Ohio EPA
40 years and moving forward

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

July 31, 2013

Mr. William Donohue, Plant Manager
PCS Purified Phosphates – Cincinnati
10818 Paddy's Run Road
Harrison, Ohio 45030

RE: Compliance Evaluation Inspection
NPDES Permit 1IE00001*GD/OH0009211

Dear Mr. Donohue:

On July 9, 2013, Joe Miller and I conducted a compliance evaluation inspection at the PCS Purified Phosphates facility on Paddy's Run Road. Attached is a copy of my inspection report. All areas evaluated were rated acceptable, with the exception of effluent quality, which was rated marginal, due to the recent permit violations. A notice of violation is included in the Summary of Findings at the end of the report. No response to this inspection is necessary.

I've also included a General Lab Criteria check list for our inspections of on-site labs that perform analytical tests for reported effluent quality. Please have your lab staff review the applicable sections for compliance with the approved methods.

If you have any questions regarding the report or my inspection, please contact me at (937) 285-6101 or at Mary.Osika@epa.ohio.gov.

Sincerely,

Mary Osika
Environmental Specialist II
Division of Surface Water

MO/tb

Enclosures

OhioEPA

State of Ohio Environmental Protection Agency
Southwest District Office

NPDES Compliance Inspection Report

Section A: National Data System Coding					
Permit #	**NPDES#**	**Month/Day/Year**	**Inspection Type**	**Inspector**	**Facility Type**
1IE00001*GD	OH0009211	7/9/2013	Compliance	State	Industrial

Section B: Facility Data		
Name and Location of Facility Inspected	**Entry Time**	**Permit Effective Date**
PCS Purified Phosphates – Cincinnati 10818 Paddy's Run Road Harrison, Ohio	12:30 pm	October 1, 2011
	Exit Time	**Permit Expiration Date**
	2:55 pm	September 30, 2016
Name(s) and Title(s) of On-Site Representatives	**Phone Number(s)**	
Angela Carbonell, Operations/Engineering Superintendent Josh Rohman, Laboratory Supervisor Donald Nickels, Maintenance Foreman Doug Engel, Plant Manager, Joplin Operations	(513) 738-7475 (513) 738-7472 (402) 267-2915 (417) 626-4440	
Name, Address and Title of Responsible Official	**Phone Number**	
William Donohue, Plant Manager PCS Purified Phosphates – Cincinnati 10818 Paddy's Run Road Harrison, Ohio 45030	(402) 690-3394	

Section C: Areas Evaluated During Inspection
(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

S	Permit	S	Flow Measurement	N	Pretreatment
S	Records/Reports	N	Laboratory	N	Compliance Schedule
S	Operations & Maintenance	M	Effluent/Receiving Waters	S	Self-Monitoring Program
S	Facility Site Review	S	Sludge Storage/Disposal	N	Other
N	Collection System				

Section D: Summary of Findings (Attach additional sheets if necessary)

See attached sheet at end of report for Summary of Findings.

Inspector	Reviewer
7/31/2013	8/1/13
Mary Osika — Date	Martyn Burt — Date
Environmental Specialist Division of Surface Water Southwest District Office	Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office

Sections E thru K: Complete on all inspections as appropriate
Y – Yes, N – No, N/A – Not Applicable, N/E – Not Evaluated

Section E: Permit Verification

Inspection observations verify the permit

(a) Correct name and mailing address of permittee	Y
(b) Correct name and location of receiving waters.....	Y
(c) Do Categorical Standards apply?...If yes, list applicable standards..	N
40 CFR Part 422 does not apply	
(d) Product(s) and production rates conform with permit application (Industries).....	N/A
(e) Flows and loadings conform with NPDES permit.....	Y
(f) Trea tment processes are as described in permit application...	N
(g) All discharges are permitted.....	Y
(h) Number and location of discharge points are as described in permit.....	Y
(i) Storm water discharges properly permitted.....	Y

Comments/Status:

(f) The treatment process in use at the facility is pH neutralization and filtration using powdered cellulose. The facility does not use diatomaceous earth filtration, carbon adsorption or ion exchange for wastewater treatment. The latter two treatment processes were used on a trial basis at the time of the last renewal application.

Section F: Compliance

(a) Any permit violations since the last inspection.....	Y
(b) Appropriate Non-compliance notification of violations.....	Y
(c) Permittee is taking actions to resolve violations.....	Y
(d) Permittee has a compliance schedule.....	N
(e) Compliance schedule contained in...N/A	
(f) Permitt ee is in compliance with schedule.....	N/A
(g) Has biomonitoring shown toxicity in discharge since last inspection	N/E

Comments/Status:

See Summary of Findings for permit violations.

Section G: Operation & Maintenance

Treatment Works:

Treatment facility properly operated and maintained

(a) Standby power available.....generator ☒ or dual feed ☐..... Y

i. What does the back-up power source operate.....

All treatme nt units

ii. How often is the generator tested under load.....

weekly

(b) Which components have an alarm system available for power or equipment failures.....

low/high level indicator lights on control panel

Alarms will be integrated into the new PLC system.

(c) All treatment units in service other than backup units..... Y
(d) What method is used for scheduling routine & preventative maintenance (PCS uses PM software.)..... Y
(e) Any major equipment breakdown since last inspection..... N
(f) Operatio n and maintenance manual provided and maintained..... Y
(g) Any plant bypasses since last inspection..... N
(h) Any plant upsets since last inspection..... N

Comments/Status:

Viewed small storage tank where pH neutralization occurs with mixing. Viewed plate and frame filter in water treatment building .

Section H: Sanitary Wastewater Disposal / Sludge Management

Method of Sanitary Wastewater Disposal – sewage holding tank, contents hauled 1/week to a publicly owned facility

(a) Method of Sludge Disposal...

- ☐ Land Application
- ☐ Haul to Another NPDES Permitee
- ☐ Haul to a Mixed Solid Waste Landfill
- ☒ No sludge is produced

Comments/Status:

Section I: Self-Monitoring Program

Flow Measurement:

(a) Primary/Secondary flow measuring devices operated and maintained..... Y
Type of device (e.g. weir with ultrasonic level sensor):
i n line flow meter

(b) Calibration frequency adequate ..... Y
(Date of last calibration: done annually)

(c) 24-hour recording instruments operated and maintained.....Y

(d) Flow measurement equipment adequate to handle full range of flows..... Y

(e) Actual flow discharged is measured..... Y

(f) Flow measuring equipment inspection frequency
☒Daily ☐Weekly ☐monthly ☐other

Comments/Status:

Operators record the daily flow rate.

Section I: Self-Monitoring Program (con't)

Sampling:

(a) Sampling location(s) are as specified by permit..... Y
(b) Parameters and sampling frequency agree with permit..... Y
(c) Permittee uses required sampling method..... Y
(d) Monitoring records (i.e., flow, pH, DO) maintained for a minimum of three years including all original strip chart recordings (i.e, continuous monitoring instrumentation, calibration and maintenance records)..... Y

Comments/Status:

(a) Recommend that the sampling station for outfall 001 be marked on the pipe valve.

Section I: Self-Monitoring Program (con't)

Laboratory:

General

(a) Does the Quality Assurance Manual contain written Standard Operating Procedures (SOP's) for all analysis performed onsite..... N/E

(b) Do SOP's include the following if applicable:

- Title
- Scope and Application
- Summary
- Sample Handling and
- Procedure
- Calculations
- Quality Control
- Maintenance

Preservation
- Interferences
- Apparatus and Materials
- Reagents
- Corrective Action
- Reference (Parent Method)

Note: Standard Methods 1020A establishes that "Quality assurance (QA) is the definitive program for laboratory operation that specifies the measure required to produce defensible data of know precision and accuracy. "Standard operating procedures are to be used in the laboratory in sufficient detail that a competent analyst unfamiliar with the method can conduct a reliable review and/or obtain acceptable results." SOPs should be developed for each analytical procedure.

(c) EPA approved analytical testing procedures used (40 CFR 136.3).. N/E
(d) If alternate analytical procedures are used, proper approval has been obtained..... N/E
(e) Analyses being performed more frequently than required by permit. N
(f) If (e) is yes, are results in permittee's self-monitoring report..... N/A
(g) Satisfactory calibration and maintenance of instruments/equipment. N/E
(h) Commercial laboratory used..... Y
Parameters analyzed by commercial lab: all except for pH, TSS
Lab name: Cardinal Labs

Discharge Monitoring Report Quality Assurance (DMRQA)

(a) Participation in latest USEPA quality assurance performance sampling..... N
Date:
(b) Were any parameters "Unsatisfactory"..... N/A
(c) Reasons for "Unsatisfactory" parameters.....

Comments/Status:

(g) General Lab Criteria check list is included in the inspection report for facilities that have their own lab and conduct analyses at the sampling station 001. PCS does TSS in lab and pH in line analyzer.

Section J: Effluent/Receiving Water Observations

Outfall # 001
Outfall Description: Final treated effluent pumped from storage tank to river
Receiving Stream: Great Miami River
Receiving Stream Description: River high due to rain, did not go to discharge point at the river.

Comments/Status:

Section K: Multimedia Observations

(a) Are there indications of sloppy housekeeping or poor maintenance in work and storage areas or laboratories..... N
(b) Do you notice staining or discoloration of soils, pavement or floors.. N
(c) Do you notice distressed (unhealthy, discolored, dead) vegetation.. N
(d) Do you see unidentified dark smoke or dust clouds coming from sources other than smokestacks..... N
(e) Do you notice any unusual odors or strong chemical smells..... N
(f) Do you see any open or unmarked drums, unsecured liquids, or damaged containment facilities..... N

If any of the above are observed, ask the following questions:
(1) What is the cause of the condition?
(2) Is the observed condition or source a waste product?
(3) Where is the suspected contaminant normally disposed?
(4) Is this disposal permitted?
(5) How long has the condition existed and when did it begin?

Comments/Status:

Summary of Findings/Comments

The purpose of the inspection was to determine compliance with the NPDES permit 1IE00001*GD, receive an update on status of PCS construction updates at this facility and to go over status of TMDL study on the Great Miami River.

1. Compliance with the NPDES Permit:

During the review period of October 2011 – June 2013 PCS experienced the following 4 permit limit violations:

Notice of Violation

Parameter	Limit Type	Limit	Reported Value	Violation Date
Copper, Total (Cu)	1D Conc	80	602.	6/3/2013
Copper, Total (Cu)	1D Qty	0.0133	.03361	6/3/2013
Copper, Total (Cu)	30D Conc	51	67.5	6/1/2013
pH	1D Conc	9.0	9.1	6/19/2013

Please be advised that failure to comply with the effluent limitations or reporting requirements of your NPDES permit may be cause for enforcement action pursuant to the Ohio Revised Code Section 6111.

These effluent limit violations occurred recently and have been investigated by PCS Purified Phosphates. PCS discussed the corrective measures that will be taken to prevent the reoccurrence of the violations in correspondence dated June 17, 2013 and during the facility inspection on July 9, 2013.

2. Status of PCS Purified Phosphates construction activities/BMPs:

PCS has completed construction of a new office building, lab and tank farm. The old tank farm still remains for pending demolition. PCS continues to look for possible sources to accept their phosphorus wastewater, utilize recycling, look for leaks, improve housekeeping and provide education and training of staff to prevent violations of the permit. They will program their copper analyzer to automatically stop the discharge if levels approach the permit limit. They are developing SOPs for locking out the manual valve on the discharge line.

Ohio EPA encourages PCS to look at pollution prevention solutions and offers a contact for ideas and assistance. Michael Kelley at Ohio EPA's Office of Pollution Prevention can be contacted at (614) 644-2930 for assistance.

Summary of Findings/Comments, Continued

3. Status of Ohio EPA's TMDL study on the Lower Great Miami River:

The biological report on Ohio EPA's study of the Lower Great Miami River has been published at our website at :

http://epa.ohio.gov/portals/35/documents/GMR2012TSD.pdf

The TMDL report for this part of the river is currently nearing completion. Preliminary information indicates that nutrients are causing some non-attainment of use designations downstream from PCS. The agency is currently establishing a nutrient strategy concerning TMDL recommendations and this can be viewed at our website at:

http://epa.ohio.gov/dsw/dswrules/nutrientcriteria.aspx

Ohio EPA will contact point source dischargers for stakeholder outreach as part of the TMDL process.

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
Balance		Acceptable?		
• Standard Weights	• Either NIST Class s or ASTM/ANSI Class 1 weights [1,2]	☐ Yes	☐ No	
• Calibration Frequency / Documentation	• Calibration verification required at least once each day the balance is used.[3]	☐ Yes	☐ No	
• Cleanliness, air movement, vibration	• Cleanliness of balance is a must and air movement and vibration needs to be kept to a minimum[1]	☐ Yes	☐ No	
• Other	• Service and recalibrate annually (manufacturer representative or comparable)[1]	☐ Yes	☐ No	
	• Must be able to measure to 0.1 grams[4]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	
	• Log book maintained[2]	☐ Yes	☐ No	
Comments: :				

Criteria	Standard Methods Requirement			Rating
Drying Oven (Suspended Solids)		Acceptable?		
• Temperature Recordkeeping	• Temperature recorded with each use[4]	☐ Yes	☐ No	
	• Log book maintained[2]	☐ Yes	☐ No	
• Calibration Frequency / Documentation	• Thermometer calibrated annually with NIST traceable thermometer[1,2]. Correction factor posted on thermometer / equipment[1]	☐ Yes	☐ No	
• Other	• Thermometer temperature accurate to 0.5° Celsius[5]	☐ Yes	☐ No	
	• Acceptable temperature range is 103° – 105° C [4]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	
Comments: :				

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
pH Meter		Acceptable?		
• Calibration Frequency / Documentation	• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples)[3]	☐ Yes	☐ No	
	• Logbook maintained[2]	☐ Yes	☐ No	
• Minimum of 2 point calibration	• Calibration per manufacturer specification and calibration buffers must bracket anticipated result[7]	☐ Yes	☐ No	
• Slope Documentation / Acceptability	• Slope acceptable range indicated on benchsheet[2]	☐ Yes	☐ No	
• Buffer Expiration Date	• Buffers must not be expired	☐ Yes	☐ No	
• Other	• Instrument manual available	☐ Yes	☐ No	
	• Teflon covered magnetic stirrer or equivalent for mixing[8]	☐ Yes	☐ No	
Comments: :				

Criteria	Standard Methods Requirement			Rating
Dissolved Oxygen Meter		Acceptable?		
• Calibration Method	• Air or known DO calibration method[10]	☐ Yes	☐ No	
	• Calibration per manufacturer specification[10]	☐ Yes	☐ No	
• Calibration Frequency / Documentation	• Logbook maintained[2]	☐ Yes	☐ No	
	• Calibration verification required at least once each day the meter is used.[3]	☐ Yes	☐ No	
• Other	• Small to no bubble present under membrane (must be smaller than the lead in number 2 pencil)[11]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	
Comments:				

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
Incubator (CBOD/ E-Coli)		Acceptable?		
• Temperature Recordkeeping	• Temperature checked / recorded twice daily for each shelf in use[1] (E-Coli)	☐ Yes	☐ No	
	• Temperature checked / recorded daily[2] (CBOD)	☐ Yes	☐ No	
	• Acceptable temperature range (CBOD) is 20° C ±1.0°[12]	☐ Yes	☐ No	
	• Acceptable temperature range (E-Coli) is 35° C ±0.5°[22]	☐ Yes	☐ No	
	• Logbook maintained [2]	☐ Yes	☐ No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer[1, 2]	☐ Yes	☐ No	
	• Temperature correction information posted on incubator[1]	☐ Yes	☐ No	
• E-Coli can use multiple tubes (five 20 ml or ten 10 ml), or mfg's multi-well tray	• E-coli Ultraviolet lamp (365 nm wave length, 6 W bulb) [23]	☐ Yes	☐ No	
• Other	• Instrument manual available	☐ Yes	☐ No	
	• Temperature Log (thermometer accurate to 0.5 Celsius).[1]	☐ Yes	☐ No	
Comments: :				

Criteria	Standard Methods Requirement			Rating
Refrigerator		Acceptable?		
• Temperature Recordkeeping	• Temperature Log (thermometer accurate to 0.5 Celsius).[5]	☐ Yes	☐ No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer [1, 2]	☐ Yes	☐ No	
• Other	• Thermometer held in water bath. [1]	☐ Yes	☐ No	
	• Refrigerator temperature ≤6° Celsius.[13]	☐ Yes	☐ No	
	• Do not store volatile solvents, food, or beverages.[14]	☐ Yes	☐ No	
Comments:				

General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?		Rating
Chlorine Meter				
• Calibration Frequency / Documentation	• pH / millivolt meter read to 0.1 mV[15]	☐ Yes	☐ No	
	• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples)[3]	☐ Yes	☐ No	
• Calibration Method	• Calibration using three iodate solutions 0.2, 1.0, 5.0 milliliters or calibration per manufacturer specification[16]	☐ Yes	☐ No	
	• Standards used for calibration not expired	☐ Yes	☐ No	
• Slope Documentation / Acceptability	• Calibration curve (acceptable slope)	☐ Yes	☐ No	
• Other	• Electrode free of deposits and foreign material	☐ Yes	☐ No	
	• Log book being maintained.[2]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	
Comments: :				

Criteria	Standard Methods Requirement	Acceptable?		Rating
Ammonia Meter				
• Calibration Frequency / Documentation	• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples)[3]	☐ Yes	☐ No	
	• Log book being maintained[2]	☐ Yes	☐ No	
• Slope acceptability	• Verify calibration slope is acceptable (per mfg. spec.).	☐ Yes	☐ No	
• Calibration Method	• Standards used for calibration (3 ammonia solutions of 10 mg/l, 1 mg/l, and 0.1 mg/l) or per mfg. spec.[17]	☐ Yes	☐ No	
	• Standards used for calibration not expired	☐ Yes	☐ No	
• Other	• Electrode free of deposits and foreign material	☐ Yes	☐ No	
	• Teflon covered magnetic stirrer or equivalent for mixing[18]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	
Comments: :				

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
Sample Collection/Handling		Acceptable?		
• Sample Labeling	• Samples container labeled (description, date, time, preservative added, initialed).[19]	☐ Yes	☐ No	
• Chain of Custody	• Chain of custody (description, date, time, signature).[19]	☐ Yes	☐ No	
• Other	• Composite samples refrigerated during sample collection[14]	☐ Yes	☐ No	
	• Equipment blanks utilized[14]	☐ Yes	☐ No	
	• SOP for cleaning of sampling equipment	☐ Yes	☐ No	
	• Logbook being maintained[2]	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Desiccator		Acceptable?		
• General criteria	• Properly working seals.	☐ Yes	☐ No	
	• Desiccant fresh (blue color)	☐ Yes	☐ No	
• Documentation	• Log book being maintained[2]	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Bench sheets		Acceptable?		
• General criteria	• Date(s)[2]	☐ Yes	☐ No	
	• Analyst initials[2]	☐ Yes	☐ No	
	• Blue or black ink pen[2]	☐ Yes	☐ No	
	• Calibration information[2]	☐ Yes	☐ No	
	• Equations, calculations, units for all measurements, notations, and results present[2]	☐ Yes	☐ No	
	• Corrections, single line through, initialed and dated[2]	☐ Yes	☐ No	
Comments:				

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
Hot Water Bath (Fecal Coliform/E. Coli)		Acceptable?		
• Temperature Recordkeeping	• Temperature Log (thermometer accurate to 0.2° C)[21]	☐ Yes	☐ No	
	• Incubator temperature 44.5° C ± 0.2° [21/24]			
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer [1, 2]	☐ Yes	☐ No	
	• Log book being maintained [2]	☐ Yes	☐ No	
• Water Level	• Thermometer total immersion or partial (line on thermometer to ID immersion depth) [1, 5]	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Autoclaves/Steam Sterilizers		Acceptable?		
• All apparatus utilized is adequately sterilized before use	• Sterilizing temperature 121° C [25]	☐ Yes	☐ No	
	• 10 to 30 minutes time based on material being sterilized[26]	☐ Yes	☐ No	
• Documentation	• Verify the autoclave temperature weekly by using a maximum registering thermometer (MRT) to confirm that 121°C has been reached as measured in the exhaust. [1]	☐ Yes	☐ No	
	• Date, contents, sterilization time and temperature, total time in autoclave, and analyst's initials should be recorded each time the autoclave is used [1]	☐ Yes	☐ No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer [1,2]	☐ Yes	☐ No	
	• Log book being maintained [2]	☐ Yes	☐ No	
• Performance Checks	• Test monthly for efficacy using a biological such as commercially available *Geobacillus stearothermophilus* in spore strips, suspensions, or capsules [1]	☐ Yes	☐ No	
Comments:				

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
Final Effluent Temperature Monitoring		Acceptable?		
• General Criteria	• Thermometer calibrated annually with NIST traceable thermometer [1,2]	☐ Yes	☐ No	
	• Thermometer scaled to 0.1° Celsius and accurate to 0.5° C [5]	☐ Yes	☐ No	
	• Log book being maintained [2]	☐ Yes	☐ No	
Comments:				

Number of Criteria Rated:	Acceptable	
	Marginal	
	Unacceptable	
	Total Number of Areas Rated	

Acceptable Ratings – No action required (recommend SOP's written or updated, perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, written response not required).

Marginal Ratings – Improvements required, written response required (recommend SOP's be written or updated, recommend they perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, require deficiencies to be addressed in written response).

Unsatisfactory Rating - Improvements required, written response required, NOV issued (recommend SOP's be written or updated, recommend they perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, require deficiencies to be addressed in written response to NOV).

Consider recommending PAI Audit from DES when:	>60% of ratings are Marginal >45% of ratings are a combination of Marginal or Unacceptable >30% of ratings are Unacceptable

Notation of Referenced Method

1	Method 9020-B, Item 3	14	Method 1060A, Item 1
2	Method 1020-A, Item 1	15	Method 4500-Cl I, Item 2
3	Method 1020-B, Item 10	16	Method 4500-Cl I, Item 4
4	Method 2540-B, Item 2	17	Method 4500-NH3 D, Item 4
5	Method 2550-B, Item 1	18	Method 4500-NH3 D, Item 2
6	Method 1020-A, Item 1	19	Method 1060-B, Item 2
7	Method 4500-H B, Item 4	20	Method 1060-B, Item 1
8	Method 4500-H B, Item 2	21	Method 9222D, Item 1
9	Method 1020-B, Item 2	22	Method 9223 B, Item 2
10	Method 4500-O B, Item 3	23	Method 9223 B, Item 3
11	Method 4500-O G, Item 3	24	Method 1603, Item 2
12	Method 5210-B, Item 5	25	Method 9030-B, Item 3
13	CFR 136.3, Table II	26	Method 9020 B, Table IV

General Lab Criteria

Equipment Logbook Content - all maintenance performed on a piece of equipment should be documented in the logbook. This should include parts replacement and routine maintenance activities. Entries should include date, maintenance performed and initials of person making entry.

Preservation and Holding Times

Parameter	Container	Min. Sample Size (mL)	Sample Type	Preservation	Maximum Storage Time	
					Recommended	Regulatory
BOD / CBOD	P, G	1000	G, C	Refrigerate ≤6° C	6h	48h
TSS	P, G	200	G, C	Refrigerate ≤6° C	7 d	7 d
pH	P, G	50	G	Analyze immediately	0.25h	0.25 h
NH3-N	P, G	500	G, C	Analyze as soon as possible or add H_2SO_4 to pH <2, Refrigerate ≤6° C	7 d	28 d
TRC	P, G	500	G	Analyze immediately	0.25h	0.25 h
DO (electrode)	G, BOD Bottle	300	G	Analyze immediately	0.25h	0.25 h
Temperature	P, G	--	G	Analyze immediately	0.25h	0.25 h
Metals, general	P, G	1000	G, C	For dissolved filter immediately and add HNO_3 to pH <2	6 months	6 months
Purgeables by purge and trap	G (PTFE lined lid)	40 (X2)	G	HCl to pH<2, Refrigerate ≤6° C	7 d	14 d
Base/Neutrals and acids	G (solvent rinsed or baked)	1000	C, G	Refrigerate ≤6° C	7 d	7 days until extraction 40 days after extraction
Pesticides	G (PTFE lined lid)	1000	C	Refrigerate ≤6° C	7 d	7 days until extraction 40 days after extraction
Fecal Coliform / E-Coli	G, P (Sterilized)	100	G	Refrigerate ≤10° C If chlorine present, add sodium thiosulfate tablet	6 hrs transport Start analysis within 2 hrs of receipt in lab.	
Oil and Grease	G	1000	G	HCl or H_2SO_4 to pH <2, Refrigerate ≤6° C	28 d	28 d

Approved Standard Methods

CBOD / BOD 5 Day	Std Methods 5210-B
Ammonia, Selective Electrode Method	Std Methods 4500-NH3 D
Total Residual Chlorine, DPD Colorimetric Method	Std Methods 4500-Cl G
Total Suspended Solids, Dried at 103-105 °C	Std Methods 2540-D
Dissolved Oxygen, Membrane Electrode Method	Std Method 4500-O G
pH, Electrometric Method	Std Methods 4500-H+ B
Fecal Coliform, Membrane Filter Procedure	Std Methods 9222D
Escherichia Coli, Enzyme Substrate Test	Std Method 9223B
Escherichia Coli Membrane Filtration Procedure	EPA Method 1603
Oil and Grease	USEPA 1664A or Std Methods 5520B
Metals, general	USEPA 200, Std Methods 3111B or C, or 3120B
Volatiles (Purgeables by purge and trap)	USEPA 6210, Std Methods 624
Semi-Volatiles (Base/Neutrals and acids)	USEPA 6410, Std Methods 625
Pesticides	USEPA 6410 and 6630, Std Methods 608