pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0061123**
Facility Type	**Municipal**	APS ID	**546079**
Major / Minor	**Minor**	Authorization ID	**1361901**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Moscow Sewer Authority**	Facility Name	**Moscow Sewer Authority STP**
Applicant Address	PO Box 525	Facility Address	Off Aberdeen Road
	Moscow, PA 18444-0525		Moscow, PA 18444
Applicant Contact	Ralph Deleo Moscowsewer@comcast.net	Facility Contact	Ralph Deleo
Applicant Phone	(570) 842-6597	Facility Phone	(570) 842-6477
Client ID	43767	Site ID	245333
Ch 94 Load Status	Existing Hydraulic and Organic Overload	Municipality	Moscow Borough
Connection Status	Dept. Imposed Connection Prohibitions	County	Lackawanna
Date Application Received	July 15, 2021	EPA Waived?	Yes
Date Application Accepted	July 15, 2021	If No, Reason	

Purpose of Application: Existing NPDES renewal for sewage effluent

Summary of Review

The Authority is requesting renewal of NPDES Permit No. PA0061123 to discharge up to 0.300 MGD of treated sewage from the Moscow Sewer Authority STP into Roaring Brook(HQ-CWF), located in State Water Plan watershed 5-A. It is classified for High Quality Waters - Cold Water Fishes, aquatic life, water supply and recreation. Per the Department's current existing use list, the receiving stream does not have an existing use classification that is more protective than the designated use. The discharge is not expected to affect public water supplies.

Roaring Brook is not listed as being impaired per the Pennsylvania Integrated Water Quality Monitoring and Assessment Report. A TMDL exists for the Lackawanna River Watershed, which includes Roaring Brook. However, the TMDL addresses high levels of metals, and in some areas depressed pH, caused by abandoned mine drainage (AMD) from coal mining. The TMDL addresses the three primary metals (iron, manganese, and aluminum) associated with AMD, and pH, but this facility is not subject to any load allocations as stated in the report. Although the TMDL includes the entire Lackawanna River watershed, the surrounding and downstream areas within several miles of this wastewater treatment plant were never mined for coal.

The existing water-based limitations will continue for CBOD5, Total Suspended Solids, NH3-N, TRC, Nitrite-Nitrate as N, and Total P. There is no increase in flow or expansion proposed and recent DMRs and inspection reports reveal no significant operational problems. Disinfection is accomplished using UV radiation - the TRC limits will remain in the permit and will be applicable when the UV system is down for maintenance.

The existing permit expires on 1/31/2022 and the application was post marked 7/10/21.

The NMS query "Inspections & Inspectors – Inspections – Inspection History by Permit" was run. A Compliance Evaluation was done on 08/22/2018 with No Violations Noted.

Approve	Deny	Signatures	Date
X		Bernard Feist (signed) Bernard Feist, P.E. / Environmental Engineer	August 10, 2021
X		Amy M. Bellanca (signed) Amy M. Bellanca, P.E. / Environmental Engineer Manager	8-13-21

Summary of Review
The NMS query "Violations – eFACTS – Open Violations for Client was run. There are currently no open violations The EPA Waiver is in effect. Release will be timed as to not truncate the existing Permit. Sludge use and disposal description and location(s): Trucked to Landfill <u>Public Participation</u> 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)	.3
Latitude	41º 20' 36.79"	Longitude	-75º 31' 0.44"
Quad Name	Moscow	Quad Code	3.21.2
Wastewater Description:	Sewage Effluent		

Receiving Waters	Roaring Brook (HQ-CWF)	Stream Code	28452
NHD Com ID	65630943	RMI	1.51
Drainage Area	33.0 mi^2	Yield (cfs/mi^2)	0.09
Q_{7-10} Flow (cfs)	3.1	Q_{7-10} Basis	2004 Antideg
Elevation (ft)	1470	Slope (ft/ft)	0.006
Watershed No.	5-A	Chapter 93 Class.	HQ-CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s): attaining - supporting aquatic life		
TMDL Status	Final	Name	Lackawanna River Watershed

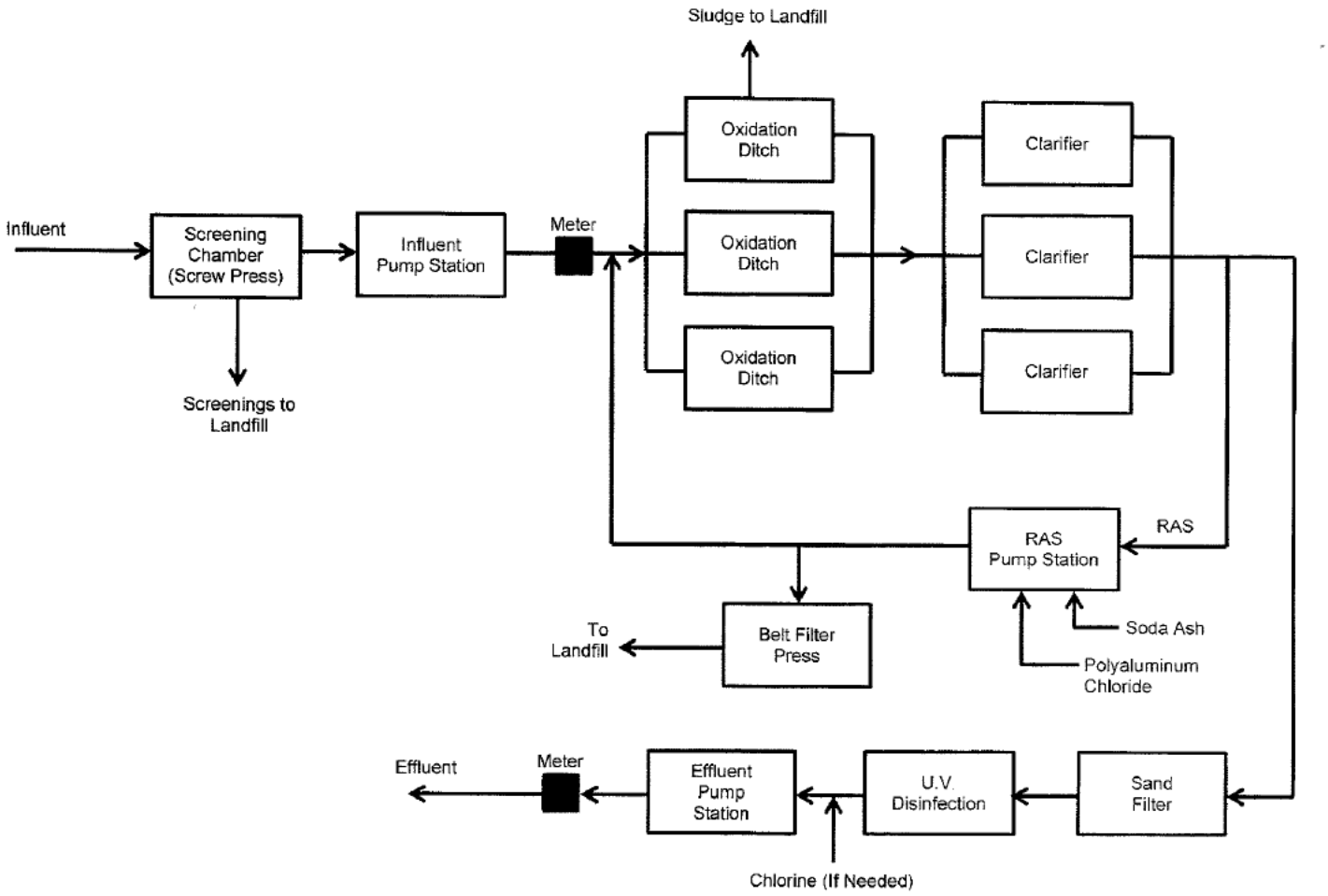
Nearest Downstream Public Water Supply Intake	PAWC Elmhurst Reservoir		
PWS Waters		Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	1.5

2004 Antideg Pollution

PA0061123 Previous Pollution Report.pdf

Changes Since Last Permit Issuance: Same Limits

Treatment Facility Summary				
Treatment Facility Name: Moscow Sewer Authority STP **WQM 945887**				
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary	Oxy Ditch	UV	0.3
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.6	375	Existing Hydraulic and Organic Overload	Activated Sludge	Landfill



Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .3
Latitude 41º 20' 36.60" **Longitude** -75º 31' 0.13"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Parameter	Minimum	Average Monthly	Average Weekly	IMAX	Basis
Flow (MGD)	XXX	Report	Report Max Daily	XXX	§§ 92a.27, 92a.61
CBOD5 (mg/L)	XXX	25	40	50	§ 92a.47
TSS (mg/L)	XXX	30	45	60	§ 92a.47
TRC (mg/L)	XXX	0.5	XXX	1.6	§§ 92a.47-48
NH3-N (mg/L)	XXX	25	XXX	50	BPJ
D.O. (mg/L)	4	XXX	XXX	XXX	BPJ
pH (SU)	6	XXX	XXX	9	§ 92a.47, § 95.2
Total N (mg/L)	XXX	Report	XXX	XXX	§ 92a.61
Total P (mg/L)	XXX	Report	XXX	XXX	§ 92a.61
Fecal Coliform (No./100 ml) (May-Sept)	XXX	200 Geo Mean	XXX	1,000	§ 92a.47
Fecal Coliform (No./100 ml) (Oct-April)	XXX	2,000 Geo Mean	XXX	10,000	§ 92a.47
E. Coli (No./100 ml)*	XXX	XXX	XXX	Report	§ 92a.61
*NOTE – 2021 update - Sewage discharges will include monitoring, at a minimum, for E. Coli, in new and reissued permits, with a monitoring frequency of 1/month for design flows >= 1 MGD, 1/quarter for design flows >= 0.05 and < 1 MGD, 1/year for design flows of 0.002 – 0.05 MGD.					

Chesapeake Bay Net Limitations

Phase 2 WIP Wastewater Supplement
Revised, December 17, 2019

ATTACHMENT C

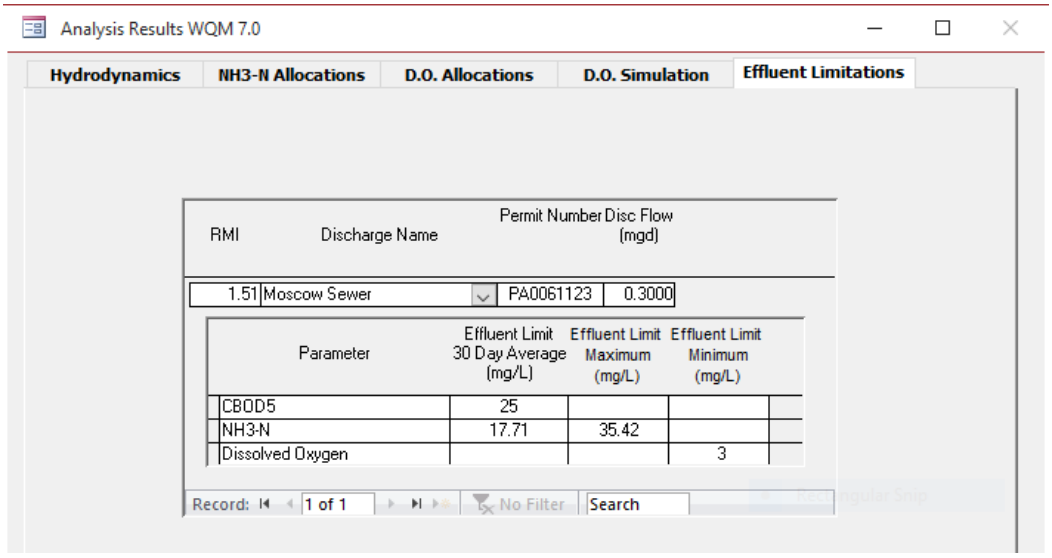
NON-SIGNIFICANT DISCHARGERS WITH CAP LOADS IN NPDES PERMITS

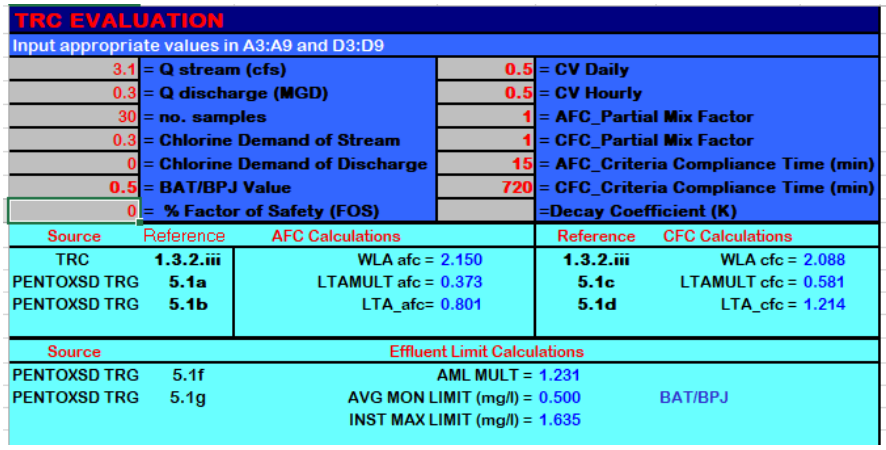
NPDES Permit No.	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0061123	MOSCOW SEW AUTH STP	1/25/2017	1/31/2022	10/1/2013	9,740	1,217	0.897	0.436

Comments:
DEP has developed an Annual Chesapeake Bay Spreadsheet V2.2 (Excel) for dischargers with cap loads to use to calculate annual loads and report nutrient trading activities. This spreadsheet should be used starting October 1, 2018, and replaces all Chesapeake Bay supplemental reports.

Water Quality-Based Limitations

A “Reasonable Potential Analysis” determined the following parameters were candidates for limitations:





☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	Report	Report	Report	Report	Report	µg/L	64.2	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Zinc	Report	Report	Report	Report	Report	µg/L	549	AFC	Discharge Conc > 10% WQBEL (no RP)

In general, DEP establish limits in the draft permit where the effluent concentration exceeds 50% of the WQBEL. For non-conservative pollutants, in general, establish monitoring requirements where the effluent concentration determined is between 25% - 50% of the WQBEL. For conservative pollutants, in general, establish monitoring requirements where the effluent concentration determined is between 10% - 50% of the WQBEL.

TMS%20PA0061123.pdf

Best Professional Judgment (BPJ) Limitations

Comments: Keep copper and Zinc M&R, add E-Coli per new policy

Anti-Backsliding

Keep existing limitations

As per the May 2004 anti-deg pollution report:
The Moscow Sewer Authority requests the derivation of preliminary effluent limitations for the possible increase in sewage discharge flow from their existing permitted flow of 180,000 gpd up to a proposed 300,000 gpd. Since the discharge is on a designated high quality stream, anti-degradation of existing water quality must be maintained as set forth in the Special Protection Waters Handbook. Their existing permit pre-dated the Department's Anti-degradation Policy, therefore, the existing limits derived for the permitted flow Of 180,000 gpd must be blended with the new limits generated under the ant-deg policy for the additional 120,000 gpd.

The following 2004 Limits will be retained :

EFFLUENT LIMITATIONS BASED ON A FLOW OF 0.300 MGD.

Parameter		Monthly Average	Instantaneous Maximum	Basis
1.	$CBOD_5$	15.6 mg/l	31.2 mg/l	ABACT
2.	TSS	17.5 mg/l	35.0 mg/l	ABACT
3.	NH_3-N (5/1 to 10/31)	1.5 mg/l	3.0 mg/l	Anti-Deg.
4.	NH_3-N (11/1to 4/30)	4.5 mg/l	9.0 mg/l	Anti-Deg.
5.	NO_2-NO_3	8.17 mg/l		Anti-Deg.
6.	Total Phosphorus as "P"	0.4 mg/l	0.8 mg/l	Anti-Deg.
7.	Total Residual Chlorine	0.4 mg/l		Anti-Deg.
8.	pH	6-9 at all times.		WQ
9.	Fecal Coliform (5/1 to 9/30)	200/100 ml (geo. avg.)		WQ
10.	Fecal Coliform (10/1 to 4/30)	2000/100 ml (geo. avg.)		WQ

Compliance History

DMR Data for Outfall 001 (from June 1, 2020 to May 31, 2021)

Parameter	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20
Flow (MGD) Average Monthly	0.186	0.175	0.260	0.173	0.188	0.227	0.172	0.185	0.171	0.187	0.188	0.201
Flow (MGD) Daily Maximum	0.333	0.241	0.473	0.238	0.325	0.742	0.304	0.348	0.226	0.363	0.310	0.351
pH (S.U.) Minimum	6.8	6.6	6.7	6.6	6.9	7.0	7.0	7.0	7.0	7.0	7.0	6.9
pH (S.U.) Instantaneous Maximum	7.4	7.5	7.3	7.7	7.7	7.6	7.7	7.6	7.5	7.6	7.6	7.6
DO (mg/L) Instantaneous Minimum	7.4	7.4	7.3	7.5	7.4	7.3	7.4	7.1	7.1	7.1	7.1	7.4
TRC (mg/L) Average Monthly	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
TRC (mg/L) Instantaneous Maximum	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
CBOD5 (lbs/day) Average Monthly	3.3	2.5	4.9	6.0	4.4	3.3	3.0	4.0	2.6	3.4	2.8	2.9
CBOD5 (lbs/day) Weekly Average	4.1	3.1	9.0	7.7	6.9	4.0	4.1	9.2	3.7	6.0	3.4	3.4
CBOD5 (mg/L) Average Monthly	2.0	2.0	2.6	4.2	3.0	2.0	2.2	3.5	2.0	2.0	2.0	2.0
CBOD5 (mg/L) Weekly Average	2.0	2.0	4.0	5.0	5.0	4.0	3.0	6.0	2.0	2.0	2.0	2.0
BOD5 (lbs/day) Influent Average Monthly	479	296	409	447	448	395	348	269	533	520	454	316
BOD5 (lbs/day) Influent Weekly Average	615	352	480	775	566	575	430	352	982	1236	979	404
BOD5 (mg/L) Influent Average Monthly	301	242	230	312	304	255	300	231	377	271	303	231
BOD5 (mg/L) Influent Weekly Average	341	346	295	505	423	396	420	307	530	408	578	390

TSS (lbs/day) Average Monthly	4.9	2.1	19.9	11.6	6.6	5.6	7.0	4.3	3.9	6.7	4.3	5.8
TSS (lbs/day) Influent Average Monthly	461	229	436	419	367	444	324	889	420	689	350	388
TSS (lbs/day) Influent Weekly Average	818	281	736	786	484	568	408	2817	656	1612	474	611
TSS (lbs/day) Weekly Average	6.1	7.8	51.6	14.4	11.7	8.0	16.4	6.0	5.6	15.1	5.1	10.0
TSS (mg/L) Average Monthly	3.0	4.0	10.2	8.2	4.0	3.4	5.2	4.0	3.0	3.5	3.0	3.4
TSS (mg/L) Influent Average Monthly	283	186	232	291	253	286	260	673	314	356	259	287
TSS (mg/L) Influent Weekly Average	454	244	328	512	352	405	407	1963	465	532	396	590
TSS (mg/L) Weekly Average	3.0	5.0	23.0	10.0	6.0	4.0	12.0	5.0	3.0	5.0	3.0	7.0
Fecal Coliform (CFU/100 ml) Geometric Mean	7	1	1	29	1	< 1	1	1	1	4	1	1
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	2420	1	1	2420	1	< 1	1	1	1	411	1	1
Nitrate-Nitrite (lbs/day) Average Monthly	5.0	5.0	6.0	7.0	11.0	8.0	7.0	4.0	5.0	5.0	3.0	6.0
Nitrate-Nitrite (mg/L) Average Monthly	3.1	4.1	3.3	5.0	7.2	5.1	5.1	3.0	3.4	2.2	2.1	4.2
Nitrate-Nitrite (lbs) Total Monthly	164	156	192	194	343	247	207	130	137	141	94	178
Total Nitrogen (mg/L) Average Monthly	4	5.1	4.6	6.3	8.4	6.4	6.1	4.1	4.4	3.2	3.2	5.2
Total Nitrogen (lbs) Effluent Net Total Monthly	213	194	262	244	399	320	246	171	174	195	141	221
Total Nitrogen (lbs) Total Monthly	213	194	262	244	399	320	246	171	174	195	141	221
Ammonia (lbs/day) Average Monthly	0.4	0.7	0.7	0.9	0.9	1.0	0.2	0.5	0.2	0.4	0.6	0.5
Ammonia (mg/L) Average Monthly	0.3	0.6	0.4	0.6	0.6	0.7	0.1	0.5	0.2	0.3	0.4	0.3

Ammonia (lbs) Total Monthly	13	21	22	25	26	39	5	15	7	14	17	14
TKN (mg/L) Average Monthly	1	1.0	1.3	1.3	1.2	1.3	1.0	1.1	1.0	1.0	1.1	1.0
TKN (lbs) Total Monthly	49	38	70	50	56	73	39	40	38	54	47	43
Total Phosphorus (lbs/day) Average Monthly	0.4	0.3	0.5	0.4	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4
Total Phosphorus (mg/L) Average Monthly	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.3	0.3
Total Phosphorus (lbs) Effluent Net Total Monthly	13	10	16	10	12	8	8	12	13	14	12	11
Total Phosphorus (lbs) Total Monthly	13	10	16	10	12	8	8	12	13	14	12	11
Total Copper (lbs/day) Average Quarterly			0.016			0.016			0.018			0.021
Total Copper (mg/L) Average Quarterly			0.013			0.013			0.011			0.013