pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0083046**
Facility Type	**Industrial**	APS ID	**4663**
Major / Minor	**Minor**	Authorization ID	**1173340**

NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

Applicant and Facility Information

Applicant Name	**Easco Hand Tools Inc.**	Facility Name	**Cenveo Worldwide Ltd dba Cenveo Publishing Services**
Applicant Address	100 Sterling Parkway, Suite 205 Mechanicsburg, PA 17050-2903	Facility Address	3575 Hempland Road Lancaster, PA 17601-6912
Applicant Contact	Laura Cohen	Facility Contact	
Applicant Phone	(717) 790-3443	Facility Phone	
Client ID	94265	Site ID	449368
SIC Code	3423,4959	Municipality	West Hempfield Township
SIC Description	Manufacturing - Hand And Edge Tools, Nec,Trans. & Utilities - Sanitary Servics, Nec	County	Lancaster
Date Application Received	February 22, 2017	EPA Waived?	Yes
Date Application Accepted	July 24, 2017	If No, Reason	

Purpose of Application: NPDES Renewal for discharge from a groundwater remediation system.

Summary of Review

This is a renewal for a groundwater remediation system. The purpose of this project is to pump and treat groundwater that has been impacted by volatile organic compounds. Groundwater is pumped from five on-site recovery wells (RW-1, RW-2, RW-3, RW-4, and RW-6) to a treatment system, which consists of passing the water through granular activated carbon (GAC) units to adsorb the contaminants prior to discharging to Outfall 001 to the unnamed tributary of the West Branch of the Little Conestoga Creek (see Figure 1. Site Location Map and Figure 2. Site Map).

In an effort to address site groundwater, Tighe & Bond Inc was retained to design and install a groundwater pump and treat system. The system was designed to use up to 6 recovery wells (RW-1, RW-2, RW-3, RW-4, RW-5, and RW-6) to extract a maximum of 200 GPM of groundwater (Figure 3. Process Schematic). The extracted groundwater was treated using GAC units to adsorb the VOCs. The objectives of the system were to prevent the offsite migration of VOCs in groundwater and reduce the VOC mass in the aquifer. The groundwater treatment system was constructed in 1985-1986 and began operations in 1986. It will continue to operate until site remediation is complete.

The main VOC present in site groundwater is trichloroethylene (TCE), a common chemical that has been used since the 1940s. In industrial use, it is typically employed as a degreaser, dry cleaning fluid or an all-purpose solvent.

In 1992, EASCO sold the property to Lancaster Press Inc. (now Cenveo Worldwide Limited dba Cenveo Publisher Services). However, EASCO continued to assume responsibility for remediating site groundwater. The system operates under an NPDES permit for the groundwater discharge.

Easco Hand Tools Inc. performs no business at the site. They retain liability for remediating volatile organic compound impacted groundwater. Easco Hand Tools, Inc. maintains an active groundwater treatment system at the site. This permit

Approve	Deny	Signatures	Date
x		/s/ Brenda J. Fruchtl, P.G. / Licensed Professional Geologist	October 29, 2019
x		/s/ Scott M. Arwood, P.E. / Environmental Engineer Manager	10/29/19

Summary of Review

application does not cover any uses of the site by the current site owner, Cenveo Worldwide Ltd dba Cenveo Publishing Services (formerly Cadmus Journal Systems, formerly Lancaster Press).

In late 2018, AECOM Technical Services Inc took over the site as both the Site Contact and Consultant from Hydro-Terra Group (BAE Systems). The client contact information also changed.

Background

The main constituents of concern at the former EASCO site are volatile organic compounds (VOCs) – primarily trichloroethylene (TCE). Site assessment activities, conducted by Tighe & Bond, Inc., of Westfield, MA, in the autumn of 1985, identified two separate VOC plumes at 3575 Hempland Road, West Hempfield Township, Lancaster, PA. One VOC plume resulted from the release of TCE from a degreaser formerly located at the southwest corner of the building. Initial groundwater concentrations within this "western" plume were in excess of 7,000 ug/L. The second VOC plume came from a separate release by a degreaser installed approximately 100 feet east of the first degreaser. Initial groundwater TCE concentrations within the "eastern" plume were in excess of 30,000 ug/L.

Additional VOCs detected in the site monitoring / recovery wells include 1,1 dichloroethylene (1,1 DCE), 1,1 dichloroethane (1,1-DCA), vinyl chloride, 1,4-dioxane, chloroform, methylene chloride, and tetrachloroethylene (PCE). Breakdown of TCE and PCE commonly forms 1,1-DCE and 1,1-DCA. Concentrations of TCE, PCE, and 1,1-DCE have historically exceeded the PADEP medium specific concentrations (MSCs) in the site monitoring and recovery wells. MSCs for these VOCs are as follows: TCE is 5 ug/L, PCE is 5 ug/L and 1,1-DCE is 7 ug/L. The treatment of TCE simultaneously addressed the other VOCs at the site. None of the other VOCs detected in site monitoring / recovery wells exceeded their applicable regulatory standards.

According to Module 2 Sample Results, the only VOCs detected in the untreated groundwater / influent to the remediation system were TCE, PCE, and 1,1-DCE.

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.05
Latitude	40º 2' 50"	Longitude	-76º 24' 20"
Wastewater Description:	Groundwater Cleanup Discharge		
Receiving Waters	Unnamed Tributary to West Branch Little Conestoga Creek (TSF, MF)	Stream Code	10557
NHD Com ID	57464377	RMI	0.85
Drainage Area	0.31*	Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)	0.04*	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)		Slope (ft/ft)	0
Watershed No.	7-J	Chapter 93 Class.	TSF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	PPL Holtwood Filter Plant		
PWS Waters	Susquehanna River	Location	Martic Twp, Lancaster Co
PWS RMI	~9	Distance from Outfall (mi)	~20

*USGS StreamStats: Pennsylvania. (Basin Delineation from September 22, 2019, see Figure 4)

Changes Since Last Permit Issuance: None

Treatment Facility Summary
Treatment Facility Name: Easco Hand Tools Inc. (Cadmus Journal Systems) Groundwater is pumped from five on-site recovery wells (RW-1, RW-2, RW-3, RW-4, and RW-6) to a treatment system. Treatment consists of passing the water through granular activated carbon (GAC) units, which adsorb the contaminants. Treated water is conveyed to Outfall 001 that discharges to the unnamed tributary of the West Branch of the Little Conestoga Creek.

Changes Since Last Permit Issuance: none

Compliance History	
Summary of DMRs:	**Monthly eDMRs have been submitted since October 2016.** *Flow, pH, and Trichloroethylene* eDMR results from September 2016-August 2019 **Flow** ranged from 0.01 to 0.046 MGD **Trichloroethylene** was reported as non-detect for Avg Mo, Daily Max, and IMAX *(detection limit ranged from 0.001 to 0.0008 mg/L)* No permit limits were exceeded in the past 5 years. **pH** was reported consistently between 6.0 and 9.0 SU, except for one exceedance in January 2019, when the pH was reported as 10.96 SU*. **A notification letter of the pH exceedance was submitted to PADEP on January 4, 2019. The conclusion was that the pH spike was a short-term response resulting from the carbon change-out earlier that day. The pH had dropped to 8 SU by the following morning.*
Summary of Inspections:	DEP conducted a compliance evaluation on 08/25/2015. No violations were noted.

Other Comments: There have been no violations reported for this facility. There are not any open violations for the facility

Summary of Influent data to GWTS and data collected at Outfall 001 for May 2017 through June 2019:

- See Table 2: Groundwater Field Parameters and Analytical Data, Former EASCO Hand Tools Inc. Facility, Lancaster, Pennsylvania from the *2018-2019 Annual Operations and Maintenance Summary Report & Fourth Quarter Groundwater Monitoring Report* (Figure 5)

- See Table 3: Treatment System Field Parameters and Analytical Data, Former EASCO Hand Tools Inc. Facility, Lancaster, Pennsylvania from the *2018-2019 Annual Operations and Maintenance Summary Report & Fourth Quarter Groundwater Monitoring Report* (Figure 6)

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.05
Latitude 40º 2' 50.00" **Longitude** -76º 24' 20.00"
Wastewater Description: Groundwater Cleanup Discharge

Chemical Additives. None reported

Water Quality-Based Limitations
A "Toxics Screening Analysis" (Attachment A) determined the following parameters were candidates for PENTOXSD Modeling: Tetrachloroethylene (PCE) and Trichloroethylene (TCE).

The maximum concentration for the parameters was taken from the Module 2 untreated groundwater sample results received September 26, 2019 (*and revised October 11, 2019 to correct the discrepancy with the units*) via email from AECOM, which took into account the additional data since the original renewal application received February 22, 2017.

Development of Effluent Limitations

Since the purpose of the groundwater treatment system is to treat for contaminated groundwater, limitations were established based on the maximum concentrations of pollutants in the untreated groundwater to evaluate the effectiveness of the treatment system. Limits were established based on $Q_{7\text{-}10}$ streamflow of 0.0382 cfs at RMI 0.85 on Trib 07567 To West Branch Little Conestoga Creek with the point of first use as the outfall.

PENTOXSD was run on the pollutants of concern as determined from the Toxics Screening Analysis.
The PENTOXSD Analysis Results and Modeling Input Data are attached (Attachment B).

The Effluent Limit from PENTOXSD will be the average monthly limit in the permit. The Max Daily Limit from PENTOXSD will be the Daily Maximum limit in the permit. The IMAX limit in the permit is 2.5 times the Average Monthly limit.

Basis for Limits (for parameters detected in the influent to the groundwater remediation system)

1,1-Dichloroethylene:	Aquatic Criteria	=	1500 ug/L
(1,1 -DCE)	Human Health Criteria	=	33.0 ug/L (H)

1,1-DCE was detected at very low levels in the untreated groundwater samples per Module 2 (received September 26, 2019; *and revised October 11, 2019 to correct the discrepancy with the units*) at a maximum of 1.4 ug/L and an average of 0.41 ug/L. These results are well below the Health Criteria of 33.0 ug/L. Per the Toxics Screening Analysis (Attachment A), there is no reasonable potential for this parameter to be present in the effluent and was not a candidate for PENTOXSD Modeling. It is recommended to not add this parameter to the permit.

Trichloroethylene*:	Aquatic Criteria	=	450 ug/L
(TCE)	Human Health Criteria	=	2.5 ug/L (CRL)
	WQBEL	=	16.025 ug/L (CRL)

The most stringent criteria is the Human Health Criteria. TCE was detected in the untreated groundwater per Module 2 (received September 26, 2019; *and revised October 11, 2019 to correct the discrepancy with the units*) at a maximum of 118 ug/L and an average of 77.94 ug/L. It was indicated as a parameter of concern according to the Toxics Screening Analysis. And indicated to establish limits based on PENTOXSD Most Stringent WQBEL. It is recommended to amend the limit for this parameter per the most recent PENTOXSD model.
**The previous limit of 10 ug/L was based on the 1986 Toxic Strategy using Appendix H. The Toxic Strategy was revised in 2006 (Document No. 361-0100-003 dated April 29, 2006) and has deleted Appendix H for "short-term" discharges. Antibacksliding is not a factor since the previous limit was based on a now obsolete guidance. Limits are now based on the PENTOXSD model.*

Tetrachloroethylene:	Aquatic Criteria	=	140 ug/L
(PCE)	Health Criteria	=	0.69 ug/L (CRL)
	WQBEL	=	4.423 ug/L (CRL)

The most stringent criteria is the Human Health Criteria. PCE was detected in the untreated groundwater per Module 2 (received September 26, 2019; *and revised October 11, 2019 to correct the discrepancy with the units*) at a maximum of 11 ug/L and an average of 6.24 ug/L. It was indicated as a parameter of concern according to the Toxics Screening Analysis. And indicated to establish limits based on PENTOXSD Most Stringent WQBEL. It is recommended to add this parameter and limit to the permit.

Comparison of Effluent Limitations and Parameters from 2012 NPDES Permit and Draft NPDES Permit:

	2012 NPDES Permit Limits Renewal			**Proposed 2019 NPDES Permit Limits Renewal**				
Parameter	*Ave Monthly*	*Max Daily*	*Inst. Maximum*	**Ave Monthly**	**Max Daily**	**Inst. Maximum**	**Max Concentration Untreated GW***	**Pollutant of Concern****
Flow (MGD)	*xxx*	*xxx*	*xxx*	**xxx**	**xxx**	**xxx**	n/a	n/a
pH (SU)	*From 6.0 to 9.0 inclusive*			**From 6.0 to 9.0 inclusive**			n/a	n/a
Trichloroethylene (mg/L)	*n/a*	*0.01*	*0.013*	**0.016**	**0.025**	**0.040**	0.118	Yes
Tetrachloroethylene (mg/L)	*This parameter not in the 2012 permit*			**0.0044**	**0.0069**	**0.011**	0.011	Yes

** from Module 2 (received September 26, 2019 with updated data; and revised October 11, 2019 to correct the discrepancy with the units).*
*** According to Toxics Screening Analysis (Attachment A)*

Part C Special Conditions

I. Other Requirements (standard)

II. Groundwater Cleanup – Volatile Organic Compounds

Note: Copied from Part C of the 2012 NPDES Permit with minor edits.

A. If the applicable standard or effluent guideline limitation relating to the application for Best Available Technology Economically Achievable (BAT) or to Best Conventional Technology (BCT) is developed by the Department, or by EPA for this type of industry, and if such standard or limitation is more stringent than the corresponding conditions of this permit (or if it controls pollutants not covered by this permit), then the Department reserves the right to modify, or to revoke and reissue the permit to conform with that standard or limitation.

B. Sludges and other solids shall be handled and disposed of in compliance with 25 Pa. Code, Chapters 262, 263, and 264 (related to permits and requirements for landfilling and storage of hazardous sludge) and applicable federal regulations, the Federal Clean Water Act, RCRA and their amendments. The permittee is responsible to obtain or assure that contracted agents have all necessary permits and approvals for the handling, storage, transport and disposal of solid waste materials generated as a result of wastewater treatment.

C. Summary reports providing groundwater quality data from quarterly events, semiannual water table elevation maps, and a narrative discussion including tables and maps shall be submitted annually to the Environmental Cleanup Program, on the anniversary date of this permit. The narrative report shall evaluate the overall operation of the system demonstrating its effectiveness in containing and remediating the contaminant plume. If modification to the operation is proposed, details must be submitted in the report.

D. The permittee shall operate the treatment facilities approved herein on a continual basis. If accidental breakdown or normal periodic maintenance should cause cessation of operation, the permittee shall take satisfactory measures to ensure the treatment works are placed back in operation at the earliest possible time. The permittee shall orally report to the Department within 24 hours of an unanticipated temporary shutdown of the treatment facility that is longer than 24 hours in duration or at least 24 hours prior to an anticipated maintenance shutdown.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Average Monthly	Daily Maximum	Maximum	Instant. Maximum		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0	XXX	1/month	Grab
Tetrachloroethylene	XXX	XXX	0.0044	0.0069	XXX	0.011	1/month	Grab
Trichloroethylene	XXX	XXX	0.016	0.025	XXX	0.040	1/month	Grab

Compliance Sampling Location: Outfall 001

Tools and References Used to Develop Permit	
☐	WQM for Windows Model
☒	PENTOXSD for Windows Model (see Attachment B)
☐	TRC Model Spreadsheet
☐	Temperature Model Spreadsheet
☒	Toxics Screening Analysis Spreadsheet (see Attachment A)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☐	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
☐	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP:
☐	Other:

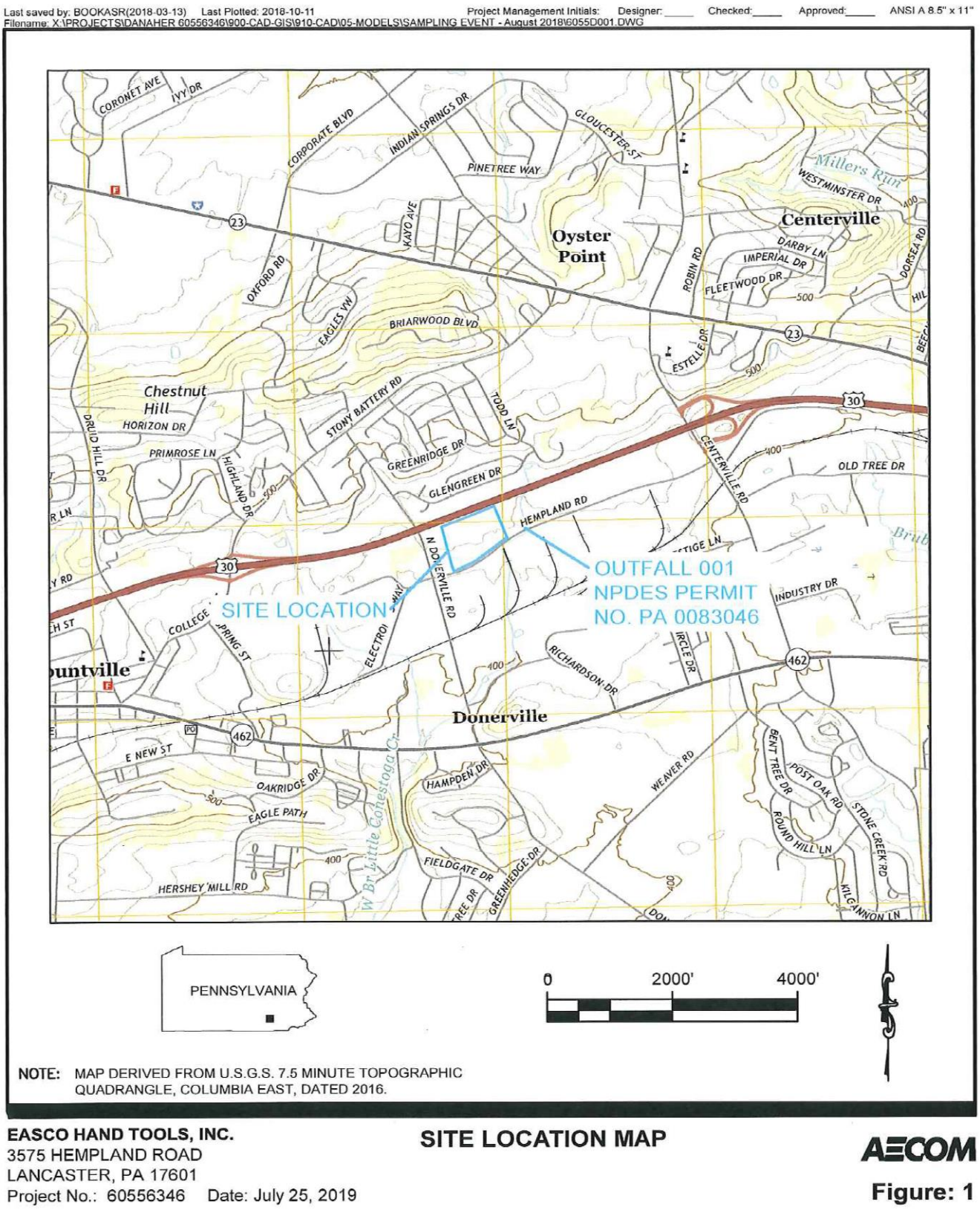


Figure 1. Site Location Map

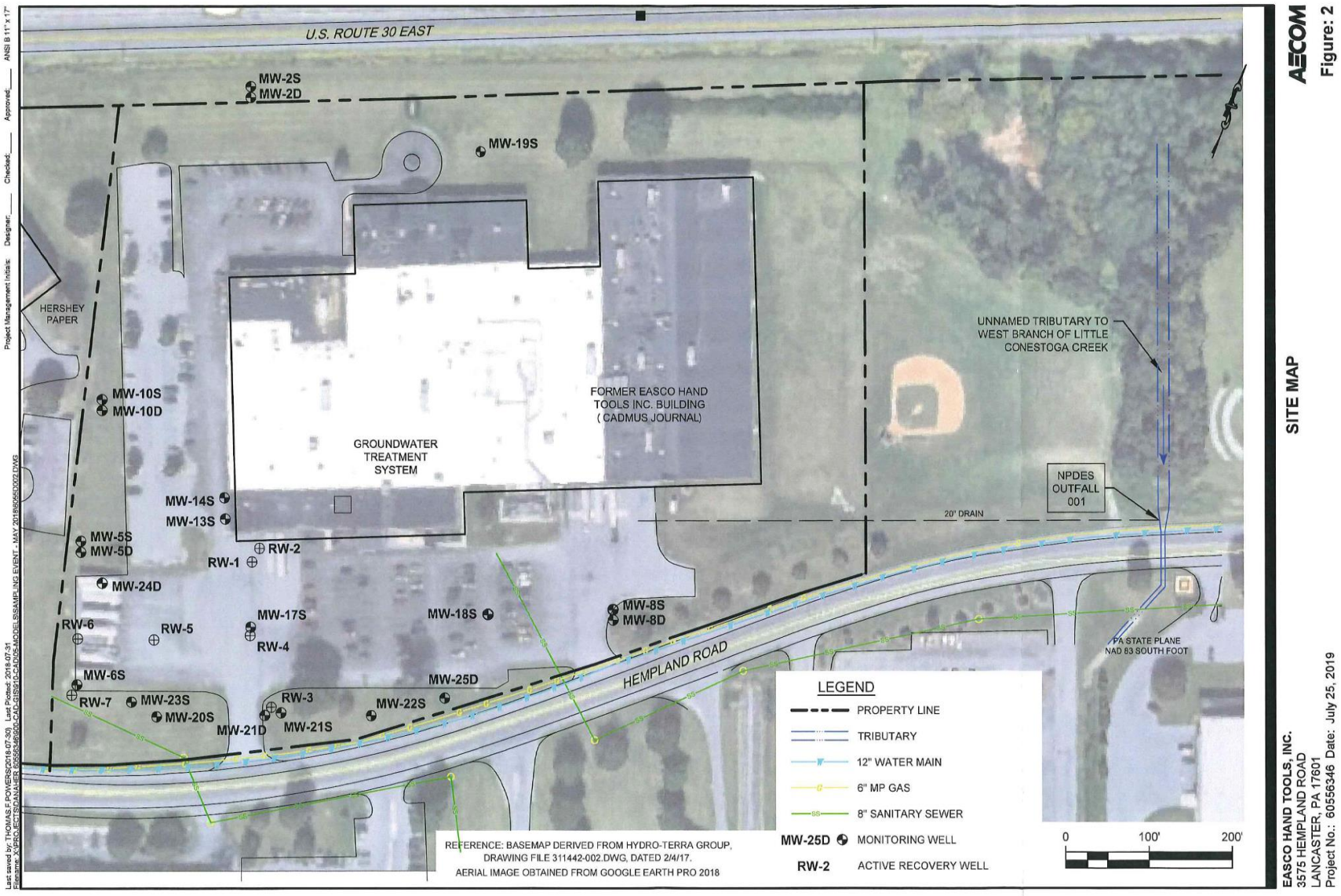


Figure 2. Site Map

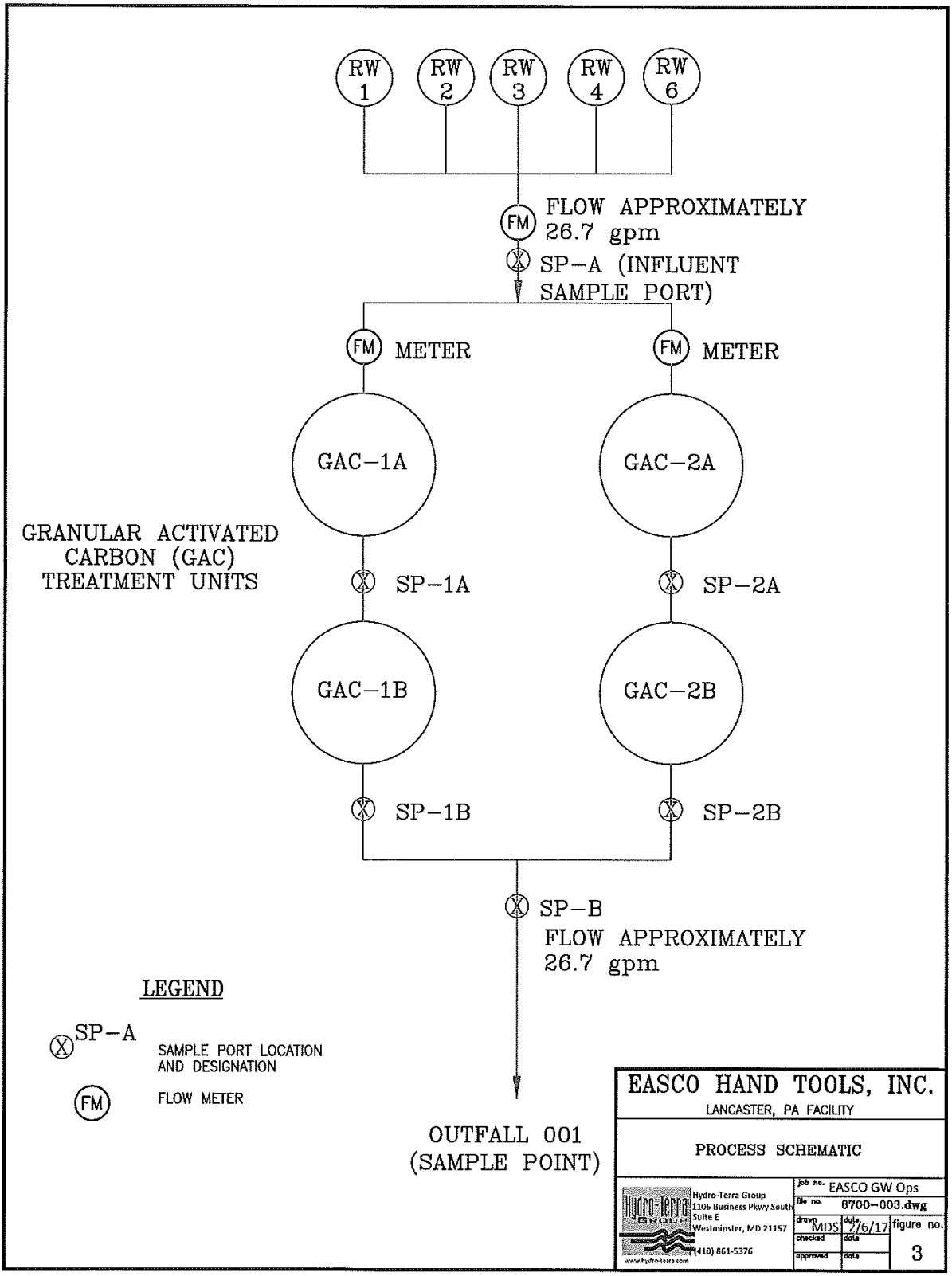
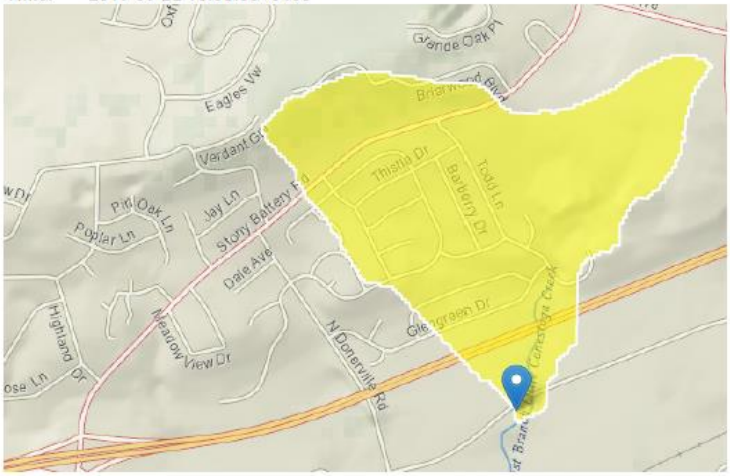


Figure 3. Process Schematic.

StreamStats Report. EASCO Hand Tools Inc.

NPDES Permit No PA0083046

Region ID: PA
Workspace ID: PA20190922173321167000
Clicked Point (Latitude, Longitude): 40.04684, -76.40612
Time: 2019-09-22 13:33:38 -0400



Low-Flow Statistics Parameters[Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.31	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	3.7	degrees	1.7	6.4
ROCKDEP	Depth to Rock	5.1	feet	4.13	5.21
URBAN	Percent Urban	21	percent	0	89

Low-Flow Statistics Disclaimers[Low Flow Region 1]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report[Low Flow Region 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.089	ft^3/s
30 Day 2 Year Low Flow	0.119	ft^3/s
7 Day 10 Year Low Flow	0.0382	ft^3/s
30 Day 10 Year Low Flow	0.0536	ft^3/s
90 Day 10 Year Low Flow	0.0915	ft^3/s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

Figure 4. Basin Delineation (USGS StreamStats: Pennsylvania)

Table 2
Groundwater Field Parameters and Analytical Data
Former EASCO Hand Tools, Inc. Facility, Lancaster, Pennsylvania

Well Number	Date of Sample Collection	pH (SU)	Specific conductance (uS/cm)	Temperature (°C)	1,1-DCA (ug/L)	1,1,-DCE (ug/L)	PCE (ug/l)	TCE (ug/L)	Vinyl Chloride (ug/L)	1,4-Dioxane (ug/L)
Treatment System										
System Influent (SP-A)	5/16/17	8.25	0.949	16.2	<1	**1**	**8.7**	**62.5**	NA	NA
	8/8/17	7.08	0.806	18.0	<1	<1	**6.4**	**63.1**	NA	NA
	11/1/17	5.97	0.876	16.2	<1	**1.3**	**9**	**62.1**	<1	NA
	2/6/18	NA	NA	NA	<1	**1**	**8**	**81**	NA	NA
	5/1/18	NA	NA	NA	<1	<1	**11**	**76**	NA	NA
	8/2/18	NA	NA	NA	<1	<1	**4**	**70**	<1	NA
	11/2/18	NA	NA	NA	<1	<1	**5**	**69**	<1	NA
	2/5/19	NA	NA	NA	<1	<1	**3**	**81**	<1	NA
	6/5/19	NA	NA	NA	<1	<1	**3.73**	**91.1**	<1	NA
Outfall	5/16/17	8.40	0.945	19.5	<1	<1	<1	<1	NA	NA
	8/8/17	7.47	0.861	18.4	<1	<1	<1	<0.8	NA	NA
	11/1/17	6.54	0.891	15.7	<1	<1	<1	<0.8	<1	NA
	2/6/18	8.18	NA	NA	<1	<1	<1	<1	NA	NA
	5/1/18	7.57	NA	NA	<1	<1	<1	<1	NA	NA
	8/2/18	5.69	NA	NA	<1	<1	<1	<1	<1	NA
	11/2/18	7.76	NA	NA	<1	<1	<1	<1	<1	NA
	2/5/19	7.55	NA	NA	<1	<1	<1	<1	<1	NA
	6/5/19	7.87	NA	NA	<1	<1	<1	<1	<1	NA

*- RW-4 Sampled on May 23, 2017.

**-Insufficient water to sample.

***-Pump not working.

MSC = Residential Medium Specific Concentrations

NA = Not Available

NM = No Measurement

NS = Not sampled

(°C) = Degrees Celsius

ug/l = micrograms/liter

(uS/cm) = Microsiemens per centimeter

SU = Standard Units

<= Indicates a constituent was not detected

Bold indicates a constituent detection

Bold and gray indicates a concentration above the MSC

Constituents

1,1-DCA = 1,1-Dicholoethane

1,1-DCE = 1,1-Dicholoethene

TCE = Trichloroethylene

PCE = Tetrachlorethylene

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Figure 5: Groundwater Field Parameters and Analytical Data, Former EASCO Hand Tools Inc. (*2018-2019 Annual Operations and Maintenance Summary Report & Fourth Quarter Groundwater Monitoring Report)*

Table 3
Treatment System Field Parameters and Analytical Data
Former EASCO Hand Tools, Inc. Facility, Lancaster, Pennsylvania

Sample Location	Date of Sample Collection	pH (SU)	Specific conductance (uS/cm)	Temperature (°C)	1,1-DCA (ug/L)	1,1-DCE (ug/L)	PCE (ug/l)	TCE (ug/L)
System Influent (SP-A)	5/16/17	8.25	0.949	16.2	<1.0	1.0	**8.7**	**62.5**
	6/7/17	NA	NA	NA	NA	NA	NA	**68.0**
	7/19/18	NA	NA	NA	NA	NA	NA	**72.4**
	8/8/17	7.08	0.806	18.0	<1.0	<1.0	**6.4**	**63.1**
	9/25/17	NA	NA	NA	NA	NA	NA	**92.7**
	10/1/17	NA	NA	NA	NA	NA	NA	NA
	11/1/17	5.97	0.876	16.2	<1.0	1.3	**9.0**	**62.1**
	12/5/17	NA	NA	NA	<1	1	**11**	**77**
	1/4/18	NA	NA	NA	<1	1	**10**	**79**
	2/6/18	NA	NA	NA	<1	1	**8**	**81**
	3/1/18	NA	NA	NA	<1	<1	**6**	**71**
	4/4/18	NA	NA	NA	<1	1	**9**	**66**
	5/1/18	NA	NA	NA	<1	<1	**11**	**76**
	6/7/18	NA	NA	NA	<1	<1	<1	**65**
	7/5/18	NA	NA	NA	<1	<1	<1	**65**
	8/2/18	NA	NA	NA	<1	<1	**4**	**70**
	9/6/18	NA	NA	NA	<1	<1	**4**	**78**
	10/3/18	NA	NA	NA	<1	<1	**4**	**66**
	11/2/18	NA	NA	NA	<1	<1	**5**	**69**
	12/5/18	NA	NA	NA	<1	<1	**5**	**62**
	1/2/19	NA	NA	NA	<1	<1	**1**	**60**
	2/5/19	NA	NA	NA	<1	<1	**3**	**81**
	3/5/19	NA	NA	NA	<1	<1	**3**	**70**
	4/10/19	NA	NA	NA	<1.00	<1.00	**4.08**	**74.6**
	5/9/19	NA	NA	NA	<1.00	<1.00	**3.20**	**80.9**
	6/5/19	NA	NA	NA	<1.00	<1.00	**3.73**	**91.1**
Outfall	1/2/19	NA	NA	NA	<1.0	<1.0	<1.0	<1.0
	5/16/17	6.99	NA	NA	NA	NA	NA	<0.80
	7/19/18	6.61	NA	NA	NA	NA	NA	<0.80
	8/8/17	7.47	0.861	18.4	<1.0	<1.0	<1.0	<0.80
	9/25/17	6.95	NA	NA	NA	NA	NA	<0.80
	October	NP	NP	NP	NP	NP	NP	NP
	11/1/17	6.54	0.891	15.7	<1.0	<1.0	<1.0	<0.80
	12/5/17	8.28	NA	NA	<1	<1	<1	<1
	1/4/18	8.08	NA	NA	<1	<1	<1	<1
	2/6/18	8.18	NA	NA	<1	<1	<1	<1
	3/1/18	7.64	NA	NA	<1	<1	<1	<1
	4/4/18	7.70	NA	NA	<1	<1	<1	<1
	5/1/18	7.57	NA	NA	<1	<1	<1	<1
	6/7/18	7.41	NA	NA	<1	<1	<1	<1
	7/5/18	8.81	NA	NA	<1	<1	<1	<1
	8/2/18	7.69	NA	NA	<1	<1	<1	<1
	9/6/18	7.80	NA	NA	<1	<1	<1	<1
	10/3/18	7.64	NA	NA	<1	<1	<1	<1
	11/2/18	7.76	NA	NA	<1	<1	<1	<1
	12/5/18	8.74	NA	NA	<1	<1	<1	<1
	1/2/19	10.96	NA	NA	<1	<1	<1	<1
	2/5/19	7.55	NA	NA	<1	<1	<1	<1
	3/5/19	7.05	NA	NA	<1	<1	<1	<1
	4/10/19	7.6	NA	NA	<1.00	<1.00	<1.00	<1.00
	5/9/19	8.41	NA	NA	<1.00	<1.00	<1.00	<1.00
	6/6/19	7.84	NA	NA	<1.00	<1.00	<1.00	<1.00

*- Results include A & B sampling locations.
MSC = Residential Medium Specific Concentrations
NA = Not Available
GAC = Granular Activated Carbon
NS = Not Sampled
(°C) = Degrees Celsius
ug/l = micrograms/liter
(uS/cm) = Microsiemens per centimeter
SU = Standard Units
Bold Indicates a constituent detection
Bold and gray indicates a concentration above the MSC

Constituents
1,1-DCA = 1,1-Dichloloethane
1,1-DCE = 1,1-Dichloloethene
TCE = Trichloroethylene
PCE = Tetrachlorethlene

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Figure 6. Treatment System Field Parameters and Analytical Data, Former EASCO Hand Tools Inc. (*2018-2019 Annual Operations and Maintenance Summary Report & Fourth Quarter Groundwater Monitoring Report)*

ATTACHMENT A

TOXICS SCREENING ANALYSIS
WATER QUALITY POLLUTANTS OF CONCERN
VERSION 2.7

Facility: EASCO Hand Tools Inc
Analysis Hardness (mg/L): 100
Stream Flow, Q_{7-10} (cfs): 0.0382

NPDES Permit No.: PA0083046
Discharge Flow (MGD): 0.05

Outfall: 001
Analysis pH (SU): 7

Parameter	Maximum Concentration in Application or DMRs (µg/L)	Most Stringent Criterion (µg/L)	Candidate for PENTOXSD Modeling?	Most Stringent WQBEL (µg/L)	Screening Recommendation
Total Dissolved Solids		500000			
Chloride		250000			
Bromide		N/A			
Sulfate		250000			
1,4-Dioxane		N/A			
Trichloroethylene	118	2.5	Yes	16.025	Establish Limits
Tetrachloroethylene	11	0.69	Yes	4.423	Establish Limits
1,1-Dichloroethylene	1.4	33	No		

Toxics Screening Analysis Spreadsheet (v 2.7)_Oct2019, 10/10/2019

ATTACHMENT B

PENTOXSD Analysis Results

Recommended Effluent Limitations

SWP Basin	Stream Code:	Stream Name:
07J	7567	Trib 07567 to W Br Ltl Conestoga Cr

RMI	Name	Permit Number	Disc Flow (mgd)
0.85	Easco Hand Tool	PA0083046	0.0500

Parameter	Effluent Limit (µg/L)	Governing Criterion	Max. Daily Limit (µg/L)	Most Stringent WQBEL (µg/L)	Most Stringent WQBEL Criterion
TETRACHLOROETHYLENE	4.423	CRL	6.9	4.423	CRL
TRICHLOROETHYLENE	16.025	CRL	25.001	16.025	CRL

PENTOXSD

Modeling Input Data

Stream Code	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope	PWS With (mgd)	Apply FC
7567	0.85	440.00	0.31	0.00000	0.00	☑

Stream Data

	LFY	Trib Flow	Stream Flow	WD Ratio	Rch Width	Rch Depth	Rch Velocity	Rch Trav Time	Tributary Hard	Tributary pH	Stream Hard	Stream pH	Analysis Hard	Analysis pH
	(cfsm)	(cfs)	(cfs)		(ft)	(ft)	(fps)	(days)	(mg/L)		(mg/L)		(mg/L)	
Q7-10	0.12	0	0	0	0	0	0	0	100	7	0	0	0	0
Qh		0	0	0	0	0	0	0	100	7	0	0	0	0

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	AFC PMF	CFC PMF	THH PMF	CRL PMF	Disc Hard (mg/L)	Disc pH
Easco Hand Tool	PA0083046	0	0	0.05	0	0	0	0	0	100	7

Parameter Data

Parameter Name	Disc Conc (µg/L)	Trib Conc (µg/L)	Disc Daily CV	Disc Hourly CV	Steam Conc (µg/L)	Stream CV	Fate Coef	FOS	Crit Mod	Max Disc Conc (µg/L)
TETRACHLOROETHYLENE	10000	0	0.5	0.5	0	0	0	0	1	0
TRICHLOROETHYLENE	10000	0	0.5	0.5	0	0	0	0	1	0

Stream Code	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope	PWS With (mgd)	Apply FC
7567	0.40	400.00	0.63	0.00000	0.00	☑

Stream Data

	LFY	Trib Flow	Stream Flow	WD Ratio	Rch Width	Rch Depth	Rch Velocity	Rch Trav Time	Tributary Hard	Tributary pH	Stream Hard	Stream pH	Analysis Hard	Analysis pH
	(cfsm)	(cfs)	(cfs)		(ft)	(ft)	(fps)	(days)	(mg/L)		(mg/L)		(mg/L)	
Q7-10	0.12	0	0	0	0	0	0	0	100	7	0	0	0	0
Qh		0	0	0	0	0	0	0	100	7	0	0	0	0

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	AFC PMF	CFC PMF	THH PMF	CRL PMF	Disc Hard (mg/L)	Disc pH
		0	0	0	0	0	0	0	0	100	7

Parameter Data

Parameter Name	Disc Conc (µg/L)	Trib Conc (µg/L)	Disc Daily CV	Disc Hourly CV	Steam Conc (µg/L)	Stream CV	Fate Coef	FOS	Crit Mod	Max Disc Conc (µg/L)
TETRACHLOROETHYLENE	0	0	0.5	0.5	0	0	0	0	1	0
TRICHLOROETHYLENE	0	0	0.5	0.5	0	0	0	0	1	0

PENTOXSD Analysis Results

Hydrodynamics

SWP Basin	Stream Code:	Stream Name:
07J	7567	Trib 07567 to W Br Ltl Conestoga Cr

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope	Depth (ft)	Width (ft)	WD Ratio	Velocity (fps)	Reach Trav Time (days)	CMT (min)
Q7-10 Hydrodynamics											
0.850	0.0372	0	0.0372	0.07734	0.0168	0.3676	3.4878	9.489	0.0894	0.3078	.06
0.400	0.0756	0	0.0756	NA	0	0	0	0	0	0	NA
Qh Hydrodynamics											
0.850	0.4184	0	0.4184	0.07734	0.0168	0.7003	3.4878	4.9801	0.203	0.1355	.156
0.400	0.7777	0	0.7777	NA	0	0	0	0	0	0	NA

PENTOXSD Analysis Results

Wasteload Allocations

RMI	Name	Permit Number
0.85	**Easco Hand Tool**	**PA0083046**

AFC

Q7-10: **CCT (min)** 0.06 **PMF** 1 **Analysis pH** 7 **Analysis Hardness** 100

Parameter	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)
TETRACHLOROETHYLENE	0	0	0	0	700	700	1036.652
TRICHLOROETHYLENE	0	0	0	0	2300	2300	3406.141

CFC

Q7-10: **CCT (min)** 0.06 **PMF** 1 **Analysis pH** 7 **Analysis Hardness** 100

Parameter	Stream Conc. (µg/L)	Stream CV	Trib Conc. (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)
TETRACHLOROETHYLENE	0	0	0	0	140	140	207.33
TRICHLOROETHYLENE	0	0	0	0	450	450	666.419

THH

Q7-10: **CCT (min)** 0.06 **PMF** NA **Analysis pH** NA **Analysis Hardness** NA

Parameter	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)
TETRACHLOROETHYLENE	0	0	0	0	NA	NA	NA
TRICHLOROETHYLENE	0	0	0	0	NA	NA	NA

CRL

Qh: **CCT (min)** 0.156 **PMF** 1

Parameter	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)
TETRACHLOROETHYLENE	0	0	0	0	0.69	0.69	4.423
TRICHLOROETHYLENE	0	0	0	0	2.5	2.5	16.025