



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

Re: Wyandot County
Upper Sandusky WWTP
NPDES Permit

May 21, 2013

Mayor and Council
City of Upper Sandusky
119 North Seventh Street
Upper Sandusky, Ohio 43351

Dear Mayor and Council:

This will acknowledge our April 2, 2013, compliance sampling inspection at the Upper Sandusky Wastewater Treatment Plant (WWTP), which is located on Indian Mill Road. This inspection was conducted to evaluate compliance with the facility's National Pollutant Discharge Elimination System (NPDES) permit No. 2PD00039.

At the time of the inspection, all major treatment components at the WWTP were in service and the plant effluent was clear. We collected effluent samples (Outfall 001) from April 1 to April 2 to determine the quality of the discharge. The April sampling event indicated the final effluent was not acutely toxic and the conventional pollutants were within the limits. Please refer to the enclosed Bioassay Report Number 13-4247-NW for more detailed analytical information.

We understand that the City is proceeding with another NPDES permit modification request to include three new sewer separation projects, the design of a new WWTP and the submittal of an updated Combined Sewer Overflow (CSO) Long Term Control Plan (LTCP).

We appreciated your participation in the Performance Audit Inspection (PAI) of your laboratory on May 25, 2011. Recommendations were made after the PAI, which are all being implemented. The U.S. EPA DMR-QA Study #32 indicated that all test parameters were rated acceptable. Again, we encourage your continued participation in the U.S. EPA DMR-QA Study.

Our review of your discharge monitoring reports (12/1/2011 to 4/1/2013) indicated one effluent violation. Please refer to the enclosed violation table. Our completed inspection report is included for your review. If you have any questions or comments, please call Mr. Jason Ko at 419-373-3021.

Yours truly,

Elizabeth Wick, P.E.
Environmental Engineer/Section Manager
Division of Surface Water

JK/jlm
Enclosures
pc: Aaron Putnam, Upper Sandusky WWTP
ec: Tracking



State of Ohio Environmental Protection Agency
Northwest District Office

NPDES Compliance Inspection Report

Section A: National Data System Coding					
Permit #	NPDES#	Month/Day/Year	Inspection Type	Inspector	Facility Type
2PD00039	OH0020001	4/2/2013	S	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	Entry Time	Permit Effective Date
Upper Sandusky WWTP Indian Mill Road Upper Sandusky, OH 43351	9:45 am	5/1/2010
	Exit Time	Permit Expiration Date
	11:45 am	4/30/2015
Name(s) and Title(s) of On-Site Representatives	Phone Number(s)	
Aaron Putnam, Superintendent	419-731-4071	
Name, Address and Title of Responsible Official	Phone Number	
Mayor & Council City of Upper Sandusky 119 North Seventh Street Upper Sandusky, OH 43551	419-294-3863	

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	S	Laboratory	M	Compliance Schedule
S	Operations & Maintenance	S	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)	
<ul style="list-style-type: none"> Effluent samples were collected on 4/1/2013 – 4/2/2013 Plan to revise the computer log sheet and use as official log book for operator More CSOs were discovered & LCTP is being updated NPDES Modification is due in by 5/2013 w/ a fixed-date Schedule for 3 sewer separation projects PAI recommendations were implemented Review of the Discharge Monitoring Reports (1/1/2012 – 4/1/2013) indicated no effluent or frequency violations 	
Inspector	Reviewer
 Jason Ko Division of Surface Water Northwest District Office	 Thomas Poffenbarger, P.E. Water Quality Engineer II/Unit Supervisor Division of Surface Water
5/21/13 Date	5/21/13 Date

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) Product(s) and production rates conform with permit application (Industries)..... N/A
- (d) Flows and loadings conform with NPDES permit..... Y
- (e) Treatment processes are as described in permit application... Y
- (f) New treatment process(es) added since last inspection..... N
- (g) Notification given to State of new, different or increased discharges..... Y
- (h) All discharges are permitted..... Y
- (i) Number and location of discharge points are as described in permit..... Y

Comments/Status:

Section F: Compliance

- (a) Any significant violations since the last inspection..... N
- (b) Permittee is taking actions to resolve violations..... N/A
- (c) Permittee has a compliance schedule..... Y
- (d) Compliance schedule contained in NPDES
- (e) Permittee is meeting compliance schedule..... Y

Comments/Status:

* Permit Mod is due in by 5/2013 to revise the Compliance Schedule w/ 3 sewer separation projects

* Completion of the updated LTCP & a new WWTP design after these 3 sewer separation projects

Section G: Operation & Maintenance

Treatment Works:

Treatment facility properly operated and maintained

- (a) Standby power available.....generator or dual feed Y
- (b) Adequate alarm system available for power or equipment failures.. Y
- (c) All treatment units in service other than backup units..... Y
- (d) Wastewater Treatment Works classification (OAC 3745-7)..... III
- (e) Operator of Record holds unexpired license of class required by permit..... Y
 Class: III
- (f) Copy of certificate of Operator of Record displayed on-site..... Y
- (g) Minimum operator staffing requirements fulfilled (OAC 3745-7)... Y
- (h) Routine and preventative maintenance scheduled/performed... Y
- (i) Any major equipment breakdown since last inspection..... N
- (j) Operation and maintenance manual provided and maintained.... Y
- (k) Any plant bypasses since last inspection..... Y
- (l) Regulatory agency notified of bypasses..... Y
 On MORs and/or Spill Hotline (1-800-282-9378)
- (m) Any hydraulic and/or organic overloads since last inspection..... Y

Record Keeping:

- (a) Log book provided..... N
- (b) Format of log book (i.e. computer log, hard bound book)

Plan to use the "revised" computer log sheet (Printout Version) as the official log book
--
- (c) Log book(s) kept onsite (in an area protected from weather)..... Y
- (d) Log book contains the following:
 - I. Identification of treatment works..... Y
 - II. Date/times of arrival/departure for Operator of Record and any other operator required by OAC 3745-7..... N
 - III. Daily record of operation and maintenance activities (including preventative maintenance, repairs and request for repairs)..... N
 - IV. Laboratory results (unless documented on bench sheets)... Y
 - V. Identification of person making log entries..... N
- (d) Has the operator of record submitted written notification to the permittee, Ohio EPA and (if applicable) any local environmental agencies when a collection system overflow, treatment plant bypass or effluent limit violation has occurred..... Y

Section G: Operation & Maintenance (con't)

Collection System:

- (a) Percent combined system: 60%
- (b) Any collection system overflows since last inspection..... Y
(CSO and/or SSO)
- (c) Regulatory agency notified of overflows (SSOs)..... Y
- (d) CSO O&M plan provided and implemented..... Y
- (e) CSOs monitored and reported in accordance with permit..... Y
- (f) Portable pumps used to relieve system..... Y
- (g) Lift station alarms provided and maintained..... Y
- (h) Are lift stations equipped with permanent standby power
or equivalent..... Y
- (i) Is there an inflow/infiltration problem (separate sewer system),
or were there any major repairs to collection system since
last inspection..... Y
- (j) Any complaints received since last inspection of basement flooding N
- (k) Are any portions of the sewer system at or near capacity..... N

Comments/Status:

Section H: Sludge Management

- (a) Sludge management plan (SMP)
Submitted date: 5/1996 Approval #: Not submitted N/A
- (b) Sludge management plan current..... Y
- (c) Sludge adequately disposed..... Y
(Method: Landfill)
- (d) If sludge is incinerated, where is ash disposed of
- (e) Is sludge disposal contracted..... Y
(Name: County Environmental of Wyandot)
- (f) Has amount of sludge generated changed significantly since
last inspection..... N
- (g) Adequate sludge storage provided at plant..... Y
- (h) Land application sites monitored and inspected per SMP..... N/A
- (i) Records kept in accordance with State and Federal law..... Y
- (j) Any complaints received in last year regarding sludge..... N
- (k) Is sludge adequately processed (digestion, pathogen control)..... Y

Comments/Status:

Section I: Self-Monitoring Program

Flow Measurement:

- (a) Primary flow measuring device operated and maintained..... Y
Type of device: Ultrasonic & Parshall flume Ultrasonic & Weir Weir
Calculated from influent Other (Specify:)
- (b) Calibration frequency adequate Y
(Date of last calibration: 3/12/2012)
- (c) Secondary 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:

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
(see GLC page 5 and 8)
- (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

Laboratory:

General

- (a) Do you have written Standard Operating Procedures (SOP's) for all analysis performed onsite Y
- (b) Do SOP's include the following if applicable:
 - Title
 - Scope and Application
 - Summary
 - Sample Handling and Preservation
 - Interferences
 - Apparatus and Materials
 - Reagents
 - Procedure
 - Calculations
 - Quality Control
 - Maintenance
 - Corrective Action
 - Reference (Parent Method)

Note: SOP's are required per Standard Methods 1020A and states "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."

- (c) EPA approved analytical testing procedures used for all analysis (40 CFR 136.3, see GLC page 8). Y
- (d) If alternate analytical procedures are used, proper approval has been obtained..... Y
- (e) Analyses being performed more frequently than required by permit. Y
- (f) If (e) is yes, are results in permittee's self-monitoring report..... Y

Quality Control/Quality Assurance

- (g) Quality assurance manual provided and maintained..... Y
- (h) Satisfactory calibration and maintenance of instruments/equipment. Y
- (i) Results of latest USEPA quality assurance performance sampling program:
 Satisfactory Marginal Unsatisfactory
Date: 2012

(j) Commercial laboratory used..... Y
 Parameters analyzed by commercial lab:

Lab name: Alloway

Comments/Status:

The Performance Audit Inspection (PAI) of your in-house lab was conducted on 5/26/2011. All PAI recommendations were implemented.

Section J: Effluent/Receiving Water Observations

Outfall Number	Outfall sign in place?	Oil sheen	Grease	Turbidity	Foam	Solids	Color	Other
001	Y	N	N	N	N	N	N	N

Comments/Status:

[Empty comment box]

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:

[Empty comment box]

F. GUIDE - VISUAL OBSERVATION - UNIT PROCESS

RATING CODES: S = Satisfactory; U = Unsatisfactory; M = Marginal; IN = In Operation; OUT = Out of Operation

CONDITION OR APPEARANCE		RATING	COMMENTS
General	Grounds	S	
	Buildings	S	
	Potable Water Supply Protection	S	
	Safety Features	S	Fenced
	Bypasses	OUT	
	Sewer Collection Overflows	OUT	
	Alternate Power Source	OUT	Standby generator - test weekly
Preliminary	Maintenance of Collection Systems	S	
	Pump Station	IN	1 unit of 50 hp pumps, 2 units are variable
	Ventilation	IN	
	Bar Screen	IN	
	Disposal of Screenings	S	Landfill
	Comminutor	OUT	Standby
	Grit Chamber	IN	1 aerated unit and ferrous chloride added
	Disposal of Grit	S	Landfill
Primary	Settling Tanks	-	
	Scum Removal	-	
	Sludge Removal	-	
	Effluent	-	
Sludge Disposal	Digesters (Aerobic)	IN	1 unit
	Temperature and pH	-	
	Gas Production	-	
	Heating Equipment	-	
	Sludge Pumps	IN	2 WAS, 2 RAS & 2 Transfer
	Drying Beds	IN	2 in use; 4 total
	Storage Pad	IN	Covered
	Disposal of Sludge	IN	Landfill
	Sludge Blower	IN	2 units
Other	Flow Meter and Recorder	IN	At effluent
	Records	S	
	Lab Controls	-	
	Chemical Treatment	IN	Ferrous chloride & polymer
Secondary-Tertiary <small>List items as</small>	Aeration Tank	IN	2 units & brown
	Secondary Settling	IN	2 units
	Blowers	IN	3 units
	Effluent Pump	OUT	
Disinfection	Effluent	S	Clear discharge
	Disinfection System	OUT	UV
	Effective Dosage	-	
	Contact Time	-	
	Contact Tank	-	
	Dechlorination	-	

Get New Data

Permit No	Reporting Period	Station	Reporting Code	Parameter	Limit Type	Limit	Reported Value	Violation Date
2PD00039*KD	December 2011	001	50092	Mercury, Total (Low Le	30D Qty	0.0001	.00015	12/1/2011

A Report on the Acute Toxicity of Upper Sandusky WWTP
Outfall 001 Effluents to *Pimephales promelas* and *Ceriodaphnia dubia*

Bioassay Report Number:
13-4247-NW

Reviewed By
QA Staff

APR 08 2013

Sample Number:
151491

Ohio EPA - DES
Reviewer VD

Jonathan C. McLaughlin

Bioassay Section
Division of Environmental Services
Ohio Environmental Protection Agency

INTRODUCTION

Two grab samples and a composite sample of Upper Sandusky WWTP outfall 001 effluents were collected by Ben Smith and Chris Riddle, DSW, NWDO, Ohio EPA for use in screening bioassays as part of a toxics evaluation in conjunction with permit reissuance. Grab samples were also collected from the receiving stream, the Sandusky Run, upstream from the discharge and in the acute mixing zone. The effluent grab samples were collected on 1 April 2013 at 1026 hours and on 2 April 2013 at 1007 hours. The composite sample was collected on 1-2 April 2013 between 1021-1006 hours. The Sandusky Run water was collected on 1 April 2013: upstream at 1120 hours and from the acute mixing zone at 1056 hours. The fathead minnow, *Pimephales promelas*, and *Ceriodaphnia dubia* were used as test organisms in these 48-hour screening bioassays.

PREVIOUS RESULTS

Bioassays of Upper Sandusky WWTP outfall 001 effluents were previously conducted by the Ohio EPA within the last ten years in 1-2 and 29-30 October 2007 (Bioassay Numbers 07-3715-NW and 07-3724-NW, respectively). The previously tested effluents were not acutely toxic to either *P. promelas* or *C. dubia* (Appendix 1).

RESULTS AND CONCLUSIONS

Details of the tests may be found on the attached bioassay report forms. The effluents were not acutely toxic. No mortality or other adverse effects were observed in the ambient waters and effluents for either *P. promelas* or *C. dubia*. Survival in the laboratory controls was 90 percent or greater for both species. Percent by volume effluent in the acute mixing zone sample could not be determined by our usual method of comparing conductivities.

Screening bioassays are utilized to determine if an effluent is acutely toxic to the test organisms and to indicate if more extensive bioassays should be conducted to estimate median lethal concentrations or persistence of toxicity. The results of these and previous bioassays indicate that Upper Sandusky WWTP outfall 001 effluents were not acutely toxic to either *P. promelas* or *C. dubia*. Additional bioassays should be conducted to further demonstrate the absence of unacceptable toxic conditions associated with this discharge.

These tests did not address the possibility of chronic toxicity. Discharge data for Upper Sandusky WWTP outfall 001 and the Sandusky Run should be evaluated to determine if chronic toxicity is of concern. Chronic tests may be required to adequately evaluate the possibility of toxicity in this discharge.

OHIO ENVIRONMENTAL PROTECTION AGENCY
Screening Bioassay Report Form

Report Date: 5 April 2013

Bioassay Report Number: 13-4247-NW

Investigators: Jonathan C. McLaughlin

Effluent tested and source: Upper Sandusky WWTP, 155 Indian Mill Road, Upper Sandusky, Wyandot County, Ohio, outfall 001

NPDES Number: OH0020001

Ohio EPA Permit Number: 2PD00039*KD

Business/Process: Wastewater treatment facility

Collector(s): Ben Smith and Chris Riddle, DSW, NWDO, Ohio EPA

Test Organisms: Fathead minnow (*Pimephales promelas*) and *Ceriodaphnia dubia* from Ohio EPA Bioassay Section rearing units

Fathead Minnow Hatched: 21-22 March 2013; 11-12 days old at test initiation

Rearing unit water and reconstituted water were used in the controls for this static bioassay. Adverse effects measured in the test are death, immotility, and loss of equilibrium. Death is the cessation of all visible movement with no response to gentle prodding (fish) or to gentle test container agitation (*Ceriodaphnia*). An immobile organism is paralyzed or stunned with only occasional slight movements and cannot maintain its normal position in the water column. Loss of equilibrium is the organism's inability to maintain normal swimming posture in the water column and may be characterized by periods of quiescence followed by bursts of uncontrolled swimming. The effluent is considered to be acutely toxic if 20 percent, or more, of either species of test organism exhibits any combination of the adverse effects in the 100 percent effluent. Test results are invalid if more than ten percent of either species of test organism exhibits the adverse effects in the control.

Results of screening bioassays of Upper Sandusky WWTP outfall 001 effluent

Bioassay Number: 13-4247-NW

Sample	Time Collected Date: Time: (hours)	Test Start Date: Time: (hours)	Cumulative percent mortality (plus/or exhibiting other adverse effects)			
			<i>P. promelas</i> Time (hours)		<i>C. dubia</i> Time (hours)	
			24	48	24	48
Sandusky Run upstream	1 April 2013 1120	2 April 2013 0755	0	0	0	0
Acute mixing zone	1 April 2013 1056	2 April 2013 0755	0	0	0	0
Grab 001	1 April 2013 1026	2 April 2013 0755	0	0	0	0
Rearing unit water control		2 April 2013 0755	0	0	-	-
Reconstituted water control		2 April 2013 0755	-	-	0	10
Grab 001	2 April 2013 1007	3 April 2013 0810	0	0	0	0
Composite 001	1-2 April 2013 1021-1006	3 April 2013 0810	0	0	0	0
Rearing unit water control		3 April 2013 0810	0	0	-	-
Reconstituted water control		3 April 2013 0810	-	-	0	0

Relevant information: The ambient waters and effluents were clear with a yellow tinge. The plant uses ultra-violet disinfection. After warming to the 25°C test temperature, the ambient waters, 1 April effluent grab, and composite effluent were shaken vigorously for approximately 15 seconds to release supersaturated dissolved oxygen. Physicochemical parameters measured prior to test initiation and at test end are on the next page.

Results of screening bioassays of Upper Sandusky WWTP outfall 001 effluent

Bioassay Number: 13-4247-NW

Relevant information (cont.): Physicochemical parameters recorded prior to test initiation were:

Sample	Temperature (°C)		Dissolved Oxygen (mg/L) Initial-Adjusted	pH (S.U.)	Conductivity (µmhos/cm)
	Upon Rept.	Test Init.			
Sandusky Run upstream	1.1	24.7	9.4-8.3	8.40	626
Acute mixing zone	1.1	24.3	9.6-8.2	7.92	1422
Grab 001, 1 April 2013	0.8	24.6	9.3-8.1	7.73	1121
Grab 001, 2 April 2013	2.0	24.9	8.5	7.56	1126
Composite 001	2.0	24.9	9.3-8.2	7.83	1127
Rearing unit water control	21.9	24.3	8.0	7.56	369
Reconstituted water control	25.2	25.2	7.7	8.59	566

Physicochemical values for the laboratory controls are the averages of two measurements.

Physicochemical parameters recorded at *P. promelas* (FHM) and *C. dubia* (CDU) test end were:

Sample	Temperature (°C)		Dissolved Oxygen (mg/L)		pH (S.U.)		Conductivity (µmhos/cm)	
	FHM	CDU	FHM	CDU	FHM	CDU	FHM	CDU
Sandusky Run upstream	-	-	-	-	-	-	-	-
Acute mixing zone	-	-	-	-	-	-	-	-
Grab 001, 1 April 2013	-	-	-	-	-	-	-	-
Grab 001, 2 April 2013	-	-	-	-	-	-	-	-
Composite 001	-	-	-	-	-	-	-	-
Rearing unit water control	-	-	-	-	-	-	-	-
Reconstituted water control	-	-	-	-	-	-	-	-

Physicochemical values for the laboratory controls are the averages of two measurements.

Appendix 1.

Results of previous bioassays of Upper Sandusky WWTP outfall 001 effluent

Screening Results

Bioassay Number	Date (mm/yy)	Acutely Toxic (Y/N)	<i>Pimephales promelas</i> mortality (plus/or exhibiting other adverse effects)			<i>Ceriodaphnia dubia</i> mortality (plus/or exhibiting other adverse effects)		
			Day 1 Grab	Day 2 Grab	Composite	Day 1 Grab	Day 2 Grab	Composite
07-3715-NW	1-2 Oct. '07	N	0	0	0	0	0	0
07-3724-NW	29-30 Oct. '07	N	0	0	0	0	0	0

* All previous results are available electronically upon request.

Definitive Results

Bioassay Number	<i>Pimephales promelas</i>			<i>Ceriodaphnia dubia</i>		
	LC50 (95 percent confidence limits)	EC50 (95 percent confidence limits)	LC50 TUa (EC50 TUa)	LC50 (95 percent confidence limits)	EC50 (95 percent confidence limits)	LC50 TUa (EC50 TUa)
-	-	-	-	-	-	-
-	-	-	-	-	-	-

Definitions

- The LC50s and EC50s are reported as percent by volume effluent (%).
- The LC50 is the effluent concentration that is lethal to 50 percent of a species of test organism in a stated exposure period. The EC50 includes mortality plus data on other adverse effects. Both are usually obtained by statistical or graphical methods.
- The TUa is calculated by dividing 100 by the LC50 or EC50.

151491

OHIO EPA, DES, BIDASSAY SECTION, SAMPLE SUBMISSION FORM

Name of Entity and Outfall Tested: Upper Sandusky WWTP, Effluent 001 DEPA Permit #: 2PD 000 39* KD
 Facility Address: 155 INDIAN MILL RD, UPPER SANDUSKY, OH NPDES#: 040020001
 Receiving Stream (R.M.): SANDUSKY RIVER @ RM 80.02 County: Wyandot
 Collector(s) (Print Full Name): BEN SWITH, CHRIS RIDDLE
 Collector(s) Signature: [Signatures]

Upstream control samples shall be collected upstream from any discharge/receiving stream interactions. Generally, acute (near field) samples should be collected in the center of the effluent plume 5 times the stream depth downstream from the outfall and chronic (far field) samples should be collected midplume, or if a plume no longer exists midstream 5 times the stream width downstream from the outfall. If atypical mixing characteristics exist, samples can be collected at closer distances than the above guidelines to insure the samples are within the effluent plume. If a mixing zone sample cannot be safely collected, one can be prepared using equal aliquots of the day 1 effluent grab and upstream dilution water (be sure to write "manual" in the "Location of Sample Collection" space provided below).

Sample Identification	Effluent-Day 1 Grab	Effluent-Day 2 Grab	Effluent-Composite	Upstream/Dilution-Grab	Acute Mixing Zone-Grab	Chronic Mixing Zone-Grab
Location of Sample Collection	Effluent @ Outfall 001			Sandusky R. @ Elliott St	Sandusky R 20 ft 1st effluent trib	
If Composite, Sample Volume and Frequency						
Collection Containers, Types and Number	(1) gal cubi			(2) gal cubic	(1) gal cubi	
Volume Collected	1 gal			2 gals	1 gal	
Date of Sample Collection	04-01-13			04-01-13	04-01-13	
Time of Sample Collection, beginning-Ending Time	10:26 AM			11:20 AM	1056	
Flow (in MGD)						
Temperature (°C)	10.05			6.90	7.28	
Dissolved Oxygen (mg/L)	9.31			13.04	12.74	
pH (S.U.)	7.02			8.20	7.52	
Conductivity (umhos/cm)	760			391	982	
Specific conductivity	1060			598	1484	

% Dissolved Oxygen 82.9 107.3 106.2

Place a check mark next to all the appropriate characteristics of the outfall/mixing zone:

- Turbulent Mixing Onshore Pipe Shore hugging Plume Flume
- Nonturbulent Mixing Offshore Pipe Rapid Complete Mixing Diffuser

Notes:

Name and Title	YEAR	MONTH	DAY	HOUR	MINUTE
Received from: <i>Ch. R. P.</i>	2013	04	01	13	00
Received by: <i>[Signature]</i>	13	04	02	07	20
Received from:					
Received by:					
Received from:					
Received by:					
Received from:					
Received by:					
Received from:					
Received by:					

In the vicinity of the discharge: Stream Depth _____ Stream Width _____

CHEMISTRY SAMPLE NUMBERS
151490

Location Map Drawing

Describe and map the upstream control and any mixing zone sampling sites so someone else could sample at the exact same points (include landmarks if possible). Stream depth should be recorded for any acute (near field) mixing zone sample and stream width for any chronic (far field) mixing zone sample. For the mixing zone sample location, delineate the distance downstream from the outfall and map the effluent plume. Be specific on discharge and receiving stream characteristics.

OHIO EPA, DES, BIOASSAY SECTION, SAMPLE SUBMISSION FORM

Name of Entity and Outfall Tested: UPPER SANDUSKY WWT, EFFLUENT @ 001 OEPA Permit #: 2PD 06/d 89" E1
 Facility Address: 155 INDIAN MILL RD, UPPER SANDUSKY, OH NPDES#: OH 0020001
 Receiving Stream (R.M.): SANDUSKY RIVER @ RM 86.02 County: WYANDOT
 Collector(s) (Print Full Name): BEN SMITH, CHRIS RIDDLE
 Collector(s) Signature: [Signatures]

Upstream control samples shall be collected upstream from any discharge/receiving stream interactions. Generally, acute (near field) samples should be collected in the center of the effluent plume 5 times the stream depth downstream from the outfall and chronic (far field) samples should be collected midplume, or if a plume no longer exists midstream 5 times the stream width downstream from the outfall. If atypical mixing characteristics exist, samples can be collected at closer distances than the above guidelines to insure the samples are within the effluent plume. If a mixing zone sample cannot be safely collected, one can be prepared using equal aliquots of the day 1 effluent grab and upstream dilution water (be sure to write "manual" in the "Location of Sample Collection" space provided below).

Sample Identification	Effluent-Day 1 Grab	Effluent-Day 2 Grab	Effluent-Composite	Upstream/Dilution-Grab	Acute Mixing Zone-Grab	Chronic Mixing Zone-Grab
Location of Sample Collection		Effluent @ Outfall 001	Effluent @ Outfall 001			
If Composite, Sample Volume and Frequency			200ml / 15 min 24 hr			
Collection Containers, Types and Number		1 gal cubi	1 gal cubi			
Volume Collected		1 gal	1 gal			
Date of Sample Collection		04-02-13	04-01-13 → 04-02-13			
Time of Sample Collection, beginning-Ending Time		1007	1021 - 1006			
Flow (in MGD)		1.35	1.35			
Temperature (°C)		10.04				
Dissolved Oxygen (mg/L)		10.05				
pH (S.U.)		6.89				
Conductivity (µmhos/cm)		763				
Specific conductivity		1069				

% Dissolved Oxygen 89.4%

Place a check mark next to all the appropriate characteristics of the outfall/mixing zone:

- Turbulent Mixing Onshore Pipe Shore hugging Plume Flume
 Nonturbulent Mixing Offshore Pipe Rapid Complete Mixing Diffuser

Notes: Flow: 1.35MGD

* Flow taken off of chemistry stream.

Name and Title	YEAR	MONTH	DAY	HOUR	MINUTE
Received from: <i>CA R P</i>	2013	04	02	11	45
Received by: <i>Steve. W. Mc</i>	13	04	03	07	35
Received from:					
Received by:					
Received from:					
Received by:					
Received from:					
Received by:					
Received from:					
Received by:					

In the vicinity of the discharge: Stream Depth _____ Stream Width _____

CHEMISTRY SAMPLE NUMBERS
<i>151497-561</i>

Location Map Drawing

Describe and map the upstream control and any mixing zone sampling sites so someone else could sample at the exact same points (include landmarks if possible). Stream depth should be recorded for any acute (near field) mixing zone sample and stream width for any chronic (far field) mixing zone sample. For the mixing zone sample location, delineate the distance downstream from the outfall and map the effluent plume. Be specific on discharge and receiving stream characteristics.

OhioEPA Division of Environmental Services
Laboratory Inorganic Analysis Data Report

Sample 151497			
Date Received 04/03/2013 7:42 AM	Matrix WW	Collected by SMITH, BENJAMIN	
Begin	End	Sample Type COMPLIANCE	
Date Collected 04/01/2013 10:21 AM	04/02/2013 10:06 AM	Station ID U02W03	
Program NWDO-DSW		Customer ID 13BS0401	
Client DSW		External ID 97460	
OEPA Division DSW			
Location 5 - UPPER SANDUSKY WWTP OUTFALL TO TRIB TO SANDUSKY R (80.02)			

Analysis	Parameter	Storet	Result	RL	Units	Date	Qualifier
CBOD-5	CBOD5	P80082	2.3	2	mg/L	04/03/2013	
Solids_Diss	Total Dissolved Solids	P70300	716	10	mg/L	04/04/2013	
Solids_Susp	Total Suspended Solids	P530	<5	5	mg/L	04/04/2013	
ICPMS_(WAT)	Arsenic	P1002	<2.0	2	ug/L	04/12/2013	
ICPMS_(WAT)	Cadmium	P1027	<0.20	0.2	ug/L	04/12/2013	
ICPMS_(WAT)	Chromium	P1034	<2.0	2	ug/L	04/12/2013	
ICPMS_(WAT)	Copper	P1042	3.3	2	ug/L	04/12/2013	
ICPMS_(WAT)	Lead	P1051	<2.0	2	ug/L	04/12/2013	
ICPMS_(WAT)	Nickel	P1067	6.5	2	ug/L	04/12/2013	
ICPMS_(WAT)	Selenium	P1147	<2.0	2	ug/L	04/12/2013	
ICP_(WAT)	Aluminum	P1105	<200	200	ug/L	04/11/2013	
ICP_(WAT)	Barium	P1007	28	15	ug/L	04/11/2013	
ICP_(WAT)	Calcium	P916	96	2	mg/L	04/11/2013	
ICP_(WAT)	Hardness, Total	P900	367	10	mg/L	04/11/2013	
ICP_(WAT)	Iron	P1045	291	50	ug/L	04/11/2013	
ICP_(WAT)	Magnesium	P927	31	1	mg/L	04/11/2013	
ICP_(WAT)	Manganese	P1055	80	10	ug/L	04/11/2013	
ICP_(WAT)	Potassium	P937	9	2	mg/L	04/11/2013	
ICP_(WAT)	Sodium	P929	92	5	mg/L	04/11/2013	
ICP_(WAT)	Strontium	P1082	2050	30	ug/L	04/11/2013	
ICP_(WAT)	Zinc	P1092	42	10	ug/L	04/11/2013	
Alkalinity	Alkalinity	P410	169	5	mg/L	04/09/2013	
Ammonia	Ammonia	P610	0.382	0.05	mg/L	04/10/2013	
COD	COD	P340	22	20	mg/L	04/04/2013	
Chloride	Chloride	P940	149	5	mg/L	04/05/2013	
Conductivity	Conductivity	P95	1150	2	umhos/cm	04/08/2013	
Nitrate	Nitrate+nitrite	P630	8.51	0.1	mg/L	04/10/2013	
TKN	TKN	P625	1.50	0.2	mg/L	04/18/2013	
TP	Total Phosphorus	P665	0.514	0.01	mg/L	04/12/2013	

Field Comments

Lab Comments

QC / Sample Comments

Approved By

VDESHMUKH

On

04/23/2013

Laboratory Inorganic Analysis Data Report

Sample 151498		
Date Received 04/03/2013 7:42 AM	Matrix WW	Collected by SMITH, BENJAMIN
Begin	End	Sample Type COMPLIANCE
Date Collected	04/02/2013 10:07 AM	Station ID U02W03
Program NWDO-DSW		Customer ID 13BS0402
Client DSW		External ID 97466
OEPA Division DSW		
Location 1 - UPPER SANDUSKY WWTP OUTFALL TO TRIB TO SANDUSKY R (80.02)		

Analysis	Parameter	Storet	Result	RL	Units	Date	Qualifier
<i>Oil&Grease</i>	Oil & Grease	P556	<2.3	2.3	mg/L	04/29/2013	
<i>Cyanide_Free</i>	Cyanide, Free	P718	<5	5	ug/L	04/03/2013	

Field Comments Compliance

Lab Comments

QC / Sample Comments

Approved By VDESHMUKH On 04/30/2013

Laboratory Inorganic Analysis Data Report

Sample 151490			
Date Received	04/02/2013 7:24 AM	Matrix	SW
	Begin	End	
Date Collected		04/01/2013 11:20 AM	
Program	NWDO-DSW	Collected by	SMITH, BENJAMIN
Client	DSW	Sample Type	COMPLIANCE
OEPA Division	DSW	Station ID	U02P36
Location	2 - SANDUSKY R. AT UPPER SANDUSKY @ ELLIOT ST.		
		Customer ID	138S0401
		External ID	97464

Analysis	Parameter	Storet	Result	RL	Units	Date	Qualifier
ICP_(WAT)	Calcium	P916	76	2	mg/L	04/03/2013	
ICP_(WAT)	Hardness, Total	P900	289	10	mg/L	04/03/2013	
ICP_(WAT)	Magnesium	P927	24	1	mg/L	04/03/2013	

Field Comments

Lab Comments

QC / Sample Comments

Approved By **On**

Laboratory Organic Analysis Data Report

Sample 151499				
Date Received	04/03/2013 7:42 AM	Matrix WW	Collected by	SMITH, BENJAMIN
	Begin	End	Sample Type	COMPLIANCE
Date Collected	04/03/2013 10:21 AM	04/02/2013 10:06 AM	Station ID	U02W03
Program	NWDO-DSW		Customer ID	13BS0402
Client	DSW		External ID	97473
OEPA Division	DSW			
Location	5 - UPPER SANDUSKY WWTP OUTFALL TO TRIB TO SANDUSKY R (80.02)			

EPA Method Parameter	Units	Cas Number	Result	RL	Analyzed	Qualifier
USEPA 625	ug/L					
Acenaphthene		000083-32-9	<5.3	5.3	04/17/2013	
Acenaphthylene		000208-96-8	<5.3	5.3	04/17/2013	
Anthracene		000120-12-7	<2.1	2.1	04/17/2013	
Benzo[a]anthracene		000056-55-3	<2.1	2.1	04/17/2013	
Benzo[a]pyrene		000050-32-8	<2.1	2.1	04/17/2013	
Benzo[b]fluoranthene		000205-99-2	<2.1	2.1	04/17/2013	
Benzo[g,h,i]perylene		000191-24-2	<2.1	2.1	04/17/2013	
Benzo[k]fluoranthene		000207-08-9	<2.1	2.1	04/17/2013	
bis(2-Chloroethoxy)methane		000111-91-1	<5.3	5.3	04/17/2013	
bis(2-Chloroethyl)ether		000111-44-4	<2.1	2.1	04/17/2013	
bis(2-Chloroisopropyl)ether		000108-60-1	<2.1	2.1	04/17/2013	
bis(2-Ethylhexyl)phthalate		000117-61-7	<10.6	10.6	04/17/2013	
4-Bromophenyl-phenylether		000101-55-3	<5.3	5.3	04/17/2013	
Butylbenzylphthalate		000085-68-7	<2.1	2.1	04/17/2013	
4-Chloro-3-methylphenol		000059-50-7	<10.6	10.6	04/17/2013	
2-Chloronaphthalene		000091-58-7	<5.3	5.3	04/17/2013	
2-Chlorophenol		000095-57-8	<2.1	2.1	04/17/2013	
4-Chlorophenyl-phenylether		007005-72-3	<2.1	2.1	04/17/2013	
Chrysene		000218-01-9	<2.1	2.1	04/17/2013	
Di-n-butylphthalate		000084-74-2	<5.3	5.3	04/17/2013	
Di-n-octylphthalate		000117-84-0	<2.1	2.1	04/17/2013	
Dibenz[a,h]anthracene		000053-70-3	<2.1	2.1	04/17/2013	
1,3-Dichlorobenzene		000541-73-1	<2.1	2.1	04/17/2013	
1,4-Dichlorobenzene		000106-46-7	<2.1	2.1	04/17/2013	
1,2-Dichlorobenzene		000095-50-1	<2.1	2.1	04/17/2013	
2,4-Dichlorophenol		000120-83-2	<2.1	2.1	04/17/2013	
Diethylphthalate		000084-66-2	47.8	26.6	04/17/2013	
2,4-Dimethylphenol		000105-67-9	<10.6	10.6	04/17/2013	
Dimethylphthalate		000131-11-3	<5.3	5.3	04/17/2013	
4,6-Dinitro-2-methylphenol		000534-52-1	<5.3	5.3	04/17/2013	
2,4-Dinitrophenol		000051-28-5	<21.3	21.3	04/17/2013	
2,6-Dinitrotoluene		000606-20-2	<2.1	2.1	04/17/2013	
2,4-Dinitrotoluene		000121-14-2	<2.1	2.1	04/17/2013	
Fluoranthene		000206-44-0	<2.1	2.1	04/17/2013	
Fluorene		000086-73-7	<2.1	2.1	04/17/2013	
Hexachlorobenzene		000118-74-1	<2.1	2.1	04/17/2013	
Hexachlorobutadiene		000087-68-3	<2.1	2.1	04/17/2013	
Hexachlorocyclopentadiene		000077-47-4	<2.1	2.1	04/17/2013	
Hexachloroethane		000067-72-1	<5.3	5.3	04/17/2013	
Indeno[1,2,3-cd]pyrene		000193-39-5	<2.1	2.1	04/17/2013	
Isophorone		000078-59-1	<2.1	2.1	04/17/2013	
N-Nitroso-di-n-propylamine		000621-64-7	<2.1	2.1	04/17/2013	
N-Nitrosodiphenylamine		000086-30-6	<5.3	5.3	04/17/2013	
Naphthalene		000091-20-3	<2.1	2.1	04/17/2013	
Nitrobenzene		000098-95-3	<2.1	2.1	04/17/2013	
2-Nitrophenol		000088-75-5	<2.1	2.1	04/17/2013	
4-Nitrophenol		000100-02-7	<21.3	21.3	04/17/2013	
Pentachlorophenol		000087-86-5	<10.6	10.6	04/17/2013	
Phenanthrene		000085-01-8	<2.1	2.1	04/17/2013	
Phenol		000108-95-2	<2.1	2.1	04/17/2013	
Pyrene		000129-00-0	<2.1	2.1	04/17/2013	

Laboratory Organic Analysis Data Report

Sample 151499		
Date Received 04/03/2013 7:42 AM	Matrix WW	Collected by SMITH, BENJAMIN
Begin	End	Sample Type COMPLIANCE
Date Collected 04/01/2013 10:21 AM	04/02/2013 10:06 AM	Station ID U02W03
Program NWDO-DSW		Customer ID 13BS0402
Client DSW		External ID 97473
OEPA Division DSW		
Location 5 - UPPER SANDUSKY WWTP OUTFALL TO TRIB TO SANDUSKY R (80.02)		

EPA Method Parameter	Units	Cas Number	Result	RL	Analyzed	Qualifier
USEPA 625	ug/L					
1,2,4-Trichlorobenzene		000120-82-1	<2.1	2.1	04/17/2013	
2,4,6-Trichlorophenol		000088-06-2	<5.3	5.3	04/17/2013	

Field Comments BNA, 625

Lab Comments

QC / Sample Comments

Approved By VDESHMUKH **On** 04/25/2013

Laboratory Organic Analysis Data Report

Sample 151500		
Date Received 04/03/2013 7:42 AM	Matrix WW	Collected by SMITH, BENJAMIN
Begin	End	Sample Type COMPLIANCE
Date Collected	04/02/2013 10:07 AM	Station ID U02W03
Program NWDO-DSW		Customer ID 13BS0402
Client DSW		External ID 97472
OEPA Division DSW		
Location 4 - UPPER SANDUSKY WWTP OUTFALL TO TRIB TO SANDUSKY R (80.02)		

EPA Method Parameter	Units	Cas Number	Result	RL	Analyzed	Qualifier
USEPA 624	ug/L					
Benzene		000071-43-2	<0.50	0.5	04/05/2013	
Bromobenzene		000108-86-1	<0.50	0.5	04/05/2013	
Bromochloromethane		000074-97-5	<0.50	0.5	04/05/2013	
Bromodichloromethane		000075-27-4	<0.50	0.5	04/05/2013	
Bromoform		000075-25-2	<0.50	0.5	04/05/2013	
Bromomethane		000074-83-9	<0.50	0.5	04/05/2013	
n-Butylbenzene		000104-51-8	<0.50	0.5	04/05/2013	
sec-Butylbenzene		000135-98-8	<0.50	0.5	04/05/2013	
tert-Butylbenzene		000098-06-6	<0.50	0.5	04/05/2013	
Carbon tetrachloride		000056-23-5	<0.50	0.5	04/05/2013	
Chlorobenzene		000108-90-7	<0.50	0.5	04/05/2013	
Chloroethane		000075-00-3	<0.50	0.5	04/05/2013	
Chloroform		000067-66-3	1.12	0.5	04/05/2013	
Chloromethane		000074-87-3	<0.50	0.5	04/05/2013	
2-Chlorotoluene		000095-49-8	<0.50	0.5	04/05/2013	
4-Chlorotoluene		000106-43-4	<0.50	0.5	04/05/2013	
Dibromochloromethane		000124-48-1	<0.50	0.5	04/05/2013	
1,2-Dibromo-3-chloropropane		000096-12-8	<0.50	0.5	04/05/2013	
1,2-Dibromoethane		000106-93-4	<0.50	0.5	04/05/2013	
Dibromomethane		000074-95-3	<0.50	0.5	04/05/2013	
1,2-Dichlorobenzene		000095-50-1	<0.50	0.5	04/05/2013	
1,3-Dichlorobenzene		000541-73-1	<0.50	0.5	04/05/2013	
1,4-Dichlorobenzene		000106-46-7	<0.50	0.5	04/05/2013	
Dichlorodifluoromethane		000075-71-8	<0.50	0.5	04/05/2013	
1,1-Dichloroethane		000075-34-3	<0.50	0.5	04/05/2013	
1,2-Dichloroethane		000107-06-2	<0.50	0.5	04/05/2013	
1,1-Dichloroethene		000075-35-4	<0.50	0.5	04/05/2013	
cis-1,2-Dichloroethene		000156-59-2	<0.50	0.5	04/05/2013	
trans-1,2-Dichloroethene		000156-60-5	<0.50	0.5	04/05/2013	
1,2-Dichloropropane		000078-87-5	<0.50	0.5	04/05/2013	
1,3-Dichloropropane		000142-28-9	<0.50	0.5	04/05/2013	
2,2-Dichloropropane		000594-20-7	<0.50	0.5	04/05/2013	
1,1-Dichloropropene		000563-58-6	<0.50	0.5	04/05/2013	
cis-1,3-Dichloropropene		010061-01-5	<0.50	0.5	04/05/2013	
trans-1,3-Dichloropropene		010061-02-6	<0.50	0.5	04/05/2013	
Ethylbenzene		000100-41-4	<0.50	0.5	04/05/2013	
Hexachlorobutadiene		000087-68-3	<0.50	0.5	04/05/2013	
Isopropylbenzene		000098-82-8	<0.50	0.5	04/05/2013	
4-Isopropyltoluene		000099-87-6	<0.50	0.5	04/05/2013	
Methylene chloride		000075-09-2	<0.50	0.5	04/05/2013	
Naphthalene		000091-20-3	<0.50	0.5	04/05/2013	
n-Propylbenzene		000103-65-1	<0.50	0.5	04/05/2013	
Styrene		000100-42-5	<0.50	0.5	04/05/2013	
1,1,1,2-Tetrachloroethane		000630-20-6	<0.50	0.5	04/05/2013	
1,1,2,2-Tetrachloroethane		000079-34-5	<0.50	0.5	04/05/2013	
Tetrachloroethene		000127-18-4	<0.50	0.5	04/05/2013	
Toluene		000108-88-3	<0.50	0.5	04/05/2013	
1,2,3-Trichlorobenzene		000087-61-6	<0.50	0.5	04/05/2013	
1,2,4-Trichlorobenzene		000120-82-1	<0.50	0.5	04/05/2013	
1,1,1-Trichloroethane		000071-55-6	<0.50	0.5	04/05/2013	
1,1,2-Trichloroethane		000079-00-5	<0.50	0.5	04/05/2013	

Laboratory Organic Analysis Data Report

Sample 151500		
Date Received 04/03/2013 7:42 AM	Matrix WW	Collected by SMITH, BENJAMIN
Begin	End	Sample Type COMPLIANCE
Date Collected	04/02/2013 10:07 AM	Station ID U02W03
Program NWDO-DSW		Customer ID 13BS0402
Client DSW		External ID 97472
OEPA Division DSW		
Location 4 - UPPER SANDUSKY WWTP OUTFALL TO TRIB TO SANDUSKY R (80.02)		

EPA Method	Parameter	Units	Cas Number	Result	RL	Analyzed	Qualifier
USEPA 624		ug/L					
	Trichloroethene		000079-01-6	<0.50	0.5	04/05/2013	
	Trichlorofluoromethane		000075-69-4	<0.50	0.5	04/05/2013	
	1,2,3-Trichloropropane		000096-18-4	<0.50	0.5	04/05/2013	UJ
	1,2,4-Trimethylbenzene		000095-63-6	<0.50	0.5	04/05/2013	
	1,3,5-Trimethylbenzene		000108-67-8	<0.50	0.5	04/05/2013	
	Vinyl chloride		000075-01-4	<0.50	0.5	04/05/2013	
	o-Xylene		000095-47-6	<0.50	0.5	04/05/2013	
	Total m&p-xylenes		000108-38-3	<0.50	0.5	04/05/2013	

Field Comments VOC, 624

Lab Comments

QC / Sample Comments 624: 1,2,3-trichloropropane estimated due to poor QC recovery.

Approved By VDESHMUKH **On** 04/25/2013