Table 2
NPDES Parameter Sampling Summary
CES & KSL Landfill Influent Data
Earthres Project No: 091018.064

Facility	KSL		CES		Units
Lab	ALS Environmental		Hawk Mtn.		
Sample Date	9/6/2018		3/29/2016		
Location	Influent		Influent		
POLLUTANT GROUP I					
pH, Lab		8.60		8.48	S.U.
Hardness, Total		685		1420	mg/l
Biochemical Oxygen Demand		88.60		105	mg/l
Chemical Oxygen Demand		2170		2260	mg/l
Total Organic Carbon		580		550	mg/l
Total Suspended Solids		202		750	mg/l
Total Dissolved Solids		5000		5200	mg/l
Ammonia-Nitrogen as N		803		992	mg/l
Oil & Grease*		5.0	<	4.7	mg/l
Bromide		2.8		1.83	mg/l
Fecal Coliform		2500	>	2491.6	CFU/100ml
Chlorine, Total Residual	<	0.10		0.71	mg/l
Color, Platinum-Cobalt				2000	Pt-Co unit
Nitrate as N		1.2		1.52	mg/l
Nitrite as N	<	0.20		1.61	mg/l
Fluoride		0.56	<	0.2	mg/l
Chloride		1840		1820	mg/l
Nitrogen, Total Kjeldahl		964		1100	mg/l
Phosphorus		5.8		4.12	mg/l
Sulfate		96.3		478	mg/l
Sulfide		4.8		28.1	mg/l
Surfactants, MBAS	<	0.1000	<	2.00	mg/l

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Facility		KSL		CES	Units
Lab		ALS Environmental		Hawk Mtn.	
Sample Date		9/6/2018		3/29/2016	
Location		Influent		Influent	
POLLUTANT GROUP II					
Aluminum, Total				1.29	mg/l
Boron, Total		9.6		6.55	mg/l
Cobalt, Total ICP-MS		0.039		0.025	mg/l
Iron, Total		7.0		64.9	mg/l
Iron, Dissolved		5.7		7.36	mg/l
Manganese, Total		1.3		2.49	mg/l
Molybdenum, Total ICP-MS	<	0.010	<	0.02	mg/l
Barium, Total		0.96		0.449	mg/l
Antimony, Total ICP-MS		0.015		0.027	mg/l
Arsenic, Total ICP-MS		0.40		0.200	mg/l
Beryllium, Total ICP-MS	<	0.0050	<	0.02	mg/l
Cadmium, Total ICP-MS	<	0.0020	<	0.02	mg/l
Chromium, Total ICP-MS		0.29		0.134	mg/l
Chromium, Hexavalent	<	0.00025	<	0.25	mg/l
Copper, Total ICP-MS	<	0.025		0.026	mg/l
Lead, Total ICP-MS	<	0.010	<	0.02	mg/l
Mercury, Total		0.0000359	<	0.001	mg/l
Nickel, Total ICP-MS		0.18		0.224	mg/l
Selenium, Total ICP-MS	<	0.020		0.045	mg/l
Silver, Total ICP-MS	<	0.0050	<	0.10	mg/l
Thallium, Total ICP-MS	<	0.0050	<	0.02	mg/l
Zinc, Total ICP-MS		0.1400		0.213	mg/l
Cyanide, Total	<	0.050	<	0.01	mg/l
Cyanide, Free				N/A	mg/l
Phenolics, Total Recoverable	<	0.005		1.67	mg/l

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Facility		KSL		CES	Units
Lab		ALS Environmental		Hawk Mtn.	
Sample Date		9/6/2018		3/29/2016	
Location		Influent		Influent	
POLLUTANT GROUP III					
Acrolein	<	0.0500	<	0.0500	mg/l
Acrylonitrile	<	0.0250	<	0.0200	mg/l
Benzene	<	0.0050	<	0.0100	mg/l
Bromoform	<	0.0050	<	0.0100	mg/l
Carbon Tetrachloride	<	0.0050	<	0.0100	mg/l
Chlorobenzene	<	0.0050	<	0.0100	mg/l
Dibromochloromethane*	<	0.0050	<	0.0100	mg/l
Chloroethane	<	0.0050	<	0.0100	mg/l
2-Chloroethyl Vinyl Ether	<	0.0100	<	0.0200	mg/l
Chloroform	<	0.0050	<	0.0100	mg/l
Dichlorobromoethane*	<	0.0050	<	0.0100	mg/l
1,1-Dichloroethane	<	0.0050	<	0.0100	mg/l
1,2-Dichloroethane	<	0.0050	<	0.0100	mg/l
1,1-Dichloroethylene	<	0.0050	<	0.0100	mg/l
1,2-Dichloropropane	<	0.0050	<	0.0100	mg/l
1,3-Dichloropropylene	<	0.0100	<	0.0200	mg/l
Ethylbenzene		0.0120	<	0.0100	mg/l
Bromomethane	<	0.0050	<	0.0100	mg/l
Chloromethane	<	0.0050	<	0.0100	mg/l
Methylene Chloride	<	0.0050	<	0.0100	mg/l
1,1,2,2-Tetrachloroethane	<	0.0050	<	0.0100	mg/l
Tetrachloroethylene	<	0.0050	<	0.0100	mg/l
Toluene		0.0194	<	0.0100	mg/l
1,2-Trans-Dichloroethylene	<	0.0050	<	0.0100	mg/l
1,1,1-Trichloroethane	<	0.0050	<	0.0100	mg/l
1,1,2-Trichloroethane	<	0.0050	<	0.0100	mg/l
Trichloroethylene	<	0.0050	<	0.0100	mg/l
Vinyl Chloride	<	0.0050	<	0.0100	mg/l
POLLUTANT GROUP IV					
2-Chlorophenol	<	3.1	<	1.0	ug/l
2,4-Dichlorophenol	<	3.1	<	1.0	ug/l
2,4-Dimethylphenol	<	3.1	<	1.0	ug/l
4,6-Dinitro-o-Cresol	<	6.3	<	2.6	ug/l
2,4-Dinitrophenol	<	6.3	<	2.6	ug/l
2-Nitrophenol	<	3.1	<	1.0	ug/l
4-Nitrophenol	<	3.1	<	1.0	ug/l
P-Chloro-m-Cresol	<	3.1	<	2.1	ug/l
Pentachlorophenol	<	6.3	<	2.6	ug/l
Phenol	<	8.3		1.2	ug/l
2,4,6-Trichlorophenol	<	3.1	<	1.0	ug/l

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Facility		KSL		CES	Units
Lab		ALS Environmental		Hawk Mtn.	
Sample Date		9/6/2018		3/29/2016	
Location		Influent		Influent	
POLLUTANT GROUP V					
Acenaphthene		8.5		1.2	ug/l
Acenaphthylene	<	1.6	<	1.0	ug/l
Acrylamide					ug/l
Anthracene	<	1.6	<	1.0	ug/l
Benzidine	<	8.3	<	104	ug/l
Benzo(a)anthracene	<	1.6	<	1.0	ug/l
Benzo(a)pyrene	<	1.6	<	1.0	ug/l
3,4-Benzo-fluoranthene	<	1.6	<	1.0	ug/l
Benzo(g,h,i)perylene	<	1.6	<	1.0	ug/l
Benzo(K)fluoranthene	<	1.6	<	1.0	ug/l
Bis(2-chloroethoxy)methane	<	3.1	<	1.0	ug/l
Bis(2-chloroethyl)ether	<	3.1	<	1.0	ug/l
Bis(2-chloroisopropyl)ether	<	3.1	<	1.0	ug/l
Bis(2-ethylhexyl) phthalate		13.4		3.8	ug/l
4-Bromophenyl phenyl ether	<	3.1	<	1.0	ug/l
4-Chlorophenyl phenyl ether	<	3.1	<	1.0	ug/l
Butyl benzyl phthalate	<	3.1	<	1.0	ug/l
2-Chloronaphthalene	<	3.1	<	1.0	ug/l
Chrysene	<	1.6	<	1.0	ug/l
Dibenzo(a,h)anthracene	<	1.6	<	1.0	ug/l
1,2-Dichlorobenzene	<	5.0	<	1.0	ug/l
1,3-Dichlorobenzene	<	5.0	<	1.0	ug/l
1,4-Dichlorobenzene		9.0	<	1.0	ug/l
3,3'-Dichlorobenzidine	<	3.1	<	1.0	ug/l
Diethyl phthalate	<	3.1	<	1.0	ug/l
Dimethyl Phthalate	<	3.1	<	1.0	ug/l
Di-N-Butyl Phthalate	<	3.1	<	1.0	ug/l
2,4-Dinitrotoluene	<	3.1	<	1.0	ug/l
2,6-Dinitrotoluene	<	3.1	<	1.0	ug/l
Di-N-octyl phthalate	<	3.1	<	1.0	ug/l
Fluoranthene	<	1.6	<	1.0	ug/l
Fluorene		4.5	<	1.0	ug/l
Hexachlorobenzene	<	3.1	<	1.0	ug/l
Hexachlorobutadiene	<	3.1	<	1.0	ug/l
Hexachlorocyclopentadiene	<	3.1	<	1.0	ug/l
Hexachloroethane	<	3.1	<	1.0	ug/l
Indeno(1,2,3-cd)pyrene	<	1.6	<	1.0	ug/l
Isophorone	<	3.1	<	1.0	ug/l
Naphthalene		31.3	<	1.0	ug/l
Nitrobenzene	<	3.1	<	1.0	ug/l
N-Nitrosodi-n-propylamine	<	3.1	<	1.1	ug/l

Table 2
NPDES Parameter Sampling Summary
CES & KSL Landfill Influent Data
Earthres Project No: 091018.064

Facility	KSL		CES		Units
Lab	ALS Environmental		Hawk Mtn.		
Sample Date	9/6/2018		3/29/2016		
Location	Influent		Influent		
N-Nitrosodi-methylamine	<	3.1	<	1.2	ug/l
N-Nitrosodiphenylamine	<	3.1	<	1.0	ug/l
Phenanthrene		3.5		1.5	ug/l
Pyrene	<	1.6	<	1.0	ug/l
1,2,4-Trichlorobenzene	<	3.1	<	1.0	ug/l

Table 2
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CES & KSL Landfill Influent Data
Earthres Project No: 091018.064

Facility	KSL		CES		Units
Lab	ALS Environmental		Hawk Mtn.		
Sample Date	9/6/2018		3/29/2016		
Location	Influent		Influent		
POLLUTANT GROUP VI					
Benzo (b) Fluroanthene					ug/l
Aldrin	<	0.040	<	0.051	ug/l
alpha-BHC	<	0.040	<	0.051	ug/l
beta-BHC	<	0.040	<	0.051	ug/l
gamma-BHC (Lindane)	<	0.040	<	0.051	ug/l
delta-BHC	<	0.040	<	0.051	ug/l
Chlordane	<	0.40	<	0.51	ug/l
4,4'-DDT	<	0.040	<	0.10	ug/l
4,4'-DDE	<	0.040	<	0.10	ug/l
4,4'-DDD	<	0.040	<	0.10	ug/l
Dieldrin	<	0.040	<	0.10	ug/l
alpha-Endosulfan	<	0.040	<	0.10	ug/l
beta-Endosulfan	<	0.040	<	0.10	ug/l
Endosulfan Sulfate	<	0.040	<	0.10	ug/l
Endrin	<	0.040	<	0.10	ug/l
Endrin Aldehyde	<	0.040	<	0.10	ug/l
Heptachlor	<	0.040	<	0.051	ug/l
Heptachlor Epoxide	<	0.040	<	0.051	ug/l
Toxaphene	<	2.0	<	1.0	ug/l
PCB-1016	<	1.0	<	1.0	ug/l
PCB-1221	<	1.0	<	1.0	ug/l
PCB-1232	<	1.0	<	1.0	ug/l
PCB-1242	<	1.0	<	1.0	ug/l
PCB-1248	<	1.0	<	1.0	ug/l
PCB-1254	<	1.0	<	1.0	ug/l
PCB-1260	<	1.0	<	1.0	ug/l
2,3,7,8-TCDD (Dioxin)			<	10	pg/l
2,3,7,8-TCDF (Dioxin)			<	10	pg/l
POLLUTANT GROUP VII					
Radiological, Gross Alpha				9.20 +/- 13.5	pCi/L
Radiological, Gross Beta				390 +/- 71.6	pCi/L
Radium 226				0.931 +/- 0.857	pCi/L
Radium 228				4.63 +/- 1.16	pCi/L
1,4-Dioxane				25.9	ug/l
Uranium, Total			<	0.02	mg/l
Strontium, Total				1.49	mg/l
1,2-Diphenylhydrazine			<	1.0	ug/l

Table 3
2016 NPDES Sampling Summary
CES Landfill LTP
Earthres Project No: 091018.064

Parameter	Influent (Raw)	Effluent Day #1	Effluent Day #2	Effluent Day #3	Units
POLLUTANT GROUP I					
pH, Lab	8.48	7.65	7.39	7.22	S.U.
Hardness, Total	1420	1.06	1.67	1.67	mg/l
Biochemical Oxygen Demand	105	< 6	< 6.0	< 6.0	mg/l
Chemical Oxygen Demand	2260	< 20	< 20.0	< 20.0	mg/l
Total Organic Carbon	550	1.35	1.27	1.62	mg/l
Total Suspended Solids	750	< 5	< 5	< 5	mg/l
Total Dissolved Solids	5200	51	68	36	mg/l
Ammonia-Nitrogen as N	992	3.97	2.32	1.55	mg/l
Oil & Grease	< 4.7	< 4.3	< 4.3	< 4.2	mg/l
Bromide	1.83	< 1.0	< 1.0	< 1.0	mg/l
Fecal Coliform	> 2491.6	< 1.0	< 1.0	< 1.0	MPN/100ml
Chlorine, Total Residual	0.71	< 0.1	< 0.1	< 0.1	mg/l
Color, Platinum-Cobalt	2000	< 1	< 1.0	< 1.0	Pt-Co unit
Nitrate as N	1.52	< 0.5	< 0.5	< 0.5	mg/l
Nitrite as N	1.61	0.190	< 0.1	< 0.1	mg/l
Fluoride	< 0.2	< 0.20	< 0.20	< 0.20	mg/l
Chloride	1820	2.08	1.67	3.47	mg/l
Nitrogen, Total Kjeldahl	1100	5.41	3.24	2.73	mg/l
Phosphorus	4.12	< 0.05	< 0.05	< 0.05	mg/l
Sulfate	478	< 5	< 5	< 5	mg/l
Sulfide	28.1	28.1	< 0.05	< 0.05	mg/l
Surfactants, MBAS	< 2.00	< 0.2	< 0.2	< 0.2	mg/l

Table 3
2016 NPDES Sampling Summary
CES Landfill LTP
Earthres Project No: 091018.064

Parameter	Influent (Raw)	Effluent Day #1	Effluent Day #2	Effluent Day #3	Units
POLLUTANT GROUP II					
Aluminum, Total	1.29	< 0.100	< 0.100	< 0.100	mg/l
Boron, Total	6.55	1.14	1.08	0.87	mg/l
Cobalt, Total ICP-MS	0.025	< 0.001	< 0.001	< 0.001	mg/l
Iron, Total	64.9	< 0.020	0.042	< 0.020	mg/l
Iron, Dissolved	7.36	< 0.020	< 0.020	< 0.020	mg/l
Manganese, Total	2.49	< 0.020	< 0.020	< 0.020	mg/l
Molybdenum, Total ICP-MS	< 0.02	< 0.001	< 0.001	< 0.001	mg/l
Barium, Total	0.449	< 0.020	< 0.020	< 0.020	mg/l
[redacted]mony, Total ICP-MS	0.027	< 0.001	< 0.001	< 0.001	mg/l
[redacted]nic, Total ICP-MS	0.200	< 0.001	< 0.001	< 0.001	mg/l
Beryllium, Total ICP-MS	< 0.02	< 0.001	< 0.001	< 0.001	mg/l
Cadmium, Total ICP-MS	< 0.02	< 0.001	< 0.001	< 0.001	mg/l
Chromium, Total ICP-MS	0.134	< 0.001	< 0.001	< 0.001	mg/l
Chromium, Hexavalent	< 0.25	< 0.25	< 0.25	< 0.25	mg/l
Copper, Total ICP-MS	0.026	< 0.001	< 0.001	< 0.001	mg/l
Lead, Total ICP-MS	< 0.02	< 0.001	< 0.001	< 0.001	mg/l
Mercury, Total	< 0.001	< 0.0002	< 0.0002	0.00021	mg/l
Nickel, Total ICP-MS	0.224	< 0.001	< 0.001	< 0.001	mg/l
Selenium, Total ICP-MS	0.045	< 0.005	< 0.005	< 0.005	mg/l
Silver, Total ICP-MS	< 0.10	< 0.005	< 0.005	< 0.005	mg/l
Thallium, Total ICP-MS	< 0.02	< 0.001	< 0.001	< 0.001	mg/l
Zinc, Total ICP-MS	0.213	< 0.005	< 0.005	< 0.005	mg/l
Cyanide, Total	< 0.01	< 0.01	< 0.01	< 0.01	mg/l
Cyanide, Free	N/A	N/A	NA	NA	mg/l
Phenolics, Total Recoverable	1.67	< 0.1	< 0.1	< 0.1	mg/l

Table 3
2016 NPDES Sampling Summary
CES Landfill LTP
Earthres Project No: 091018.064

Parameter	Influent (Raw)	Effluent Day #1	Effluent Day #2	Effluent Day #3	Units
POLLUTANT GROUP III					
Acrolein	< 0.0500	< 0.0050	< 0.0047	< 0.0047	mg/l
Acrylonitrile	< 0.0200	< 0.0020	< 0.0020	< 0.0020	mg/l
Benzene	< 0.0100	< 0.0010	< 0.0001	< 0.0001	mg/l
Bromoform	< 0.0100	< 0.0010	< 0.0003	< 0.0003	mg/l
Carbon Tetrachloride	< 0.0100	< 0.0010	< 0.0002	< 0.0002	mg/l
Chlorobenzene	< 0.0100	< 0.0010	< 0.0001	< 0.0001	mg/l
Dibromochloromethane	< 0.0100	< 0.0010	< 0.0001	< 0.0001	mg/l
Chloroethane	< 0.0100	< 0.0010	< 0.0002	< 0.0002	mg/l
2-Chloroethyl Vinyl Ether	< 0.0200	< 0.0020	< 0.0020	< 0.0020	mg/l
Chloroform	< 0.0100	< 0.0010	< 0.0001	< 0.0001	mg/l
Dichlorobromoethane	< 0.0100	< 0.0010	< 0.0001	< 0.0001	mg/l
1,1-Dichloroethane	< 0.0100	< 0.0010	< 0.0001	< 0.0002	mg/l
1,2-Dichloroethane	< 0.0100	< 0.0010	< 0.0003	< 0.0003	mg/l
1,1-Dichloroethylene	< 0.0100	< 0.0010	< 0.0002	< 0.0002	mg/l
1,2-Dichloropropane	< 0.0100	< 0.0010	< 0.0002	< 0.0002	mg/l
1,3-Dichloropropylene	< 0.0200	< 0.0020	< 0.0001	< 0.0015	mg/l
[illegible]lbenzene	< 0.0100	< 0.0010	< 0.0001	< 0.0001	mg/l
Bromomethane	< 0.0100	< 0.0010	< 0.0002	< 0.0002	mg/l
Chloromethane	< 0.0100	< 0.0010	< 0.0002	< 0.0002	mg/l
Methylene Chloride	< 0.0100	< 0.0010	< 0.0002	< 0.0002	mg/l
1,1,2,2-Tetrachloroethane	< 0.0100	< 0.0010	< 0.0002	< 0.0002	mg/l
Tetrachloroethylene	< 0.0100	< 0.0010	< 0.0001	< 0.0001	mg/l
Toluene	< 0.0100	< 0.0010	< 0.0001	< 0.0001	mg/l
1,2-Trans-Dichloroethylene	< 0.0100	< 0.0010	< 0.0002	< 0.0002	mg/l
1,1,1-Trichloroethane	< 0.0100	< 0.0010	< 0.0001	< 0.0001	mg/l
1,1,2-Trichloroethane	< 0.0100	< 0.0010	< 0.0003	< 0.0003	mg/l
Trichloroethylene	< 0.0100	< 0.0010	< 0.0002	< 0.0002	mg/l
Vinyl Chloride	< 0.0100	< 0.0010	< 0.0001	< 0.0001	mg/l
POLLUTANT GROUP IV					
2-Chlorophenol	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
2,4-Dichlorophenol	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
2,4-Dimethylphenol	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
4,6-Dinitro-o-Cresol	< 2.6	< 2.5	< 2.6	< 2.6	ug/l
2,4-Dinitrophenol	< 2.6	< 2.5	< 2.6	< 2.6	ug/l
2-Nitrophenol	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
4-Nitrophenol	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
P-Chloro-m-Cresol	< 2.1	< 2.0	< 2.1	< 2.1	ug/l
Pentachlorophenol	< 2.6	< 2.5	< 2.6	< 2.6	ug/l
Phenol	1.2	< 1.0	< 1.0	< 1.0	ug/l
2,4,6-Trichlorophenol	< 1.0	< 1.0	< 1.0	< 1.0	ug/l

Table 3
2016 NPDES Sampling Summary
CES Landfill LTP
Earthres Project No: 091018.064

Parameter	Influent (Raw)	Effluent Day #1	Effluent Day #2	Effluent Day #3	Units
POLLUTANT GROUP V					
Acenaphthene	1.2	< 1.0	< 1.0	< 1.0	ug/l
Acenaphthylene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Acrylamide					ug/l
Anthracene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Benzidine	< 104	< 102	< 104	< 104	ug/l
Benzo(a)anthracene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Benzo(a)pyrene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
3,4-Benzo-fluoranthene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Benzo(g,h,i)perylene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Benzo(K)fluoranthene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Bis(2-chloroethoxy)methane	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Bis(2-chloroethyl)ether	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Bis(2-chloroisopropyl)ether	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Bis(2-ethylhexyl) phthalate	3.8	< 1.0	< 1.0	< 1.0	ug/l
4-Bromophenyl phenyl ether	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
4-Chlorophenyl phenyl ether	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Butyl benzyl phthalate	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
2-Chloronaphthalene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Chrysene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
[illegible]nzo(a,h)anthracene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
[illegible]-Dichlorobenzene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
1,3-Dichlorobenzene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
1,4-Dichlorobenzene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
3,3'-Dichlorobenzidine	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Diethyl phthalate	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Dimethyl Phthalate	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Di-N-Butyl Phthalate	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
2,4-Dinitrotoluene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
2,6-Dinitrotoluene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Di-N-octyl phthalate	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Fluoranthene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Fluorene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Hexachlorobenzene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Hexachlorobutadiene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Hexachlorocyclopentadiene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Hexachloroethane	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Indeno(1,2,3-cd)pyrene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Isophorone	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Naphthalene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Nitrobenzene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
N-Nitrosodi-n-propylamine	< 1.1	< 1.0	< 1.0	< 1.0	ug/l
N-Nitrosodi-methylamine	< 1.2	< 1.0	< 1.0	< 1.0	ug/l
N-Nitrosodiphenylamine	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
Phenanthrene	1.5	< 1.0	< 1.0	< 1.0	ug/l
[illegible]e	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
1,[illegible]+-Trichlorobenzene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l

Table 3
2016 NPDES Sampling Summary
CES Landfill LTP
Earthres Project No: 091018.064

Parameter	Influent (Raw)	Effluent Day #1	Effluent Day #2	Effluent Day #3	Units
POLLUTANT GROUP VI					
Benzo (b) Fluroanthene	-	< 1.0			ug/l
Aldrin	< 0.051	< 0.051	< 0.052	< 0.050	ug/l
alpha-BHC	< 0.051	< 0.051	< 0.052	< 0.050	ug/l
beta-BHC	< 0.051	< 0.051	< 0.052	< 0.050	ug/l
gamma-BHC (Lindane)	< 0.051	< 0.051	< 0.052	< 0.050	ug/l
delta-BHC	< 0.051	< 0.051	< 0.052	< 0.050	ug/l
Chlordane	< 0.51	< 0.51	< 0.52	< 0.50	ug/l
4,4'-DDT	< 0.10	< 0.10	< 0.10	< 0.10	ug/l
4,4'-DDE	< 0.10	< 0.10	< 0.10	< 0.10	ug/l
4,4'-DDD	< 0.10	< 0.10	< 0.10	< 0.10	ug/l
Dieldrin	< 0.10	< 0.10	< 0.10	< 0.10	ug/l
alpha-Endosulfan	< 0.10	< 0.051	< 0.052	< 0.050	ug/l
beta-Endosulfan	< 0.10	< 0.10	< 0.10	< 0.10	ug/l
Endosulfan Sulfate	< 0.10	< 0.10	< 0.10	< 0.10	ug/l
Endrin	< 0.10	< 0.10	< 0.10	< 0.10	ug/l
Endrin Aldehyde	< 0.10	< 0.10	< 0.10	< 0.10	ug/l
Heptachlor	< 0.051	< 0.051	< 0.052	< 0.050	ug/l
Heptachlor Epoxide	< 0.051	< 0.051	< 0.052	< 0.050	ug/l
Toxaphene	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
PCB-1016	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
PCB-1221	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
PCB-1232	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
PCB-1242	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
PCB-1248	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
PCB-1254	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
PCB-1260	< 1.0	< 1.0	< 1.0	< 1.0	ug/l
2,3,7,8-TCDD (Dioxin)	< 10	< 10	< 10	<	pg/l
2,3,7,8-TCDF (Dioxin)	< 10	< 10	< 10	<	pg/l
POLLUTANT GROUP VII					
Radiological, Gross Alpha	9.20 +/- 13.5	0.018 +/- 0.617	0.216 +/- 1.01	0.532 +/- 0.746	pCi/L
Radiological, Gross Beta	390 +/- 71.6	-0.260 +/- 0.692	1.04 +/- 0.793	1.68 +/- 0.958	pCi/L
Radium 226	0.931 +/- 0.857	0.000 +/- 0.347	-0.191 +/- 0.408	0.0848 +/- 0.387	pCi/L
Radium 228	4.63 +/- 1.16	0.229 +/- 0.335	0.284 +/- 0.334	0.747 +/- 0.404	pCi/L
1,4-Dioxane	25.9	0.14	< 0.10	< 0.10	ug/l
Uranium, Total	< 0.02	< 0.002	< 0.002	< 0.002	mg/l
Strontium, Total	1.49	< 0.020	< 0.020	0.001	mg/l
1,2-Diphenylhydrazine	< 1.0	< 1.0	< 1.0	< 1.0	ug/l

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

May 10, 2019

Louis DeNaples
Keystone Sanitary Landfill Inc.
249 Dunham Drive
Dunmore, PA 18512-2827

Re: Preliminary Effluent Limitations
Keystone Sanitary Landfill
Lackawanna County

Dear Mr. DeNaples:

In response to your request, the Department of Environmental Protection (DEP) has developed preliminary effluent limits (PELs) for a discharge of up to 0.107 MGD of treated wastewater to Little Roaring Brook (Watershed 5-A). The following limits will apply to a discharge to Little Roaring Brook.

Water Quality Based Effluent Limitations

Parameter	Monthly Average	Instantaneous Maximum
CBOD5 (mg/l)	10	20
Total Suspended Solids (mg/l)	10	20
Ammonia-Nitrogen (mg/l)	3.0	6.0
Total Phosphorous (mg/l)	1.51	3.02
Total Nitrogen (mg/l)	0.5	-
Fecal Coliform(5/1 – 9/30)	200/100 ml	1,000 / 100 ml
Fecal Coliform(10/1 – 4/30)	2,000 / 100 ml	10,000 / 100 ml
Dissolved Oxygen (mg/l)	Minimum of 6 at all times	
pH	Within the range of 6 to 9 standard units at all times	
Oil and Grease (mg/l)	5.0	
Total Boron (mg/l)	Monitor & Report	
Total Cadmium (µg/l)	0.68	
Hexavalent Chromium (µg/l)	26.21	
Acrolein (µg/l)	4.85	
Carbon Tetrachloride (mg/l)	Monitor & Report	
1,3-Dichloropropylene (mg/l)	Monitor & Report	
1,1,2,2-Tetrachloroethane (mg/l)	Monitor & Report	
Vinyl Chloride (µg/l)	<0.5	
Benzidine (µg/l)	<50	
Aldrin (µg/l)	<0.05	

North East Regional Office
2 Public Square | Wilkes-Barre, PA 18701-1915 | 570.826.2511 | Fax 570.830.3016
www.depweb.state.pa.us

Alpha-BHC (µg/l)	<0.05	
Beta-BHC (µg/l)	Monitor & Report	
4,4-DDT (µg/l)	<0.05	
4,4-DDE (µg/l)	<0.05	
4,4-DDD (µg/l)	<0.05	
Dieldrin (µg/l)	<0.05	
Alpha-Endosulfan (µg/l)	Monitor & Report	
Beta-Endosulfan (µg/l)	0.141	
Endrin (µg/l	0.091	
Heptachlor (µg/l)	<0.05	
Heptachlor Epoxide (µg/l)	<0.05	
Toxaphene (µg/l)	<0.5	

Effluent Limitation Guideines for Landfills Point Source Category 40 CFR Part 445
For a RCRA Subtitle D
Non-Hazardous Waste Landfill

Regulated Parameter (mg/L, ppm)	Maximum daily	Maximum Monthly Average
a-Terpineol	0.033	0.016
Benzoic acid	0.12	0.071
p-Cresol	0.025	0.014
Phenol	0.026	0.015
Zinc	0.20	0.11

Pa Chapters 93, 95 & AMD TMDL's

Regulated Parameter (mg/L, ppm)	Maximum daily	Maximum Monthly Average
TDS	4,000	2,000
Iron	3.75	1.5
Dissolved Iron	0.75	0.3
Manganese	2.5	1.0
Aluminum	1.88	0.75
Nitrate	Report	Report

To accept fracking waste the following additional limits will apply:

Gross Alpha	3 pCi/L

Beta, Total	4 pCi/L
Radium 226/228, Tot	1 pCi/L
Strontium, Total	10 µg/L
Uranium, Total	2 µg/L

Issuance of these limits does not represent approval for a discharge to the waters of the Commonwealth. This information is provided as an aide in evaluating alternative wastewater disposal methods. Any changes in the size or location of the discharge will require a reevaluation.

To meet the requirements of the Sewage Facilities Act, the proposed facility must be included in the municipality's Official Sewage Plan that is approved by DEP. For private projects, this may be done through the submission of sewage planning module components that are adopted by the municipality as a revision to the Official Plan.

When the municipality has a DEP-approved Official Plan that addresses this project, permit applications may be submitted. An NPDES permit application must be filed with DEP at least 180 days before you propose to commence the discharge of treated wastewater. A Water Quality Management (WQM) permit must be obtained from DEP prior to starting construction of the proposed facilities. Permit applications can be obtained by contacting this office or by visiting DEP's website at www.elibrary.dep.state.pa.us.

If you have any questions, please contact Bernie Feist at 570.830.3088.

Sincerely,

Bharat Patel, P.E.
Environmental Program Manager
Clean Water Program

TOXICS SCREENING ANALYSIS
WATER QUALITY POLLUTANTS OF CONCERN
VERSION 2.6

Facility: Keystone Landfill -Table 3
Analysis Hardness (mg/L): 100
Stream Flow, Q_{7-10} (cfs): 0.111

NPDES Permit No.: PEL 091018.064
Discharge Flow (MGD): 0.107

Outfall: 001
Analysis pH (SU): 7

	Parameter		Maximum Concentration in Application or DMRs (µg/L)	Most Stringent Criterion (µg/L)	Candidate for PENTOXSD Modeling?	Most Stringent WQBEL (µg/L)	Screening Recommendation
Group 1	Total Dissolved Solids		51000	500000	No	500000	
	Chloride		100	250000	No	250000	
	Bromide		1000	N/A	No		
	Sulfate		5000	250000	No	250000	
	Fluoride		200	2000	No	2000	
Group 2	Total Aluminum	<	100	750	No		
	Total Antimony	<	1	5.6	No (Value < QL)		
	Total Arsenic	<	1	10	No (Value < QL)		
	Total Barium			2400			
	Total Beryllium	<	1	N/A	No		
	Total Boron		1140	1600	Yes	4033.41	Monitor
	Total Cadmium	<	1	0.271	Yes	0.682	Establish Limits
	Total Chromium	<	1	N/A	No		
	Hexavalent Chromium	<	250	10.4	Yes	26.205	Establish Limits
	Total Cobalt	<	1	19	No (Value < QL)		
	Total Copper	<	1	9.3	No (Value < QL)		
	Total Cyanide	<	10	N/A	No		
	Total Iron	<	20	1500	No (Value < QL)	1500	
	Dissolved Iron	<	20	300	No (Value < QL)	300	
	Total Lead	<	1	3.2	No (Value < QL)		
	Total Manganese	<	20	1000	No	1000	
	Total Mercury	<	0.2	0.05	No (Value < QL)		
	Total Molybdenum	<	1	N/A	No		
	Total Nickel	<	1	52.2	No (Value < QL)		
	Total Phenols (Phenolics)	<	100	5	Yes	5000	No Limits/Monitoring
	Total Selenium	<	5	5.0	No (Value < QL)		
	Total Silver	<	5	3.8	Yes	6.115	Establish Limits
	Total Thallium	<	1	0.24	No (Value < QL)		
	Total Zinc	<	5	119.8	No (Value < QL)		
Group 3	Acrolein	<	5	3	Yes	4.847	Establish Limits
	Acrylamide	<		0.07			
	Acrylonitrile	<	2	0.051	No (Value < QL)		
	Benzene	<	1	1.2	Yes	17.334	No Limits/Monitoring
	Bromoform	<	1	4.3	No		
	Carbon Tetrachloride	<	1	0.23	Yes	3.322	Monitor
	Chlorobenzene	<	1	130	No		
	Chlorodibromomethane	<		0.4			
	Chloroethane	<	1	N/A	No		
	2-Chloroethyl Vinyl Ether	<	2	3500	No (Value < QL)		
	Chloroform	<	1	5.7	No		
	Dichlorobromomethane	<	1	0.55	Yes	7.945	No Limits/Monitoring
	1,1-Dichloroethane	<	1	N/A	No		
	1,2-Dichloroethane	<	1	0.38	Yes	5.489	No Limits/Monitoring
	1,1-Dichloroethylene	<	1	33	No		
	1,2-Dichloropropane	<	1	2200	No		
	1,3-Dichloropropylene	<	2	0.34	Yes	4.911	Monitor
	Ethylbenzene	<	1	530	No		
	Methyl Bromide	<	1	47	No		
	Methyl Chloride	<	1	5500	No		
	Methylene Chloride	<		4.6			
	1,1,2,2-Tetrachloroethane	<	1	0.17	Yes	2.458	Monitor
	Tetrachloroethylene	<	1	0.69	Yes	9.967	No Limits/Monitoring
	Toluene	<	1	330	No		
	1,2-trans-Dichloroethylene	<	1	140	No		
	1,1,1-Trichloroethane	<	1	610	No		
	1,1,2-Trichloroethane	<	1	0.59	Yes	8.523	No Limits/Monitoring
	Trichloroethylene	<	1	2.5	No		
	Vinyl Chloride	<	1	0.025	Yes	0.361	Establish Limits
Group 4	2-Chlorophenol	<	1	81	No (Value < QL)		
	2,4-Dichlorophenol	<	1	77	No (Value < QL)		
	2,4-Dimethylphenol	<	1	130	No (Value < QL)		
	4,6-Dinitro-o-Cresol	<	2.6	13	No (Value < QL)		
	2,4-Dinitrophenol	<	2.6	69	No (Value < QL)		
	2-Nitrophenol	<	1	1600	No (Value < QL)		
	4-Nitrophenol	<	1	470	No (Value < QL)		
	p-Chloro-m-Cresol	<	2	30	No (Value < QL)		
	Pentachlorophenol	<	2.5	0.27	No (Value < QL)		
	Phenol	<	1	10400	No (Value < QL)		
	2,4,6-Trichlorophenol	<	1	1.4	No (Value < QL)		

Group 5	Acenaphthene	<	1	17	No (Value < QL)		
	Acenaphthylene	<	1	N/A	No		
	Anthracene	<	1	8300	No (Value < QL)		
	Benzidine	<	104	0.000086	Yes	0.001	Establish Limits
	Benzo(a)Anthracene	<	1	0.0038	No (Value < QL)		
	Benzo(a)Pyrene	<	1	0.0038	No (Value < QL)		
	3,4-Benzofluoranthene	<	1	0.0038	No (Value < QL)		
	Benzo(ghi)Perylene	<	1	N/A	No		
	Benzo(k)Fluoranthene	<	1	0.0038	No (Value < QL)		
	Bis(2-Chloroethoxy)Methane	<	1	N/A	No		
	Bis(2-Chloroethyl)Ether	<	1	0.03	No (Value < QL)		
	Bis(2-Chloroisopropyl)Ether	<	1	1400	No (Value < QL)		
	Bis(2-Ethylhexyl)Phthalate	<	1	1.2	No (Value < QL)		
	4-Bromophenyl Phenyl Ether	<	1	54	No (Value < QL)		
	Butyl Benzyl Phthalate	<	1	35	No (Value < QL)		
	2-Chloronaphthalene	<	1	1000	No (Value < QL)		
	4-Chlorophenyl Phenyl Ether	<	1	N/A	No		
	Chrysene	<	1	0.0038	No (Value < QL)		
	Dibenzo(a,h)Anthrancene	<	1	0.0038	No (Value < QL)		
	1,2-Dichlorobenzene	<	1	160	No		
	1,3-Dichlorobenzene	<	1	69	No		
	1,4-Dichlorobenzene	<	1	150	No		
	3,3-Dichlorobenzidine	<	1	0.021	No (Value < QL)		
	Diethyl Phthalate	<	1	800	No (Value < QL)		
	Dimethyl Phthalate	<	1	500	No (Value < QL)		
	Di-n-Butyl Phthalate	<	1	21	No (Value < QL)		
	2,4-Dinitrotoluene	<	1	0.05	No (Value < QL)		
	2,6-Dinitrotoluene	<	1	0.05	No (Value < QL)		
	1,4-Dioxane	<	1	N/A	No		
	Di-n-Octyl Phthalate	<	1	N/A	No		
	1,2-Diphenylhydrazine	<	1	0.036	No (Value < QL)		
	Fluoranthene	<	1	40	No (Value < QL)		
	Fluorene	<	1	1100	No (Value < QL)		
	Hexachlorobenzene	<	1	0.00028	No (Value < QL)		
	Hexachlorobutadiene	<	1	0.44	Yes	5.042	No Limits/Monitoring
	Hexachlorocyclopentadiene	<	1	1	No (Value < QL)		
	Hexachloroethane	<	1	1.4	No (Value < QL)		
	Indeno(1,2,3-cd)Pyrene	<	1	0.0038	No (Value < QL)		
	Isophorone	<	1	35	No (Value < QL)		
	Naphthalene	<	1	43	No		
	Nitrobenzene	<	1	17	No (Value < QL)		
	n-Nitrosodimethylamine	<	1	0.00069	No (Value < QL)		
	n-Nitrosodi-n-Propylamine	<	1	0.005	No (Value < QL)		
	n-Nitrosodiphenylamine	<	1	3.3	No (Value < QL)		
	Phenanthrene	<	1	1	No (Value < QL)		
	Pyrene	<	1	830	No (Value < QL)		
	1,2,4-Trichlorobenzene	<	1	26	No		
Group 6	Aldrin	<	0.051	0.000049	Yes	0.000708	Establish Limits
	alpha-BHC	<	0.051	0.0026	Yes	0.038	Establish Limits
	beta-BHC	<	0.051	0.0091	Yes	0.131	Monitor
	gamma-BHC	<	0.051	0.098	Yes	0.247	No Limits/Monitoring
	delta BHC	<	0.051	N/A	No		
	Chlordane	<	0.51	0.0008	No (Value < QL)		
	4,4-DDT	<	0.1	0.00022	Yes	0.004	Establish Limits
	4,4-DDE	<	0.1	0.00022	Yes	0.004	Establish Limits
	4,4-DDD	<	0.1	0.00031	Yes	0.004	Establish Limits
	Dieldrin	<	0.1	0.000052	Yes	0.000751	Establish Limits
	alpha-Endosulfan	<	0.051	0.056	Yes	0.141	Monitor
	beta-Endosulfan	<	0.1	0.056	Yes	0.141	Establish Limits
	Endosulfan Sulfate	<	0.1	N/A	No		
	Endrin	<	0.1	0.036	Yes	0.091	Establish Limits
	Endrin Aldehyde	<	0.1	0.29	No		
	Heptachlor	<	0.051	0.000079	Yes	0.001	Establish Limits
	Heptachlor Epoxide	<	0.051	0.000039	Yes	0.000563	Establish Limits
	PCB-1242	<	1	N/A	No		
	PCB-1254	<	1	N/A	No		
	PCB-1221	<	1	N/A	No		
	PCB-1232	<	1	N/A	No		
	PCB-1248	<	1	N/A	No		
	PCB-1260	<	1	N/A	No		
	PCB-1016	<	1	N/A	No		
	Toxaphene	<	1	0.0002	Yes	0.00504	Establish Limits
	2,3,7,8-TCDD	<	10	0.000000005	Yes	na	#VALUE!
Group 7	Gross Alpha (pCi/L)	<	0.532	N/A	No		
	Total Beta (pCi/L)	<	1.66	N/A	No		
	Radium 226/228 (pCi/L)	<	0.191	N/A	No		
	Total Strontium	<	20	4000	No		
	Total Uranium	<	2	N/A	No		

PENTOXSD Analysis Results

Recommended Effluent Limitations

SWP Basin	Stream Code:	Stream Name:
05A	28453	LITTLE ROARING BROOK

RMI	Name	Permit Number	Disc Flow (mgd)
0.76	Keystone 19PEL	12142018	0.1070

Parameter	Effluent Limit (µg/L)	Governing Criterion	Max. Daily Limit (µg/L)	Most Stringent WQBEL (µg/L)	Most Stringent WQBEL Criterion
1,1,2,2-TETRACHLOROETHANE	1	INPUT	1.56	4.763	CRL
1,1,2-TRICHLOROETHANE	1	INPUT	1.56	16.531	CRL
1,2 cis-DICHLOROETHYLENE	1	INPUT	1.56	52.557	THH
1,2-DICHLOROETHANE	1	INPUT	1.56	10.647	CRL
1,3-DICHLOROPROPYLENE	1	INPUT	1.56	9.526	CRL
4,4'-DDD	0.004	CFC	0.007	0.004	CFC
4,4'-DDE	0.004	CFC	0.007	0.004	CFC
4,4'-DDT	0.004	CFC	0.007	0.004	CFC
ACROLEIN	5	INPUT	7.801	8.422	AFC
ALDRIN	0.001	CRL	0.002	0.001	CRL
alpha-BHC	0.051	INPUT	0.08	0.073	CRL
alpha-ENDOSULFAN	0.051	INPUT	0.08	0.245	CFC
BENZENE	1	INPUT	1.56	33.621	CRL
BENZIDINE	0.002	CRL	0.004	0.002	CRL
beta-BHC	0.051	INPUT	0.08	0.255	CRL
beta-ENDOSULFAN	0.1	INPUT	0.156	0.245	CFC
BORON	1140	INPUT	1778.583	7007.536	CFC
CADMIUM	1	INPUT	1.56	1.185	CFC
CARBON TETRACHLORIDE	1	INPUT	1.56	6.444	CRL
CHROMIUM, VI	45.527	CFC	71.03	45.527	CFC
DICHLOROBROMOMETHANE	1	INPUT	1.56	15.41	CRL
DIELDRIN	0.001	CRL	0.002	0.001	CRL
ENDOSULFAN, TOTAL	0.151	INPUT	0.236	271.542	THH
ENDRIN	0.1	INPUT	0.156	0.158	CFC
gamma-BHC (LINDANE)	0.051	INPUT	0.08	0.429	THH
HEPTACHLOR	0.002	CRL	0.003	0.002	CRL
HEPTACHLOR EPOXIDE	0.001	CRL	0.002	0.001	CRL
HEXACHLOROBUTA-DIENE	1	INPUT	1.56	8.759	CFC
PHENOLICS (PWS)	15	INPUT	23.402	NA	NA
SILVER	5	INPUT	7.801	10.624	AFC
TETRACHLOROETHYLENE	1	INPUT	1.56	19.332	CRL
TOXAPHENE	0.000876	CFC	0.001	0.000876	CFC
VINYL CHLORIDE	0.7	CRL	1.093	0.7	CRL

PENTOXSD

Modeling Input Data

Stream Code	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope	PWS With (mgd)	Apply FC
28453	0.76	1202.00	5.04	0.00000	0.00	☑

Stream Data

	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Rch Velocity (fps)	Rch Trav Time (days)	Tributary Hard (mg/L)	Tributary pH	Stream Hard (mg/L)	Stream pH	Analysis Hard (mg/L)	Analysis pH
Q7-10	0.111	0	0	0	0	0	0	0	100	7	0	0	0	0
Qh		0	0	0	0	0	0	0	100	7	0	0	0	0

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	AFC PMF	CFC PMF	THH PMF	CRL PMF	Disc Hard (mg/L)	Disc pH
Keystone 19PEL	12142018	0.107	0.107	0.107	0	0	0	0	0	100	7

Parameter Data

Parameter Name	Disc Conc (µg/L)	Trib Conc (µg/L)	Disc Daily CV	Disc Hourly CV	Steam Conc (µg/L)	Stream CV	Fate Coef	FOS	Crit Mod	Max Disc Conc (µg/L)
1,1,2,2-TETRACHLOROETHANE	1	0	0.5	0.5	0	0	0	0	1	0
1,1,2-TRICHLOROETHANE	1	0	0.5	0.5	0	0	0	0	1	0
1,2 cis-DICHLOROETHYLENE	1	0	0.5	0.5	0	0	0	0	1	0
1,2-DICHLOROETHANE	1	0	0.5	0.5	0	0	0	0	1	0
1,3-DICHLOROPROPYLENE	1	0	0.5	0.5	0	0	0	0	1	0
4,4'-DDD	0.1	0	0.5	0.5	0	0	0	0	1	0
4,4'-DDE	0.1	0	0.5	0.5	0	0	0	0	1	0
4,4'-DDT	0.1	0	0.5	0.5	0	0	0	0	1	0
ACROLEIN	5	0	0.5	0.5	0	0	0	0	1	0
ALDRIN	0.051	0	0.5	0.5	0	0	0	0	1	0
alpha-BHC	0.051	0	0.5	0.5	0	0	0	0	1	0
alpha-ENDOSULFAN	0.051	0	0.5	0.5	0	0	0	0	1	0
BENZENE	1	0	0.5	0.5	0	0	0	0	1	0
BENZIDINE	104	0	0.5	0.5	0	0	0	0	1	0
beta-BHC	0.051	0	0.5	0.5	0	0	0	0	1	0
beta-ENDOSULFAN	0.1	0	0.5	0.5	0	0	0	0	1	0
BORON	1140	0	0.5	0.5	0	0	0	0	1	0
CADMIUM	1	0	0.5	0.5	0	0	0	0	1	0
CARBON TETRACHLORIDE	1	0	0.5	0.5	0	0	0	0	1	0
CHROMIUM, VI	250	0	0.5	0.5	0	0	0	0	1	0
DICHLOROBROMOMETHANE	1	0	0.5	0.5	0	0	0	0	1	0
DIELDRIN	0.1	0	0.5	0.5	0	0	0	0	1	0
ENDOSULFAN, TOTAL	0.151	0	0.5	0.5	0	0	0	0	1	0
ENDRIN	0.1	0	0.5	0.5	0	0	0	0	1	0
gamma-BHC (LINDANE)	0.051	0	0.5	0.5	0	0	0	0	1	0
HEPTACHLOR	0.051	0	0.5	0.5	0	0	0	0	1	0

HEPTACHLOR EPOXIDE	0.051	0	0.5	0.5	0	0	0	0	1	0
HEXACHLOROBUTA-DIENE	1	0	0.5	0.5	0	0	0	0	1	0
PHENOLICS (PWS)	15	0	0.5	0.5	0	0	0	0	1	0
SILVER	5	0	0.5	0.5	0	0	0	0	1	0
TETRACHLOROETHYLENE	1	0	0.5	0.5	0	0	0	0	1	0
TOXAPHENE	10	0	0.5	0.5	0	0	0	0	1	0
VINYL CHLORIDE	1	0	0.5	0.5	0	0	0	0	1	0

Stream Code	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope	PWS With (mgd)	Apply FC
28453	0.00	1012.00	54.50	0.00000	0.00	☑

Stream Data

	LFY	Trib Flow	Stream Flow	WD Ratio	Rch Width	Rch Depth	Rch Velocity	Rch Trav Time	Tributary Hard	Tributary pH	Stream Hard	Stream pH	Analysis Hard	Analysis pH
	(cfsm)	(cfs)	(cfs)		(ft)	(ft)	(fps)	(days)	(mg/L)		(mg/L)		(mg/L)	
Q7-10	0.111	0	0	0	0	0	0	0	100	7	0	0	0	0
Qh		0	0	0	0	0	0	0	100	7	0	0	0	0

Discharge Data

Name	Permit Number	Existing Disc Flow	Permitted Disc Flow	Design Disc Flow	Reserve Factor	AFC PMF	CFC PMF	THH PMF	CRL PMF	Disc Hard	Disc pH
		(mgd)	(mgd)	(mgd)						(mg/L)	
		0	0	0	0	0	0	0	0	100	7

Parameter Data

Parameter Name	Disc Conc (µg/L)	Trib Conc (µg/L)	Disc Daily CV	Disc Hourly CV	Steam Conc (µg/L)	Stream CV	Fate Coef	FOS	Crit Mod	Max Disc Conc (µg/L)
1,1,2,2-TETRACHLOROETHANE	0	0	0.5	0.5	0	0	0	0	1	0
1,1,2-TRICHLOROETHANE	0	0	0.5	0.5	0	0	0	0	1	0
1,2 cis-DICHLOROETHYLENE	0	0	0.5	0.5	0	0	0	0	1	0
1,2-DICHLOROETHANE	0	0	0.5	0.5	0	0	0	0	1	0
1,3-DICHLOROPROPYLENE	0	0	0.5	0.5	0	0	0	0	1	0
4,4'-DDD	0	0	0.5	0.5	0	0	0	0	1	0
4,4'-DDE	0	0	0.5	0.5	0	0	0	0	1	0
4,4'-DDT	0	0	0.5	0.5	0	0	0	0	1	0
ACROLEIN	0	0	0.5	0.5	0	0	0	0	1	0
ALDRIN	0	0	0.5	0.5	0	0	0	0	1	0
alpha-BHC	0	0	0.5	0.5	0	0	0	0	1	0
alpha-ENDOSULFAN	0	0	0.5	0.5	0	0	0	0	1	0
BENZENE	0	0	0.5	0.5	0	0	0	0	1	0
BENZIDINE	0	0	0.5	0.5	0	0	0	0	1	0
beta-BHC	0	0	0.5	0.5	0	0	0	0	1	0
beta-ENDOSULFAN	0	0	0.5	0.5	0	0	0	0	1	0
BORON	0	0	0.5	0.5	0	0	0	0	1	0
CADMIUM	0	0	0.5	0.5	0	0	0	0	1	0
CARBON TETRACHLORIDE	0	0	0.5	0.5	0	0	0	0	1	0
CHROMIUM, VI	0	0	0.5	0.5	0	0	0	0	1	0
DICHLOROBROMOMETHANE	0	0	0.5	0.5	0	0	0	0	1	0
DIELDRIN	0	0	0.5	0.5	0	0	0	0	1	0
ENDOSULFAN, TOTAL	0	0	0.5	0.5	0	0	0	0	1	0
ENDRIN	0	0	0.5	0.5	0	0	0	0	1	0
gamma-BHC (LINDANE)	0	0	0.5	0.5	0	0	0	0	1	0
HEPTACHLOR	0	0	0.5	0.5	0	0	0	0	1	0
HEPTACHLOR EPOXIDE	0	0	0.5	0.5	0	0	0	0	1	0
HEXACHLOROBUTA-DIENE	0	0	0.5	0.5	0	0	0	0	1	0
PHENOLICS (PWS)	0	0	0.5	0.5	0	0	0	0	1	0
SILVER	0	0	0.5	0.5	0	0	0	0	1	0

TETRACHLOROETHYLENE	0	0	0.5	0.5	0	0	0	0	1	0
TOXAPHENE	0	0	0.5	0.5	0	0	0	0	1	0
VINYL CHLORIDE	0	0	0.5	0.5	0	0	0	0	1	0

PENTOXSD Analysis Results

Hydrodynamics

SWP Basin	Stream Code:	Stream Name:
05A	28453	LITTLE ROARING BROOK

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope	Depth (ft)	Width (ft)	WD Ratio	Velocity (fps)	Reach Trav Time (days)	CMT (min)
Q7-10 Hydrodynamics											
0.760	0.5594	0	0.5594	0.16552	0.0473	0.5389	9.0799	16.848	0.1481	0.3135	.781
0.000	6.0495	0	6.0495	NA	0	0	0	0	0	0	NA
Qh Hydrodynamics											
0.760	4.4722	0	4.4722	0.16552	0.0473	1.2195	9.0799	7.4457	0.4188	0.1109	.358
0.000	35.827	0	35.827	NA	0	0	0	0	0	0	NA

PENTOXSD Analysis Results

Wasteload Allocations

RMI	Name	Permit Number
0.76	Keystone 19PEL	12142018

AFC

Q7-10: CCT (min) 0.781 PMF 1 Analysis pH 7 Analysis Hardness 100

Parameter	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)
1,1,2,2-TETRACHLOROETHANE	0	0	0	0	1000	1000	4379.71
1,1,2-TRICHLOROETHANE	0	0	0	0	3400	3400	14891.01
1,2-DICHLOROETHANE	0	0	0	0	15000	15000	65695.66
1,2 cis-DICHLOROETHYLENE	0	0	0	0	NA	NA	NA
4,4'-DDD	0	0	0	0	1.1	1.1	4.818
4,4'-DDE	0	0	0	0	1.1	1.1	4.818
4,4'-DDT	0	0	0	0	1.1	1.1	4.818
ACROLEIN	0	0	0	0	3	3	13.139
ALDRIN	0	0	0	0	3	3	13.139
alpha-BHC	0	0	0	0	NA	NA	NA
alpha-ENDOSULFAN	0	0	0	0	0.22	0.22	0.964
BENZENE	0	0	0	0	640	640	2803.014
BENZIDINE	0	0	0	0	300	300	1313.913
beta-BHC	0	0	0	0	NA	NA	NA
beta-ENDOSULFAN	0	0	0	0	0.22	0.22	0.964
BORON	0	0	0	0	8100	8100	35475.65
CADMIUM	0	0	0	0	2.014	2.133	9.343
	Dissolved WQC. Chemical translator of 0.944 applied.						
CARBON TETRACHLORIDE	0	0	0	0	2800	2800	12263.19
CHROMIUM, VI	0	0	0	0	16	16.293	71.36
	Dissolved WQC. Chemical translator of 0.982 applied.						
DICHLOROBROMOMETHANE	0	0	0	0	NA	NA	NA

PENTOXSD Analysis Results

Wasteload Allocations

RMI	Name	Permit Number							
0.76	Keystone 19PEL	12142018							
	DIELDRIN		0	0	0	0	0.24	0.24	1.051
	ENDRIN		0	0	0	0	0.086	0.086	0.377
	gamma-BHC (LINDANE)		0	0	0	0	0.95	0.95	4.161
	HEPTACHLOR		0	0	0	0	0.52	0.52	2.277
	HEPTACHLOR EPOXIDE		0	0	0	0	0.5	0.5	2.19
	HEXACHLOROBUTA-DIENE		0	0	0	0	10	10	43.797
	PHENOLICS (PWS)		0	0	0	0	NA	NA	NA
	SILVER		0	0	0	0	3.217	3.784	16.575
			Dissolved WQC. Chemical translator of 0.85 applied.						
	TETRACHLOROETHYLENE		0	0	0	0	700	700	3065.797
	TOXAPHENE		0	0	0	0	0.73	0.73	3.197
	VINYL CHLORIDE		0	0	0	0	NA	NA	NA
	1,3-DICHLOROPROPYLENE		0	0	0	0	310	310	1357.71
	ENDOSULFAN, TOTAL		0	0	0	0	NA	NA	NA

CFC

Q7-10: CCT (min) 0.781 PMF 1 Analysis pH 7 Analysis Hardness 100

Parameter	Stream Conc. (µg/L)	Stream CV	Trib Conc. (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)
1,1,2,2-TETRACHLOROETHANE	0	0	0	0	210	210	919.739
1,1,2-TRICHLOROETHANE	0	0	0	0	680	680	2978.203
1,2-DICHLOROETHANE	0	0	0	0	3100	3100	13577.1
1,2 cis-DICHLOROETHYLENE	0	0	0	0	NA	NA	NA
4,4'-DDD	0	0	0	0	0.001	0.001	0.004
4,4'-DDE	0	0	0	0	0.001	0.001	0.004
4,4'-DDT	0	0	0	0	0.001	0.001	0.004