Supplementary Table S1. Environmental variables from water chemistry and biofilms. BDL = Below Detection Level, which was determined as three times the standard deviation of blank measurements divided by the external standard's slope. NA = sample not available. Site labels are MRU (unmined), MRM (mainstem mined), AVF (actively mined valley fill), and RVF (restored valley fill).

Site	MRUl1	MRUl2	MRUl3	MRUl4	MRUu1	MRUt1	MRM1	MRM3	MRM4	MRM5	MRM6	MRM7
Percent Watershed Mined	0.00	0.00	0.00	0.00	0.00	0.00	16.45	25.27	34.61	39.20	40.77	49.55
Mean Conductivity (µS/cm)	103.27	101.93	98.13	140.90	155.45	189.77	373.07	726.33	923.33	938.33	935.67	1260.33
Percent Decomposition	0.12	0.08	0.10	0.05	0.09	0.05	0.07	0.05	0.06	0.03	0.06	0.14
Temperature °(C)	10.70	12.00	11.90	17.60	NA	16.30	19.00	18.10	15.40	17.30	16.90	NA
Mean pH	8.15	8.64	8.60	8.45	7.85	6.92	7.62	8.04	7.93	7.74	7.68	7.47
Mean NPOC (mg/L)	2.00	1.90	1.97	2.83	1.81	1.37	2.19	2.43	2.79	2.84	2.85	3.21
Mean TN (mg/L)	0.57	0.64	0.58	1.88	0.81	0.52	1.23	1.92	1.64	1.44	1.41	2.89
Mean Cl (mg/L)	6.79	6.61	6.34	4.85	8.85	12.57	2.57	2.51	2.27	2.06	2.14	2.14
Mean SO4 (mg/L)	14.46	13.45	13.48	13.39	35.34	176.94	140.69	346.92	466.51	479.99	480.48	608.10
Mean NO3-N (mg/L)	0.43	0.50	0.42	1.68	0.74	2.12	0.60	1.46	1.02	0.80	0.76	1.86
Mean Ca (mg/L)	10.69	10.66	10.06	10.48	10.42	3.31	32.17	62.16	83.85	87.62	89.34	131.52
Mean Mg (mg/L)	3.39	3.38	3.23	3.55	5.66	2.39	25.33	58.58	78.78	84.38	84.55	104.77
Mean Na (mg/L)	5.64	5.39	5.21	3.96	6.73	1.16	5.69	5.82	7.03	7.03	7.49	8.40
Mean Fe (µg/L)	172.17	152.79	252.00	275.31	105.07	30.16	108.42	48.62	39.47	36.67	17.31	19.50
Mean Ba (µg/L)	52.90	55.42	48.17	47.61	43.93	47.58	44.62	34.67	34.26	33.10	41.02	32.06
Mean Mn (µg/L)	60.26	61.38	101.55	304.29	473.76	17.67	125.03	182.93	169.48	139.80	144.05	145.59
Mean Al (µg/L)	27.33	35.39	18.96	22.22	19.11	23.84	22.19	12.06	34.68	16.06	18.35	15.75
Mean V (µg/L)	0.29	0.26	0.27	0.24	0.24	0.15	0.26	0.16	0.13	0.13	0.12	0.09
Mean Co (µg/L)	0.23	0.44	0.44	0.42	1.69	0.11	0.34	0.47	0.48	0.43	0.37	0.45
Mean Ni (µg/L)	0.56	0.55	0.89	0.75	5.37	0.70	1.64	2.28	3.82	2.93	2.96	4.31
Mean Cu (µg/L)	0.69	2.93	6.50	0.46	0.39	3.25	1.05	0.49	0.94	0.70	0.27	1.10
Mean Zn (µg/L)	13.15	28.69	18.25	19.12	21.06	6.32	15.91	7.04	18.33	14.20	4.37	13.55
Mean Se (µg/L)	0.06	0.41	0.27	0.20	0.36	0.43	1.85	4.02	4.85	5.50	5.81	9.49
Mean U (µg/L)	0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.96	1.45	1.67	1.77	2.82
Mean Sr (µg/L)	51.09	49.48	49.00	52.54	55.57	29.59	140.58	259.50	302.40	323.05	351.41	671.34
Mean Si (mg/L)	3.13	3.12	3.23	3.55	4.19	2.72	3.32	2.78	2.73	2.44	2.49	2.10
Mean Li (µg/L)	0.43	0.43	0.38	0.42	3.38	0.48	4.48	10.19	13.37	14.50	14.60	21.83
Mean B (µg/L)	11.13	11.00	11.32	20.11	8.44	9.41	10.97	12.73	23.23	12.79	18.07	24.13
Mean Cr (µg/L)	0.24	0.22	0.35	0.13	0.12	0.01	0.20	0.02	0.19	0.18	0.02	0.04
Biofilm C (µg/g dw)	54.39	64.73	120.85	35.45	239.81	168.19	46.18	53.81	31.42	57.00	70.04	35.40
Biofilm Be (µg/g dw)	0.55	0.71	0.55	0.96	1.01	0.53	0.56	0.57	0.41	0.54	0.56	0.62
Biofilm Na (mg/g dw)	35.04	54.20	37.01	57.75	41.41	36.54	36.99	30.75	33.53	43.83	57.35	71.97
Biofilm Mg (mg/g dw)	932.80	1085.98	889.59	1724.57	1098.76	769.87	2209.42	2305.23	1735.33	2015.30	2150.77	2645.19
Biofilm Al (µg/g dw)	3430.57	4627.29	3572.38	4776.43	4377.56	2771.22	4508.65	4309.23	3391.57	3546.79	4244.17	4728.71
Biofilm K (mg/g dw)	870.93	1029.29	761.71	1106.23	870.36	629.76	1025.04	976.44	797.68	950.87	1008.65	1276.28
Biofilm Ca (mg/g dw)	1066.93	1100.53	870.07	900.64	982.43	519.44	1919.21	2756.32	1770.96	2713.77	2617.91	3002.49
Biofilm V (µg/g dw)	8.18	9.71	8.03	9.11	7.22	7.28	8.62	8.11	6.62	6.96	7.99	8.68
Biofilm Cr (µg/g dw)	6.77	8.22	6.76	7.40	5.65	6.68	7.17	6.61	6.30	6.07	6.75	7.22
Biofilm Mn (µg/g dw)	609.27	786.81	533.68	524.94	1666.82	469.80	656.72	679.30	373.20	554.62	907.78	1635.77
Biofilm Fe (mg/g dw)	14.69	16.38	14.89	16.39	13.45	17.74	15.44	14.55	12.82	13.76	14.33	16.03
Biofilm Co (µg/g dw)	8.24	9.47	6.96	7.82	13.78	5.44	7.55	7.37	5.61	6.44	8.04	10.91
Biofilm Ni (µg/g dw)	10.20	11.75	9.65	12.96	16.57	9.07	12.47	13.45	9.74	12.86	15.24	16.36
Biofilm Cu (µg/g dw)	8.81	8.98	6.46	7.62	6.02	9.32	7.46	7.91	5.41	6.79	8.38	8.48
Biofilm Zn (µg/g dw)	42.46	46.81	33.61	44.49	51.33	29.82	41.52	43.55	26.42	39.39	40.87	44.80
Biofilm As (µg/g dw)	2.31	2.98	2.88	3.02	2.94	2.77	2.84	2.63	2.69	2.49	2.70	3.00
Biofilm Sr (µg/g dw)	6.88	9.26	7.65	6.52	5.63	5.83	6.35	7.70	5.15	8.00	7.73	11.89
Biofilm Mo (µg/g dw)	0.13	0.21	0.14	0.09	0.12	0.25	3.60	0.09	0.06	0.19	1.72	0.15
Biofilm Cd (µg/g dw)	0.13	0.13	0.09	0.09	0.12	0.06	0.10	0.10	0.07	0.12	0.10	0.12
Biofilm Ba (µg/g dw)	74.39	89.88	63.15	47.05	50.83	79.81	46.56	41.81	32.19	39.79	42.53	53.96
Biofilm Pb (µg/g dw)	13.32	12.98	10.09	9.51	6.97	15.97	9.17	8.74	7.60	7.76	8.67	10.12
Biofilm Th (µg/g dw)	4.74	5.38	8.04	6.74	4.26	5.31	7.04	5.19	8.84	4.57	4.86	8.05
Biofilm U (µg/g dw)	0.64	0.74	0.84	1.13	0.49	0.57	0.91	0.73	0.93	0.63	0.61	0.73

Site	MRM8	MRM9	MRM10	AVF1	AVF2	AVF3	AVF4	AVF5	AVF6	RVF1	RVF2
Percent Watershed Mined	50.27	50.69	50.96	33.88	77.74	91.30	95.87	55.03	57.61	31.21	86.41
Mean Conductivity (µS/cm)	1222.33	1230.67	1241.67	542.00	1217.67	1267.00	1991.67	1537.33	894.33	872.00	1516.00
Percent Decomposition	0.09	0.07	0.07	0.07	0.07	0.04	-0.14	0.06	0.04	0.06	0.05
Temperature °(C)	16.80	17.10	16.50	11.40	15.20	19.60	NA	15.90	18.00	14.00	18.10
Mean pH	7.47	7.60	7.77	8.59	8.05	7.86	7.32	7.85	7.80	7.84	8.11
Mean NPOC (mg/L)	3.16	3.14	3.27	2.42	3.22	2.54	4.42	2.78	2.31	2.88	3.60
Mean TN (mg/L)	2.88	3.01	3.70	2.71	2.11	2.96	6.44	12.45	6.09	0.93	2.86
Mean Cl (mg/L)	2.27	2.54	2.43	-0.15	1.04	4.65	2.48	3.28	7.36	0.27	1.38
Mean SO4 (mg/L)	615.21	606.25	627.59	245.59	586.26	689.55	994.01	784.53	424.57	469.90	881.02
Mean NO3-N (mg/L)	1.88	2.50	2.53	2.10	1.53	2.03	5.08	10.74	4.23	0.34	2.47
Mean Ca (mg/L)	128.00	133.30	141.90	53.25	120.21	132.13	249.34	226.51	115.85	72.76	147.34
Mean Mg (mg/L)	100.22	109.23	110.10	39.79	114.34	90.00	175.67	109.05	46.48	77.43	146.33
Mean Na (mg/L)	8.80	8.52	8.87	2.98	9.72	42.40	9.82	11.23	17.82	4.14	7.26
Mean Fe (µg/L)	24.31	6.33	12.35	50.69	25.54	25.12	24.71	23.37	28.79	54.45	17.78
Mean Ba (µg/L)	32.96	38.49	33.71	43.94	29.16	35.44	33.15	59.24	59.19	33.04	24.80
Mean Mn (µg/L)	151.98	143.48	154.97	108.91	92.51	1110.92	46.12	184.60	666.51	170.68	80.20
Mean Al (µg/L)	13.66	20.65	22.36	19.59	18.34	109.16	23.66	41.56	36.13	43.31	23.21
Mean V (µg/L)	0.14	0.11	0.11	0.11	0.03	0.15	0.00	0.06	0.05	0.04	0.08
Mean Co (µg/L)	0.46	0.50	0.61	0.35	0.53	3.60	0.34	2.43	4.33	0.56	0.23
Mean Ni (µg/L)	4.44	3.92	4.84	2.62	4.42	35.08	4.45	12.69	19.47	1.68	3.39
Mean Cu (µg/L)	0.63	0.73	0.39	1.58	0.41	0.59	0.82	1.18	1.40	5.40	0.44
Mean Zn (µg/L)	9.18	8.33	6.34	10.85	9.76	11.19	15.72	8.78	9.34	3.97	8.02
Mean Se (µg/L)	9.49	8.94	10.83	4.54	11.65	12.41	18.68	22.41	22.53	1.45	7.91
Mean U (µg/L)	2.80	2.81	2.91	0.96	3.40	0.27	5.65	3.76	0.39	0.59	3.25
Mean Sr (µg/L)	689.00	699.40	834.39	248.65	513.44	849.25	1570.31	2312.20	1326.89	194.96	451.16
Mean Si (mg/L)	2.31	2.08	2.22	2.30	1.98	2.28	2.18	2.23	2.65	2.81	1.93
Mean Li (µg/L)	23.61	21.99	23.44	9.26	20.92	28.63	34.65	28.32	21.68	7.81	20.14
Mean B (µg/L)	31.90	23.67	34.79	22.08	19.46	38.85	39.35	46.79	47.63	22.56	24.46
Mean Cr (µg/L)	0.02	BDL	0.14	0.14	0.03	0.27	0.12	0.10	0.26	BDL	0.09
Biofilm C (µg/g dw)	106.10	70.89	81.32	19.49	80.15	80.50	41.47	100.10	223.90	45.65	54.84
Biofilm Be (µg/g dw)	0.35	0.38	0.38	0.61	0.46	0.79	0.97	0.46	0.67	0.50	0.48
Biofilm Na (mg/g dw)	34.23	60.24	55.84	57.75	55.27	170.16	131.15	47.46	50.06	60.84	40.24
Biofilm Mg (mg/g dw)	1612.84	2075.89	1818.41	1724.57	2177.77	2687.82	4484.86	1059.63	1480.83	1763.57	1665.47
Biofilm Al (µg/g dw)	2760.80	3410.29	3130.99	4776.43	2672.08	6197.36	4702.04	2718.85	4006.38	4264.00	3141.44
Biofilm K (mg/g dw)	684.38	805.00	765.85	1106.23	717.60	1009.83	1836.06	644.82	956.66	1007.65	723.63
Biofilm Ca (mg/g dw)	1908.99	2719.00	2443.22	900.64	25634.86	12577.95	61850.39	13206.89	1631.10	1095.09	10409.06
Biofilm V (µg/g dw)	5.53	6.44	6.03	9.11	5.25	8.23	8.02	5.58	8.00	7.93	6.12
Biofilm Cr (µg/g dw)	4.60	5.40	4.91	7.40	4.51	5.98	7.36	4.23	7.64	6.32	5.36
Biofilm Mn (µg/g dw)	541.80	425.62	363.77	524.94	1404.22	19334.30	3133.66	754.96	869.05	580.90	505.40
Biofilm Fe (mg/g dw)	11.00	11.97	11.31	16.39	12.02	12.50	15.69	8.65	14.61	14.76	13.02
Biofilm Co (µg/g dw)	5.19	5.33	5.06	7.82	9.14	62.70	19.15	11.06	12.31	6.57	4.77
Biofilm Ni (µg/g dw)	9.97	10.07	9.47	12.96	22.09	321.74	44.35	16.52	23.38	10.97	14.98
Biofilm Cu (µg/g dw)	5.31	5.75	5.12	7.62	6.79	9.39	17.44	5.79	10.17	8.67	5.16
Biofilm Zn (µg/g dw)	28.99	27.86	26.90	44.49	79.46	113.44	90.66	39.55	52.52	31.96	52.71
Biofilm As (µg/g dw)	2.33	2.47	2.34	3.02	1.67	2.59	2.73	1.73	2.64	2.56	1.92
Biofilm Sr (µg/g dw)	6.66	7.54	7.78	6.52	38.76	90.35	187.67	79.58	16.80	4.77	14.57
Biofilm Mo (µg/g dw)	0.05	3.75	1.00	0.09	0.06	0.41	0.38	0.09	0.18	0.05	0.65
Biofilm Cd (µg/g dw)	0.07	0.06	0.07	0.09	0.12	0.70	0.50	0.09	0.11	0.07	0.20
Biofilm Ba (µg/g dw)	42.79	42.11	39.29	47.05	42.63	113.26	71.89	47.65	65.09	37.76	31.92
Biofilm Pb (µg/g dw)	6.69	6.37	6.32	9.51	5.37	9.83	12.80	8.58	9.96	7.92	5.98
Biofilm Th (µg/g dw)	8.32	7.90	7.70	6.74	2.58	4.11	4.46	2.62	4.91	6.61	3.97
Biofilm U (µg/g dw)	0.81	0.76	0.76	1.13	0.45	0.65	1.23	0.60	0.59	0.76	0.45

Supplementary Table S2. Multiplex Identifier Adapters for GS FLX Titanium Chemistry (TCB No. 005-2009).

Roche MID	Sequence	Roche MID	Sequence
MID-1	ACGAGTGCGT	MID-6	ATATCGCGAG
MID-2	ACGCTCGACA	MID-7	CGTGTCTCTA
MID-3	AGACGCACTC	MID-8	CTCGCGTGTC
MID-4	AGCACTGTAG	MID-10	TCTCTATGCG
MID-5	ATCAGACACG	MID-11	TGATACGTCT

Supplementary Table S3. Environmental variables from PCA with Pearson correlation coefficients (r) and loadings for each axis.

Component 1				**Component 2**			
Variable	*r*	*p-value*	*loadings*	*Variable*	*r*	*p-value*	*loadings*
Mean Lithium	0.971	**<0.001**	0.253	Mean Zinc	0.484	**0.019**	0.231
Mean Conductivity	0.966	**<0.001**	0.251	Mean Iron (log)	0.431	**0.040**	0.200
% Watershed Mined	0.962	**<0.001**	0.250	Mean Silicon	0.333	0.121	0.159
Mean Calcium	0.957	**<0.001**	0.249	Biofilm Calcium (log)	0.300	0.164	0.143
Mean Sulfate	0.950	**<0.001**	0.247	Mean pH	0.287	0.184	0.137
Mean Strontium (log)	0.939	**<0.001**	0.244	Mean Chloride (log)	0.262	0.227	0.125
Mean Selenium (sqrt)	0.935	**<0.001**	0.243	Mean Vanadium	0.257	0.236	0.123
Mean Magnesium	0.919	**<0.001**	0.239	Biofilm Magnesium	0.162	0.460	0.077
Biofilm Calcium (log)	0.874	**<0.001**	0.227	Mean Nickel (log)	0.086	0.697	0.041
Mean Uranium (log)	0.827	**<0.001**	0.215	% Watershed Mined	0.026	0.908	0.012
Mean Boron (log)	0.818	**<0.001**	0.213	Mean Selenium (sqrt)	-0.081	0.715	-0.038
Mean NPOC	0.794	**<0.001**	0.207	Mean Nitrate (log)	-0.081	0.713	-0.039
Mean Nickel (log)	0.766	**<0.001**	0.199	Mean Lithium	-0.085	0.699	-0.041
Mean Nitrate (log)	0.722	**<0.001**	0.188	Mean Calcium	-0.111	0.614	-0.053
Biofilm Magnesium	0.680	**<0.001**	0.177	Mean Strontium (log)	-0.173	0.429	-0.083
Mean Chloride (log)	-0.136	0.538	-0.035	Mean Conductivity	-0.180	0.411	-0.086
Biofilm Thorium	-0.321	0.135	-0.084	Mean Boron (log)	-0.196	0.371	-0.093
Mean pH	-0.333	0.120	-0.087	Mean NPOC	-0.199	0.362	-0.095
Biofilm Zinc (inv)	-0.371	0.082	-0.096	Mean Sulfate	-0.200	0.360	-0.095
Biofilm Cadmium (inv)	-0.379	0.075	-0.099	Mean Magnesium	-0.218	0.318	-0.104
Mean Zinc	-0.428	**0.042**	-0.111	Mean Uranium (log)	-0.387	0.068	-0.185
Biofilm Manganese (inv)	-0.447	**0.033**	-0.116	Biofilm Strontium (inv)	-0.500	**0.015**	-0.239
Biofilm Nickel (inv)	-0.650	**<0.001**	-0.169	Biofilm Thorium	-0.654	**0.001**	-0.312
Mean Iron (log)	-0.755	**<0.001**	-0.206	Biofilm Nickel (inv)	-0.691	**<0.001**	-0.330
Biofilm Strontium (inv)	-0.764	**<0.001**	-0.199	Biofilm Manganese (inv)	-0.770	**<0.001**	-0.368
Mean Silicon	-0.796	**<0.001**	-0.207	Biofilm Cadmium (inv)	-0.878	**<0.001**	-0.419
Mean Vanadium	-0.837	**<0.001**	-0.218	Biofilm Zinc (inv)	-0.879	**<0.001**	-0.419

Supplementary Table S4. Correlations of environmental variables and relative abundances of bacteria from four different taxonomic levels: phylum, class, order, or family. Only taxa with $r > |0.5|$ and $p < 0.05$ shown. Table organized by 1) environmental variable, 2) taxonomic level at which the analysis was done, and 3) correlation coefficient.

Environmental Variable	Phylum	Class	Order	Family	*r*	*p*-value
% Watershed Mined	Actinobacteria				0.633	0.002
% Watershed Mined	Acidobacteria	Acidobacteria-5			-0.679	0.001
% Watershed Mined	Proteobacteria	Betaproteobacteria			-0.663	0.001
% Watershed Mined	Acidobacteria	Solibacteres			-0.552	0.008
% Watershed Mined	Verrucomicrobia	Verrucomicrobiae			0.501	0.017
% Watershed Mined	Chloroflexi	Anaerolineae			0.545	0.009
% Watershed Mined	Actinobacteria	Acidimicrobiia			0.644	0.001
% Watershed Mined	Proteobacteria	Betaproteobacteria	YCC11		-0.678	0.001
% Watershed Mined	Proteobacteria	Alphaproteobacteria	Ellin329		-0.642	0.001
% Watershed Mined	Acidobacteria	Solibacteres	Solibacterales		-0.56	0.007
% Watershed Mined	Proteobacteria	Betaproteobacteria	Burkholderiales		-0.546	0.009
% Watershed Mined	Proteobacteria	Betaproteobacteria	A21b		-0.525	0.012
% Watershed Mined	Proteobacteria	Alphaproteobacteria	Rickettsiales		-0.524	0.012
% Watershed Mined	Verrucomicrobia	Verrucomicrobiae	Verrucomicrobiales		0.499	0.018
% Watershed Mined	Actinobacteria	Acidimicrobiia	Acidimicrobiales		0.64	0.001
% Watershed Mined	Chloroflexi	Anaerolineae	SBR1031		0.676	0.001
% Watershed Mined	Proteobacteria	Alphaproteobacteria	Rhodobacterales		0.83	<0.001
% Watershed Mined	Proteobacteria	Deltaproteobacteria	Bdellovibrionales	Bacteriovoracaceae	-0.679	0.001
% Watershed Mined	Proteobacteria	Betaproteobacteria	A21b	EB1003	-0.627	0.002
% Watershed Mined	Proteobacteria	Deltaproteobacteria	Myxococcales	Polyangiaceae	-0.523	0.013
% Watershed Mined	Proteobacteria	Gammaproteobacteria	Alteromonadales	OM60	-0.499	0.018
% Watershed Mined	Proteobacteria	Alphaproteobacteria	Rhodobacterales	Rhodobacteraceae	0.495	0.019
% Watershed Mined	Proteobacteria	Betaproteobacteria	Methylophilales	Methylophilaceae	0.562	0.007
% Watershed Mined	Proteobacteria	Deltaproteobacteria	Syntrophobacterales	Syntrophobacteraceae	0.581	0.005
% Watershed Mined	Proteobacteria	Deltaproteobacteria	Syntrophobacterales	Desulfobacteraceae	0.596	0.004
% Watershed Mined	Proteobacteria	Gammaproteobacteria	FCPT525	FCPT525	0.613	0.002
% Watershed Mined	Proteobacteria	Gammaproteobacteria	Oceanospirillales	Oleiphilaceae	0.64	0.001
% Watershed Mined	Proteobacteria	Deltaproteobacteria	Myxococcales	OM27	0.678	0.001
% Watershed Mined	Proteobacteria	Alphaproteobacteria	Rhizobiales	Phyllobacteriaceae	0.758	<0.001
PCA1	Chloroflexi				0.500	0.019
PCA1	Actinobacteria				0.591	0.004
PCA1	Proteobacteria	Betaproteobacteria			-0.676	0.001
PCA1	Acidobacteria	Acidobacteria-5			-0.606	0.003
PCA1	Acidobacteria	Solibacteres			-0.572	0.005
PCA1	Chlorobi	Ignavibacteria			0.521	0.013
PCA1	Chloroflexi	Anaerolineae			0.556	0.007
PCA1	Actinobacteria	Acidimicrobiia			0.615	0.002
PCA1	Proteobacteria	Betaproteobacteria	YCC11		-0.722	0.002
PCA1	Proteobacteria	Alphaproteobacteria	Ellin329		-0.655	<0.001
PCA1	Acidobacteria	Solibacteres	Solibacterales		-0.579	0.005
PCA1	Proteobacteria	Alphaproteobacteria	Rickettsiales		-0.578	0.005
PCA1	Proteobacteria	Betaproteobacteria	Burkholderiales		-0.554	0.007
PCA1	Actinobacteria	Acidimicrobiia	Acidimicrobiales		0.61	0.003
PCA1	Chloroflexi	Anaerolineae	SBR1031		0.655	<0.001
PCA1	Proteobacteria	Alphaproteobacteria	Rhodobacterales		0.848	<0.001
PCA1	Proteobacteria	Betaproteobacteria	A21b	EB1003	-0.636	0.002
PCA1	Proteobacteria	Deltaproteobacteria	Bdellovibrionales	Bacteriovoracaceae	-0.601	0.003
PCA1	Proteobacteria	Deltaproteobacteria	Myxococcales	Polyangiaceae	-0.507	0.016
PCA1	Proteobacteria	Gammaproteobacteria	FCPT525	FCPT525	0.584	0.004
PCA1	Proteobacteria	Deltaproteobacteria	Syntrophobacterales	Desulfobacteraceae	0.601	0.003
PCA1	Proteobacteria	Gammaproteobacteria	Oceanospirillales	Oleiphilaceae	0.614	0.002
PCA1	Proteobacteria	Betaproteobacteria	Methylophilales	Methylophilaceae	0.622	0.002
PCA1	Proteobacteria	Deltaproteobacteria	Syntrophobacterales	Syntrophobacteraceae	0.624	0.002
PCA1	Proteobacteria	Alphaproteobacteria	Rhizobiales	Phyllobacteriaceae	0.647	0.001
PCA1	Proteobacteria	Deltaproteobacteria	Myxococcales	OM27	0.655	<0.001
PCA2	Actinobacteria				0.623	0.002
PCA2	Acidobacteria	Sva0725			-0.524	0.012
PCA2	Actinobacteria	Actinobacteria			0.529	0.011
PCA2	Acidobacteria	Acidobacteria-6	CCU21		-0.7	<0.001
PCA2	Actinobacteria	Actinobacteria	Actinomycetales		0.524	0.012
PCA2	Proteobacteria	Gammaproteobacteria	Legionellales		0.563	0.006
PCA2	Proteobacteria	Gammaproteobacteria	Legionellales	Coxiellaceae	-0.566	0.006
PCA2	Proteobacteria	Alphaproteobacteria	Rhizobiales	Rhizobiaceae	0.647	0.001