

From: Mark Southard
Sent: Fri, 19 Dec 2014 16:35:05 -0600
To: David Sloan
Cc: Daniel Nix (Wichita Falls)
Subject: Re: River Road WQ Data
Attachments: Wastewater Effluent Min_Max_Avg.xlsx

David,

I don't believe this min/max/average report ever made its way to you. You will find the TDS, chloride and nitrate in this list of analytes. The nitrate currently holds pretty steady between 18-22 ppm on the wastewater effluent, but they have made some adjustments in the plant specifically for the DPR to maintain those residuals. Prior to those adjustments, concentrations were approximately 4 ppm higher. Daniel can fill you in on those plant adjustments if you need more information on that.

If there is anything you have a question about, let me know.

Thanks,

On Wed, Dec 17, 2014 at 2:06 PM, David Sloan <DWS@freese.com> wrote:

Mark: I wanted to check and see if you were able to put together water quality data on the WWTP effluent that is coming back to Cypress, especially for TDS, chloride and nitrate. I apologize if I am overlooking something you've already sent. If so, you can just point me in the right direction.

Thanks!

DAVID W. SLOAN, P.E., BCEE

SENIOR PROCESS ENGINEER

BOARD CERTIFIED ENVIRONMENTAL ENGINEER



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Mark Southard
City of Wichita Falls
Water Source/Purification Superintendent
940-691-1153
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Wastewater Effluent Testing at Discharge			
Analyte	Min	Max	Average
Alkalinity	31.00	118.00	63.27
Ammonia - N (ppm)	0.09	4.00	1.37
Ammonium - N (ppm)	0.04	4.00	1.31
Bromide (ppm)	0.14	1.16	0.53
Chlorate	0.24	0.69	0.39
Color	1.00	18.00	7.20
Conductivity (µs/cm)	1155.00	1744.00	1299.33
Fluoride	0.19	2.64	0.98
Hardness, total (ppm)	117.00	251.00	151.08
Orthophosphate (ppm)	15.00	115.00	50.63
pH	6.44	7.90	6.91
Phosphorus	2.20	4.70	3.11
TDS (ppm)	640.00	1816.00	816.52
TON	0.00	1.00	0.30
TSS (ppm)	2.00	8.40	4.43
Turbidity (NTU)	0.85	5.45	2.30
Potassium (ppm)	12.35	222.26	71.21
Aluminum (ppb)	14.26	1067.43	162.74
Antimony (ppb)	0.00	2.73	1.20
Arsenic (ppb)	0.00	16.06	3.53
Barium (ppb)	5.07	19.66	12.05
Beryllium (ppb)	0.00	0.30	0.08
Bromochloroacetic acid (ppb)	2.10	21.00	9.42
Bromodichloromethane (ppb)	2.40	34.00	12.41
Bromoform (ppb)	0.60	31.00	9.86
Cadmium (ppb)	0.00	2.62	0.93
Calcium (ppm)	29.57	220.68	70.90
Chloride (ppm)	68.98	654.35	276.18
Chlorodibromomethane (ppb)	2.40	79.00	21.44
Chloroform (ppb)	1.70	8.50	4.51
Chromium (Hex) (ppb)	0.02	0.08	0.04
Chromium (Total) (ppb)	0.10	2.33	1.05
Copper (ppb)	2.81	14.68	5.52
Dibromoacetic acid (ppb)	1.30	26.00	8.69
Dibromochloromethane (ppb)	2.00	51.00	18.43
Dichloroacetic acid (ppb)	2.80	15.00	9.36
Iron (ppm)	0.09	1.20	0.26
Lead	0.00	1.13	0.43
Magnesium (ppm)	2.33	86.63	21.08
Manganese (ppm)	12.27	51.58	28.88
Monobromoacetic acid (ppb)	1.10	5.20	3.38
Monochloroacetic acid (ppb)	2.80	3.20	3.00

Nickel (ppb)	5.00	5.50	5.25
Nitrate-Nitrogen (ppm)	1.99	70.04	27.53
Nitrite - N (ppm)	0.00	0.38	0.11
Selenium (ppb)	0.03	10.25	3.35
Silica (ppm)	4.30	9.20	7.61
Silver (ppb)	0.00	2.42	1.10
Sodium (ppm)	172.27	1473.76	532.68
Sulfate (ppm)	45.14	82.69	59.09
Thallium (ppb)	0.00	0.29	0.14
Trichloroacetic acid (ppb)	2.10	12.00	5.84
TTHM (Total Trihalomethanes) (ppb)	9.80	163.70	52.84
Zinc (ppb)	25.99	85.00	54.90
DOC (ppm)	8.11	10.45	8.95
Sucralose (ppb)	43	43	43
TOC (ppm)	8.66	11.84	9.96