\_  
 Bottles: 40ml HCL \_\_\_\_\_ 40ml NIOSH \_\_\_\_\_ 4oz Glass \_\_\_\_\_  
 1L Amber HCL \_\_\_\_\_ 250ml LG \_\_\_\_\_  
 Other: \_\_\_\_\_

<b>Turnaround Requirements</b> Please inquire about rush service. If we are able to meet your needs, we will not charge a rush fee. Please call for prior approval. Same day _____ One Day _____ Two Day _____ Three Day _____ Normal <input checked="" type="checkbox"/>		<b>Project Information</b> Project #: <u>2023-047</u> Project Name: <u>Brox Industries</u> Town/Site: <u>Barrington, NH</u> Sampler: <u>Kathleen Baxter</u> Company: <u>Aries Engineering</u> Project Manager: <u>Peter McGlew</u> Report to: _____ Invoice to: <u>Khedglin@aries-eng.com</u> Phone: <u>603-208-0008</u> E-Mail: <u>Kbaxter@aries-eng.com</u>		<b>Receipt Conditions (Lab Use Only):</b> Laboratory Supplied Containers? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Containers Intact/Properly Labeled? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Were samples delivered on ice? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Brought directly from field? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Sample storage requirements:</b> ROOM TEMP / FREEZER / REFRIGERATOR									
<b>Detection Requirements</b> Please specify any detection requirements:		<b>Sample Matrix Key</b> Please indicate the sample matrix in the sample matrix column by using the respective codes below: S Soil DW Drinking Water GW Groundwater WW Wastewater SW Surface Water O Oil X Other (specify):		<b>Project Requirements:</b> Quote # _____ N=Not Fund. Y=Yes MCP: Y=Yes									
<b>Sample Information</b>		<b>VOCs</b>		<b>SVOCs</b>		<b>Petroleum</b>		<b>Metals</b>		<b>Water Chemistry / Inorganics</b>		<b>Other</b>	
<b>Sample ID</b> <u>Bedrock Swamp</u>	<b>Collection Date/Time</b> <u>5/25/23 11:15</u>	<b>Sample Matrix (see key)</b> <u>S</u>	<b># of Containers</b> <u>5</u>	<b>VOCs: EPA 8260</b> <b>VOCs: EPA 8242 Drinking Water</b> <b>1,4-dioxane: EPA 8260B (S/M)</b> <b>SVOC 827E Full List</b>	<b>SVOC 3725 Full Only</b> <b>PCB Analysis: EPA 8032</b> <b>Pesticides: EPA 8081</b> <b>Herbicides: EPA 8151</b> <b>TPH Fuel Oil - DRC: EPA 8100-801EM</b> <b>TPH Distillates - DRC: EPA 8100-801EM</b> <b>MADEP EPH</b> <b>MADEP VPH</b> <b>Petroleum: Fluorimetry</b> <b>SCRA 8 Metals: TSS</b> <b>SCRA 8 Metals: Dissolved</b> <b>Additional Metals: (Optional) Dissolved</b>	<b>Metals: As</b> <b>Metals: Cd</b> <b>Metals: Cr</b> <b>Metals: Cu</b> <b>Metals: Fe</b> <b>Metals: Pb</b> <b>Metals: Se</b> <b>Metals: Zn</b> <b>Metals: Ni</b> <b>Metals: Mn</b> <b>Metals: Co</b> <b>Metals: Ag</b> <b>Metals: Ba</b> <b>Metals: Be</b> <b>Metals: Bi</b> <b>Metals: Br</b> <b>Metals: Ca</b> <b>Metals: Cl</b> <b>Metals: F</b> <b>Metals: Hg</b> <b>Metals: I</b> <b>Metals: K</b> <b>Metals: Li</b> <b>Metals: Mg</b> <b>Metals: Na</b> <b>Metals: S</b> <b>Metals: Si</b> <b>Metals: Ti</b> <b>Metals: V</b> <b>Metals: W</b> <b>Metals: Y</b> <b>Metals: Zr</b>	<b>Water Chemistry / Inorganics: Alkalinity</b> <b>Water Chemistry / Inorganics: Ammonia</b> <b>Water Chemistry / Inorganics: Boron</b> <b>Water Chemistry / Inorganics: Calcium</b> <b>Water Chemistry / Inorganics: Chloride</b> <b>Water Chemistry / Inorganics: Conductivity</b> <b>Water Chemistry / Inorganics: Dissolved Solids</b> <b>Water Chemistry / Inorganics: Fluoride</b> <b>Water Chemistry / Inorganics: Hardness</b> <b>Water Chemistry / Inorganics: Iron</b> <b>Water Chemistry / Inorganics: Manganese</b> <b>Water Chemistry / Inorganics: Nitrate</b> <b>Water Chemistry / Inorganics: Nitrite</b> <b>Water Chemistry / Inorganics: Phosphate</b> <b>Water Chemistry / Inorganics: Silica</b> <b>Water Chemistry / Inorganics: Sulfate</b> <b>Water Chemistry / Inorganics: Total Dissolved Solids</b> <b>Water Chemistry / Inorganics: Total Suspended Solids</b> <b>Water Chemistry / Inorganics: Total Hardness</b> <b>Water Chemistry / Inorganics: Total Solids</b> <b>Water Chemistry / Inorganics: Total Suspended Solids</b> <b>Water Chemistry / Inorganics: Total Dissolved Solids</b> <b>Water Chemistry / Inorganics: Total Hardness</b> <b>Water Chemistry / Inorganics: Total Solids</b>	<b>Other: As</b> <b>Other: Cd</b> <b>Other: Cr</b> <b>Other: Cu</b> <b>Other: Fe</b> <b>Other: Pb</b> <b>Other: Se</b> <b>Other: Zn</b> <b>Other: Ni</b> <b>Other: Mn</b> <b>Other: Co</b> <b>Other: Ag</b> <b>Other: Ba</b> <b>Other: Be</b> <b>Other: Bi</b> <b>Other: Br</b> <b>Other: Ca</b> <b>Other: Cl</b> <b>Other: F</b> <b>Other: Hg</b> <b>Other: I</b> <b>Other: K</b> <b>Other: Li</b> <b>Other: Mg</b> <b>Other: Na</b> <b>Other: S</b> <b>Other: Si</b> <b>Other: Ti</b> <b>Other: V</b> <b>Other: W</b> <b>Other: Y</b> <b>Other: Zr</b>	<b>Laboratory ID</b> <u>2-TEN (MCL) (MCL) (MCL)</u>				
<b>Retinquished by:</b> <u>Kathleen Baxter</u>	<b>Date:</b> <u>5/25/23</u> <b>Time:</b> <u>3:56pm</u>	<b>Received by:</b> <u>[Signature]</u> <b>Date:</b> _____ <b>Time:</b> _____		<b>NOTES:</b> <u>Metals Iron, Manganese Arsenic</u> <u>NO TPH GAS Per Kathy C</u> <u>MEMO 5/26/23</u>									
<b>Retinquished by:</b> _____	<b>Date:</b> _____ <b>Time:</b> _____	<b>Received by:</b> <u>[Signature]</u> <b>Date:</b> _____ <b>Time:</b> _____		<b>Retinquished by:</b> _____									
<b>Retinquished by:</b> _____	<b>Date:</b> _____ <b>Time:</b> _____	<b>Received by:</b> _____		<b>Retinquished by:</b> _____									

# NELSON ANALYTICAL LAB

490 East Industrial Park Drive  
 Manchester, NH 03109  
 (603)622-0200

NH ELAP Accreditation #NH1005  
 Maine Certification # NH01005  
 Vermont State Certification # VT1005  
[www.nelsonanalytical.com](http://www.nelsonanalytical.com)

Client: Aries Engineering, LLC:

03 July 2023

104 Pleasant Street Concord NH , 03301:

Enclosed are the results of analytical testing performed on the following samples:

NOTE: Filtration for dissolved metals for samples 01 and 03 were performed at lab upon sample receipt.

Laboratory ID	Client Sample ID	Sample Location	Sample matrix	Date sampled	Date received
123062641.01	Brox Industries, Inc., Barrington, NH #2023-047:	<b>Drinking Water, W-262</b>	Water	26-Jun-23 12:10	26-Jun-23 16:45
123062641.02	Brox Industries, Inc., Barrington, NH #2023-047:	<b>Groundwater, MW-II1</b>	Water	26-Jun-23 12:40	26-Jun-23 16:45
123062641.03	Brox Industries, Inc., Barrington, NH #2023-047:	<b>Groundwater, B-II1</b>	Water	26-Jun-23 12:50	26-Jun-23 16:45
123062641.04	Brox Industries, Inc., Barrington, NH #2023-047:	<b>Groundwater, Quarry Sump</b>	Water	26-Jun-23 13:10	26-Jun-23 16:45
123062641.05	Brox Industries, Inc., Barrington, NH #2023-047:	<b>Groundwater, NAR-2</b>	Water	26-Jun-23 13:30	26-Jun-23 16:45
123062641.06	Brox Industries, Inc., Barrington, NH #2023-047:	<b>Groundwater, NAR-1</b>	Water	26-Jun-23 14:00	26-Jun-23 16:45

The results in this report relate only to the submitted samples. If you have any questions concerning this report, please feel free to contact us at (603)622-0200.

Approved By:



Kimberly Wright Laboratory Director



\*Notes: mg/L=ppm; ug/L=ppb; ng/L=ppb. "C" denotes "less than". This report of analysis may not be modified in any way, or reproduced except in full, without written approval from Nelson Analytical, LLC. Results reported above relate only to samples as submitted, unless specifically noted otherwise. Nelson Analytical, LLC is currently accredited by the New Hampshire Environmental Lab Accreditation Program, the Vermont Laboratory Accreditation Program, the Massachusetts Laboratory Certification Program and the Maine Laboratory Accreditation Program. For a list of current accredited tests, please visit the websites listed below. Sampling performed by the lab is according to the lab document "Water Sampling Instructions". EPA standards list pH & Chlorine as field parameters which should be tested immediately upon sample collection. Samples tested for pH after submission are beyond the hold time. Samples will be analyzed as quickly as laboratory operations allow. Metals samples may be analyzed the same day they are received. #=Sample(s) received at laboratory do not meet method specified temperature criteria.

Solid samples are reported on a dry weight basis unless noted otherwise.  
 Subcontract Laboratories: SUB2: Nelson Analytical Maine NH2018 SUB 7; Nelson Analytical EAI Div. NH1007, SUB4:NH2073, SUB5:NH2530, SUB6:NH2136, SUB9:NH2597  
<http://des.nh.gov/organization/divisions/water/dwbp/nh-elap/>  
[http://healthvermont.gov/enviro/ph\\_lab/PublicHealthLaboratory.aspx](http://healthvermont.gov/enviro/ph_lab/PublicHealthLaboratory.aspx)  
<https://www.maine.gov/dhs/mecdc/environmental-health/dwp/professionals/labCert.shtml>  
<https://www.mass.gov/info-details/department-of-environmental-protection-laboratory-accreditation>

# NELSON ANALYTICAL LAB

RP230703035

490 East Industrial Park Drive  
Manchester, NH 03109  
(603)622-0200

NH ELAP Accreditation #NH1005  
Maine State Certification #NH01005  
Vermont State Certification #VT1005  
www.nelsonanalytical.com

Date Reported : 03-Jul-23 16:43

## REPORT OF ANALYSIS

sampled Date: 26-Jun-2023 12:10

123062641.01

Brox Industries, Inc.,  
Barrington, NH #2023-047  
Drinking Water, W-262

### Metals by ICP/MS

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Analyst
Dissolved Manganese	0.290	0.01	mg/L	06/30/2023 00:49	EPA 200.8	NN
Manganese	0.312	0.01	mg/L	06/30/2023 00:49	EPA 200.8	NN

Notes: mg/L=ppm; ug/L=ppb; ng/L=ppt, "<" denotes "less than". This report of analysis may not be modified in any way, or reproduced except in full, without written approval from Nelson Analytical, LLC. Results reported above relate only to samples as submitted, unless specifically noted otherwise. Nelson Analytical, LLC is currently accredited by the New Hampshire Environmental Lab Accreditation Program, the Vermont Laboratory Accreditation Program, the Massachusetts Laboratory Certification Program and the Maine Laboratory Accreditation Program. For a list of current accredited tests, please visit the websites listed below. Sampling performed by the lab is according to the lab document "Water Sampling Instructions". EPA standards list pH & Chlorine as field parameters which should be tested immediately upon sample collection. Samples tested for pH after submission are beyond the hold time. Samples will be analyzed as quickly as laboratory operations allow. Metals samples may be analyzed the same day they are received. #=Sample(s) received at laboratory do not meet method specified temperature criteria.

Solid samples are reported on a dry weight basis unless noted otherwise.  
Subcontract Laboratories: SUB2: Nelson Analytical Maine NH2018 SUB 7; Nelson Analytical E&I Div. NH1007; SUB4:NH2073, SUB5:NH2530, SUB8:NH2136, SUB9:NH2557  
<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/>  
[http://health.vermont.gov/enviro/ph\\_lab/PublicHealthLaboratory.aspx](http://health.vermont.gov/enviro/ph_lab/PublicHealthLaboratory.aspx)  
<https://www.maine.gov/dhhs/mecdc/environmental-health/dwep/professionals/labCert.shtml>  
<https://www.mass.gov/certified-laboratories>

RP230703035

NH ELAP Accreditation #NH1005  
Maine State Certification #NH01005  
Vermont State Certification #VT1005  
[www.nelsonanalytical.com](http://www.nelsonanalytical.com)

**sampled Date:** 26-Jun-2023 12:40

<u>Analyte</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Units</u>	<u>Analyzed</u>	<u>Method</u>	<u>Analyst</u>
Dissolved Manganese	<b>0.118</b>	0.01	mg/L	06/30/2023 00:49	EPA 200.8	NN
Manganese	<b>0.076</b>	0.01	mg/L	06/30/2023 00:49	EPA 200.8	NN

Subcontract Laboratories: SUB2: Nelson Analytical Maine NH2018 SUB 7; Nelson Analytical EAT Div, NH1007; SUB4:NH2073, SUB5:NH2530, SUB8:NH2136, SUB9:NH2557  
<http://des.nh.gov/organization/divisions/water/dwopl/helap/>  
[http://healthvermont.gov/enviro/ph\\_lab/PublicHealthLaboratory.aspx](http://healthvermont.gov/enviro/ph_lab/PublicHealthLaboratory.aspx)  
<https://www.maine.gov/dhs/mecdc/environmental-health/dwopl/professionals/labCert.shtml>  
<https://www.mass.gov/certified-laboratories>

# NELSON ANALYTICAL LAB

RP230703035

490 East Industrial Park Drive  
Manchester, NH 03109  
(603)622-0200

NH ELAP Accreditation #NH1005  
Maine State Certification #NH01005  
Vermont State Certification #VT1005  
www.nelsonanalytical.com

Date Reported : 03-Jul-23 16:43

## REPORT OF ANALYSIS

sampled Date: 26-Jun-2023 12:50

123062641.03

Brox Industries, Inc.,  
Barrington, NH #2023-047  
Groundwater, B-III

### Metals by ICP/MS

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Analyst
Dissolved Manganese	0.023	0.01	mg/L	06/30/2023 00:49	EPA 200.8	NN
Manganese	0.024	0.01	mg/L	06/30/2023 00:49	EPA 200.8	NN

Notes: mg/L=ppm; ug/L=ppb; ng/L=ppt, "<" denotes "less than". This report of analysis may not be modified in any way, or reproduced except in full, without written approval from Nelson Analytical, LLC. Results reported above relate only to samples as submitted, unless specifically noted otherwise. Nelson Analytical, LLC is currently accredited by the New Hampshire Environmental Lab Accreditation Program, the Vermont Laboratory Accreditation Program, the Massachusetts Laboratory Certification Program and the Maine Laboratory Accreditation Program. For a list of current accredited tests, please visit the websites listed below. Sampling performed by the lab is according to the lab document "Water Sampling Instructions". EPA standards list pH & Chlorine as field parameters which should be tested immediately upon sample collection. Samples tested for pH after submission are beyond the hold time. Samples may be analyzed the same day they are received. #Sample(s) received at laboratory do not meet method specified temperature criteria.

Solid samples are reported on a dry weight basis unless noted otherwise.

Subcontract Laboratories: SUB2: Nelson Analytical Maine NH2018 SUB 7: Nelson Analytical EAI Div, NH1007, SUB4:NH2073, SUB5:NH2530, SUB8:NH2136, SUB9:NH2557

<http://des.nh.gov/organization/divisions/water/owgby/nhelap/>

[http://healthvermont.gov/enviro/ph\\_lab/PublicHealthLaboratory.aspx](http://healthvermont.gov/enviro/ph_lab/PublicHealthLaboratory.aspx)

<https://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml>

<https://www.mass.gov/certified-laboratories>

490 East Industrial Park Drive  
Manchester, NH 03109  
(603)622-0200

NH ELAP Accreditation #NH1005  
Maine State Certification #NH01005  
Vermont State Certification #VT1005  
www.nelsonanalytical.com

Date Reported : 03-Jul-23 16:43

## REPORT OF ANALYSIS

sampled Date: 26-Jun-2023 01:10

123062641.04

Brox Industries, Inc.,  
Barrington, NH #2023-047  
Groundwater, Quarry Sump

### Metals by ICP/MS

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Analyst
Dissolved Manganese	0.999	0.01	mg/L	06/30/2023 00:49	EPA 200.8	NN
Manganese	1.32	0.1	mg/L	07/01/2023 00:20	EPA 200.8	NN

Notes: mg/L=ppm; ug/L=ppb; ng/L=ppq. "<" denotes "less than". This report of analysis may not be modified in any way, or reproduced except in full, without written approval from Nelson Analytical, LLC. Results reported above relate only to samples as submitted, unless specifically noted otherwise. Nelson Analytical, LLC is currently accredited by the New Hampshire Environmental Lab Accreditation Program, the Vermont Laboratory Accreditation Program, the Massachusetts Laboratory Certification Program and the Maine Laboratory Accreditation Program. For a list of current accredited tests, please visit the websites listed below. Sampling performed by the lab is according to the lab document "Water Sampling Instructions". EPA standards list pH & Chlorine as field parameters which should be tested immediately upon sample collection. Samples tested for pH after submission are beyond the hold time. Samples will be analyzed as quickly as laboratory operations allow. Metals samples may be analyzed the same day they are received. #=Sample(s) received at laboratory do not meet method specified temperature criteria.

Solid samples are reported on a dry weight basis unless noted otherwise.

Subcontract Laboratories: SUB2: Nelson Analytical Maine NH2018 SUB 7: Nelson Analytical EAI Div. NH1007, SUB4:NH2073, SUB5:NH2530, SUB8:NH2136, SUB9:NH2557  
<https://des.nh.gov/organization/divisions/water/dwgh/nhslap/>

[https://healthvermont.gov/enviro/ph\\_lab/publichealthlaboratory.aspx](https://healthvermont.gov/enviro/ph_lab/publichealthlaboratory.aspx)  
<https://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml>  
<https://www.mass.gov/certified-laboratories>

490 East Industrial Park Drive  
Manchester, NH 03109  
(603)622-0200

NH ELAP Accreditation #NH1005  
Maine State Certification #NH01005  
Vermont State Certification #VT1005  
www.nelsonanalytical.com

Date Reported : 03-Jul-23 16:43

## REPORT OF ANALYSIS

sampled Date: 26-Jun-2023 01:30

123062641.05

Brox Industries, Inc.,  
Barrington, NH #2023-047  
Groundwater, NAR-2

### Metals by ICP/MS

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Analyst
Dissolved Manganese	0.092	0.01	mg/L	06/30/2023 00:49	EPA 200.8	NN
Manganese	0.563	0.01	mg/L	06/30/2023 00:49	EPA 200.8	NN

Notes: mg/L=ppm; ug/L=ppb; ng/L=ppt. "<" denotes "less than". This report of analysis may not be modified in any way, or reproduced except in full, without written approval from Nelson Analytical, LLC. Results reported above relate only to samples as submitted, unless specifically noted otherwise. Nelson Analytical, LLC is currently accredited by the New Hampshire Environmental Lab Accreditation Program, the Vermont Laboratory Accreditation Program, the Massachusetts Laboratory Certification Program and the Maine Laboratory Accreditation Program. For a list of current accredited tests, please visit the websites listed below. Sampling performed by the lab is according to the lab document "Water Sampling Instructions". EPA standards list pH & Chlorine as field parameters which should be tested immediately upon sample collection. Samples tested for pH after submission are beyond the hold time. Samples will be analyzed as quickly as laboratory operations allow. Metals samples may be analyzed the same day they are received. #Sample(s) received at laboratory do not meet method specified temperature criteria.

Solid samples are reported on a dry weight basis unless noted otherwise.

Subcontract Laboratories: SUB2: Nelson Analytical Maine NH2018 SUB 7: Nelson Analytical EAI Div, NH1007, SUB4/NH2073, SUB5/NH2530, SUB8/NH2136, SUB9/NH2557  
<https://des.nh.gov/organization/dhhs/ehs/water/dwgb/nhelap/>

<http://health.vermont.gov/environmental-ph-lab/public-health-laboratory.aspx>  
<https://www.maine.gov/dhhs/inccdc/environmental-health/cwp/professionals/labCert.shtml>  
<https://www.mass.gov/certified-laboratories>

# NELSON ANALYTICAL LAB

RP230703035

490 East Industrial Park Drive  
Manchester, NH 03109  
(603)622-0200

NH ELAP Accreditation #NH1005  
Maine State Certification #NH01005  
Vermont State Certification #VT1005  
www.nelsonanalytical.com

Date Reported : 03-Jul-23 16:43

## REPORT OF ANALYSIS

sampled Date: 26-Jun-2023 02:00

123062641.06

Brox Industries, Inc.,  
Barrington, NH #2023-047  
Groundwater, NAR-1

### Metals by ICP/MS

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Analyst
Dissolved Manganese	0.585	0.01	mg/L	06/30/2023 00:49	EPA 200.8	NN
Manganese	0.558	0.01	mg/L	06/30/2023 00:49	EPA 200.8	NN

Notes: mg/L=ppm; ug/L=ppb; ng/L=ppk, "<" denotes "less than". This report of analysis may not be modified in any way, or reproduced except in full, without written approval from Nelson Analytical, LLC. Results reported above relate only to samples as submitted, unless specifically noted otherwise. Nelson Analytical, LLC is currently accredited by the New Hampshire Environmental Lab Accreditation Program, the Vermont Laboratory Accreditation Program, the Massachusetts Laboratory Certification Program and the Maine Laboratory Accreditation Program. For a list of current accredited tests, please visit the websites listed below. Sampling performed by the lab is according to the lab document "Water Sampling Instructions". EPA standards list pH & Chlorine as field parameters which should be tested immediately upon sample collection. Samples tested for pH after submission are beyond the hold time. Samples will be analyzed as quickly as laboratory operations allow. Metals samples may be analyzed the same day they are received, #=Sample(s) received at laboratory do not meet method specified temperature criteria.

Solid samples are reported on a dry weight basis unless noted otherwise.

Subcontract Laboratories: SUB2: Nelson Analytical Maine NH2018 SUB 7: Nelson Analytical EAT Div. NH1007, SUB4:NH2073, SUB5:NH2530, SUB8:NH12135, SUB9:NH2557  
<https://des.nh.gov/organization/divisions/water/dwgh/nhlap/>

[http://health.vermont.gov/environmental-ph\\_lab/PublicHealthLaboratory.aspx](http://health.vermont.gov/environmental-ph_lab/PublicHealthLaboratory.aspx)  
<https://www.maine.gov/dhs/mecdc/environmental-health/dwpp/professionals/labCert.shtml>  
<https://www.mass.gov/certified-laboratories>



# NELSON ANALYTICAL LAB

490 East Indust  
Manchester, NH  
Phone: (603) 783-9097  
Fax: (603) 622-0200  
E-Mail: info@nelsonanalytical.com

Page

12306-2641

## Laboratory Services

Turnaround Requirements (check one)				Project Information	
<b>RUSH SAMPLES NEED PRIOR APPROVAL</b> <input type="checkbox"/> Same Day Turnaround (150% upcharge) <input type="checkbox"/> One Day Turnaround (100% upcharge) <input type="checkbox"/> Two Day Turnaround (50% upcharge) <input type="checkbox"/> Three Day Turnaround (25% upcharge) <input checked="" type="checkbox"/> Normal turnaround				Project #: 2023-047 Project Name: Brox Industries, Inc. Town/Site: Barrington, NH Sampler: Stuart Goldstein Company: Aries Engineering BID Reference:	
Project Manager: Stuart Goldstein Report to: Stuart Goldstein Invoice to: Stuart Goldstein Phone: 603-228-0008 E-Mail: sgoldstein@aries-eng.com					

Sample Information				VOC's-SVOC's		TPH	Metals	TCLP	Other (list)																																						
AAI Work Order #	Sample ID	Sample Collection Time	Sample Matrix	Number of Containers	NELAP Qc		EPA 8260 W / Oxygenates	BTEX / MTBE	BTEX+MTBE+Naphthalene	Chlorinated only	EPA 824.2 Drinking Water	EDB	1,4 Dioxane	TOX - Total Halogens	EPA 8270 PAH	EPA 8015M Gasoline	EPA 8100M Fuel Oil	Fingerprint	RCRA 8	Field Filtered: Mn	Lab Filtered: Mn	Total: Mn	Zero Headspace Extraction (ZHE)	TCLP Pesticides	TCLP Herbicides	TCLP Metals	PCB	EPA SW846-7 Reactivity	EPA 1010 Flashpoint / Ignitab	EPA 150.1 / 9045 pH	Alkalinity	Nitrate	Total Nitrogen	Sulfate	Chloride	Methane	Bromide	PFAS 9-compound list	PFAS 16-compound list	PFAS 20-compound list							
					Y	N																																									
	W-262	6/26/2023 1210	DW	2																																											
	MW-II1	6/26/2023 1240	GW	2																																											
	B-II1	6/26/2023 1250	GW	2																																											
	Quarry Sump	6/26/2023 1310	GW	2																																											
	NAR-2	6/26/2023 1330	GW	2																																											
	NAR-1	6/26/2023 1400	GW	2																																											

Relinquished by: <i>[Signature]</i>	Date: 6/26/23 Time: 16:45	Received by: <i>[Signature]</i> mas	Notes: 12 mineral on ice Temperature ____ °C Is this N.H. "ODD Fund" related? Y ____ N ____
Relinquished by: <i>[Signature]</i>	Date: Time:	Received by: 6/26/23 15:7	
Relinquished by: <i>[Signature]</i>	Date: Time:	Received by: 1645 PC	