

Borough of Naugatuck
RFEI Sludge Analysis Data 1 of 3

Sludge Source	Sample Date	mg/kg	mg/L	µg/L	Aluminum	Arsenic	Copper	Nickel	Selenium	Zinc	Nitrogen	Phosphorus	COD	Hg	Hg (mg/L)	Hg (ug/L)	TSS%	VSS%
M1	12/18/2013		x				0.22	<0.05	<0.025	0.06								
M2	6/8/2015		x				1.39			6.49						<0.001		
M2	3/23/2015			x		1.7		2.7	2									
M3	4/9/2015	x				2.8	454	11.7		499				<0.17			3.53	86.3
M3	5/19/2015	x							5								4.44	
M3	1/23/2014	x				<0.25	346	7.9		452				<0.25			3.39	88.53
M4	1/29/2015	x				0.25	356	7.1		408				<0.25				
M4	5/20/2015	x							6.5								3	
M5	12/23/2014	x				<131	697	<52.4	<131	700				<0.0258			12	63
M5	5/7/2015		x			<0.04	4.71	0.135	<0.010	4.62					<0.0002		3.15	
M6	3/3/2015	x			2217	<2.9	583	15.8		755				0.76			6.77	89.7
M6	5/5/2015	x							8.14								6.52	
M6	5/7/2014	x				0.38	524	11.03		565		8299		0.19				83.08
M7	5/6/2015	x				2.2	465	11.3	8.8	526				<0.42			1.89	62.2
M8	3/3/2015	x			4250	2.2	347	40		849				0.49			4.47	94.5
M8	5/19/2015	x							15								1.34	
M8	5/6/2014	x				<5.2	327	38.7		600		8950		<0.73			4.98	79.7
M9	3/11/2015	x			3810	2.7	396	17.7		589				0.26			5.62	80.5
M9	5/19/2015	x							2.9								6.23	
M9	5/10/2014	x				ND	395	44.1		692		7570		0.57			5.39	77.4
M10	3/4/2015	x				<0.25	1417.7	80.5	<0.25	1333.8				<0.25			19	
M10	9/9/2014		x			<0.005			<0.005						0.0002			
M11	12/23/2014		x			<0.040	0.064	0.007	<0.010	0.034					<0.0002			
M12	11/12/2014	x			2200	ND	260	25	1.5	250				0.22			26	
M12	3/18/2015	x				2.5	230	29	ND	290	51000			0.21			24.7	
M12	4/23/2015	x			3500	2.5	355	26.3	3.6	431				0.29			26	
M12	8/12/2015	x												0.45			15.1	
M13	3/12/2015	x				2.25		9.74	4.79					0.613			20	
M14	1/8/2015	x				8	465	25.4	56.9	564				0.32			25.9	
M14	5/7/2015	x				8.3	602	32.3	50.7	863				0.64			28.8	
M15	5/22/2015	x							5.5								19.9	
M15	11/7/2014	x				1.9	815	24.4		947				0.75			16.8	65.7
M17	2/4/2015	x			1433	0.47	312	25.67		291				0.16			5.18	77.06
M17	5/20/2015	x							<9.9								5.54	
M18	1/15/2014	x			1700	3.3	290	5.8	1.9	480		23000		0.2			2.1	78
M18	1/14/2015	x			68	ND	14	ND		26		130		ND			1.5	77
M18	3/12/2014		x			ND	0.011	0.0028	ND	0.066				ND			5	
M18	11/1/2015	x												ND			2	
M19	4/22/2014	x				0.4	211		0.44					0.028			3.9	59.5
M20	6/4/2015		x			<0.04	4.05	0.111	<0.001	6.52					0.0017			
M21	10/6/2014	x				<4.6	490	<18	11	520				<0.15				
M21	10/6/2014		x				0.046	<0.04		0.779	35.7		3150					
M21	1/7/2015	x				<4.9	420	<20	6.3	390				0.38				
M21	1/7/2015		x				0.028	<0.04		0.984	56.1		565				20.4	82
M21	4/23/2015	x				2.3	662	9.92	7	533				1.05			17.8	88.3
M22	1/13/2015	x				3.1	402	14	3.5	681				0.6			24.8	83.7
M22	7/16/2014	x				2.1	624	14.6	5.1	1260				0.51			22.2	86.6
M23	4/16/2015	x				ND	277	16.3		295				0.3			9.6	89.4
M23	5/29/2015	x							<11								5.08	
M23	4/14/2015	x			9090	<3.5	1270	61.3		1820		14400		4.44			5.6	77.1
M23	5/15/2015	x							ND									
M27	6/1/2015	x							<13								5.74	
M27	8/15/2014	x				ND	83.4	8.7		633				0.07			5	75.3
M27	2/3/2014	x				ND	738	9		669				0.55			4.54	80.5
M28	4/10/2015	x				2.2	358	20.2	<2.2	201				0.2			20	74.8
M29	5/7/2015	x				2.1	323	7.55	10.9	682				<0.18			3.58	70.8
M30	1/24/2014		x			<1.0			<0.1						0.000251		15.9	74.8
M30	4/1/2015		x			<1.0			<0.1		53							
M30	4/1/2015	x					950	19		1200						<0.2		

Local limits testing; N = total
Sludge testing for Naugatuck requirements

85% domestic; 15% industrial/ commercial (2 Correctional facilities and Earthcare)

N = Ammonia
2nd quarter Functionally 100% domestic

No significant industrial flows (hospital- 100,000 gpd; nursing home - 20,000 gpd)
N = Ammonia

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M31	4/22/2015		x			<0.004	0.25	0.006	<0.01	0.201					<0.0002			
M32	3/3/2015	x				0.36	389	7.39	0.42	379				0.17			8.37	84.94
M33	1/16/2015	x				ND		18.1						ND			3.42	
M34	1/14/2014	x			6590	1.2	149	3.72	<1.9	143		11700		0.12			3	73.6
M35	7/8/2014		x			<0.10	0.21	<0.10	<0.10	5.1					<0.0002			
M36	4/29/2015		x			<0.04	2.28	3.09	<0.001	5.63					<0.0002			
M37	1/22/2015	x				<48	360	<19		310				<1.8			5.2	80
M37	5/14/2015	x							ND									
M38	1/3/2014	x				1.53	400	5.73		326				0.49				68.13
M38	4/9/2015	x			1143	<5.6	910	21.9		828				0.57			4.92	81.9
M38	5/19/2015	x							6.9								3.93	
M39	5/26/2015	x							5.3								3.95	
M39	8/28/2014	x				<7.2	1300	19.5		1000				1.17			3.08	76.5
M40	4/16/2015	x				<37	410	<15	<74	410				<1.3			1.17	88
M40	10/7/2014	x				<34	710	14	<68	760				<1.3			7.2	87
M41	4/21/2015	x				1.9	420	9.17	4.4	378				0.82			6.7	82.4
M42	4/7/2015	x				2.5	335	13	<3.0	381				0.39			19.7	77.4
M43	4/20/2015	x				<3.9	765	18		732				0.49			17.8	83.7
M43	5/19/2015	x							<10								4.33	
M43	1/9/2014	x				2.4	783	12.4		422				2.54			5.66	78.5
M44	6/2/2015	x							<17								4.28	
M44	2/7/2014	x				0.24	225	2.56		91.9				0.22			3.76	93.6
M44	2/6/2015	x				0.37	878	7.22		382				0.38			1.57	83.33
M45	9/8/2014	x				0.62	1502	18.66	1.4	840				0.41			3.33	75.17
M46	3/11/2015	x				3.4	358	10.4		694				0.38			5.17	83.7
M46	5/19/2015	x							6.1								25.1	
M46	1/9/2014	x				ND	260	5.1		477				0.6			5.91	86.3
M46	4/7/2015	x				2.2	272	11.1	2.9	654				0.46			5.03	83.1
M47	1/20/2015	x				<34	310	<13		320				<1.2			22.3	92
M47	5/14/2015	x							ND								7.3	
M48	4/27/2015		x			<0.040	9.99	0.257	0.049	15.9					0.008			
M48	2/19/2014			x												<0.500		
M49	7/1/2015	x				1.3	387	7.61	<1.1	890				4.29				77.1
M49	4/8/2015	x				<3.3	208	11.3	<8.4	493				<1.2			5.08	69.2
M50	4/8/2015	x				3.02	418	17.1		314				0.309			0.609	81.2
M50	6/2/2015	x							<7.5								6.7	
M51	5/26/2015	x							7.5								6.99	
M51	1/13/2015	x				<0.25	333	13.9		362				<0.25			4	92
M51	4/15/2014	x				<0.25	263	11.5		280				0.29			4	90.82
M52	3/4/2015	x				2 (u)	430	7.9 (u)	0.02	430				0.65			4.26	87.7
M52	3/4/2015			x	1800											0.5 (u)	15.8	
M52	4/22/2015	x				2.3	448	8.77	3.5	454		8400		0.61				
M52	7/7/2014	x			2260	1.3	648	8.91	4.6	776		9370		1.1				
M52	4/2/2015	x				<7.29	466	21.7	7.68	528				0.485				81.6
M52	4/21/2015	x				2.6	560	18.8	<5.9	671				2.07			5.85	81.8
M53	5/22/2015	x				1.3	162	5.1	3.5	570				<0.22			7.88	86.4
M54	6/3/2015	x							<15								3.54	
M54	12/10/2014	x				2.8	818	16.9		1210				0.77			3.69	83.1
M55	4/24/2015	x				<24.6	291	<49.2	<24.6	204				0.937			8.78	79.9
M55	4/9/2014	x			2010	4.2	320	15.5	6	205				0.74			13.5	85.3
M56	5/20/2015	x							6.1								14.3	
M56	2/18/2014	x				ND	1450	8.25		760				15			4.64	91.5
M57	6/11/2015	x				0.39	493	14.87	1.69	502				1.81			7.84	79.74
M57	5/27/2015	x							6.4								0.57	
M57	6/5/2014	x				0.3	419	11.03		618				0.19			2.97	81.23

u=analyte analyzed for but not detected at or above the lowest stated limit
u=analyte analyzed for but not detected at or above the lowest stated limit
less than 0.3% of flow from IBM Corp. - sanitary and some groundwater
0.9% of flow from Garbage incinerator plant; mostly supernatant from bottom of the garbage pit and some sanitary

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RFEI Sludge Analysis Data 3 of 3

Sludge Source	Sample Date	mg/kg	mg/L	µg/L	Aluminum	Arsenic	Copper	Nickel	Selenium	Zinc	Nitrogen	Phosphorus	COD	Hg	Hg (mg/L)	Hg (ug/L)	TSS%	VSS%
M58	10/2/2014	x				<1.1	514	6.89		476				<0.13			0.62	91.6
M58	5/22/2015	x							5.7								19.8	
M59	1/22/2014	x				<0.25	383	13.7		776				0.28			17.1	87.85
M60	5/19/2015		x			<0.04	37.2	0.778	<0.001	77.5					0.0033		5.29	
M61	1/7/2015		x			<0.004	0.323	0.04	<0.010	1.07					<0.0002		0	
M62	5/8/2014		x			<0.004	0.008	0.003		0.025					<0.0002		0	
M63	11/10/2014	x				3	483	10.1	17.4	457		20300		0.36			0	
M64	5/9/2015	x			23600	2.7	281	6.88	3.2	297				0.55			2.22	81.6
M64	5/12/2015	x			25400	1.4	393	8.4	<4.0	449		10100		0.23			22.7	79.4
M64	1/13/2015	x				2.9	477	8.62	4.5	460		7460		0.27			21.7	74
M65	1/13/2015	x			26200	<25	<25	<10		240				3.2			30.1	89
M65	5/14/2015	x							ND								9.7	
M66	5/6/2015	x				0.39	261	8.91		476				0.55				85.18
M66	5/20/2015	x							4.7								4.27	
M66	7/9/2014	x				0.52	359	12.6		530				0.11			4.22	67.04
M67	5/28/2014		x			ND	0.034	ND	ND	0.12					ND		3.69	
M68	7/30/2014	x				9.64	477	15.1	<1.13	499	9510	2700		0.51			26.5	
M68	3/18/2015	x				<1.34	333	7.26	<2.26	336	7480	3870		1.09			25.7	
M68	4/25/2015	x				3.5	353	11.4	5.1	450				0.47			23.8	77.7
M68	7/1/2015	x												0.79			26.8	
M69	5/22/2015	x							6.2								23.8	
M69	6/10/2015	x							<0.25								3.53	
M69	1/8/2014	x				<0.25	708	29.9		452				<0.25			5.25	84.32
M69	4/9/2014	x				<0.25	597	31.5		475				<0.25			5.15	84.71
M69	7/9/2014	x				<0.25	585	45.4		414				<0.25			4.07	81.39
M69	10/21/2014	x				<0.25	779	48.9		565				0.41			5.54	84.21
M70	5/6/2015	x				<0.25	346	13.3	<0.25	456				0.51				71
M70	5/20/2015	x							4.7								6.76	
M70	9/10/2015	x				<0.25	591	223		529				0.5			14	82.94
M71	3/2/2015	x				<3.5	249	13.9		309				0.21			5.16	86.9
M71	5/22/2015	x							<7.6								8.48	
M71	5/5/2014	x				2.7	553	10		716				0.55			6.54	82
M72	4/22/2014	x				1.8	834	11.8	4	840		18400		0.5			6.43	68.2
M73	6/4/2013	x			83900		85	4.2		190					0.00036		2.14	
M74	6/3/2014	x			3700	ND	837	15.6		594				0.37				
M74	3/5/2015	x				ND	525	14.1		429				0.35				84.5
M74	6/3/2014	x				ND	837	15.6		594				0.37			16.9	83.1
M75	8/12/2014	x				23	2300	90	23	2300		7000		1.6			15.5	57
M75	4/23/2015	x				3.7	1020	22.5	<2.2	988				1.88			3.5	
M75	2/23/2015	x				9.7	1100	39	9.7	1000		36000		1.5				

(N = Ammonia; nitrate = 190; nitrite = 6.04; TKN=7610; TN=7810)
(N = Ammonia; nitrate = 102; nitrite = 3.7; TKN=16200; TN=16300)
34% commercial/ industrial; organic nitrogen = 8360 mg/kg