MONTHLY REPORT OF OPERATION OF WATER TREATMENT PLANT

State Form 34609 (R8 / 12-12)

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

System Name East Chicago Water Dept. POE 2 PWSID Number 5245012

For the Month of September 2016 IDEM Field Rep. Mahoney

Signed [illegible] Title Plant Manager

I certify, ***under penalty of law***, by this signature that this document was prepared by me, or under my direction, and the information submitted is to the best of my knowledge and belief, true, accurate and complete. ***I am also aware that there are significant penalties for submitting false information.***

Certification Number 150138

PHYSICAL AND CHEMICAL DATA *

Date	Turbidity		Alkalinity		pH		Hardness		Iron		Manganese		Phosphate	Fluoride	
	Raw	Finished	Raw	Finished	Raw	Finished	Raw	Finished	Raw	Finished	Raw	Finished	Finished	Finished	
1	12.2	.07			7.60	8.10							.13		
2	8.5	.06			7.70	8.21							.13		
3	5.7	.06			7.50	8.19							.10		
4	4.4	.08			7.50	8.00							.12		
5	3.5	.08			7.50	7.96							.09		
6	3.0	.07			7.60	8.02							.10		
7	2.6	.06			7.60	7.80							.26		
8	2.6	.06			7.60	8.10							.41		
9	3.3	.07			7.50	8.06							.39		
10	2.7	.07			7.50	8.10							.39		
11	3.5	.07			7.60	8.00							.41		
12	3.1	.07			7.50	8.00							.47		
13	2.9	.06			7.58	8.06							.42		
14	3.3	.07			7.50	8.19							.24		
15	3.3	.07			7.42	8.23							.36		
16	2.8	.06			7.50	8.16							.36		
17	1.9	.07			7.70	8.10							.50		
18	2.2	.07			7.60	7.99							.48		
19	2.2	.06			7.63	8.08							.37		
20	2.3	.06			7.70	8.03							.43		
21	2.4	.07			7.70	8.09							.48		
22	2.5	.07			7.70	8.09							.47		
23	2.7	.06			7.70	8.00							.52		
24	2.9	.07			7.60	8.00							.47		
25	2.8	.07			7.60	8.06							.47		
26	2.5	.07			7.70	8.06							.52		
27	2.9	.06			7.66	7.98							.40		
28	3.4	.07			7.70	8.09							.40		
29	21.5	.07			7.50	8.07							.34		
30	19.6	.06			7.50	7.96							.34		
31															

* All parameters are to be expressed in mg/1 except pH and turbidity

DUE BY THE 10TH OF THE MONTH FOLLOWING THE REPORTING PERIOD

East Chicago Water Dept. POE2 5245012

Date	Water Treated	Chemicals Used – Pounds								Filters		Chlorine Residual				Remarks
	1000 gallons	Salt	Alum	Lime	Soda Ash	Carbon	Chlorine	Fluoride	Phos-phate	Filter Run *(hours)*	Gallons per wash x 1000	Plant Tap Free	Plant Tap Total	D. S. Free	D. S. Total	
1	6290						118		39			1.20		.73	.91	
2	5950						146		43			1.24		.81	.97	
3	6460						138		52			1.63		.80	.99	
4	6360						118		52			1.49		1.10	1.30	
5	4770						81		39			1.43		.95	1.12	
6	6240						97		74			1.39		.84	1.03	
7	7260						107		102			1.36		1.15	1.32	
8	6600						97		76			1.30		.79	.99	
9	5980						91		70			1.19		.99	1.18	
10	6690						109		76			1.34		.91	1.22	
11	5220						85		60			1.20		.90	1.12	
12	5100						86		61			1.27		.71	.86	
13	5350						93		75			1.32		.88	1.10	
14	6410						114		69			1.35		.93	1.16	
15	6100						105		68			1.27		.58	.89	
16	5840						95		84			1.33		1.20	1.40	
17	7440						115		100			1.27		1.16	1.40	
18	5240						86		71			1.20		1.30	1.45	
19	5870						85		65			1.23		.91	1.11	
20	5450						87		75			1.19		1.12	1.50	
21	7100						113		87			1.19		.84	1.15	Monthly Water Treatment
22	7490						119		106			1.31		1.06	1.36	Total Gallons 182,890
23	7420						127		105			1.35		1.02	1.21	Max. Day 7490
24	5910						102		78			1.30		1.00	1.30	Min. Day 4770
25	5360						86		78			1.20		1.02	1.26	Avg. Daily 6096
26	5810						101		73			1.26		.84	1.04	
27	5600						94		65			1.25		.68	.87	
28	6910						118		80			1.26		.93	1.15	Mail To: **Indiana Department of Environmental Management** Drinking Water Branch 100 N. Senate Ave. Room N1201 Indianapolis, IN 46204-2237
29	5470						99		64			1.21		.60	.74	
30	5200						99		69			1.16		.96	1.20	
31																

Part of State Form 34609 (R9 / 1-16)

IE/LT1 SWTR COMBINED FILTER EFFLUENT TURBIDITY

State Form 53294 (6-07)
Indiana Department of Environmental Management (IDEM)
Office of Water Quality - Drinking Water Branch - Compliance Section

INSTRUCTIONS: Please submit completed forms to: IDEM OWQ Drinking Water, Mail Code 66-34, 100 N Senate Ave, Indianapolis, IN 46204-2251

PWSID: IN5245012

Plant Number: 02

System Name: East Chicago Water Dept

Plant Name: membrane

This form must be completed and submitted to IDEM within the first ten (10) days after the end of the monitoring period in which the samples were collected.

Monitoring Period (MM/DD/YYYY): 09/01/2016

Please submit completed form to:
IDEM OWQ - Drinking Water Branch
100 N Senate Avenue
Indianapolis, IN 46204-2251

Day	Hours of Operation	Raw Water Turbidity	Record Combined Effluent Turbidity Every Four Hours on a Daily Basis 1st	2nd	3rd	4th	5th	6th	Daily Max	Number >0.3 NTU
1	20.0	12.2	.07	.07	.06	.06	.07	.07	.07	
2	19.0	8.5	.07		.06	.06	.06	.07	.07	
3	21.0	5.7	.06	.06	.07	.07	.06	.06	.07	
4	21.0	4.4	.07	.06	.07	.08	.07	.12	.12	
5	15.0	3.5	.07	.08	.07	.08	.08		.08	
6	19.0	3.0	.07		.07	.07	.07	.07	.07	
7	24.0	2.6	.07	.06	.06	.07	.06	.06	.07	
8	24.0	2.6	.06	.06	.06	.07	.06	.07	.07	
9	21.0	3.3	.11		.06	.06	.06	.06	.11	
10	24.0	2.7	.07	.07	.08	.08	.06	.06	.08	
11	19.0	3.5	.07	.08	.07	.07	.06	.06	.08	
12	18.0	3.1	.07	.07	.07	.07	.06	.06	.07	
13	18.0	2.9	.07		.07	.06	.06	.06	.07	
14	24.0	3.3	.06	.06	.07	.08	.06	.07	.08	
15	24.0	3.3	.06	.07	.06	.06	.07	.10	.10	
16	18.0	2.8	.06		.06	.06	.07	.07	.07	
17	24.0	1.9	.07	.07	.07	.07	.08	.08	.08	
18	19.0	2.2	.07	.06	.06	.06	.07	.07	.07	
19	20.0	2.2	.07	.07	.06	.06	.05	.06	.07	
20	20.0	2.3	.06		.07	.07	.06	.06	.07	
21	24.0	2.4	.07	.06	.07	.07	.06	.07	.07	
22	22.0	2.5	.07	.07	.07	.08	.06	.06	.08	
23	24.0	2.7	.06	.06	.06	.06	.05	.06	.06	
24	20.0	2.9	.07	.07	.06	.07	.06	.07	.07	
25	17.0	2.8	.06	.06	.06	.07	.07	.07	.07	
26	21.0	2.5	.07	.07	.06	.07	.07	.07	.07	
27	20.0	2.9	.06	.06	.05	.06	.08	.07	.08	
28	24.0	3.4	.07	.07	.06	.06	.07	.07	.07	
29	20.0	21.5	.07	.07	.07	.07	.06	.06	.07	
30	17.0	19.6	.06	.06	.06	.06	.06	.06	.06	
31										

I hereby certify that all the information submitted herein is true and accurate to the best of my knowledge.

Completed By: [signature] Date: 10/6/16 Reviewed by: [signature]

CHLORINE AND CHLORAMINES RESIDUAL REPORTING (POE)

State Form 53295 (R / 3-12)
Indiana Department of Environmental Management (IDEM)
Office of Water Quality - Drinking Water Branch - Compliance Section

INSTRUCTIONS: Please submit completed forms to: IDEM OWQ Drinking Water, Mail Code 66-34, 100 N Senate Ave, Indianapolis, IN 46204-2251.

PWSID: IN5245012

Plant Number: 02

System Name: East Chicago Water Dept

☑ Chlorine ☐ Chloramines

Plant Name: Membrane

This form must be completed and submitted to IDEM within the first ten (10) days after the end of the monitoring period in which the samples were collected.

Monitoring Period *(mm/dd/yyyy)*: 09 / 01 / 2016

Please submit completed form to:
IDEM - Drinking Water Branch
100 N Senate Avenue
Indianapolis, IN 46204-2251

Daily Point-of-Entry (POE) Residual (Subpart H Systems Only)

If you are using chlorine, check the chlorine box above and report free chlorine results.
If you are using chloramines, check the chloramines box above and report total chlorine results.
If residual is below 0.2 for free chlorine or 0.5 for total chlorine below minimum required level, check the box below.

Day	Lowest Residual @ POE (mg/L)	Check here if below minimum required level.	Date reported if below required minimum level *(mm/dd/yy)*	Day	Lowest Residual @ POE (mg/L)	Check here if below minimum required level.	Date reported if below required minimum level *(mm/dd/yy)*
1	1.1	☐		17	1.2	☐	
2	1.1	☐		18	1.2	☐	
3	1.5	☐		19	1.1	☐	
4	1.4	☐		20	1.2	☐	
5	1.4	☐		21	1.2	☐	
6	1.2	☐		22	1.2	☐	
7	1.2	☐		23	1.2	☐	
8	1.2	☐		24	1.2	☐	
9	1.1	☐		25	1.1	☐	
10	1.1	☐		26	1.2	☐	
11	1.1	☐		27	1.2	☐	
12	1.2	☐		28	1.2	☐	
13	1.2	☐		29	1.2	☐	
14	1.3	☐		30	1.1	☐	
15	1.2	☐		31		☐	
16	1.2	☐		Example	0.1	☒	05/28/06

Note:
As per **327 IAC 8-2-8.8(c)**, systems serving more than 3,300 customers are required to continuously monitor the residual disinfectant concentration of the water entering the distribution system and must record the lowest value each day. If there is a failure in their monitoring equipment, grab sampling is required every four (4) hours, but for no more than two (2) working days following failure of the equipment.

Certification:

All POE residual disinfectant sampling have been properly carried out by me or under my direct supervision following the approved methods specified by the rule, as per 327 IAC 8-2-8.7(5). All residual testing equipment has been properly calibrated with a grab sample at least every five (5) days, as per 327 IAC 8-2-8.7(5)(F). I certify that this system complied with all the rule requirements applicable for this monitoring / reporting period.

Completed by: Pete Harretos **Signature:** [signature]

Title: Plant Manager **Date:** 10/06/2016

MEMBRANE SYSTEM MONTHLY REPORT

Direct Integrity Testing - Pressure Decay Tests

State Form 54298 (5-10)
INDIANA DEPARTMENT OF ENVIRMONMENTAL MANAGEMENT
OFFICE OF WATER QUALITY - DRINKING WATER BRANCH

PWSID Number	5245012	***System Name***	East Chicago Water Treatment Plant
Skid Number	1	***Skid UCL***	123 (psi/min)

Reporting Period: **September-16**

INSTRUCTIONS: Submit one form for each skid/rack that you operated this month. Enter initial and final pressure, TMP, and temperature. The log removal achieved during that partic
PDT test, will be calculated based on the system constants. Submit completed forms to IDEM Drinking Water Branch, Compliance Section, 100 N Senate Ave, Indianapolis, IN 46204.

System Constants		
Design Flow	2403.00	gpm
System-specific Decay Test (PDTi)	2.00	psi/min
System Volume	3.00	gallons
PDT Test Duration	108.0	minutes
System Backpressure	5.00	psi
Location Atmospheric Pressure	6.0000	psi

DATE	Presure (psi) P (initial)	P (final)	TMP (psi)	Temp (°F)	ΔP (test) (psi/min)	Is it within UCL (Yes/No)?	Corrective Action? (if required)	ΔP(effec)	f(Temp)	ALCR	Verified LRV
9/1/16 9:48	20.6	20.1	-15.9	70.2	0.3			541.4	3814.5	-95543.2	5.1
9/2/16 8:40	20.5	19.9	-15.6	70.9	0.3			534.1	3779.0	-94799.9	5.2
9/2/16 19:02	20.5	19.9	-15.7	71.2	0.3			535.9	3760.9	-94373.9	5.1
9/3/16 19:25	20.4	19.8	-15.6	70.7	0.3			531.2	3790.8	-94756.2	5.2
9/4/16 20:07	20.4	19.8	-15.6	71.5	0.3			530.5	3743.6	-93277.1	5.2
9/6/16 5:53	20.5	19.9	-15.7	64.4	0.3			535.9	4186.2	-106139.2	5.2
9/7/16 6:41	20.5	19.9	-15.7	62.1	0.3			533.2	4345.6	-110043.8	5.2
9/8/16 7:03	20.5	20.0	-15.8	61.3	0.3			535.3	4402.8	-111771.9	5.3
9/9/16 7:27	20.3	20.0	-15.5	63.7	0.3			525.0	4228.9	-106541.2	5.4
9/10/16 7:50	20.6	20.0	-15.8	66.7	0.3			540.6	4027.1	-101906.0	5.2
9/11/16 11:53	20.3	19.7	-15.4	63.9	0.3			524.3	4221.2	-107135.7	5.4
9/12/16 12:16	20.4	19.7	-15.5	69.4	0.3			527.9	3862.0	-96607.9	5.3
9/13/16 12:38	20.5	20.0	-15.7	62.6	0.3			537.0	4314.1	-109877.5	5.2
9/14/16 13:01	20.6	20.0	-15.8	66.4	0.3			540.6	4052.0	-102539.7	5.3
9/15/16 14:50	20.5	19.9	-15.7	69.3	0.3			535.3	3867.0	-97023.9	5.3
9/16/16 15:06	20.5	20.0	-15.7	61.1	0.3			534.8	4418.8	-112446.2	5.3
9/17/16 15:39	20.6	20.0	-15.8	54.5	0.3			537.7	4966.4	-128208.7	5.3
9/18/16 15:55	20.6	20.0	-15.8	57.9	0.3			541.1	4677.8	-120410.7	5.3
9/19/16 16:15	20.6	20.0	-15.8	53.8	0.3			538.0	5027.2	-129858.4	5.3
9/20/16 16:56	20.5	20.0	-15.7	56.8	0.3			536.2	4762.5	-122363.9	5.3
9/21/16 17:13	20.6	20.1	-15.9	56.8	0.3			541.1	4764.1	-122595.8	5.4
9/22/16 17:29	20.7	20.1	-15.9	54.8	0.3			542.6	4938.2	-127689.0	5.2
9/23/16 17:45	20.6	20.0	-15.8	56.4	0.3			537.5	4801.0	-123188.7	5.2
9/24/16 18:24	20.6	20.0	-15.8	60.5	0.3			537.5	4467.0	-113916.3	5.3
9/25/16 19:03	20.6	20.0	-15.9	57.4	0.3			542.0	4716.5	-121384.3	5.2
9/26/16 19:19	20.7	20.1	-15.9	55.2	0.3			543.1	4903.2	-126869.0	5.3
9/27/16 19:36	20.7	20.1	-15.9	56.9	0.3			542.4	4758.8	-122568.3	5.2
9/28/16 19:52	20.7	20.1	-15.9	59.7	0.3			543.0	4532.0	-116378.6	5.3
9/29/16 20:11	20.6	20.0	-15.8	61.1	0.3			538.1	4419.3	-112498.3	5.1
9/30/16 20:29	20.7	20.1	-15.9	61.3	0.3			543.3	4406.8	-112447.5	5.2
Min	20.3	19.7	-15.9	53.8	0.3			524.3	3743.6	-129858.4	5.1
Max	20.6	20.1	-15.6	71.2	0.3			541.4	3814.5	-94373.9	5.2
Avg	20.5	20.0	-15.8	62.3	0.3			536.9	4365.2	-111172.0	5.2

Prepared By Pete Hoiretes Date 10-6-16 (month, day, year) Reviewed By Pete Hoiretes

Reviewed By: _____

MEMBRANE SYSTEM MONTHLY REPORT

Direct Integrity Testing - Pressure Decay Tests

State Form 54298 (5-10)
INDIANA DEPARTMENT OF ENVIRMONMENTAL MANAGEMENT
OFFICE OF WATER QUALITY - DRINKING WATER BRANCH

PWSID Number	5245012	***System Name***	East Chicago Water Treatment Plant
Skid Number	2	***Skid UCL***	123 (psi/min)

Reporting Period: **September-16**

INSTRUCTIONS: Submit one form for each skid/rack that you operated this month. Enter initial and final pressure, TMP, and temperature. The log removal achieved during that partic
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System Constants		
Design Flow	2403	gpm
System-specific Decay Test (PDTi)	2	psi/min
System Volume	3	gallons
PDT Test Duration	108	minutes
System Backpressure	5	psi
Location Atmospheric Pressure	6	psi

DATE	Presure (psi) P (initial)	P (final)	TMP (psi)	Temp (°F)	ΔP (test) (psi/min)	Is it within UCL (Yes/No)?	Corrective Action? (if required)	ΔP(effec)	f(Temp)	ALCR	Verified LRV
9/1/16 9:00	20.0	19.6	-16.0	69.7	0.2			508.3	3847.7	-89775.3	5.3
9/2/16 8:05	20.1	19.6	-16.1	70.4	0.2			514.6	3802.3	-89325.5	5.4
9/3/16 11:26	19.8	19.4	-15.8	71.0	0.2			501.1	3769.1	-87849.9	5.4
9/4/16 11:48	20.0	19.6	-16.2	71.3	0.2			511.5	3753.9	-87194.3	5.4
9/5/16 12:11	19.9	19.5	-16.1	68.0	0.2			507.3	3949.6	-92129.3	5.3
9/6/16 12:35	19.5	19.5	-15.4	63.2	0.2			487.3	4270.6	-100957.1	5.4
9/7/16 13:14	19.5	19.1	-15.6	62.0	0.2			483.5	4355.1	-100974.4	5.4
9/8/16 13:37	19.7	19.3	-15.8	61.4	0.2			496.2	4397.1	-102947.1	5.4
9/9/16 14:02	20.1	19.7	-16.2	69.4	0.2			515.6	3862.8	-90619.2	5.5
9/10/16 14:24	19.7	19.3	-15.7	63.6	0.2			493.9	4238.8	-99013.8	5.4
9/11/16 15:18	19.8	19.4	-16.0	65.1	0.2			502.7	4135.4	-96703.9	5.5
9/12/16 15:40	20.1	19.7	-16.2	70.0	0.2			513.4	3830.7	-89221.4	5.4
9/13/16 16:12	19.7	19.3	-15.8	61.0	0.2			496.7	4429.0	-104042.7	5.3
9/14/16 16:35	19.9	19.5	-15.9	68.5	0.2			506.7	3917.7	-91966.4	5.5
9/15/16 18:52	19.8	19.4	2.9	69.3	0.2			502.2	3867.0	494917.8	5.5
9/16/16 19:31	19.7	19.3	-15.7	58.2	0.2			495.8	4653.2	-110283.7	5.4
9/17/16 19:49	19.6	19.2	-15.5	54.9	0.2			489.9	4932.0	-117778.5	5.4
9/18/16 20:06	19.8	19.4	-15.8	60.3	0.2			502.1	4484.1	-106925.0	5.5
9/19/16 22:26	19.6	19.2	-15.7	53.8	0.2			492.7	5028.0	-119803.9	5.5
9/20/16 23:02	19.4	19.0	-15.6	54.7	0.2			483.1	4950.4	-116059.7	5.4
9/21/16 23:18	19.5	19.1	-15.8	56.4	0.2			486.9	4796.9	-111895.6	5.4
9/22/16 23:49	19.5	19.1	-15.6	54.5	0.2			484.3	4964.5	-116473.2	5.3
9/24/16 0:28	19.7	19.3	-15.9	62.0	0.2			497.6	4351.3	-101673.9	5.3
9/25/16 0:44	19.6	19.2	-15.7	60.0	0.2			489.9	4502.2	-104997.6	5.3
9/26/16 0:59	19.6	19.2	-15.7	55.2	0.2			491.3	4903.2	-115758.8	5.3
9/27/16 1:18	19.6	19.2	-15.7	54.9	0.2			490.6	4930.4	-116302.6	5.4
9/28/16 1:34	19.6	19.2	-15.8	56.5	0.2			490.9	4793.7	-112736.0	5.3
9/29/16 6:25	19.6	19.2	-15.7	60.7	0.2			490.4	4455.1	-104245.6	5.5
9/30/16 7:27	19.7	19.3	-15.8	61.1	0.2			495.8	4423.1	-103932.0	5.3
Min	19.4	19.0	-16.2	53.8	0.2			483.1	3753.9	-119803.9	5.3
Max	20.1	19.6	-15.8	71.0	0.2			514.6	3847.7	-87849.9	5.4
Avg	19.7	19.3	-15.2	62.3	0.2			497.3	4365.3	-82298.9	5.4

Prepared By Pete Hernandez Date 10-6-16 (month, day, year) Reviewed By [signature]

Reviewed By: _____

MEMBRANE SYSTEM MONTHLY REPORT * # 3 out of Service *

Direct Integrity Testing - Pressure Decay Tests

State Form 54298 (5-10)
INDIANA DEPARTMENT OF ENVIRMONMENTAL MANAGEMENT
OFFICE OF WATER QUALITY - DRINKING WATER BRANCH

PWSID Number	5245012	***System Name***	East Chicago Water Treatment Plant
Skid Number	3	***Skid UCL***	123 (psi/min)

Reporting Period:	**September-16**

INSTRUCTIONS: Submit one form for each skid/rack that you operated this month. Enter initial and final pressure, TMP, and temperature. The log removal achieved during that particular PDT test, will be calculated based on the system constants. Submit completed forms to IDEM Drinking Water Branch, Compliance Section, 100 N Senate Ave, Indianapolis, IN 46204.

System Constants		
Design Flow	2403	gpm
System-specific Decay Test (PDTi)	2	psi/min
System Volume	3	gallons
PDT Test Duration	108	minutes
System Backpressure	5	psi
Location Atmospheric Pressure	6	psi

DATE	Presure (psi) P (initial)	P (final)	TMP (psi)	Temp (°F)	ΔP (test) (psi/min)	Is it within UCL (Yes/No)?	Corrective Action? (if required)	ΔP(effec)	f(Temp)	ALCR	Verified LRV
Min	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0
Max	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0
Avg	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Prepared By _____ Date _____ (month, day, year) Reviewed By _____

Reviewed By: _____

MEMBRANE SYSTEM MONTHLY REPORT

Direct Integrity Testing - Pressure Decay Tests

State Form 54298 (5-10)
INDIANA DEPARTMENT OF ENVIRMONMENTAL MANAGEMENT
OFFICE OF WATER QUALITY - DRINKING WATER BRANCH

PWSID Number	5245012	***System Name***	East Chicago Water Treatment Plant
Skid Number	4	***Skid UCL***	123 **(psi/min)**

Reporting Period: **September-16**

INSTRUCTIONS: Submit one form for each skid/rack that you operated this month. Enter initial and final pressure, TMP, and temperature. The log removal achieved during that particular PDT test, will be calculated based on the system constants. Submit completed forms to IDEM Drinking Water Branch, Compliance Section, 100 N Senate Ave, Indianapolis, IN 46204.

System Constants		
Design Flow	2403	gpm
System-specific Decay Test (PDTi)	2	psi/min
System Volume	3	gallons
PDT Test Duration	108	minutes
System Backpressure	5	psi
Location Atmospheric Pressure	6	psi

DATE	Presure (psi) P (initial)	P (final)	TMP (psi)	Temp (°F)	ΔP (test) (psi/min)	Is it within UCL (Yes/No)?	Corrective Action? (if required)	ΔP(effec)	f(Temp)	ALCR	Verified LRV
9/1/16 11:07	20.6	20.0	-16.1	70.4	0.3			542.0	3802.3	-94221.9	5.2
9/2/16 11:33	20.3	19.7	-15.9	71.0	0.3			526.7	3772.0	-91763.5	5.3
9/3/16 12:00	20.4	19.8	-15.9	70.6	0.3			528.8	3796.2	-92512.5	5.2
9/4/16 12:24	20.5	19.9	-16.0	71.2	0.3			533.4	3759.6	-91790.0	5.2
9/5/16 13:41	20.4	19.9	-15.8	66.9	0.3			527.7	4016.4	-99229.5	5.2
9/6/16 14:25	20.4	19.9	-16.1	62.9	0.3			530.5	4291.0	-105592.6	5.2
9/7/16 15:02	20.5	19.9	-16.1	62.0	0.3			535.3	4355.2	-108027.3	5.3
9/8/16 15:25	20.3	19.6	-15.8	61.5	0.3			522.8	4388.8	-108389.2	5.3
9/9/16 15:49	20.3	19.7	-15.9	69.5	0.3			524.4	3855.9	-93755.9	5.1
9/10/16 16:24	20.5	19.7	-16.1	61.6	0.3			536.1	4382.3	-108753.4	5.3
9/11/16 17:09	20.5	19.9	-16.1	66.5	0.3			533.9	4040.3	-99398.2	5.3
9/12/16 17:48	20.4	19.8	-16.0	69.3	0.3			529.4	3867.2	-94474.1	5.2
9/13/16 18:21	20.4	19.8	-16.1	61.2	0.3			532.1	4417.4	-109494.4	5.2
9/14/16 18:47	20.4	19.8	-16.0	68.8	0.3			530.6	3901.4	-95612.8	5.2
9/15/16 20:34	20.5	19.8	-16.0	69.3	0.3			534.0	3867.0	-94802.2	5.2
9/16/16 20:52	20.5	20.0	-16.2	57.5	0.3			537.2	4704.3	-117746.3	5.2
9/17/16 21:09	20.6	20.0	-16.2	54.7	0.3			537.7	4949.0	-124631.4	5.3
9/18/16 21:26	20.6	20.0	-16.2	59.9	0.3			539.5	4511.7	-112621.2	5.3
9/19/16 21:51	20.6	20.0	-16.2	53.6	0.3			537.7	5042.4	-127262.7	5.2
9/20/16 22:07	20.6	20.0	-16.2	54.8	0.3			539.0	4940.8	-124469.3	5.2
9/21/16 22:47	20.5	19.9	-16.1	56.5	0.3			535.3	4794.2	-120214.1	5.3
9/22/16 23:14	20.5	19.9	-16.1	54.0	0.3			534.4	5007.6	-125889.5	5.1
9/23/16 23:33	20.6	20.0	-16.2	60.6	0.3			539.5	4460.0	-111233.3	5.1
9/24/16 23:50	20.5	20.0	-16.1	60.4	0.3			534.5	4472.3	-111025.8	5.1
9/26/16 0:06	20.6	20.0	-16.3	55.2	0.3			542.1	4903.2	-123691.6	5.2
9/27/16 0:23	20.6	20.1	-16.2	55.0	0.3			541.7	4920.1	-124242.0	5.2
9/28/16 0:39	20.7	20.1	-16.3	56.7	0.3			543.1	4776.3	-120219.0	5.1
9/29/16 1:09	20.6	20.0	-16.2	60.4	0.3			539.0	4478.2	-111877.4	5.2
9/30/16 7:13	20.5	20.0	-16.1	61.4	0.3			536.8	4397.0	-109477.6	5.2
Min	20.3	19.6	-16.3	53.6	0.3			522.8	3759.6	-127262.7	5.1
Max	20.6	20.0	-15.9	71.0	0.3			542.0	3802.3	-91763.5	5.3
Avg	20.5	19.9	-16.1	62.2	0.3			534.7	4374.8	-108704.1	5.2

Prepared By Peter Hairatos Date 10-6-16 (month, day, year) Reviewed By [signature]

Reviewed By: _____

MEMBRANE SYSTEM MONTHLY REPORT

Direct Integrity Testing - Pressure Decay Tests

State Form 54298 (5-10)
INDIANA DEPARTMENT OF ENVIRMONMENTAL MANAGEMENT
OFFICE OF WATER QUALITY - DRINKING WATER BRANCH

PWSID Number 5245012 ***System Name*** East Chicago Water Treatment Plant

Skid Number 5 ***Skid UCL*** 123 **(psi/min)**

Reporting Period: **September-16**

INSTRUCTIONS: Submit one form for each skid/rack that you operated this month. Enter initial and final pressure, TMP, and temperature. The log removal achieved during that particu
PDT test, will be calculated based on the system constants. Submit completed forms to IDEM Drinking Water Branch, Compliance Section, 100 N Senate Ave, Indianapolis, IN 46204.

System Constants		
Design Flow	2403	gpm
System-specific Decay Test (PDTi)	2	psi/min
System Volume	3	gallons
PDT Test Duration	108	minutes
System Backpressure	5	psi
Location Atmospheric Pressure	6	psi

DATE	Presure (psi) P (initial)	P (final)	TMP (psi)	Temp (°F)	ΔP (test) (psi/min)	Is it within UCL (Yes/No)?	Corrective Action? (if required)	ΔP(effec)	f(Temp)	ALCR	Verified LRV
9/1/16 16:45	20.2	19.6	-15.8	71.5	0.3			521.7	3746.3	-90505.9	5.2
9/2/16 17:08	20.3	19.6	-15.8	71.2	0.3			522.7	3759.6	-91050.6	5.1
9/3/16 17:48	20.4	19.8	-16.0	71.1	0.3			529.6	3767.5	-91729.2	5.0
9/4/16 18:41	20.2	19.6	-15.8	71.5	0.3			521.8	3741.7	-90530.2	5.1
9/5/16 19:04	18.3	17.8	-14.1	65.4	0.3			431.3	4114.4	-93688.3	5.0
9/6/16 19:27	20.4	19.8	-16.0	62.3	0.3			528.5	4333.9	-106903.7	5.1
9/7/16 20:08	20.5	19.8	-16.1	62.3	0.3			533.3	4329.2	-107120.6	5.2
9/8/16 20:31	20.4	19.8	-16.0	62.1	0.3			527.8	4344.9	-107083.9	5.2
9/9/16 21:04	20.2	19.5	-15.7	68.5	0.4			519.9	3919.2	-95672.5	5.2
9/10/16 21:36	20.5	19.8	-16.0	61.0	0.3			532.7	4426.2	-110055.4	5.2
9/11/16 22:15	20.3	19.6	-15.9	68.8	0.3			523.7	3901.0	-94927.5	5.1
9/12/16 22:49	20.3	19.7	-15.9	65.9	0.3			525.1	4081.1	-100006.3	5.2
9/13/16 23:12	20.4	19.8	-16.0	60.4	0.3			528.1	4474.8	-110497.4	5.2
9/14/16 23:53	20.3	19.8	-15.8	69.5	0.3			523.1	3857.1	-93800.9	5.2
9/16/16 1:42	20.5	19.9	-16.1	66.3	0.3			535.2	4058.7	-99865.7	5.0
9/17/16 2:27	20.3	19.7	-15.8	55.7	0.3			523.3	4860.4	-121348.1	5.1
9/18/16 5:47	20.2	19.7	-15.8	55.6	0.3			517.8	4867.0	-120610.2	5.2
9/19/16 6:04	20.4	19.8	-16.0	56.7	0.3			530.8	4770.3	-119181.5	5.2
9/20/16 7:35	20.4	19.8	-16.0	53.7	0.3			529.9	5034.7	-126402.2	5.3
9/21/16 7:51	20.4	19.8	-16.0	55.9	0.3			529.6	4838.9	-121045.9	5.1
9/22/16 8:07	20.5	20.0	-16.2	54.9	0.3			537.2	4932.5	-123739.9	5.1
9/23/16 8:24	20.5	19.9	-16.1	54.6	0.3			534.3	4955.6	-124682.5	5.1
9/24/16 8:43	20.4	19.8	-16.0	62.9	0.3			529.6	4285.5	-106078.0	5.2
9/25/16 9:51	20.3	19.7	-15.9	60.5	0.3			526.2	4469.1	-111033.7	5.1
9/26/16 10:09	20.4	19.8	-16.1	55.2	0.3			532.3	4903.2	-122765.3	5.1
9/27/16 10:38	20.4	19.8	-16.0	56.1	0.3			531.5	4823.1	-120921.6	5.2
9/28/16 10:54	20.4	19.8	-16.1	58.5	0.3			531.4	4628.4	-115188.9	5.2
9/29/16 11:10	20.4	19.8	-16.0	60.6	0.3			528.4	4462.6	-110517.6	5.1
9/30/16 8:11	20.4	19.8	-16.0	61.2	0.3			529.9	4416.8	-109450.0	5.1
Min	18.3	17.8	-16.2	53.7	0.3			431.3	3741.7	-126402.2	5.0
Max	20.4	19.8	-15.8	71.5	0.3			529.6	3767.5	-90505.9	5.2
Avg	20.3	19.7	-15.9	62.1	0.3			524.7	4382.9	-108151.9	5.1

Prepared By Peter Haiptas Date 10-6-16 *(month, day, year)* Reviewed By Peter Hai

Reviewed By: _____

MEMBRANE SYSTEM MONTHLY REPORT

Direct Integrity Testing - Pressure Decay Tests

State Form 54298 (5-10)
INDIANA DEPARTMENT OF ENVIRMONMENTAL MANAGEMENT
OFFICE OF WATER QUALITY - DRINKING WATER BRANCH

PWSID Number	5245012	***System Name***	East Chicago Water Treatment Plant
Skid Number	6	***Skid UCL***	123 **(psi/min)**

Reporting Period: **September-16**

INSTRUCTIONS: Submit one form for each skid/rack that you operated this month. Enter initial and final pressure, TMP, and temperature. The log removal achieved during that particular PDT test, will be calculated based on the system constants. Submit completed forms to IDEM Drinking Water Branch, Compliance Section, 100 N Senate Ave, Indianapolis, IN 46204.

System Constants		
Design Flow	2403	**gpm**
System-specific Decay Test (PDTi)	2	**psi/min**
System Volume	3	**gallons**
PDT Test Duration	108	**minutes**
System Backpressure	5	**psi**
Location Atmospheric Pressure	6	**psi**

DATE	Presure (psi) P (initial)	Presure (psi) P (final)	TMP (psi)	Temp (°F)	ΔP (test) (psi/min)	Is it within UCL (Yes/No)?	Corrective Action? (if required)	ΔP(effec)	f(Temp)	ALCR	Verified LRV
9/1/16 13:56	20.4	19.8	-15.9	70.9	0.3			532.1	3777.5	-92902.7	5.0
9/2/16 14:22	20.6	19.8	-16.2	70.7	0.3			537.5	3788.3	-92402.5	5.0
9/3/16 15:10	20.6	20.0	-16.2	70.9	0.3			538.6	3777.6	-92111.3	5.1
9/4/16 15:48	20.7	20.1	-16.3	71.1	0.3			544.1	3763.8	-92153.0	5.1
9/5/16 16:35	20.7	20.2	-16.3	66.2	0.3			544.8	4062.3	-100454.6	5.1
9/6/16 17:00	20.7	20.2	-16.3	62.5	0.3			543.2	4320.1	-107345.9	5.1
9/7/16 17:25	20.5	20.0	-16.2	62.5	0.3			536.1	4316.0	-106659.2	5.2
9/8/16 18:04	20.4	19.8	-16.0	61.8	0.3			529.6	4371.8	-108362.2	5.4
9/9/16 18:27	20.4	19.8	-16.0	68.9	0.3			529.9	3894.2	-94924.7	5.1
9/10/16 19:08	20.5	19.9	-16.1	60.9	0.3			535.2	4437.7	-110175.2	5.3
9/11/16 19:36	20.7	20.1	-16.3	67.3	0.3			544.1	3988.3	-98239.0	5.2
9/12/16 20:10	20.3	19.8	-15.9	67.0	0.3			526.2	4007.4	-97859.6	5.3
9/13/16 20:33	20.7	20.1	-16.3	60.8	0.3			543.0	4441.2	-110955.9	5.1
9/14/16 21:14	20.7	20.1	-16.3	69.5	0.3			544.1	3855.6	-94480.3	5.3
9/15/16 23:01	20.7	20.1	-16.3	69.3	0.3			543.0	3867.0	-95038.3	5.1
9/16/16 23:34	20.6	20.1	-16.2	55.8	0.3			539.7	4851.0	-122265.3	5.2
9/17/16 23:51	20.6	20.1	-16.2	54.8	0.3			542.1	4941.9	-124934.5	5.2
9/19/16 3:49	20.6	20.1	-16.2	60.6	0.3			539.9	4461.4	-111152.2	5.2
9/20/16 7:54	20.7	20.1	-16.2	53.8	0.3			542.6	5024.7	-127387.4	5.2
9/21/16 8:10	20.7	20.1	-16.3	56.2	0.3			542.6	4819.5	-121484.8	5.1
9/22/16 8:30	20.8	20.3	-16.4	55.2	0.3			549.5	4906.4	-124376.6	5.1
9/23/16 8:59	20.7	20.1	-16.2	54.8	0.3			542.6	4939.9	-125032.8	5.1
9/24/16 9:38	20.7	20.1	-16.3	62.9	0.3			542.4	4289.1	-106748.8	5.1
9/25/16 10:05	20.6	20.1	-16.2	60.7	0.3			540.8	4454.5	-111122.7	5.1
9/26/16 10:28	20.7	20.1	-16.3	55.2	0.3			545.3	4903.2	-124048.7	5.2
9/27/16 10:52	20.8	20.1	-16.4	55.8	0.3			547.9	4849.1	-122722.3	5.2
9/28/16 11:13	20.7	20.2	-16.3	58.4	0.3			546.2	4630.2	-116782.7	5.2
9/29/16 11:29	20.7	20.2	-16.3	60.1	0.3			546.2	4498.0	-112657.2	5.2
9/30/16 9:45	20.6	20.2	-16.2	61.2	0.3			542.2	4417.5	-110538.7	5.1
Min	20.3	19.8	-16.4	53.8	0.3			526.2	3763.8	-127387.4	5.0
Max	20.6	20.0	-15.9	70.9	0.3			544.1	3788.3	-92111.3	5.1
Avg	20.6	20.1	-16.2	62.3	0.3			541.0	4388.5	-109372.0	5.2

Prepared By Pete Haeretos Date 10-6-16 *(month, day, year)* Reviewed By _____

Reviewed By: _____