

US EPA ARCHIVE DOCUMENT

Evaluation of TCLP Data Provided By Rollins Environmental and GNB (mg/L) -- Minus Incomplete Data, Points Showing No Treatment (Effluent>Influent), and Statistical Outliers

Samples	Waste	Antimony			Arsenic			Barium			Beryllium			Cadmium			Chromium										
		Raw	Treated	(LN)	Raw	Treated	(LN)	Raw	Treated	(LN)	Raw	Treated	(LN)	Raw	Treated	(LN)	Raw	Treated									
1																											
2																											
3		3.4800	0.0428	-3.1512	0.4420	<	0.0304	-3.4933	1.4000	0.3930	-0.9339			0.0118	<	0.0050	-5.2983	284.0000	1.0100								
4									3.7200	0.3690	-0.9970			<	0.0500	<	0.0050	-5.2983									
5																											
6																											
7																											
8		3.1300	0.0499	-2.9977	0.4340	<	0.0304	-3.4933						<	0.0500	<	0.0050	-5.2983									
9		16.1000	0.0382	-3.2649	2.0300	<	0.0304	-3.4933							0.0979	<	0.0050	-5.2983	1580.00	<	0.0028						
10		0.8100	0.0411	-3.1917					13.5000	0.6480	-0.4339				0.0081	<	0.0050	-5.2983									
11																											
12					<	2.5200	<	0.0176	-4.0399									<	0.6100	<	0.0057						
13		0.4210	0.0590	-2.8302					1.6700	1.1800	0.1655				1.7900	<	0.0050	-5.2983									
14												0.0160	<	0.0050	-5.2983			4.1500	<	0.0050	-5.2983	0.0070	<	0.0050			
15						0.4890	<	0.0304	-3.4933						0.4110	<	0.0050	-5.2983			0.6390		0.0987				
16						1.3100	0.0534	-2.9299	2.3200	0.3650	-1.0079			<	0.0500	<	0.0050	-5.2983	<	0.0280	<	0.0028					
17																											
18						0.5000	<	0.0304	-3.4933						<	0.0500	<	0.0050	-5.2983			0.0390	<	0.0028			
19															0.0154	<	0.0050	-5.2983									
20						0.1310	<	0.0304	-3.4933																		
21																											
22																											
23		0.8100	0.0411	-3.1917					13.5000	0.6480	-0.4339																
24	<	3.0000	<	0.0300	-3.5066	<	3.0000	<	0.0300	-3.5066			<	0.5000	<	0.0050	-5.2983	13.0000	<	0.0050	-5.2983	<	0.5000		0.0150		
25																											
26																											
27																											
28																											
29																											
30						0.5220	<	0.0300	-3.5066						0.0080	<	0.0050	-5.2983			0.0080	<	0.0050	-5.2983	0.0100	<	0.0050
31		0.4340	0.0440	-3.1236											0.0100	<	0.0050	-5.2983			0.0110	<	0.0050				
32															0.5080	<	0.0050	-5.2983									
33					<	3.0400	0.0563	-2.8771							11.7000	<	0.0050	-5.2983	<	0.2800	<	0.0028					
34					<	3.0400	<	0.0304	-3.4933						0.2390	<	0.0050	-5.2983	<	0.0280	<	0.0028					
35					<	3.0400	<	0.0304	-3.4933						0.5000	<	0.0050	-5.2983	<	0.2800	<	0.0028					
36						1.1000	<	0.0176	-4.0399						0.3300	<	0.0050	-5.2983	<	0.0922	<	0.0028					
37																											
38																											
39																											
40																											
41																											
42																											
43																											
44		0.2440	<	0.0300	-3.5066																						
45																											
46																											
47																											

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Samples	Waste	Antimony			Arsenic			Barium			Beryllium			Cadmium			Chromium	
		Raw	Treated	(LN)	Raw	Treated	(LN)	Raw	Treated	(LN)	Raw	Treated	(LN)	Raw	Treated	(LN)	Raw	Treated
48																		
49																		
50																		
51																		
52																		
53																		
54																		
55																		
56																		
57																		
58																		
59																		
60																		
61																		
62																		
63							0.1980 < 0.0050 -5.2983	10.2000 2.5000 0.9163					2.3200 < 0.0050 -5.2983					
64							0.8110 < 0.0050 -5.2983	82.0000 8.4000 2.1282					0.0470 < 0.0050 -5.2983			0.7500 < 0.0200		
65							0.4000 < 0.0050 -5.2983	24.1000 8.9000 2.1861					0.0400 < 0.0050 -5.2983			0.2100 < 0.0200		
66							0.1850 < 0.0050 -5.2983	16.9000 2.4000 0.8755					1.0600 < 0.0050 -5.2983					
67							0.1590 < 0.0050 -5.2983	13.4000 2.6000 0.9555					1.4600 < 0.0050 -5.2983					
68							0.1480 < 0.0050 -5.2983	11.4000 2.6000 0.9555					1.2700 < 0.0050 -5.2983					
	# of Obs:	9	9	9	20	20	20	12	12	12	4	4	4	26	26	26	17	17
	# of NDs:	1	2		5	18		0	0		2	4		5	26		6	14
	Minimum:	0.2440	0.0300		0.1310	0.0050		1.4000	0.3650		0.0050	0.0017		0.0080	0.0050		0.0070	0.0028
	Mean:	3.1588	0.0418	-3.1960	1.1750	0.0239	-4.0318	16.1758	2.5836	0.3647	0.1323	0.0042	-5.5680	1.5230	0.0050	-5.2983	109.8534	0.0712
	Maximum:	16.1000	0.0590		3.0400	0.0563		82.0000	8.9000		0.5000	0.0050		13.00	0.0050		1580.00	1.0100
	Std:	5.0256	0.0091	0.2174	1.1382	0.0155	0.8898	21.8519	2.9826	1.1454	0.2452	0.0017	0.5394	3.3305	0.0000	0.0000	385.0248	0.2430
	VF:		1.63			5.90			8.04			2.80 *		2.80 *				4.66
	TS:		0.068			0.141			21			0.012			0.014			0.33

Evaluation of TCLP Data Provided By Rollins Environmental and GNB (mg/L) -- Minus Incomplete Data, Points Showing No Treatment (Effluent>Influent), and Statistical Outliers

Samples	Waste	(LN)	Raw	Lead Treated (LN)	Raw	Nickel Treated (LN)	Raw	Selenium Treated (LN)	Raw	Silver Treated (LN)	Raw	Thallium Treated (LN)	Raw
1													
2													
3		0.0100				0.0442 < 0.0150 -4.1997							
4						0.3630 < 0.0150 -4.1997		0.3840 < 0.0384 -3.2597				1.1000 < 0.1100 -2.2073	
5													
6													
7													
8			< 0.2960 < 0.0296 -3.5200		0.6070 < 0.0150 -4.1997		0.3840 < 0.0384 -3.2597		0.0910 < 0.0046 -5.3817		1.1000 < 0.1100 -2.2073		
9		-5.8781	< 0.2960 < 0.0296 -3.5200		3.0400 < 0.0150 -4.1997		0.3840 < 0.0384 -3.2597		0.0910 < 0.0046 -5.3817		1.1000 < 0.1100 -2.2073		
10			50.7000 < 0.0296 -3.5200		0.2180 < 0.0150 -4.1997		0.3840 < 0.0384 -3.2597		0.0910 < 0.0046 -5.3817				
11			0.2880 < 0.0296 -3.5200		0.0694 < 0.0150 -4.1997							0.1440 < 0.0780 -2.5510	
12		-5.1673	13.0000 < 0.0217 -3.8304	<	8.8000 < 0.0880 -2.4304	<	2.7100 0.1164 -2.1507						
13			390.0000 < 0.0300 -3.5066		0.1450 < 0.0100 -4.6052								
14		-5.2983	114.0000 < 0.0300 -3.5066		0.2340 0.0500 -2.9957							0.0990 < 0.0500 -2.9957	
15		-2.3157	2690.00 < 0.0296 -3.5200		0.0686 < 0.0150 -4.1997				< 0.0091 < 0.0046 -5.3817			0.7140 < 0.1100 -2.2073	
16		-5.8781			< 0.1500 < 0.0150 -4.1997				< 0.0910 < 0.0046 -5.3817			0.7800 < 0.0780 -2.5510	
17													
18		-5.8781	4430.00 < 0.0296 -3.5200		0.1660 < 0.0150 -4.1997		0.3840 < 0.0384 -3.2597		0.0910 < 0.0046 -5.3817			0.7800 < 0.0780 -2.5510	
19			77.2000 < 0.0296 -3.5200						< 0.0091 < 0.0046 -5.3817				
20			8.6700 0.4400 -0.8210						< 0.0091 < 0.0046 -5.3817				
21													
22			0.2880 < 0.0296 -3.5200		0.0694 < 0.0150 -4.1997							0.1440 < 0.0780 -2.5510	
23			50.7000 < 0.0296 -3.5200		0.2180 < 0.0150 -4.1997				< 0.0091 < 0.0046 -5.3817				
24		-4.1997	220.0000 0.3100 -1.1712	<	1.0000 < 0.0100 -4.6052	<	5.0000 < 0.0500 -2.9957					7.0000 < 0.0700 -2.6593	
25													
26													
27													
28													
29		-5.2983	1400.00 0.4690 -0.7572										
30		-5.2983			0.1010 < 0.0100 -4.6052								
31			0.0610 < 0.0300 -3.5066		0.0760 0.0080 -4.8283							0.0780 < 0.0500 -2.9957	
32		-5.8781	338.0000 0.1490 -1.9038	<	1.5000 < 0.0150 -4.1997	<	3.8400 0.0756 -2.5823	<	0.9100 0.0090 -4.7105	<	7.8000 0.2260 -1.4872		
33		-5.8781	783.0000 < 0.0296 -3.5200	<	0.1500 0.0347 -3.3610	<	0.3840 < 0.0384 -3.2597	<	0.0910 0.0079 -4.8409	<	0.7800 < 0.0780 -2.5510		
34		-5.8781	1280.00 0.6450 -0.4385	<	1.5000 < 0.0150 -4.1997	<	3.8400 < 0.0384 -3.2597	<	0.4600 < 0.0046 -5.3817	<	7.8000 < 0.0780 -2.5510		
35		-5.8781	18.8000 0.0377 -3.2781		2.2200 0.0951 -2.3528				< 0.0091 < 0.0046 -5.3817				
36		-5.1673	3.8000 < 0.0217 -3.8304				0.5600 0.0697 -2.6636					0.7700 < 0.0780 -2.5510	< 3.0000
37													
38													
39													
40													
41													
42													
43													
44			246.0000 < 0.0300 -3.5066		0.0740 < 0.0100 -4.6052								
45													
46													
47													

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Samples	Waste	(LN)	Lead			Nickel			Selenium			Silver			Thallium																		
			Raw	Treated	(LN)	Raw	Treated	(LN)	Raw	Treated	(LN)	Raw	Treated	(LN)	Raw	Treated	(LN)																
48																																	
49																																	
50																																	
51																																	
52																																	
53																																	
54																																	
55																																	
56																																	
57																																	
58																																	
59																																	
60																																	
61																																	
62																																	
63			874.0000	<	0.1000	-2.3026			0.1100	<	0.0500	-2.9957																					
64		-3.9120	5.0000	<	0.1000	-2.3026																											
65		-3.9120																															
66			282.0000		0.3000	-1.2040			0.1100		0.0500	-2.9957																					
67			215.0000		0.1000	-2.3026			0.1300		0.0600	-2.8134																					
68			898.0000	<	0.1000	-2.3026			0.1000		0.0900	-2.4079																					
	# of Obs:	17	27		27	27			22		22	22			15		15	15			14		14	14			15		15	15			1
	# of NDs:		2		19				6		18				10		9					14		12			9		14			1	
	Minimum:		0.0610		0.0217				0.0442		0.0080			0.1000		0.0384					0.0091		0.0046			0.0780		0.0500				3.0000	
	Mean:	-4.8062	532.9296		0.1189	-2.8026			0.9461		0.0232	-4.0448		1.2469		0.0554	-2.9615				0.1466		0.0052	-5.2951		2.0126		0.0921	-2.4550				3.0000
	Maximum:		4430.00		0.6450				8.8000		0.0951			5.00		0.1164					0.9100		0.0090			7.80		0.2260					3.0000
	Std:	1.5889	990.3406		0.1654	1.0776			1.9297		0.0239	0.6626		1.6853		0.0234	0.3629				0.2476		0.0014	0.2215		2.8851		0.0419	0.3658				
	VF:				6.28						3.53					2.18							1.63					2.19					
	TS:				0.75						0.082					0.12						0.0084					0.20						

Samples	Waste	Vanadium		Zinc		Mercury		
		Treated	(LN)	Raw	Treated	(LN)	Raw	Treated
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13				44.2000	< 0.5000	-0.6931		
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24				3100.00	< 0.5000	-0.6931		
25								
26								
27								
28								
29				0.2950	0.0630	-2.7646		
30				1.2000	< 0.5000	-0.6931		
31				3.1300	0.0320	-3.4420		
32								
33								
34								
35								
36		0.5661	-0.5690			< 0.0200	< 0.0080	-4.8283
37								
38								
39								
40								
41								
42								
43								
44				2.2200	< 0.5000	-0.6931		
45								
46								
47								

Samples	Waste	Vanadium		Zinc			Mercury		
		Treated	(LN)	Raw	Treated	(LN)	Raw	Treated	(LN)
48									
49									
50									
51									
52									
53									
54									
55									
56									
57									
58									
59									
60									
61									
62									
63						0.1100	<	0.0500	-2.9957
64									
65									
66									
67									
68									
	# of Obs:	1	1	6	6	6	2	2	2
	# of NDs:	0		0	4		1	2	
	Minimum:	0.5661		0.2950	0.0320		0.0200	0.0080	
	Mean:	0.5661	-0.5690	525.1742	0.3492	-1.4965	0.0650	0.0290	-3.9120
	Maximum:	0.5661		3100.00	0.5000		0.1100	0.0500	
	Std:			1261.5167	0.2339	1.2629	0.0636	0.0297	1.2958
	VF:	2.80	*		12.16			2.80	*
	TS:	1.59			4.25			0.081	