# **EXHIBIT N**



## **ON-SITE TECHNICAL SERVICES, INC**

72 Railroad Avenue Wellsville, New York 14895 Phone: (585) 593-1824 Fax: (585) 593-7471

April 5, 2017

Mr. Mark Domagala NYSDEC – Region 8 Division of Solid and Hazardous Materials 6274 East Avon-Lima Road Avon, New York 14414

#### Re: Chemung County Landfill Elmira, New York - First Quarter 2017 Leachate Radiological Test Results

Dear Mark:

On behalf of Chemung County Landfill, the purpose of this letter is to present results of the leachate radiological sampling conducted at the Chemung County Landfill during January 2017 and historic radiological results for comparison. Leachate sampling and radionuclide analysis is required as detailed in Appendix F of the Environmental Monitoring Plan (EMP). On January 11, 2017, a sample was collected from each of: 1) the combined facility leachate in the leachate pond; 2) combined primary leachate from Cell I through III; 3) Cell IV primary leachate; and 4) Cell V primary leachate in accordance with the EMP sampling schedule. This was the first sampling of newly operational Cell V. Samples were sent to ALS Environmental in Rochester, New York for analysis. Attached Table 1 presents the field parameters and radionuclide results for samples collected from the above referenced locations from January 2015 through January 2017. Also attached are the January 2017 field sampling forms, laboratory analytical report and a CD providing an electronic copy of this letter report.

Please call Andrea Kuntz at 585-797-4501 or me at 585-593-1824 if you have any questions.

Sincerely,

Jonathan E. Brandes, P.G. Senior Geologist

cc: Andrea Kuntz, Casella Waste Systems Inc. (email) Tom Kump, Chemung County (hard copy) Yasmin Guevara, NYSDEC (email) Richard Clarkson, NYSDEC (email) Timothy Rice, NYSDEC (email) Attachments

#### Table 1

#### Leachate Radionuclide Analytical Results March 2015 Through January 2017 Chemung County Landfill Elmira, New York

Parameter	Lead	hate Pond (Combined Lea	chate)	Cells	I through III Primary Lea	chate		Cel	I IV Primary Leacha	ate		Cell V Primary Leachate
Falameter	3/25/2015	1/12/2016	1/11/2017	3/25/2015	1/12/2016	1/11/2017	3/25/2015	7/7/2015	1/11/2016	7/12/2016	1/11/2017	1/11/2017
Field Parameters												
Field pH (std. units)	7.72	8.06	7.85	8.33	7.72	7.69	7.65	7.68	7.68	7.62	7.75	6.29
ORP (mV)	51.2	54.4	100.4	203	51.6	67.8	90.4	46	59.8	33.2	82.4	78.6
Specific Conductivity (us/cm)	5288	9260	6135	10689	13641	18010	24616	9152	12529	17651	21467	2107
Temperature (deg. C)	5.2	5.2	5.66	9.6	11.4	14.5	12.8	24.7	20.8	23.2	17.25	6.29
Turbidity (NTU)	98.3	36.3	23.3	14.7	29.9	10.1	54.1	291	> 1000	24.1	16.2	12.3
Radionuclide Act + Unc (MDC) pCi/L except Total Uranium noted as ug/L												J <u></u>
Actinium-228 (EPA 901.1)	0.000 ± 8.005 (39.03)	0 ± 2.338 (19.86)	0.000 ± 19.832 (47.1)	0.000 ± 2.858 (18.72)	13.343 ± 14.766 (16.63)	0.000 ± 22.207 (51.27)	17.541 ± 17.493 (17.65)	0 ± 8.573 (26.41)	10.776 ± 34.683	0 ± 17.194 (35.08)	7.922 ± 24.467 (25.4)	0.000 ± 15.416 (37.91)
Actinium-228, Dissolved (EPA 901.1)	7.288 ± 7.418 (18.72)	19.544 ± 16.100 (17.82)	7.329 ± 17.168 (18.07)	0.000 ± 15.328 (45.43)	0 ± 11.461 (22.61)	10.18 ± 27.577 (27.68)	5.463 ± 32.949 (39.03)	5.495 ± 33.532 (40.65)	3.804 ± 17.596	14.281 ± 46.498 (53.5)	47.601 ± 22.389 (21.2)	36.128 ± 41.448 (44.4)
Bismuth-212 (EPA 901.1)	0.000 ± 16.147 (146.5)	0 ± 33.291 (81.02)	-35.196 ± 142.410 (150.6)	55.140 ± 70.764 (56.4)	0 ± 13.360 (80.96)	75.318 ± 111.410 (122.2)	38.582 ± 42.687 (84.23)	30.168 ± 59.459 (63.33)	58.102 ± 97.572	0 ± 53.601 (122.7)	-6.695 ± 71.139 (78.24)	-37.313 ± 115.720 (122.9)
Bismuth-212, Dissolved (EPA 901.1)	0.000 ± 27.240 (70.27)	0 ± 58.677 (188)	16.137 ± 65.062 (70.47)	28.964 ± 80.088 (94.96)	4.413 ± 65.264 (72.62)	28.289 ± 82.623 (87.7)	47.042 ± 96.215 (110.5)	-11.417 ± 121.460 (143)	43.731 ± 57.135	0 ± 48.840 (222.5)	0.000 ± 64.471 (156.9)	0.000 ± 78.817 (174)
Bismuth-214 (EPA 901.1)	8.033 ± 16.322 (19.96)	47.393 ± 14.893 (11.6)	95.057 ± 23.152 (17.7)	19.175 ± 7.940 (7.01)	59.412 ± 14.384 (10.15)	181.15 ± 33.129 (19.26)	13.416 ± 10.258 (10.25)	187.6 ± 25.829 (14.03)	154.27 ± 30.831	1106.9 ± 123.850 (20.77)	295.85 ± 39.015 (14.54)	1121.8 ± 125.350 (19.2)
Bismuth-214, Dissolved (EPA 901.1)	16.623 ± 8.031 (6.716)	0.642 ± 17.903 (23.24)	161.35 ± 24.393 (12.78)	22.926 ± 12.942 (21.15)	28.388 ± 11.819 (10.41)	903.39 ± 100.400 (14.67)	2.076 ± 14.454 (18.68)	186.6 ± 33.274 (18.34)	145.06 ± 23.309	798.53 ± 99.899 (28.49)	419.24 ± 54.878 (20.51)	822.27 ± 99.895 (26.51)
Cesium-134 (EPA 901.1)	1.376 ± 6.326 (7.193)	4.527 ± 5.523 (5.718)	0.000 ± 2.772 (8.419)	1.853 ± 3.313 (3.536)	0 ± 1.092 (5.027)	0.000 ± 3.184 (11.33)	0.000 ± 0.810 (4.94)	3.434 ± 2.866 (4.404)	8.259 ± 7.104	2.595 ± 3.763 (11.05)	0.000 ± 2.361 (8.428)	0.000 ± 2.244 (11.5)
Cesium-134, Dissolved (EPA 901.1)	1.308 ± 1.516 (4.941)	1.7 ± 7.333 (8.522)	0.000 ± 1.605 (5.754)	0.195 ± 7.985 (9.154)	0 ± 0.966 (5.04)	0.000 ± 1.344 (9.66)	1.095 ± 6.935 (7.908)	0 ± 3.167 (8.765)	0 ± 0.959	0 ± 5.270 (14.83)	0.000 ± 5.095 (10.81)	1.864 ± 11.105 (12.46)
Cesium-137 (EPA 901.1)	-2.376 ± 9.488 (10.94)	0 ± 1.827 (5.652)	0.000 ± 4.598 (10.28)	0.178 ± 4.696 (5.215)	0 ± 1.362 (6.221)	0.000 ± 1.153 (10.3)	-1.395 ± 5.178 (5.633)	-0.228 ± 5.483 (6.02)	2.377 ± 8.089	-1.193 ± 8.405 (8.983)	0.000 ± 2.066 (6.787)	0.000 ± 3.445 (9.266)
Cesium-137, Dissolved (EPA 901.1)	-0.203 ± 4.011 (4.508)	-2.038 ± 8.788 (10.21)	0.000 ± 1.962 (6.327)	1.562 ± 8.004 (9.415)	1.571 ± 4.115 (4.532)	0.000 ± 3.015 (8.107)	0.611 ± 6.156 (7.542)	5.015 ± 7.079 (7.867)	0 ± 1.055	-3.804 ± 14.260 (15.98)	0.000 ± 2.385 (12.58)	0.000 ± 4.127 (13.15)
Lead-212 (EPA 901.1)	0.000 ± 7.651 (16.14)	13.975 ± 17.265 (9.783)	27.294 ± 21.496 (17.85)	0.000 ± 4.616 (9.876)	10.745 ± 16.834 (10.17)	35.567 ± 16.631 (22.38)	3.737 ± 7.582 (9.19)	61.562 ± 30.991 (12.31)	29.119 ± 16.362	309.97 ± 67.646 (22.65)	61.698 ± 34.623 (14.06)	271.25 ± 56.691 (21.8)
Lead-212, Dissolved (EPA 901.1)	14.777 ± 12.861 (10.27)	0 ± 10.061 (18.4)	35.583 ± 31.545 (11.99)	3.092 ± 12.656 (16.14)	6.077 ± 7.249 (8.647)	210.73 ± 44.821 (17.14)	0.000 ± 10.106 (21.56)	37.399 ± 19.614 (19.28)	31.287 ± 23.355	178.78 ± 39.984 (28.81)	113.03 ± 29.478 (21.93)	206.72 ± 44.087 (26.52)
Lead-214 (EPA 901.1)	0.000 ± 10.970 (22.08)	41.483 ± 11.210 (9.96)	90.508 ± 20.736 (16.48)	16.494 ± 7.556 (8.289)	55.331 ± 12.737 (10.55)	201.72 ± 35.310 (21.74)	19.924 ± 8.571 (8.903)	217.34 ± 30.060 (13.67)	147.5 ± 32.185	1216.5 ± 136.370 (24.36)	327.89 ± 42.738 (16.34)	1178.1 ± 131.730 (22.72)
Lead-214, Dissolved (EPA 901.1)	16.166 ± 8.824 (10.9)	4.355 ± 13.613 (18.06)	174.73 ± 24.750 (11.8)	11.024 ± 10.927 (14.04)	30.938 ± 11.916 (10.99)	939.84 ± 104.490 (18.04)	6.687 ± 16.000 (20.23)	207.44 ± 34.340 (18.03)	177.92 ± 26.174	786.62 ± 96.671 (30.4)	453.51 ± 57.749 (21.99)	836.52 ± 99.625 (27.44)
Potassium-40 (EPA 901.1)	66.721 ± 101.690 (139.6)	279.14 ± 72.088 (55.12)	139.45 ± 91.152 (83.74)	342.650 ± 67.324 (42.17)	458.98 ± 94.254 (53.47)	681.73 ± 156.460 (112.2)	647.540 ± 105.840 (52.18)	548.59 ± 108.050 (62.44)	637.71 ± 148.160	739.66 ± 132.930 (77.04)	657.68 ± 119.830 (66.28)	52.752 ± 89.716 (86.7)
Potassium-40, Dissolved (EPA 901.1)	80.958 ± 85.070 (83.35)	213.02 ± 106.560 (125.1)	207.09 ± 59.111 (47.94)	287.360 ± 127.250 (139.6)	503.46 ± 88.841 (43.09)	714.7 ± 130.360 (75.97)	639.070 ± 153.790 (124.2)	490.62 ± 134.080 (115)	321.96 ± 81.245	826.03 ± 184.780 (120.8)	583.31 ± 146.910 (126.3)	0.000 ± 73.963 (180)
Radium-226 (EPA 901.1)	0.000 ± 98.681 (196.8)	0 ± 66.834 (133.5)	0.000 ± 103.770 (197.7)	0.000 ± 58.565 (114)	58.066 ± 92.353 (116.2)	7.32 ± 192.700 (249.1)	0.000 ± 100.770 (132.9)	130.46 ± 144.770 (166.1)	0 ± 138.530	81.964 ± 235.760 (275.8)	0.000 ± 79.632 (192.3)	0.000 ± 73.104 (286.9)
Radium-226 (EPA 903.1)	2.67 ± 1.77 (0.803)	1.47 ± 1.04 (0.5)	1.23 ± 0.974 (1.32)	6.49 ± 3.75 (1.47)	1.7 ± 1.00 (0.987)	3.37 ± 1.71 (1.65)	5.28 ± 2.74 (0.955)	2.01 ± 1.33 (1.57)	5.23 ± 2.72	5.53 ± 1.77 (1)	2.05 ± 2.03 (3.08)	0.509 ± 0.399 (0.469)
Radium-226, Dissolved (EPA 901.1)	3.974 ± 94.014 (120.1)	60.685 ± 171.350 (209.3)	0.000 ± 87.971 (165)	25.329 ± 151.590 (202.6)	0 ± 74.187 (143.8)	70.104 ± 171.590 (208.2)	0.000 ± 97.219 (216.5)	0 ± 122.620 (261.2)	0 ± 102.610	0 ± 179.110 (347)	0.000 ± 162.780 (277.3)	0.000 ± 206.960 (342.1)
Radium-226, Dissolved (EPA 903.1)	1.80 ± 1.14 (1.27)	2.04 ± 1.28 (0.552)	1.02 ± 0.565 (0.503)	1.98 ± 1.12 (1.19)	3.49 ± 1.35 (0.983)	2.71 ± 1.07 (0.911)	8.18 ± 2.99 (0.693)	2.18 ± 1.53 (0.739)	3.2 ± 1.78	5.86 ± 1.93 (1.41)	4.4 ± 1.20 (0.499)	0.626 ± 0.497 (0.646)
Radium-228 (EPA 901.1)	0.000 ± 8.005 (39.03)	0 ± 2.338 (19.86)	0.000 ± 19.832 (47.1)	0.000 ± 2.858 (18.72)	13.343 ± 14.766 (16.63)	0.000 ± 22.207 (51.27)	17.541 ± 17.493 (17.65)	0 ± 8.573 (26.41)	10.776 ± 34.683	0 ± 17.194 (35.08)	7.922 ± 24.467 (25.4)	0.000 ± 15.416 (37.91)
Radium-228 (EPA 904.0)	1.59 ± 0.698 (1.08)	1.6 ± 0.644 (0.99)	1.57 ± 1.02 (1.92)	-0.531 ± 2.09 (4.04)	3.31 ± 0.951 (1.08)	7.6 ± 2.49 (3.41)	4.56 ± 9.54 (17.7)	1.77 ± 1.07 (1.79)	5.91 ± 2.09	14.3 ± 2.93 (1.35)	8.59 ± 2.26 (2.48)	1.43 ± 0.708 (1.19)
Radium-228, Dissolved (EPA 901.1)	7.288 ± 7.418 (18.72)	19.544 ± 16.100 (17.82)	7.329 ± 17.168 (18.07)	0.000 ± 15.328 (45.43)	0 ± 11.461 (22.61)	10.18 ± 27.577 (27.68)	5.463 ± 32.949 (39.03)	5.495 ± 33.532 (40.65)	3.804 ± 17.596	14.281 ± 46.498 (53.5)	47.601 ± 22.389 (21.2)	36.128 ± 41.448 (44.4)
Radium-228, Dissolved (EPA 904.0)	1.47 ± 0.532 (0.791)	1.28 ± 0.662 (1.17)	0.432 ± 0.518 (1.09)	2.00 ± 0.689 (0.951)	2.09 ± 0.731 (1.06)	6.49 ± 3.44 (6.23)	5.89 ± 2.07 (2.91)	2.44 ± 0.757 (0.975)	1.39 ± 0.599	5.06 ± 1.28 (1.24)	5.17 ± 1.34 (1.31)	0.502 ± 0.555 (1.16)
Thallium-208 (EPA 901.1)	6.021 ± 6.336 (7.219)	2.835 ± 4.076 (5.972)	3.551 ± 5.730 (9.951)	4.400 ± 4.752 (4.462)	3.599 ± 4.148 (5.806)	0.000 ± 5.192 (14.18)	0.000 ± 1.424 (5.25)	0 ± 2.534 (7.32)	1.63 ± 8.993	0 ± 4.425 (9.793)	0.000 ± 1.940 (7.754)	0.000 ± 8.289 (10.49)
Thallium-208, Dissolved (EPA 901.1)	0.667 ± 4.388 (5.25)	0 ± 2.426 (11.08)	1.614 ± 4.944 (5.683)	0.060 ± 7.221 (8.931)	0 ± 0.926 (6.141)	0.000 ± 5.903 (8.908)	6.782 ± 6.436 (7.219)	0 ± 2.153 (12.6)	0.027 ± 5.667	0 ± 5.426 (20.19)	3.302 ± 10.705 (12.38)	0.000 ± 6.658 (16.28)
Thorium-232 (EPA 901.1)	3227.500 ± 4073.400 (4907)	934.04 ± 8484.300 (10390)	1472.1 ± 10570.000 (12980)	1510.600 ± 6610.600 (8203)	1302.8 ± 7834.200 (9590)	1751.6 ± 5279.100 (6465)	456.960 ± 7629.000 (9482)	1694.6 ± 8765.400 (10880)	2951.8 ± 4927.800	0 ± 4402.600 (18270)	0.000 ± 4993.400 (11830)	0.000 ± 8315.100 (18160)
Thorium-232, Dissolved (EPA 901.1)	3723.200 ± 6725.500 (8203)	0 ± 2873.700 (6141)	0.000 ± 4864.800 (11080)	875.820 ± 3893.600 (4844)	2198.4 ± 7300.400 (8893)	0.000 ± 6046.900 (15080)	1200.200 ± 4311.000 (5327)	779.8 ± 5154.500 (6331)	3458.1 ± 8470.400	291.94 ± 7377.000 (9034)	3836.6 ± 5752.100 (6903)	4694.6 ± 7038.500 (8446)
Thorium-234 (EPA 901.1)	69.068 ± 235.340 (300)	141.15 ± 435.470 (546.8)	244.04 ± 556.100 (692.9)	0.000 ± 205.970 (487.7)	0 ± 209.850 (582.3)	30.408 ± 295.820 (370.4)	0.000 ± 262.560 (546.2)	59.243 ± 95.154 (659.1)	60.122 ± 291.050	0 ± 419.120 (1009)	85.346 ± 103.910 (689.3)	46.817 ± 778.480 (972.1)
Thorium-234, Dissolved (EPA 901.1)	0.000 ± 130.700 (541.6)	21.174 ± 254.960 (322.8)	0.000 ± 280.190 (602.5)	0.000 ± 119.180 (306.4)	0 ± 133.780 (578)	0.000 ± 225.390 (838.3)	0.000 ± 112.960 (342.3)	124.85 ± 273.210 (339.5)	78.099 ± 86.070	0 ± 259.160 (524.7)	3.481 ± 331.010 (405.7)	0.000 ± 184.240 (526.6)
Total Uranium (ASTM D5174-97) (ug/L)			0.000213 ± 0.004 (0.385)			0.000157 ± 0.003 (0.385)				0.000504 ± 0.025 (0.385)	0.000274 ± 0.005 (0.385)	0.00142 ± 0.028 (0.385)
Total Uranium, Dissolved (ASTM D5174-97) (ug/L)			0.000349 ± 0.007 (0.385)			0.000164 ± 0.003 (0.385)				0.00134 ± 0.049 (1.927)	0.000162 ± 0.003 (0.385)	0.00208 ± 0.042 (0.385)
Total Uranium (EPA 908.0)	1.76 ± 1.72 (2.9)	0.865 ± 0.416 (0.58)		0.511 ± 1.95 (3.6)	0.252 ± 0.340 (0.619)		0.193 ± 1.56 (2.96)	0.814 ± 0.343 (0.426)	0.116 ± 0.316			
Total Uranium, Dissolved (EPA 908.0)	-0.323 ± 1.64 (3.15)	0.524 ± 0.367 (0.603)		1.95 ± 2.14 (3.69)	0.875 ± 0.435 (0.618)		1.53 ± 2.02 (3.54)	0.591 ± 0.585 (0.957)	0.48 ± 0.302			
Uranium-235 (EPA 901.1)	0.000 ± 28.299 (61.65)			3.597 ± 30.449 (37.36)			2.588 ± 29.568 (36.34)	7.227 ± 40.848 (50.33)				
Uranium-235, Dissolved (EPA 901.1)	32.649 ± 25.419 (31.36)			0.000 ± 32.346 (67.35)			0.000 ± 27.134 (65.77)	0 ± 39.697 (76.27)				
Uranium-238 (EPA 901.1)	84.035 ± 117.530 (146.4)			42.150 ± 98.110 (121.4)			36.811 ± 96.460 (119.8)	85.989 ± 129.890 (160.3)				
Uranium-238, Dissolved (EPA 901.1)	0.000 ± 62.721 (138.1)			97.251 ± 113.450 (140.6)			15.997 ± 130.620 (166.1)	0 ± 94.348 (196.4)				

#### Notes:

Act + Unc (MDC) = Activity + Uncertainty (Minimum Detectable Concentration)

Dissolved = Sample filtered with 0.45 micron filter

Each of EPA 901.1m, EPA 903.1, EPA 904.0 & EPA 908.0, ASTM D5174-97 are laboratory analysis methods

## **On-Site Technical Services, Inc.** Groundwater Suppression, Leachate, Surface Water, Sediment, Residential Water

Project: Chemung County Landfill - Elmira, New York Date: 1/11/17 Sampling Location: Leuchath Parcel Sample ID: LP-0117 Arrival Time: 1(15 Prinning Leuchath Weather Conditions Temp. 46 °F() Sunny (Y) Partly Cloudy () Cloudy () Light Rain () Hvy. Rain () Snow Wind Conditions: 194
Location Type
Flow and Depth Information (as appropriate)         Depth:       NA         Comments:       Estimated Flow:
Field Parameters (as appropriate)         Meter: YSI 556 (sn: DoE 2511 AP ), Hach 2100P (sn: DSOLO12410 )         Time       pH       Conductivity       Turbidity       D.O.       Temp.       ORP         Time       pH       Conductivity       Turbidity       D.O.       Temp.       ORP
Sample Type: (X) Grab ( ) Composite Location Description/Condition: Leachard Pond twick locality area from truck 1000 (3rd load of day)
Sample Collection Equipment/Method: <u>5 qallen Burket</u> Sample Time: <u>130</u> Sample Description (clarity\color): <u>Clearr</u> , <u>very light Amber</u> Sample Odor: (N) explain: <u>Leadert</u> Other Observations / Comments:
Analysis Requested: Expended & RAD Number of Containers: 17=Exp Sampling Completion: Time 1215 Date 1/11/17 Samplers J. Brides 10= RAD

<b>On-Site Technical Services, Inc.</b> Groundwater Suppression, Leachate, Surface Water, Sediment, Residential Water
Project: Chemung County Landfill - Elmira, New York Date: 1/11/17
Compliant Location: (01/51-3 PE) were Sample ID: (1-3 Leach = 01/7 Arrival Time: 1-20
Sampling Location: <u>CCCSTSTSTTTMAR</u> Sample ID: <u>CTSTERUCTOTTARIVALTIME:</u> <u>(SCC</u>
Weather Conditions
Wind Conditions: 1964
, Location Type
() Groundwater Depression (1) Leachate () Surface Water () Sediment () Res. Water () Other
Flow and Depth Information (as appropriate)
Depth: Estimated Flow: D 9pm
Comments
Field Parameters (as appropriate)         Meter: YSI 556 (sn: 06E2511 /ft _), Hach 2100P (sn: 050 (021410 _))       Field Parameters tested in: Cop         Time       pH       Conductivity       Turbidity       D.O.       Temp.       ORP
Sample Type: (V) Grab () Composite
Location Description/Condition: Lealhart Vond (ells I throg The pipe
Sample Collection Equipment/Method: <u>5 gallon Brket</u> Sample Time: <u>1030</u> Sample Description (clarity\color): <u>clear</u> , <u>Meduum Amber</u> Sample Odor: (V) (N) explain: <u>Luclut</u>
Analysis Requested: <u><u>BAD</u> Sampling Completion: Time <u>1915</u> Date <u>1117</u> Samplers <u>J. Budos</u></u>

<b>On-Site Technical Services, Inc.</b> Groundwater Suppression, Leachate, Surface Water, Sediment, Residential Water
Project: Chemung County Landfill - Elmira, New York Date:
Sampling Location: Cell 4 Primany Sample ID: (4 Leech -0117 Arrival Time: 1020
Leach Weather Conditions
Temp. <u>42</u> °F(1) Sunny () Partly Cloudy () Cloudy () Light Rain () Hvy. Rain () Snow Wind Conditions: <u>113</u> h F
Location Type
() Groundwater Depression (V Leachate () Surface Water () Sediment () Res. Water () Other
Flow and Depth Information (as appropriate)
Depth: KA Estimated Flow: 15 9 fm
Meter: YSI 556 (sn: 04 C LSTIAP ), Hach 2100P (sn: 05 CC (2416 ) Field Parameters tested in: Cup         Time       pH       Conductivity       Turbidity       D.O.       Temp.       ORP
Sample Type: (1) Grab (1) Composite Location Description/Condition: Learning Pond Cell 4 mlet pipe
Sample Collection Equipment/Method: 5 gallon Bucket Sample Time: 1050 Sample Description (clarity/color): Clear, light Amber
Sample Odor: (V) (N) explain: Leachet
Analysis Requested: RAP

## **On-Site Technical Services, Inc.**

Groundwater Depression, Leachate, Surface Water, Sediment, Residential Water

Project: Chemung County Landfill - Elmira, New York Date: 1/11/17
Sampling Location: Sample ID: CS Leach-Olt Arrival Time: 0914
Weather Conditions
Temp. <u>5</u> ° F (x) Sunny () Partly Cloudy () Cloudy () Light Rain () Hvy. Rain () Snow
Wind Conditions: Jight
Location Type
() Groundwater Depression 🐒 Leachate () Surface Water () Sediment () Res. Water () Other
Flow and Depth Information (as appropriate)
Depth: <u>59</u> Estimated Flow: <u>59</u>
Comments:Massimully activity pump
Field Parameters (as appropriate)         Meter: YSI 556 (sn: OCE25 ((AP)), Hach 2100P (sn: 050 co 12 4 (o))    Field Parameters tested in: Corporate
TimepHConductivityTurbidityD.O.Temp.ORP $(us/cm)$ $(ntu)$ $(mg/L)$ $(°C)$ $(mV)$ $b_129$ $2107$ $12.3$ $NA$ $b_029$ $78.4$
Sample Information
Sample Type: (🔏 Grab ( ) Composite
Location Description/Condition: Cell 5 Roser Hove pripagency Sample
port
Sample Collection Equipment/Method: 5 oc llow bucket Sample Time: 0520
Sample Description (clarity/color): Mostly Clear
Sample Odor: (Y) (N) explain: Very mill leadhate Adlar
Other Observations / Comments:
Analysis Requested: <u>0</u> Number of Containers: <u>0</u> Sampling Completion: Time <u>6940</u> Date <u>1[u]17</u> Samplers <u>J. Burder</u>

Service Request No:R1700331



Ms. Andrea Kuntz Casella Waste Systems Ontario County Landfill 1879 Routes 5 & 20 Stanley, NY 14561

### Laboratory Results for: Chemung County Landfill-Leachate RAD

Dear Ms.Kuntz,

Enclosed are the results of the sample(s) submitted to our laboratory January 11, 2017 For your reference, these analyses have been assigned our service request number **R1700331**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

### ALS Group USA, Corp. dba ALS Environmental

I amando

Janice Jaeger Project Manager

CC: Jon Brandes



# Narrative Documents

ALS Environmental—Rochester Laboratory 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623 Phone (585) 288-5380 Fax (585) 288-8475 www.alsglobal.com

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 Client:
 Casella Waste Systems

 Project:
 Chemung County Landfill-Leachate RAD

 Sample Matrix:
 Water

Service Request:R1700331 Date Received:1/11/17

#### **CASE NARRATIVE**

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables, including results of QC samples analyzed from this delivery group. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

#### Sample Receipt

Eight water samples were received for analysis at ALS Environmental on 01/11/2017. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at  $\leq$ 6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

#### Subcontracted Analytical Parameters:

One or more samples were subcontracted to another laboratory for testing. The certified analytical report from the subcontractor has been included in its entirety at the end of this report and includes the name and address of the subcontracted laboratory.

I amanas Approved by Date 2/14/2017



# Sample Receipt Information

ALS Environmental—Rochester Laboratory 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623 Phone (585) 288-5380 Fax (585) 288-8475 www.alsglobal.com

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#### SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	CLIENT SAMPLE ID	<u>DATE</u>	TIME
R1700331-001	LP-0117	1/11/2017	1130
R1700331-002	LP-0117 Dissolved	1/11/2017	1130
R1700331-003	C5Leach-0117	1/11/2017	0920
R1700331-004	C5Leach-0117 Dissolved	1/11/2017	0920
R1700331-005	C1-3Leach-0117	1/11/2017	1030
R1700331-006	C1-3Leach-0117 Dissolved	1/11/2017	1030
R1700331-007	C4Leach-0117	1/11/2017	1050
R1700331-008	C4Leach-0117 Dissolved	1/11/2017	1050

	Client: Casella/On-Site								CHAIN of CUSTODY							Page of(	٦							
		148	8 Coi	unty I	Rt 60					Project:								Method of Shipment						
ALS	Elmira, NY 14901								Chemung Landfill - Leachate RAD							Sampler.								
ALS-Environmental	Project								Telephone No. Fax No.							T in lunged								
1565 Jefferson Rd, Bldg 300, Suite 360	Manager Andrea Kuntz/Jon Brandes								585-	593-1824	Ļ				585-59	93-747	1				Velivere			
Rochester, NY 14623																							Special Detection Limit /	
585.288.5380		<b>—</b>		Ма	atrix		Prsv.	T	<u> </u>	1.0	T	i di	T - T			· · ·				- T -		T	Reporting	
		ø	Soil	ater	Air ther	96	3 0			spec (901.1), Ra-22( (904.0) (HNO3).	908.0) (HNO3).	ma Spec (901.1), R. -228 (904.0)	um (908.0)									ne (working days)	PDF to Andrea and Or	1-
Sample I.D.	Lab Sample No.	No. of Container	0)					Sampling Date	Sampling Time	Total: Gamma S (903.1), Ra-228	Total: Uranium (	Dissolved: Gam 226 (903.1), Ra-	Dissolved: Urani									Turn Around Tir	Site, and EDD to On-Sit	е.
LP-0117		0		X		<u> </u>	N.	11117	1130	X	X	X	X											
CSLeach-0117		10		X		۲	$' \chi$		092	<u>Ý ¢</u>	$ \gamma $	Y I	X									].		
(7-3Leach-0117		10		X		1	ΪÝ	· }	1030	$\chi$	$ \mathbf{v} $		X											
(4Leach-0117		10		Ý		Ìχ	٦K	4	1050	ΓĶ.	N	ΓĊ.	$\mathbf{\hat{\chi}}$											
										T														
									<b></b>	1	1													
		+	·					1	<u> </u>		+								-		-			$\neg$
		+		;			+													-	-			-
Note: Dissolved analysis requires la	b filtering		• •				-															·		-
				1																				
													$\square$											
Sample Received Intact: Yes I	No				1			Temperatur	e received:		<u> </u>		lce			No id	ce		<u> </u>				1	
Relinq. by sampler Sign & Print Name)	-			Date		Ti	me	I	Received to	y (Sign &	& Prin	t Name)												$\neg$
ATASK by Tritter EBRund 1/11/17 1707												Lab Work No.												
Reinquished by			Ę	Date	• • •	/ Ti	me		Received t	d by														
Relinquished by				Date		Ti	me		Received t	by						1								
Relinquished by				Date		Ti	me		Received t	y labora XW	tory	men	(	AL	5	Date	11/17		Tir	me 1 <i>70</i>	$\mathbf{r}$			



											R	1700 In Waste Sy	331		5
	5	Coole	r Ree	ceipt	and P	reserva	ation	Che	eck F	orm		ung County	r Landfill-Le	achate RA	
Project/C	lient	mung L	F	. <u></u>	Fold	ler Num	ber_P	17-	331		*				18 T 1181 148
Cooler rece	ived on	11/17_	by:_	@/	ćω	COUR	IER:	ALS	UPS	FEL	DEX V	ELOCIT	Y UI		-
1 Were C	Custody seals on	outside of co	oler?		Y	5a	Perchlo	orate s	samples	s have	required	headspac	ce?	Y N	(A)
2 Custoo	dy papers proper	O N	5b	Did	Avia	ls AID	o Sul	fide have	sig* bul	bbles?	N N	NA			
3 Did all	bottles arrive in	20 N	6	Where	did the	e bottle	s origi	nate?	ALS	ROO	CLIE	NT			
4 Circle:	Wet Ice Dry	N C	7	Soil VC	)A rec	eived a	s:	Bulk	Encore	5035	set 🔿	Ð			
8. Temperat	ture Readings	Date: //	11/17	Tin	nc: 171	0	ID: C	R#D	IR#8		Fror	n: Temj	Blank	Samp	le Bottle
Observed	Temp (°C)	5,5	5	4	3										
Correction	n Factor (°C)	+0,9	7	;	•										
Corrected	Temp (°C)	6.4	10	<u>.</u>	20	<u>.</u>									
Temp fror	n:Type of bottle	ant	tube		→										
Within 0-0	6°C?	Ý (	$\mathbb{N}$	Y	) N	Y N	N	Y	N	Y	N	Y	N	Y	N
lf<0°C, v	vere samples froz	en? Y	N	Y	N	YN	N	Y	N	Y	N	Y	N	Y	Ν
If out o	of Temperature,	note packing	z/ice co	nditio	ı:	Ic	e melte	d	Poo	rly Pa	cked	(Sa	me Day	Rule	
&Clien	t Approval to R	un Samples:	-	St	anding Ap	proval	Client a	aware	at drop	-off	Client n	otified by	y:		
			<u> </u>		hy O	01	11	at	1700						
All sampl 5035 sam	les held in storag ples placed in st	e location: orage location	n:	102	by	on	<i>111111</i>	at _	<u> </u>						
A PARTIE			inger man	<u>VSAN</u> E	IN LARSE	Service and				SAC. IS		L ASTRONO	NEL TREES		
Cooler I	Breakdown: Dat	te: $1/121$	17	Tin	ne: 1311		by:_	DIW							
9.	Were all bottle	labels comple	ete ( <i>i.e.</i>	analysi	s, preserva	tion, etc.)	)?		)	ES	NC	)			
10.	Were correct co	oeis and tags	for the	tests in	ndicated?	15?			3	FS	NC	, )			
12	Were 5035 vial	s acceptable (	no extra	a labels	s. not leaki	ng)?			) Y	'ES	NC	)		₩⁄A	
13.	Air Samples: C	assettes / Tub	es Inta	ct	Ć	Canisters H	Pressuri	zed		Tedlai	® Bags	Inflated		ATA	
pH	Lot of test	Reagent	Prese	rved?	Lot Rece	eived	Exp	Sar	nple ID	)	Vol.	Lot Ac	lded	Fina	al
Ľ.	paper	-	Yes	No							Added			pH	
≥12		NaOH		1											
≤2		HNO3			RDRSM	156#	10/17	<b></b>				<b> </b>			
_≤2		$H_2SO_4$										<b> </b>	· · · · · ·		
<4		NaHSO4		<b> </b>	TE + court	ant DN / to									
Residua	al	For CN			add Nar	$2O_2 (CN)$						ļ			
Chlorin	le	and 522			ascorbic (	(phenol).		1				[			
		Na-S-O-		- <u>-</u>		·• /		+		I		I			
	1.	ZnAcetate	-	-				ן**ך	Not to b	e teste	ed before	e analysis	s – pH te	ested and	d
	*t	HCI	**	**			-	rec	orded b	y VO	As on a s	separate	workshe	eet	
			<b>.</b>	· · · ·	·		· · · · · · · · · · · · · · · · · · ·								

Bottle lot numbers: 112616 -2452

477

ŝ

Explain all Discrepancies/ Other Comments:

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
рн	<b>B</b>
SO3	MARRS
ALS	REV

Labels secondary reviewed by:\_ PC Secondary Review:

47

		Coole	r Ree	ceipt	and P	reserva	ation	Check F	form				
Project/Clier	nt Cle	men lt	5		Fol	der Numł	oer		•				
Cooler received	d on////	12	by:_	æ/l	W)	COUR	IER: A	ALS UPS	FEDEX	VE		ENT	
1 Were Cus	tody seals on	outside of co	oler?		Y 🕲	5a 1	Perchlo	rate samples	s have requ	ired h	eadspace?	YNN	A
2 Custody p	papers proper	ly completed	(ink, si	gned)?	ÔN	5b I	Did	Vials, Alk	or Sulfide I	nave s	sig* bubbles?	ØN N	A
3 Did all bot	ttles arrive in	good conditio	on (unb	roken)	? 🕐 N	6	Where d	id the bottle	s originate?		ALS/ROC	CLIENT	
4 Circle: Wet Ice Dry Ice Gel packs present? N 7 Soil VOA received as: Bulk Encore 5035set													
8. Temperature	3. Temperature Readings Date: ///// Time: /7/0 ID: IR#7 IR#8 From: Temp Blank Sample Bottle												
Observed Ter	np (°C)	7.9	Ĵ	6	.3	3.0		2.9	6.9		4.6	5.2	
Correction Fa	ctor (°C)	+0.9	7 -									<u>+-&gt;</u>	
Corrected Ter	mp (°C)	8.8	U	7.	2	3.9		3.8	7.7		5.5	6.1	
Temp from:T	ype of bottle	cont.	tube		_								_
Within 0-6°C	?	Y (	$\mathbb{D}$	Y	$\odot$	(Y) N	1	<u> N</u>	Y <u>(</u>	٧	N (O)	Y N	)
If <0°C, were	samples froz	en? Y	N	Y	N	Y N	1	Y N	Y N	1	Y N	<u> </u>	
If out of To	emperature,	note packing	g/ice co	nditior	1: <u> </u>	Ice	e meltec	l Poo	rly Packed		Same Day	y Rule	
&Client A	pproval to R	un Samples:		St	anding A	pproval	Client a	ware at drop	-off Clie	nt not	tified by:		_
		- location:	$\overline{\mathcal{P}}$	~~~	by 🖉	on on	Ililia	at 1727					
5035 samples	s placed in storag	orage location	n:	<i>x</i>	by	on	μμ	at					
Cooler Bre	akdown: Dat			Tin	16.		hv.	and the second second	idaa madaa in		an an 1945 an 1946 an 1	ningin starih menantata	
9. W	ere all bottle	le labels comple	te ( <i>i.e.</i>	analysi	s, preserv	vation, etc.)	oy ?	Ŋ	/ES	NO			
10. D	d all bottle la	bels and tags	agree v	vith cus	tody pap	ers?		ľ	(ES	NO			
11. W	ere correct co	ontainers used	for the	tests in	ndicated?	• • • •		)	/ES	NO		NT/ A	
12. W	/ere 5035 vial	s acceptable (	no extra	a labels	s, not leak	(ing)?	· · · · · · · · · · · · ·	( 	(ES Tadlar® D	NO NO	flatad	N/A N/A	
13. A	ir Samples: C	assettes / Tut	Prese	nued?	Lot Rec	Canisters P	Fre	Sample IF	Vol		Lot Added	Final	٦
рп	naper	Reagent	Ves	No.	Lot Ice	Jerveu	DAP	Bampie IL	Add	led	200110040	pH	
>12	Paper	NaOH					1						
<u>≤</u> 2		HNO3											
≤2		H <sub>2</sub> SO <sub>4</sub>											_
<4		NaHSO <sub>4</sub>											-
Residual		For CN			If +, con	s or (CN)							
Chlorine		Phenol			aud Na2	(phenol).	l					-	
<u>[(-)</u>	l	NasS-O-					-		1			L	_1
1		7nAcetate			<u> </u>		1	**Not to b	be tested be	fore	analysis – pH	tested and	
3	ł	HCI	**	**				recorded b	y VOAs o	n a se	parate worksh	eet	
								-					

Bottle lot numbers:

1077

Explain all Discrepancies/ Other Comments:

seelst page

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
РН	SUB
SO3	MARRS
ALS	REV

Labels secondary reviewed by:\_\_\_\_

PC Secondary Review: \_\_\_\_

P:\INTRANET\QAQC\Forms Controlled\Cooler Receipt r14.doc



# Miscellaneous Forms

ALS Environmental—Rochester Laboratory 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623 Phone (585) 288-5380 Fax (585) 288-8475 www.alsglobal.com

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S Environmental

### **REPORT QUALIFIERS AND DEFINITIONS**

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
- \* Indicates that a quality control parameter has exceeded laboratory limits. Under the õNotesö column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
- H Analysis was performed out of hold time for tests that have an õimmediateö hold time criteria.
- # Spike was diluted out.

- + Correlation coefficient for MSA is <0.995.
- N Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed (×100% Difference between two GC columns).
- X See Case Narrative for discussion.
- MRL Method Reporting Limit. Also known as:
- LOQ Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
- MDL Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
- LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.
- ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.



Rochester L	ab ID # for State Certifica/	tions <sup>1</sup>	
		<b>ХТ Т</b>	T

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID #
Delaware Accredited	Nebraska Accredited	294100 A/B
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047	North Carolina #676	Virginia #460167

<sup>1</sup> Analyses were performed according to our laboratoryø NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to <a href="http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads">http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads</a>

## **ALS Laboratory Group**

### Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
М	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a
	substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but
	greater than or equal to the MDL.



The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

#### Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid	9030B
Soluble	
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual	SM 4500-CN-G
Cyanide	
SM 4500-CN-E WAD	SM 4500-CN-I
Cyanide	

#### Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation
	Method
6010C	3050B
6020A	3050B
6010C TCLP (1311)	3005A/3010A
extract	
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
-	
300.0 Anions/ 350.1/	DI extraction
353.2/ SM 2320B/ SM	
5210B/ 9056A Anions	

For analytical methods not listed, the preparation method is the same as the analytical method reference.

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# **Subcontracted Analytical Parameters**

ALS Environmental—Rochester Laboratory 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623 Phone (585) 288-5380 Fax (585) 288-8475 www.alsglobal.com

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Pace Analytical Services, LLC 1638 Roseytown Road - Suites 2,3,4 Greensburg, PA 15601 (724)850-5600

February 14, 2017

Ms. Janice Jaeger ALS Environmental Columbia 1565 Jefferson Road Building 300 Rochester, NY 14623

RE: Project: R1700331 Pace Project No.: 30207961

Dear Ms. Jaeger:

Enclosed are the analytical results for sample(s) received by the laboratory on January 13, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Carino a. Ferrio

Carin Ferris carin.ferris@pacelabs.com Project Manager

Enclosures





Pace Analytical Services, LLC 1638 Roseytown Road - Suites 2,3,4 Greensburg, PA 15601 (724)850-5600

#### CERTIFICATIONS

Project:	R1700331
Pace Project No.:	30207961

#### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601 L-A-B DOD-ELAP Accreditation #: L2417 Alabama Certification #: 41590 Arizona Certification #: AZ0734 Arkansas Certification California Certification #: 04222CA Colorado Certification Connecticut Certification #: PH-0694 **Delaware Certification** Florida/TNI Certification #: E87683 Georgia Certification #: C040 **Guam Certification** Hawaii Certification Idaho Certification Illinois Certification Indiana Certification Iowa Certification #: 391 Kansas/TNI Certification #: E-10358 Kentucky Certification #: 90133 Louisiana DHH/TNI Certification #: LA140008 Louisiana DEQ/TNI Certification #: 4086 Maine Certification #: PA00091 Maryland Certification #: 308 Massachusetts Certification #: M-PA1457 Michigan/PADEP Certification Missouri Certification #: 235

Montana Certification #: Cert 0082 Nebraska Certification #: NE-05-29-14 Nevada Certification #: PA014572015-1 New Hampshire/TNI Certification #: 2976 New Jersey/TNI Certification #: PA 051 New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Oregon/TNI Certification #: PA200002 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282 South Dakota Certification Tennessee Certification #: TN2867 Texas/TNI Certification #: T104704188-14-8 Utah/TNI Certification #: PA014572015-5 USDA Soil Permit #: P330-14-00213 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 460198 Washington Certification #: C868 West Virginia DEP Certification #: 143 West Virginia DHHR Certification #: 9964C Wisconsin Certification Wyoming Certification #: 8TMS-L



#### SAMPLE SUMMARY

 Project:
 R1700331

 Pace Project No.:
 30207961

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30207961001	LP-0117	Water	01/11/17 11:30	01/13/17 09:40
30207961002	LP-0117 Dissolved	Water	01/11/17 11:30	01/13/17 09:40
30207961003	C5Leach-0117	Water	01/11/17 09:20	01/13/17 09:40
30207961004	C5Leach-0117 Dissolved	Water	01/11/17 09:20	01/13/17 09:40
30207961005	C3Leach-0117	Water	01/11/17 10:30	01/13/17 09:40
30207961006	C3Leach-0117 Dissolved	Water	01/11/17 10:30	01/13/17 09:40
30207961007	C4Leach-0117	Water	01/11/17 10:50	01/13/17 09:40
30207961008	C4Leach-0117 Dissolved	Water	01/11/17 10:50	01/13/17 09:40



#### SAMPLE ANALYTE COUNT

Project: R1700331 Pace Project No.: 30207961

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30207961001	 LP-0117	EPA 901.1	MAH	13
		EPA 903.1	WRR	1
		EPA 904.0	JLW	1
		ASTM D5174-97	NEG	1
30207961002	LP-0117 Dissolved	EPA 901.1	MAH	13
		EPA 903.1	WRR	1
		EPA 904.0	JLW	1
		ASTM D5174-97	NEG	1
30207961003	C5Leach-0117	EPA 901.1	MAH	13
		EPA 903.1	WRR	1
		EPA 904.0	JLW	1
		ASTM D5174-97	NEG	1
30207961004	C5Leach-0117 Dissolved	EPA 901.1	MAH	13
		EPA 903.1	WRR	1
		EPA 904.0	JLW	1
		ASTM D5174-97	NEG	1
30207961005	C3Leach-0117	EPA 901.1	MAH	13
		EPA 903.1	WRR	1
		EPA 904.0	JLW	1
		ASTM D5174-97	NEG	1
30207961006	C3Leach-0117 Dissolved	EPA 901.1	MAH	13
		EPA 903.1	WRR	1
		EPA 904.0	JLW	1
		ASTM D5174-97	NEG	1
30207961007	C4Leach-0117	EPA 901.1	MAH	13
		EPA 903.1	WRR	1
		EPA 904.0	JLW	1
		ASTM D5174-97	NEG	1
30207961008	C4Leach-0117 Dissolved	EPA 901.1	MAH	13
		EPA 903.1	WRR	1
		EPA 904.0	JLW	1
		ASTM D5174-97	NEG	1



Project: R1700331 Pace Project No.: 30207961

#### Method: EPA 901.1

Description:901.1 Gamma SpecClient:ALS Environmental ColumbiaDate:February 14, 2017

#### **General Information:**

8 samples were analyzed for EPA 901.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:



Project: R1700331 Pace Project No.: 30207961

#### Method: EPA 903.1

Description:903.1 Radium 226Client:ALS Environmental ColumbiaDate:February 14, 2017

#### General Information:

4 samples were analyzed for EPA 903.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:



Project: R1700331 Pace Project No.: 30207961

#### Method: EPA 903.1

Description:903.1 Radium 226, DissolvedClient:ALS Environmental ColumbiaDate:February 14, 2017

#### **General Information:**

4 samples were analyzed for EPA 903.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:



 Project:
 R1700331

 Pace Project No.:
 30207961

#### Method: EPA 904.0

Description:904.0 Radium 228Client:ALS Environmental ColumbiaDate:February 14, 2017

#### **General Information:**

4 samples were analyzed for EPA 904.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:



 Project:
 R1700331

 Pace Project No.:
 30207961

#### Method: EPA 904.0

Description:904.0 Radium 228, DissolvedClient:ALS Environmental ColumbiaDate:February 14, 2017

#### **General Information:**

4 samples were analyzed for EPA 904.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:



 Project:
 R1700331

 Pace Project No.:
 30207961

#### Method: ASTM D5174-97

Description:D517497 Total Uranium KPAClient:ALS Environmental ColumbiaDate:February 14, 2017

#### **General Information:**

8 samples were analyzed for ASTM D5174-97. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Additional Comments:**

This data package has been reviewed for quality and completeness and is approved for release.



Project:	R1700331						
Pace Project	No.: 30207961						
Sample: LP-	0117	Lab ID: 3020796 Site ID:	<b>1001</b> Collected: 01/11/17 11:30 Sample Type:	Received:	01/13/17 09:40 N	latrix: Water	
Comments:	Upon receipt at the <2 for radiochemistry The sampler's name The preservative type	laboratory, 3 mls of nitric a analysis. and signature were not li be is not listed on the COC	acid were added to the sample to me isted on the COC. C.	et the sample	e preservation requi	rement of pH	
P	arameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Actinium-228		EPA 901.1	0.000 ± 19.832 (47.100) C:NA T:NA	pCi/L	01/31/17 12:13	14331-83-0	
Bismuth-212		EPA 901.1	-35.196 ± 142.410 (150.600) C:NA T:NA	pCi/L	01/31/17 12:13	14913-49-6	
Bismuth-214		EPA 901.1	95.057 ± 23.152 (17.700) C:NA T:NA	pCi/L	01/31/17 12:13	14733-03-0	
Cesium-134		EPA 901.1	0.000 ± 2.772 (8.419) C:NA T:NA	pCi/L	01/31/17 12:13	13967-70-9	
Cesium-137		EPA 901.1	0.000 ± 4.598 (10.280) C:NA T:NA	pCi/L	01/31/17 12:13	10045-97-3	
Lead-212		EPA 901.1	27.294 ± 21.496 (17.850) C:NA T:NA	pCi/L	01/31/17 12:13	15092-94-1	
Lead-214		EPA 901.1	90.508 ± 20.736 (16.480) C:NA T:NA	pCi/L	01/31/17 12:13	15067-28-4	
Potassium-40		EPA 901.1	139.450 ± 91.152 (83.740) C:NA T:NA	pCi/L	01/31/17 12:13	13966-00-2	
Radium-226		EPA 901.1	0.000 ± 103.770 (197.700) C:NA T:NA	pCi/L	01/31/17 12:13	13982-63-3	
Radium-228		EPA 901.1	0.000 ± 19.832 (47.100) C:NA T:NA	pCi/L	01/31/17 12:13	15262-20-1	
Thallium-208		EPA 901.1	3.551 ± 5.730 (9.951) C:NA T:NA	pCi/L	01/31/17 12:13	14913-50-9	
Thorium-232		EPA 901.1	1472.100 ± 10570.000 (12980.000) C:NA T:NA	pCi/L	01/31/17 12:13	7440-29-1	
Thorium-234		EPA 901.1	244.040 ± 556.100 (692.900) C:NA T:NA	pCi/L	01/31/17 12:13	15065-10-8	
Radium-226		EPA 903.1	1.23 ± 0.974 (1.32) C:NA T:45%	pCi/L	02/01/17 22:07	13982-63-3	
Radium-228		EPA 904.0	1.57 ± 1.02 (1.92) C:53% T:78%	pCi/L	02/10/17 11:42	15262-20-1	
Total Uranium		ASTM D5174-97	0.213 ± 0.004 (0.385) C:NA T:NA	ug/L	02/14/17 06:57	7440-61-1	

Sample: LP-0117 DissolvedLab ID: 30207961002Collected: 01/11/17 11:30Received: 01/13/17 09:40Matrix: WaterPWS:Site ID:Sample Type:

Comments: • The sampler's name and signature were not listed on the COC. • The preservative type is not listed on the COC.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Actinium-228	EPA 901.1	7.329 ± 17.168 (18.070) C:NA T:NA	pCi/L	02/01/17 09:49	14331-83-0	
Bismuth-212	EPA 901.1	16.137 ± 65.062 (70.470) C:NA T:NA	pCi/L	02/01/17 09:49	14913-49-6	
Bismuth-214	EPA 901.1	161.350 ± 24.393 (12.780) C:NA T:NA	pCi/L	02/01/17 09:49	14733-03-0	
Cesium-134	EPA 901.1	0.000 ± 1.605 (5.754) C:NA T:NA	pCi/L	02/01/17 09:49	13967-70-9	
Cesium-137	EPA 901.1	0.000 ± 1.962 (6.327) C:NA T:NA	pCi/L	02/01/17 09:49	10045-97-3	



Project: R1700331

Pace Project No.: 30207961

Sample: LP-01 <sup>o</sup> PWS <sup>o</sup>	17 Dissolved	Lab ID: 302079 Site ID <sup>:</sup>	61002	Collected: 01/11/17 11:30 Sample Type:	Received:	01/13/17 09:40 N	latrix: Water	
Comments: • T • T	The sampler's nam The preservative ty	he and signature were not pe is not listed on the CC	listed o C.	n the COC.				
Para	ameters	Method	A	ct ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Lead-212		EPA 901.1	35.50 C:N/	33 ± 31.545 (11.990) A T:NA	pCi/L	02/01/17 09:49	15092-94-1	
Lead-214		EPA 901.1	174. C·NA	730 ± 24.750 (11.800)	pCi/L	02/01/17 09:49	15067-28-4	
Potassium-40		EPA 901.1	207.0	090 ± 59.111 (47.940)	pCi/L	02/01/17 09:49	13966-00-2	
Radium-226		EPA 901.1	0.00	0 ± 87.971 (165.000)	pCi/L	02/01/17 09:49	13982-63-3	
Radium-228		EPA 901.1	7.32	9 ± 17.168 (18.070)	pCi/L	02/01/17 09:49	15262-20-1	
Thallium-208		EPA 901.1	1.61	$4 \pm 4.944$ (5.683)	pCi/L	02/01/17 09:49	14913-50-9	
Thorium-232		EPA 901.1	0.000 (1100	2 1.ΝΑ 2 ± 4864.800 30.000) Δ Τ·ΝΔ	pCi/L	02/01/17 09:49	7440-29-1	
Thorium-234		EPA 901.1	0.00	0 ± 280.190 (602.500)	pCi/L	02/01/17 09:49	15065-10-8	
Radium-226, Dis	solved	EPA 903.1	1.02 C:N/	± 0.565 (0.503)	pCi/L	02/01/17 12:06	13982-63-3	
Radium-228, Dis	solved	EPA 904.0	0.43	2 ± 0.518 (1.09) % T-84%	pCi/L	02/02/17 13:40	15262-20-1	
Total Uranium		ASTM D5174-97	0.349 C:N/	9 ± 0.007 (0.385) A T:NA	ug/L	02/14/17 06:59	7440-61-1	
Sample: C5Lea PWS:	ich-0117	Lab ID: 302079 Site ID:	61003	Collected: 01/11/17 09:20 Sample Type:	Received:	01/13/17 09:40 M	fatrix: Water	
Comments: • T • T	The sampler's nam The preservative ty	ne and signature were not ype is not listed on the CC	listed o C.	n the COC.				
Para	ameters	Method	A	ct ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Actinium-228		EPA 901.1	0.00	О±15.416 (37.910)	pCi/L	01/31/17 13:54	14331-83-0	
Bismuth-212		EPA 901.1	-37.3	13 ± 115.720 (122.900)	pCi/L	01/31/17 13:54	14913-49-6	

BISMUU-212	EFA 901.1	$-57.515 \pm 115.720$ (122.900)	pCI/L	01/31/17 13:54 14913-49-6
Bismuth-214	EPA 901.1	1121.800 ± 125.350 (19.200)	pCi/L	01/31/17 13:54 14733-03-0
Cesium-134	EPA 901.1	C:NA T:NA 0.000 ± 2.244 (11.500)	pCi/L	01/31/17 13:54 13967-70-9
Cesium-137	FPA 901 1	C:NA T:NA 0.000 + 3.445 (9.266)	nCi/l	01/31/17 13:54 10045-07-3
		C:NA T:NA	p0//L	
Lead-212	EPA 901.1	271.250 ± 56.691 (21.800) C:NA T:NA	pCi/L	01/31/17 13:54 15092-94-1
Lead-214	EPA 901.1	1178.100 ± 131.730 (22.720) C·NA T·NA	pCi/L	01/31/17 13:54 15067-28-4
Potassium-40	EPA 901.1	52.752 ± 89.716 (86.700)	pCi/L	01/31/17 13:54 13966-00-2
Radium-226	EPA 901.1	0.000 ± 73.104 (286.900) C:NA T:NA	pCi/L	01/31/17 13:54 13982-63-3
Radium-228	EPA 901.1	0.000 ± 15.416 (37.910)	pCi/L	01/31/17 13:54 15262-20-1
Thallium-208	EPA 901.1	0.000 ± 8.289 (10.490) C:NA T:NA	pCi/L	01/31/17 13:54 14913-50-9



Project: R1700331

Pace Project No.: 30207961

Sample: C5Leacl PWS:	n-0117 Lab II Site II	<b>D: 30207961003</b>	Collected: 01/11/17 09:20 Sample Type:	Received:	01/13/17 09:40 N	latrix: Water	
Comments: • The • The	e sampler's name and signatur e preservative type is not listed	e were not listed or on the COC.	n the COC.				
Param	neters Met	hod Ac	t ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Thorium-232	EPA 901.1	0.000 (1816 C:NA	) ± 8315.100 60.000) A T·NA	pCi/L	01/31/17 13:54	7440-29-1	
Thorium-234	EPA 901.1	46.81 C:NA	7 ± 778.480 (972.100)	pCi/L	01/31/17 13:54	15065-10-8	
Radium-226	EPA 903.1	0.509 C:NA	) ± 0.399 (0.469)	pCi/L	02/01/17 22:07	13982-63-3	
Radium-228	EPA 904.0	1.43 C:52	± 0.708 (1.19) % T:58%	pCi/L	02/02/17 13:00	15262-20-1	
Total Uranium	ASTM D517	'4-97 <b>1.42</b> : C:NA	± 0.028 (0.385) \ T:NA	ug/L	02/14/17 07:02	7440-61-1	
Sample: C5Leach	n-0117 Dissolved Lab II	D: 30207961004	Collected: 01/11/17 09:20	Received:	01/13/17 09:40 M	latrix: Water	
Comments: • The • The	e sampler's name and signatur e preservative type is not listed	e were not listed or on the COC.	n the COC.				
Param	neters Met	hod Ac	t ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Actinium-228	EPA 901.1	36.12 C:NA	28 ± 41.448 (44.400)	pCi/L	02/02/17 10:02	14331-83-0	
Bismuth-212	EPA 901.1	0.000 C:NA	) ± 78.817 (174.000) \ T:NA	pCi/L	02/02/17 10:02	14913-49-6	
Bismuth-214	EPA 901.1	822.2 C:NA	270 ± 99.895 (26.510) \ T:NA	pCi/L	02/02/17 10:02	14733-03-0	
Cesium-134	EPA 901.1	1.864 C:NA	l ± 11.105 (12.460) ∖ T:NA	pCi/L	02/02/17 10:02	13967-70-9	
Cesium-137	EPA 901.1	0.000 C:NA	) ± 4.127 (13.150) \ T:NA	pCi/L	02/02/17 10:02	10045-97-3	
Lead-212	EPA 901.1	206.7 C:NA	20 ± 44.087 (26.520) \ T:NA	pCi/L	02/02/17 10:02	15092-94-1	
Lead-214	EPA 901.1	836.5 C:NA	20 ± 99.625 (27.440) \ T:NA	pCi/L	02/02/17 10:02	15067-28-4	
Potassium-40	EPA 901.1	0.000 C:NA	) ± 73.963 (180.000) \ T:NA	pCi/L	02/02/17 10:02	13966-00-2	
Radium-226	EPA 901.1	0.000 C:NA	) ± 206.960 (342.100) \ T:NA	pCi/L	02/02/17 10:02	13982-63-3	
Radium-228	EPA 901.1	36.12 C:NA	28 ± 41.448 (44.400) \ T:NA	pCi/L	02/02/17 10:02	15262-20-1	
Thallium-208	EPA 901.1	0.000 C:NA	) ± 6.658 (16.280) \ T:NA	pCi/L	02/02/17 10:02	14913-50-9	
Thorium-232	EPA 901.1	4694 (8446 C:NA	.600 ± 7038.500 δ.000) \ T:NA	pCi/L	02/02/17 10:02	7440-29-1	
Thorium-234	EPA 901.1	0.000 C:NA	) ± 184.240 (526.600) \ T:NA	pCi/L	02/02/17 10:02	15065-10-8	
Radium-226, Disso	blved EPA 903.1	0.626 C:NA	5 ± 0.497 (0.646) A T:84%	pCi/L	02/01/17 12:22	13982-63-3	
Radium-228, Disso	EPA 904.0	0.502 C:639	2 ± 0.555 (1.16) % T:67%	pCi/L	02/02/17 13:40	15262-20-1	
Total Uranium	ASTM D517	4-97 2.08 : C:NA	± 0.042 (0.385) \ T:NA	ug/L	02/14/17 07:04	7440-61-1	



Project: R1700331

Pace Project No.: 30207961

Sample: PWS:	C3Leach-0117	Lab ID: 30207 Site ID:	7961005 Collected: 01/11/17 10:30 Sample Type:	) Received:	01/13/17 09:40 N	latrix: Water				
Comments	<ul> <li>Upon receipt at t</li> <li>2 for radiochemis</li> <li>The sampler's na</li> <li>The preservative</li> </ul>	<ul> <li>Upon receipt at the laboratory, 15 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH &lt;2 for radiochemistry analysis.</li> <li>The sampler's name and signature were not listed on the COC.</li> <li>The preservative type is not listed on the COC.</li> </ul>								
	Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual			
Actinium-2	228	EPA 901.1	0.000 ± 22.207 (51.270) C:NA T:NA	pCi/L	02/01/17 09:50	14331-83-0				
Bismuth-2	12	EPA 901.1	75.318 ± 111.410 (122.200) C:NA T:NA	pCi/L	02/01/17 09:50	14913-49-6				
Bismuth-2	14	EPA 901.1	181.150 ± 33.129 (19.260) C:NA T:NA	pCi/L	02/01/17 09:50	14733-03-0				
Cesium-13	34	EPA 901.1	0.000 ± 3.184 (11.330) C:NA T:NA	pCi/L	02/01/17 09:50	13967-70-9				
Cesium-13	37	EPA 901.1	0.000 ± 1.153 (10.300) C:NA T:NA	pCi/L	02/01/17 09:50	10045-97-3				
Lead-212		EPA 901.1	35.567 ± 16.631 (22.380) C:NA T:NA	pCi/L	02/01/17 09:50	15092-94-1				
Lead-214		EPA 901.1	201.720 ± 35.310 (21.740) C:NA T:NA	pCi/L	02/01/17 09:50	15067-28-4				
Potassium	-40	EPA 901.1	681.730 ± 156.460 (112.200) C:NA T:NA	pCi/L	02/01/17 09:50	13966-00-2				
Radium-22	26	EPA 901.1	7.320 ± 192.700 (249.100) C:NA T:NA	pCi/L	02/01/17 09:50	13982-63-3				
Radium-22	28	EPA 901.1	0.000 ± 22.207 (51.270) C:NA T:NA	pCi/L	02/01/17 09:50	15262-20-1				
Thallium-2	208	EPA 901.1	0.000 ± 5.192 (14.180) C:NA T:NA	pCi/L	02/01/17 09:50	14913-50-9				
Thorium-2	32	EPA 901.1	1751.600 ± 5279.100 (6465.000) C:NA T:NA	pCi/L	02/01/17 09:50	7440-29-1				
Thorium-2	34	EPA 901.1	30.408 ± 295.820 (370.400) C:NA T:NA	pCi/L	02/01/17 09:50	15065-10-8				
Radium-22	26	EPA 903.1	3.37 ± 1.71 (1.65) C:NA T:31%	pCi/L	02/01/17 22:07	13982-63-3				
Radium-22	28	EPA 904.0	7.60 ± 2.49 (3.41) C:35% T:67%	pCi/L	02/10/17 11:42	15262-20-1				
Total Uran	ium	ASTM D5174-97	0.157 ± 0.003 (0.385) C:NA T:NA	ug/L	02/14/17 07:07	7440-61-1				

Sample: C3Leach-0117 DissolvedLab ID: 30207961006Collected: 01/11/17 10:30Received: 01/13/17 09:40Matrix: WaterPWS:Site ID:Sample Type:

Comments: • The sampler's name and signature were not listed on the COC. • The preservative type is not listed on the COC.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Actinium-228	EPA 901.1	10.180 ± 27.577 (27.680) C:NA T:NA	pCi/L	02/03/17 09:10	14331-83-0	
Bismuth-212	EPA 901.1	28.289 ± 82.623 (87.700) C:NA T:NA	pCi/L	02/03/17 09:10	14913-49-6	
Bismuth-214	EPA 901.1	903.390 ± 100.400 (14.670) C:NA T:NA	pCi/L	02/03/17 09:10	14733-03-0	
Cesium-134	EPA 901.1	0.000 ± 1.344 (9.660) C:NA T:NA	pCi/L	02/03/17 09:10	13967-70-9	
Cesium-137	EPA 901.1	0.000 ± 3.015 (8.107) C:NA T:NA	pCi/L	02/03/17 09:10	10045-97-3	



Project: R1700331

Pace Project No.: 30207961

Sample: C3Leach-0117 Diss PWS:	olved Lab ID: 30207 Site ID:	7961006 Collected: 01/11/17 10:30 Sample Type:	Received:	01/13/17 09:40 N	latrix: Water	
Comments: • The sampler's • • The preservative	name and signature were no ve type is not listed on the C	ot listed on the COC.				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Lead-212	EPA 901.1	210.730 ± 44.821 (17.140) C:NA T:NA	pCi/L	02/03/17 09:10	15092-94-1	
Lead-214	EPA 901.1	939.840 ± 104.490 (18.040) C:NA T:NA	pCi/L	02/03/17 09:10	15067-28-4	
Potassium-40	EPA 901.1	714.700 ± 130.360 (75.970) C:NA T:NA	pCi/L	02/03/17 09:10	13966-00-2	
Radium-226	EPA 901.1	70.104 ± 171.590 (208.200) C:NA T:NA	pCi/L	02/03/17 09:10	13982-63-3	
Radium-228	EPA 901.1	10.180 ± 27.577 (27.680) C:NA T:NA	pCi/L	02/03/17 09:10	15262-20-1	
Thallium-208	EPA 901.1	0.000 ± 5.903 (8.908) C:NA T:NA	pCi/L	02/03/17 09:10	14913-50-9	
Thorium-232	EPA 901.1	0.000 ± 6046.900 (15080.000) C:NA T:NA	pCi/L	02/03/17 09:10	7440-29-1	
Thorium-234	EPA 901.1	0.000 ± 225.390 (838.300) C:NA T:NA	pCi/L	02/03/17 09:10	15065-10-8	
Radium-226, Dissolved	EPA 903.1	2.71 ± 1.07 (0.911) C:NA T:77%	pCi/L	02/01/17 12:22	13982-63-3	
Radium-228, Dissolved	EPA 904.0	6.49 ± 3.44 (6.23) C:29% T:32%	pCi/L	02/02/17 13:05	15262-20-1	
Total Uranium	ASTM D5174-97	0.164 ± 0.003 (0.385) C:NA T:NA	ug/L	02/14/17 07:09	7440-61-1	

## Sample: C4Leach-0117 Lab ID: 30207961007 Collected: 01/11/17 10:50 Received: 01/13/17 09:40 Matrix: Water PWS: Site ID: Sample Type: Sample Type:

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

• The sampler's name and signature were not listed on the COC.

• The preservative type is not listed on the COC.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Actinium-228	EPA 901.1	7.922 ± 24.467 (25.400)	pCi/L	02/01/17 15:16	14331-83-0	
Bismuth-212	EPA 901.1	-6.695 ± 71.139 (78.240)	pCi/L	02/01/17 15:16	14913-49-6	
Bismuth-214	EPA 901.1	C:NA 1:NA 295.850 ± 39.015 (14.540) C:NA T:NA	pCi/L	02/01/17 15:16	14733-03-0	
Cesium-134	EPA 901.1	0.000 ± 2.361 (8.428) C:NA T:NA	pCi/L	02/01/17 15:16	13967-70-9	
Cesium-137	EPA 901.1	0.000 ± 2.066 (6.787) C:NA T:NA	pCi/L	02/01/17 15:16	10045-97-3	
Lead-212	EPA 901.1	61.698 ± 34.623 (14.060) C·NA T·NA	pCi/L	02/01/17 15:16	15092-94-1	
Lead-214	EPA 901.1	327.890 ± 42.738 (16.340) C·NA T·NA	pCi/L	02/01/17 15:16	15067-28-4	
Potassium-40	EPA 901.1	657.680 ± 119.830 (66.280) C·NA T·NA	pCi/L	02/01/17 15:16	13966-00-2	
Radium-226	EPA 901.1	0.000 ± 79.632 (192.300) C·NA T·NA	pCi/L	02/01/17 15:16	13982-63-3	
Radium-228	EPA 901.1	7.922 ± 24.467 (25.400) C:NA T:NA	pCi/L	02/01/17 15:16	15262-20-1	



Project: R1700331

Pace Project No.: 3	0207961	
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Sample: C4 PWS:	4Leach-0117	Lab ID: 30207 Site ID:	7961007	Collected: 01/11/17 10:50 Sample Type:	Received:	01/13/17 09:40 N	latrix: Water	
Comments:	<ul> <li>Upon receipt at th</li> <li>2 for radiochemis</li> <li>The sampler's na</li> <li>The preservative</li> </ul>	t at the laboratory, 3 mls of nitric acid wer remistry analysis. 's name and signature were not listed on ative type is not listed on the COC.		re added to the sample to me the COC.	eet the sample	e preservation requi	rement of pH	
	Parameters	Method	Ac	t ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Thallium-20	8	EPA 901.1	0.000 C:NA	± 1.940 (7.754) T:NA	pCi/L	02/01/17 15:16	14913-50-9	
Thorium-232	2	EPA 901.1	0.000 (1183 C:NA	± 4993.400 0.000) T:NA	pCi/L	02/01/17 15:16	7440-29-1	
Thorium-234	1	EPA 901.1	85.34 C:NA	6 ± 103.910 (689.300) T:NA	pCi/L	02/01/17 15:16	15065-10-8	
Radium-226	i	EPA 903.1	2.05 : C:NA	± 2.03 (3.08) T:22%	pCi/L	02/01/17 22:07	13982-63-3	
Radium-228	}	EPA 904.0	8.59 : C:62	± 2.26 (2.48) % T:60%	pCi/L	02/10/17 11:42	15262-20-1	
Total Uraniu	m	ASTM D5174-97	0.274 C:NA	± 0.005 (0.385) T:NA	ug/L	02/14/17 07:11	7440-61-1	

Sample:C4Leach-0117 DissolvedLab ID:30207961008Collected:01/11/17 10:50Received:01/13/17 09:40Matrix:WaterPWS:Site ID:Sample Type:

Comments: • The sampler's name and signature were not listed on the COC.

The preservative type is not listed on the COC.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Actinium-228	EPA 901.1	47.601 ± 22.389 (21.200) C:NA T:NA	pCi/L	02/03/17 09:10	14331-83-0	
Bismuth-212	EPA 901.1	0.000 ± 64.471 (156.900) C:NA T:NA	pCi/L	02/03/17 09:10	14913-49-6	
Bismuth-214	EPA 901.1	419.240 ± 54.878 (20.510) C:NA T:NA	pCi/L	02/03/17 09:10	14733-03-0	
Cesium-134	EPA 901.1	0.000 ± 5.095 (10.810) C·NA T·NA	pCi/L	02/03/17 09:10	13967-70-9	
Cesium-137	EPA 901.1	0.000 ± 2.385 (12.580) C:NA T:NA	pCi/L	02/03/17 09:10	10045-97-3	
Lead-212	EPA 901.1	113.030 ± 29.478 (21.930) C:NA T:NA	pCi/L	02/03/17 09:10	15092-94-1	
Lead-214	EPA 901.1	453.510 ± 57.749 (21.990) C:NA T:NA	pCi/L	02/03/17 09:10	15067-28-4	
Potassium-40	EPA 901.1	583.310 ± 146.910 (126.300) C:NA T:NA	pCi/L	02/03/17 09:10	13966-00-2	
Radium-226	EPA 901.1	0.000 ± 162.780 (277.300) C:NA T:NA	pCi/L	02/03/17 09:10	13982-63-3	
Radium-228	EPA 901.1	47.601 ± 22.389 (21.200) C:NA T:NA	pCi/L	02/03/17 09:10	15262-20-1	
Thallium-208	EPA 901.1	3.302 ± 10.705 (12.380) C:NA T:NA	pCi/L	02/03/17 09:10	14913-50-9	
Thorium-232	EPA 901.1	3836.600 ± 5752.100 (6903.000) C:NA T:NA	pCi/L	02/03/17 09:10	7440-29-1	
Thorium-234	EPA 901.1	3.481 ± 331.010 (405.700) C:NA T:NA	pCi/L	02/03/17 09:10	15065-10-8	
Radium-226, Dissolved	EPA 903.1	4.40 ± 1.20 (0.499) C:NA T:85%	pCi/L	02/01/17 12:22	13982-63-3	



Project: R1700331

Pace Project No.: 30207961

Sample: PWS <sup>.</sup>	C4Leach-0117 Dissolved	Lab ID: Site ID <sup>-</sup>	30207961008	Collected: Sample Ty	01/11/17 10:50	Received:	01/13/17 09:40	Matrix: Water			
Comment	<ul> <li>The sampler's name and signature were not listed on the COC.</li> <li>The preservative type is not listed on the COC.</li> </ul>										
	Parameters	Metho	od Act	± Unc (MD	C) Carr Trac	Units	Analyzed	CAS No.	Qual		
Radium-2	228, Dissolved E	EPA 904.0	5.17 ± C:71%	1.34 (1.31 6 T:52%	)	pCi/L	02/02/17 13:05	15262-20-1			
Total Ura	nium A	STM D5174-	97 0.162 C:NA	± 0.003 (0	.385)	ug/L	02/14/17 07:14	7440-61-1			



Project:	R1700331								
Pace Project No.:	30207961								
QC Batch:	247548	Analysis Method:	EPA 901.1						
QC Batch Method: EPA 901.1 Analysis Description: 901.1 Gamma Spec									
Associated Lab Sar	Associated Lab Samples: 30207961001, 30207961002, 30207961003								
METHOD BLANK:	1217343	Matrix: Water							
Associated Lab Samples: 30207961001, 30207961002, 30207961003									
Parar	neter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers				

i didificici		Onito	7 analyzed	Quaimero
Actinium-228	0.000 ± 8.992 (21.300) C:NA T:NA	pCi/L	01/27/17 10:54	
Bismuth-212	37.966 ± 40.658 (39.930) C:NA T:NA	pCi/L	01/27/17 10:54	
Bismuth-214	8.366 ± 11.469 (11.440) C:NA T:NA	pCi/L	01/27/17 10:54	
Cesium-134	0.000 ± 0.945 (5.514) C:NA T:NA	pCi/L	01/27/17 10:54	
Cesium-137	-1.014 ± 4.532 (4.986) C:NA T:NA	pCi/L	01/27/17 10:54	
Lead-212	9.097 ± 17.851 (8.586) C:NA T:NA	pCi/L	01/27/17 10:54	
Lead-214	11.414 ± 10.112 (10.840) C:NA T:NA	pCi/L	01/27/17 10:54	
Potassium-40	0.000 ± 9.473 (68.940) C:NA T:NA	pCi/L	01/27/17 10:54	
Radium-226	0.000 ± 46.406 (115.800) C:NA T:NA	pCi/L	01/27/17 10:54	
Radium-228	0.000 ± 8.992 (21.300) C:NA T:NA	pCi/L	01/27/17 10:54	
Thallium-208	5.075 ± 5.068 (4.683) C:NA T:NA	pCi/L	01/27/17 10:54	
Thorium-232	4504.200 ± 5086.300 (6109.000) C:NA T:NA	pCi/L	01/27/17 10:54	
Thorium-234	98.642 ± 296.570 (382.500) C:NA T:NA	pCi/L	01/27/17 10:54	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	R1700331								
Pace Project No.:	30207961								
QC Batch: 247265			Analysis Method:	EPA 904.0					
QC Batch Method:	EPA 904.0		Analysis Description:	904.0 Radium 228					
Associated Lab Sar	ssociated Lab Samples: 30207961003								
METHOD BLANK:	1216052		Matrix: Water						
Associated Lab Sar	mples: 3020796 <sup>-</sup>	1003							
Parar	meter	Act ± Un	c (MDC) Carr Trac	Units	Analyzed	Qualifiers			
Radium-228 0.02		0.0209 ± 0.409	(0.933) C:47% T:76%	pCi/L	02/02/17 13:00				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



 Project:
 R1700331

 Pace Project No.:
 30207961

 QC Batch:
 247999
 Analysis Method:
 EPA 901.1

 QC Batch Method:
 EPA 901.1
 Analysis Description:
 901.1 Gamma Spec

 Associated Lab Samples:
 30207961004, 30207961005, 30207961007, 30207961007, 30207961008
 20207961008

#### METHOD BLANK: 1219796

Matrix: Water

#### Associated Lab Samples: 30207961004, 30207961005, 30207961006, 30207961007, 30207961008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Actinium-228	7.940 ± 11.699 (17.100) C:NA T:NA	pCi/L	01/31/17 17:12	
Bismuth-212	61.869 ± 50.772 (53.840) C:NA T:NA	pCi/L	01/31/17 17:12	
Bismuth-214	0.000 ± 6.933 (14.130) C:NA T:NA	pCi/L	01/31/17 17:12	
Cesium-134	0.000 ± 3.011 (6.248) C:NA T:NA	pCi/L	01/31/17 17:12	
Cesium-137	0.349 ± 3.952 (4.339) C:NA T:NA	pCi/L	01/31/17 17:12	
Lead-212	0.000 ± 8.841 (8.442) C:NA T:NA	pCi/L	01/31/17 17:12	
Lead-214	0.000 ± 4.580 (10.810) C:NA T:NA	pCi/L	01/31/17 17:12	
Potassium-40	0.000 ± 26.231 (62.860) C:NA T:NA	pCi/L	01/31/17 17:12	
Radium-226	0.000 ± 62.516 (130.500) C:NA T:NA	pCi/L	01/31/17 17:12	
Radium-228	7.940 ± 11.699 (17.100) C:NA T:NA	pCi/L	01/31/17 17:12	
Thallium-208	0.000 ± 1.568 (4.991) C:NA T:NA	pCi/L	01/31/17 17:12	
Thorium-232	1840.800 ± 6001.700 (7506.000) C:NA T:NA	pCi/L	01/31/17 17:12	
Thorium-234	80.193 ± 328.990 (423.000) C:NA T:NA	pCi/L	01/31/17 17:12	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	R1700331						
Pace Project No.:	30207961						
QC Batch:	247263		Analysis Method:	EPA 903.1			
QC Batch Method:	EPA 903.1		Analysis Description:	903.1 Radium	-226		
Associated Lab San	nples: 302079610	01, 302079610	003, 30207961005, 3020796100	)7			
METHOD BLANK:	1216051		Matrix: Water				
Associated Lab San	nples: 302079610	01, 302079610	003, 30207961005, 3020796100	)7			
Paran	neter	Act ± L	Inc (MDC) Carr Trac	Units	Analyzed	Qualifiers	_
Radium-226		0.117 ± 0.281	(0.701) C:NA T:96%	pCi/L	02/01/17 20:39		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	R1700331						
Pace Project No.:	30207961						
QC Batch:	247392		Analysis Method:	EPA 904.0			
QC Batch Method:	EPA 904.0		Analysis Description:	904.0 Radiu	m 228, Dissolved		
Associated Lab San	nples: 30207961	002, 302079610	04, 30207961006, 302079610	08			
METHOD BLANK:	1216576		Matrix: Water				
Associated Lab San	nples: 30207961	002, 302079610	04, 30207961006, 302079610	08			
Paran	neter	Act ± U	nc (MDC) Carr Trac	Units	Analyzed	Qualifiers	
Radium-228, Dissol	ved	0.0620 ± 0.316	(0.727) C:64% T:86%	pCi/L	02/02/17 13:00		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	R1700331						
Pace Project No.:	30207961						
QC Batch:	247391		Analysis Method:	EPA 903.1			
QC Batch Method:	EPA 903.1		Analysis Description:	903.1 Radiu	m-226, Dissolved		
Associated Lab San	nples: 30207961	002, 302079610	04, 30207961006, 302079610	08			
METHOD BLANK:	1216575		Matrix: Water				
Associated Lab San	nples: 30207961	002, 302079610	04, 30207961006, 302079610	08			
Paran	neter	Act ± U	nc (MDC) Carr Trac	Units	Analyzed	Qualifiers	_
Radium-226, Dissol	ved	0.0689 ± 0.314	(0.639) C:NA T:82%	pCi/L	02/01/17 12:06		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	R17003	31							
Pace Project No.:	302079	61							
QC Batch:	24760	1		Analysis Me	ethod:	ASTM D5174-9	97		
QC Batch Method:	ASTM	D5174-97		Analysis De	escription:	D5174.97 Total	l Uranium KPA		
Associated Lab Sam	nples:	30207961001 30207961008	, 30207961	002, 30207961003,	30207961004,	30207961005,	30207961006, 3	30207961007,	
METHOD BLANK:	121770	0		Matrix	: Water				
Associated Lab Sam	nples:	30207961001 30207961008	, 30207961	002, 30207961003,	30207961004,	30207961005,	30207961006, 3	80207961007,	
Param	neter		Act ± l	Jnc (MDC) Carr Tra	с	Units	Analyzed	Qualifiers	
Total Uranium		0.0	67 ± 0.004	(0.193) C:NA T:NA		ug/L	02/01/17 16:42	2	-

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	R1700331					
Pace Project No.:	30207961					
QC Batch:	248478	Analysis Method:	EPA 904.0			
QC Batch Method:	EPA 904.0	Analysis Description:	904.0 Radiur	n 228		
Associated Lab San	nples: 3020796100	1, 30207961005, 30207961007				
METHOD BLANK:	1222237	Matrix: Water				
Associated Lab San	nples: 3020796100	1, 30207961005, 30207961007				
Paran	neter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers	
Radium-228	0.	254 ± 0.417 (0.906) C:68% T:76%	pCi/L	02/10/17 11:42		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



#### QUALIFIERS

Project: R1700331 Pace Project No.: 30207961

#### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

**RPD** - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

			156	is Jefferson Rd	, Building 3	100 • Roches	ster, NY 1	(4623 · 585-288-5380	0. FAX 585	-288-8475						1
Project Number: Project Manager: QAP:	R1700331 Janice Jaeger LAB QAP					Sample			Gamma Spec	U 18N 0.809	822 muibrA 903.1	Radium 228 904.0		•		
Lab Code	Sample ID		# of Cont	Matrix		Date	Time	Lab ID								
R1700331-001	LP-0117		40	Water		1/11/17	1130	Pace PA	×	×	×	х	8			
R1700331-002	LP-0117 Dissolved			Water		1/11/17	1130	Pace PA	X	х	х	х	B			
R1700331-003	C5Leach-0117			Water		1/11/17	0920	Pace PA	×	×	×	х	Š			
R1700331-004	C5Leach-0117 Dissolved			Water		1/11/17	0920	Pace PA	×	×	х	х	B			
R1700331-005	ClLeach-0117	· · · · · · · · · · · · · · · · · · ·		Water		1/11/17	1030	Pace PA	×	×	х	Х	S			
R1700331-006	CILeach-0117 Dissolved			Water	-	1/11/17	1030	Pace PA	×	×	х	x	But			
R1700331-007	C4Leach-0117			Water		1/11/17	1050	Pace PA	×	×	×	x	8			
RD700331-008	C4Leach-0117 Dissolved			Water		1/11/17	1050	Pace PA	×	х	x	х	8	~		
f 42			<u>).</u>							N0	#:3	02C	796 7			
<b>Test Comments</b> Gamma Spec - 901 Radium 226 - 903 Radium 228 - 904.(		R1700331-0 R1700331-0 R1700331-0	02,4,6,8 02,4,6,8 02,4,6,8		Samı Samı Samı	pie Requires bie Requires bie Requires	s In-Lab F s In-Lab F s In-Lab F	iltering litering iltering					) )			
Special Instructi	ions/Comments		• •			Tur Tur Rt PLEASE	Taround JSH (Surc	Requirements charges Apply) E WORK DAYS		Repo esults Only cesults + Q Results + f	rt Require C Summa	ements ries	iuminaries	Invoice ] PO#	information 21	
NPDES						ST.	ANDARI d FAX Da	0	PQLM FDD	Data Valic DL/J	lation Rep. <u>N</u>	ort with R	aw Data	Bill to		
H - Test is On I	Hold P - Test is	Authorized	for Prep (	Daly		Requeste	ed Report	Date: 01/20/17						*		
Ref By: Ref By: Ref By: Ref By:	abil inlul v	11121/ 1 <u>1</u>	Q 25	Rec	sived By:		- Jan	12/1	13	17-50	bill Numb	۲. ۲.			୍ଷ ଅ ଅ ଅ ଅ ଅ ଅ ଅ ଅ ଅ	[ <mark>-</mark>

	ALS Envir 1565 Jefferson Rd, Building 3	ronmental Chain of Cu 300 • Rochester, NY 14623 • 585-288-5380 •	IStody • FAX 585-288-8475	ALS Contact:	Janice Jaeger	
Project Number: R1700331 Project Manager: Janice Jaeger QAP: LAB QAP						
<b>Test Comments</b> Nat U - 908.0	Samp	sle Requires In-Lab Filtering				
Folder Comments: Gamma Isotope list-Rad 226&228,Actinium 228,Bismu	uth 212&214,Cesium 134&137,Lead 212&	214,Potassium 40,Thallium 208,Thorium 23	12&234			
41 of 4	·					
			·			,
Special Instructions/Comments		Turnaround Requirements RUSH (Surcharges Apply)	Report Requirement I. Results Only T. Downley - OC Summeries	4	Invoice Information	
NPDES		PLEASE CIRCLE WORK DAYS 1 2 3 4 5 STANDARD	III. Results + QC and Calibratic III. Results + QC and Calibratic IV. Data Validation Report wit	n Summaries h Raw Data	PO# 58R1700331	1
H - Test is On Hold P - Test is Author	rized for Prep Only	Requested FAX Date:	PQL/MDL// <u>Y</u> EDD	I	Bill to	
Religiquished By: White the first of the fir	/1328 Received By:		Airbill Number:		Page Page	10

	Common no of Ice:	nercial Seals Wet Corri	Project # 30 2 0 7.9 6 Pace Other s intact: ves no t Blue None ection Factor: C Final Temp: C Date and Initials of person examining contents: MA F-13-17
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Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

2022-22