



FINAL REPORT
Project Activity ORD-FY04-010
Chemical Analyses in Support of Yucca Mountain

The objective of project activity ORD-FY04-010 was to provide hydrochemical data and determinations that meet the requirements of the Office of Civilian Radioactive Waste Management (OCRWM)-approved NSHE Quality Assurance Program. Throughout the course of the activity, project personnel analyzed water samples collected in support of various Yucca Mountain Project studies. The samples analyzed included those collected for the Nye County Early Warning Drilling Program (NCEWDP), Inyo County's Drilling Program, as well as samples collected during tracer testing. In addition, this project activity was used to provide other laboratory support as needs arose within the Yucca Mountain Project.

The activity was designated *Quality Affecting* and was originally approved as a 57 month activity with a total budget of \$3,009,700. However, per DOE, the workscope for this activity was transferred to a subcontract with Sandia National Laboratory 12 months prior to its originally scheduled end date. Project personnel were notified only eight weeks before the revised effective end date that the project was to be terminated prematurely. In addition, DOE's disbursements for the activity only totaled \$1,978,992—\$1,030,708 less than the total approved budget. Because the activity was terminated 12 months early and experienced a 34% reduction in its overall budget, it was not possible to complete all components of the task as originally envisioned.

The accompanying final report is therefore an unqualified summary of the activities that were completed given the reduced time and funding. Although the technical activities of the task were performed in accordance with the requirements of the NSHE Quality Assurance Program, this final report is unqualified; therefore data within the report should not be used for quality affecting purposes. Qualified versions of the data contained within this report may be obtained from the Yucca Mountain Technical Data Management System using the tracking numbers listed within the report.

Ongoing data acquisition and development activities referenced within the report will be documented and transmitted via Sandia National Laboratory at a future date.

A handwritten signature in black ink, appearing to read 'R. E. Keeler'.

Raymond E. Keeler
Nuclear Waste Cooperative Agreement Project Director



Nevada System of Higher Education

TECHNICAL REPORT

Title: Results of Chemical Analyses in Support of Yucca Mountain Studies

Task ORD-FY04-010

Author:

Jeanette Daniels

(print name)

Raymond Keeler 11 Dec 2007
Raymond Keeler for J. Daniels
(signature)

PI:

Klaus Stetzenbach

(print name)

Klaus Stetzenbach 11 Dec 07
Klaus Stetzenbach 11 Dec 07
(approval signature) Date

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PURPOSE

This is the final report detailing the analyses performed under ORD-FY04-010 “Chemical Analyses in Support of Yucca Mountain Studies.” The work was performed under The Nevada System of Higher Education, NSHE (formerly the University and Community College System of Nevada, UCCSN) and the Department of Energy (DOE) Cooperative Agreement DE-FC28-04RW12232. This project activity provided data and reports from comprehensive chemical analyses of waters sampled from the wells of the Nye County Early Warning Drilling Program (NCEWDP), the Inyo County Drilling Program, and the Nye County Tracer Tests.

INTRODUCTION

Ground water monitoring for the Nye County Early Warning Drilling Program (NCEWDP) was established to monitor underground water sources of the area and to protect communities surrounding the Nevada Test Site (NTS) from potential radionuclide contamination of these water sources. It provides hydrological information pertaining to groundwater flow patterns and recharge issues in the vicinity of Yucca Mountain.

The Harry Reid Center for Environmental Studies (HRC) obtained groundwater samples from select NCEWDP wells shown in Figure 1. These samples were analyzed for major cations, major anions, trace elements, rare earth elements, alkalinity, pH and conductivity. These geochemical results can be used to evaluate the degree of interaction between the aquifers sampled, leading to a thorough mapping of the aquifer system.

With increased analysis down gradient of the Yucca Mountain area, evaluations can identify viable groundwater flow paths and establish mixing of the groundwater systems.

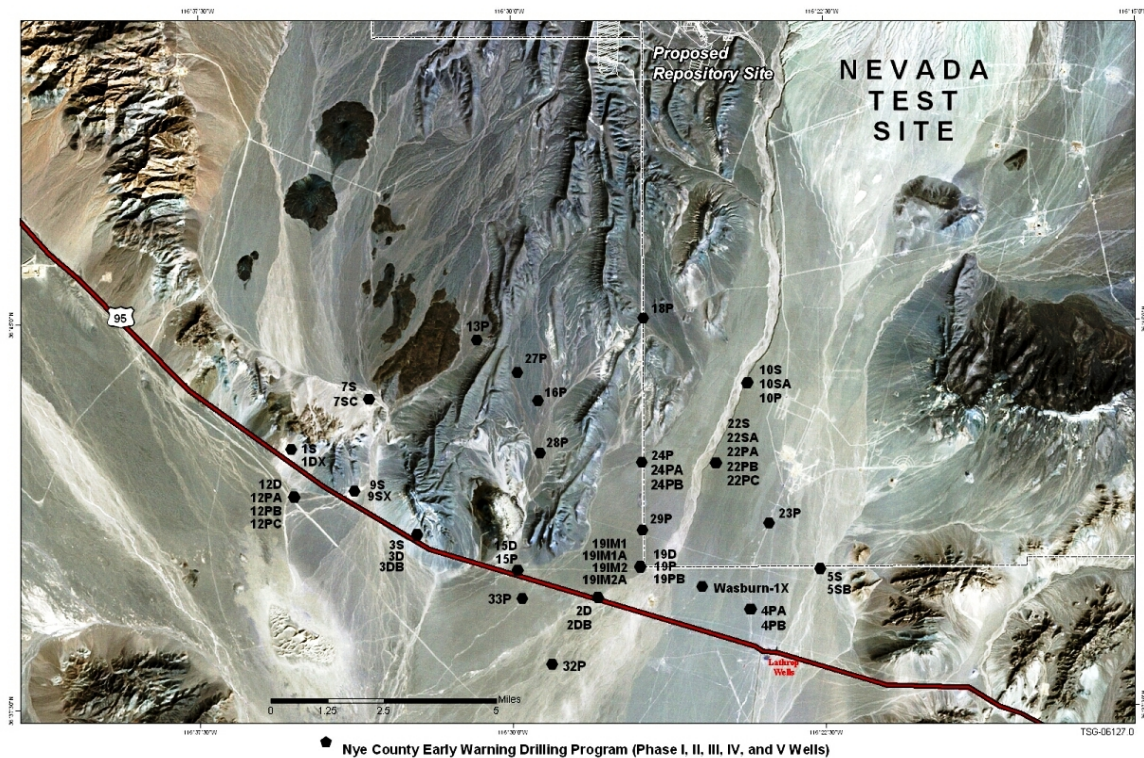


Figure 1. Wells sampled by HRC for groundwater analyses. Figure taken from <http://www.nyecounty.com/ewdpmain.htm>

Tracer tests provide insight into groundwater flow characteristics and transport processes of potential contaminants. These tests are important for contaminant migration issues including safe disposal of hazardous and radioactive materials and remediation of potentially released contaminants. At a minimum, two conservative (non-sorbing) tracers with different diffusion coefficients are used for each tracer test. The tracer test performed under this cooperative agreement utilized fluorinated benzoic acids and halides as conservative tracers. The tracers are of differing size and have differing rates of diffusion into the rock. Larger molecules can not enter the pore spaces that are penetrated by the smaller molecules, therefore larger tracers will travel faster through the

groundwater system. Identical responses of the two tracers indicate no appreciable diffusion into pores of the aquifer system tuff. For the Nye County Tracer Tests, the HRC provided chemical analysis for the tracer test being conducted at site 22. Samples were analyzed for multiple tracers throughout the testing period.

QUALITY ASSURANCE

All laboratory work performed at the HRC was conducted under the OCRWM approved Nevada System of Higher Education (NSHE) Quality Assurance (QA) requirements. Although this is an unqualified report, no conclusions of this report are based on unqualified data.

METHODS AND MATERIALS

Water samples, collected from the wells of the NCEWDP and Inyo County, were collected by either filtering the sample through a 0.45 um filter capsule into polyethylene containers using a peristaltic pump or by attaching the filter directly to the end of the pump tubing provided by the client. The water sample concentrations of the trace elements, major cations, and major anions, as well as halogen anion, oxoanion, and fluorinated benzoate tracers, were measured in UNLV laboratories using an Inductively Coupled Plasma Mass Spectrometry System (ICP-MS), a Flame Atomic Absorption Spectrometry System (AA), a High Performance Liquid Chromatography System (HPLC), and an Ion Chromatography System (IC), as analysis warranted.

Measurements of water samples taken in the field included conductivity, pH, and alkalinity. Conductivity was measured using a field portable conductivity meter. Alkalinity was measured using a digital titrator, and pH was measured using a field portable pH meter. Alkalinity was measured either in the field or in the laboratory. Nye County and Sample Management Facility (SMF) personnel performed all field work involving tracers tests, including injection of the tracer solutions as well as sample collection for the Nye County Tracer Test. All other water samplings and field measurements were conducted by HRC personnel.

Selection of tracers is dependent on the conservative behavior of the tracer in the tracer testing environment. The tracer must be water soluble, should not sorb to aquifer material, and must be chemically and biologically stable for the duration of the test. Batch test experiments were performed throughout the duration of the tracer tests to demonstrate that the tracer remained stable in the 22S water in contact with Yucca Mountain area tuff.

RESULTS/DISCUSSION

Five tracer tests were conducted at site 22 for this task; four tests have concluded, while the fifth test is ongoing. The first and second tracer tests, Single Well, Push/Pull Tracer Test at Well NC-EWDP-22S (Single Well #1 and Single Well #2), were combined under a single test plan (TPN-9.2). Both tests were single well, push/pull tracer test conducted at well NC-EWDP-22S (22S). The selected tracers for Single Well #1 were pentafluorobenzoic acid (PFBA) and sodium iodide (NaI). The selected tracers for Single

Well #2 were 2,3,4,5 tetrafluorobenzoic acid (2,3,4,5 TFBA) and NaI. All tracers were injected into well 22S with samples extracted from the same well. 318 samples were analyzed for tracer test Single Well #1 and the results can be found in Appendix A. 573 samples were analyzed for tracer test Single Well #2 and the results can be found in Appendix B.

The third tracer test was the Cross-Hole, Multiple Well Tracer Test at Site 22. The selected tracers were lithium chloride (LiCl), lithium bromide (LiBr), 2,6 difluorobenzoic acid (2,6 DFBA), 2,5 difluorobenzoic acid (2,5 DFBA), and 2,4,5 trifluorobenzoic acid (2,4,5 TFBA). The tracers were injected into their respective wells; 2,6 difluorobenzoic acid (2,6 DFBA) was injected into well NC-EWDP-22PC (22PC), lithium bromide (LiBr), lithium chloride (LiCl), and 2,4,5 trifluorobenzoic acid (2,4,5 TFBA) were injected into well NC-EWDP-22PA (22PA), and 2,5 difluorobenzoic acid (2,5 DFBA) was injected into well NC-EWDP-22PB (22PB). All samples were extracted from well 22S. Over 1,400 samples were analyzed for the cross-hole, multiple well tracer test and the results can be found in Appendix C.

The fourth tracer test was Site 22 Cross-Hole Tracer Test Using Perrhenate and Iodate. This test used sodium perrhenate (NaReO_4) and sodium iodide (NaI) as tracers. These tracers were injected into well 22PA with samples extracted from well 22S. 309 samples were analyzed for perrhenate (ReO_4^-). 349 samples were analyzed for iodide. Results for each tracer concentration can be found in Appendix D.

The final test, which is still ongoing, is the Natural Gradient Cross-Hole Tracer Test at Site 22 using PFBA and sodium bromide (NaBr) as tracers. These tracers were injected into well 22PA with samples extracted from wells 22PC and 22S. 2,6 DFBA

and 2,4,5 TFBA were also analyzed in order to obtain accurate background concentrations for previously injected tracers in water samples extracted from these wells. 144 samples were analyzed under this cooperative agreement and the results can be found in Appendix E.

Two ongoing batch test experiments were carried out in conjunction with the field tracer tests. Batch Test #1 was conducted to evaluate the stability of Br⁻ and PFBA. 132 samples were extracted and analyzed over a period of 587 days under this cooperative agreement and the results can be found in Appendix F. Batch Test #2 was conducted to evaluate the stability of 2,6 DFBA, 2,5 DFBA, 2,4,5 TFBA, and 2,3,4,5 TFBA. 128 samples were extracted and analyzed over a period of 559 days under this cooperative agreement and the results can be found in Appendix G.

Multiple water samples, from sampling sites throughout the Yucca Mountain area, were collected and analyzed to obtain concentration data for major cations, major anions, and trace elements. Alkalinity, conductivity, and pH measurements were also conducted at multiple water sampling sites throughout the course of this task. The results of these investigations can be found in the following Appendixes:

- Appendix H – conductivity data
- Appendix I – pH
- Appendix J – alkalinity
- Appendix K – major cations, including sodium (Na), potassium (K), magnesium (Mg), and calcium (Ca);
- Appendix L – major anions, including fluoride (F⁻), chloride (Cl⁻), bromide (Br⁻), nitrite (NO₂⁻), nitrate (NO₃⁻), sulfate (SO₄²⁻), and phosphate (PO₄³⁻)

- Appendix M – Alkali and Alkaline Earth metals including lithium (Li), rubidium (Rb), cesium (Cs), beryllium (Be), strontium (Sr), and barium (Ba)
- Appendix N – 3*d* transition metals, including titanium (Ti), vanadium (V), chromium (Cr), manganese (Mn), cobalt (Co), nickel (Ni), copper (Cu), and zinc (Zn)
- Appendix O – 4*d* transition metals, including zirconium (Zr), niobium (Nb), molybdenum (Mo), ruthenium (Ru), rhodium (Rh), palladium (Pd), silver (Ag), and cadmium (Cd)
- Appendix P – 5*d* transition metals and uranium, including hafnium (Hf), tantalum (Ta), tungsten (W), rhenium (Rh), iridium (Ir), gold (Au), and uranium (U)
- Appendix Q – Group 13 and group 14 elements, including aluminum (Al), gallium (Ga), indium (In), thallium (Tl), germanium (Ge), tin (Sn), and lead (Pb)
- Appendix R – Group 15 and group 16 elements, including arsenic (As), antimony (Sb), bismuth (Bi), selenium (Se), and tellurium (Te)
- Appendix S – yttrium, lanthanum, and 4*f*¹ through 4*f*⁷ elements, including yttrium (Y), lanthanum (La), cerium (Ce), praseodymium (Pr), neodymium (Nd), samarium (Sm), europium (Eu), and gadolinium (Gd)
- Appendix T – 4*f*⁸ through 4*f*¹⁴ elements and thorium, including terbium (Tb), dysprosium (Dy), holmium (Ho), erbium (Er), thulium (Tm), ytterbium (Yb), lutetium (Lu), and thorium (Th)

Data tracking numbers can be found in the Inputs/References section of this report.

INPUTS AND REFERENCES

The results of the analyses for this task can be found in the following data tracking numbers:

- Tracer tests – MO0604UCC010JB.009, MO0608UCC010JB.010, MO0608UCC010JB.011, MO0608UCC010JB.012, and MO0711UCC010NM.001
- Batch tests – MO0711UCC010NM.002, and MO0711UCC010NM.003
- Conductivity, pH, and alkalinity – MO0501UCC010JB.001, MO0508UCC010JB.002, MO0603UCC010TJ.003, and MO0612UCC010TJ.004
- Major Cations – MO0603UCC010JB.006, MO0511UCC010TJ.002, MO0708UCC010CG.002, MO0604UCC010JB.007, and MO0510UCC010JB.005
- Major Anions – MO0603UCC010JB.006, MO0511UCC010TJ.002, MO0708UCC010CG.003, MO0604UCC010JB.008, MO0510UCC010JB.004, and MO0510UCC010JB.003
- Trace Elements – MO0608UCC010KL.003, MO0608UCC010KL.002, MO0608UCC010KL.001, as well as three data sets (NSHE Data ID Numbers 010KL.004, 010KL.005, and 010KL.006) which were transmitted to, but not yet processed into, the Yucca Mountain Project Technical Data Management System at the conclusion of this report

- Rare Earth Elements – MO0605UCC010XG.004,
MO0605UCC010XG.003, MO0604UCC010XG.002,
MO0602UCC010XG.001, and MO0708UCC010CG.001

Duplicate samples were averaged, and the reduced data were calculated using Microsoft Excel 2003.

Appendix A

Pentafluorobenzoic Acid (PFBA) and Iodide Concentrations for the Single Well #1

Push/Pull Tracer Test at Well NC-EWDP 22S (22S)

All concentrations are in parts per million (ppm). NA indicates analyte not analyzed.

Sample Identification Number	Pentafluorobenzoic Acid (PFBA)	Iodide
SPC01020997 Injectate	249	637
SPC01020910 Injectate	250	636
SPC01033200	1.15	3.17
SPC01033201	1.14	2.98
SPC01033202	1.26	3.36
SPC01033203	1.45	3.87
SPC01033204	1.64	4.38
SPC01033205	1.87	4.86
SPC01033206	2.16	5.44
SPC01033207	2.37	6.13
SPC01033208	2.63	6.72
SPC01033209	2.86	7.32
SPC01033210	3.11	8.10
SPC01033211	3.32	8.65
SPC01033212	3.58	9.29
SPC01033213	3.83	9.90
SPC01033214	4.07	10.5
SPC01033215	4.28	11.1
SPC01033216	4.50	11.8
SPC01033217	4.73	12.3
SPC01033218	4.91	12.8
SPC01033219	5.10	13.3
SPC01033220	5.29	13.8
SPC01033221	5.45	14.3
SPC01033222	5.59	14.7
SPC01033223	5.67	15.4
SPC01033224	5.90	15.4
SPC01033225	6.00	15.8
SPC01033226	6.10	16.0
SPC01033227	6.18	16.1
SPC01033228	6.29	16.3
SPC01033229	6.28	16.5
SPC01033230	6.28	16.6
SPC01033231	6.35	16.6
SPC01033232	6.37	16.7
SPC01033233	6.36	16.8

Sample Identification Number	Pentafluorobenzoic Acid (PFBA)	Iodide
SPC01033234	6.35	16.7
SPC01033235	6.34	16.8
SPC01033236	6.30	16.7
SPC01033237	6.26	16.4
SPC01033238	6.21	16.2
SPC01033239	6.15	16.2
SPC01033240	6.10	16.1
SPC01033241	6.04	15.9
SPC01033242	5.95	15.7
SPC01033243	5.86	15.4
SPC01033244	5.78	15.3
SPC01033245	5.69	14.8
SPC01033246	5.59	14.6
SPC01033247	5.52	14.4
SPC01033248	5.42	14.3
SPC01033249	5.32	14.2
SPC01033250	5.20	13.9
SPC01033251	5.15	13.5
SPC01033252	5.06	13.3
SPC01033253	4.94	12.9
SPC01033254	4.84	12.6
SPC01033255	4.73	12.5
SPC01033256	4.65	12.2
SPC01033257	4.55	11.9
SPC01033258	4.43	11.7
SPC01033259	4.37	11.4
SPC01033260	4.32	11.1
SPC01033261	4.18	10.9
SPC01033262	4.09	10.7
SPC01033263	4.01	10.5
SPC01033264	3.91	10.2
SPC01033265	3.83	9.92
SPC01033266	3.74	9.67
SPC01033267	3.66	9.46
SPC01033268	3.57	9.23
SPC01033269	3.45	9.16
SPC01033270	3.43	9.01
SPC01033271	3.34	8.71
SPC01033272	3.27	8.48
SPC01033273	3.20	8.24
SPC01033274	3.11	8.18
SPC01033275	3.04	8.03
SPC01033276	2.97	7.82
SPC01033277	2.90	7.66
SPC01033278	2.86	7.47
SPC01033279	2.79	7.34

Sample Identification Number	Pentafluorobenzoic Acid (PFBA)	Iodide
SPC01033280	2.76	7.12
SPC01033281	2.68	7.03
SPC01033282	2.62	6.80
SPC01033283	2.56	6.72
SPC01033284	2.52	6.52
SPC01033285	2.46	6.42
SPC01033286	2.42	6.33
SPC01033287	2.36	6.10
SPC01033288	2.27	6.09
SPC01033289	2.26	5.94
SPC01033290	2.23	5.85
SPC01033291	2.16	5.74
SPC01033292	2.14	5.52
SPC01033293	2.09	5.39
SPC01033294	2.04	5.31
SPC01033295	2.00	5.23
SPC01033296	1.96	5.22
SPC01033297	1.93	5.11
SPC01033298	1.86	5.01
SPC01033299	1.85	4.88
SPC01033300	1.79	4.76
SPC01033301	1.79	4.77
SPC01033302	1.75	4.64
SPC01033303	1.71	4.48
SPC01033304	1.68	4.44
SPC01033305	1.66	4.32
SPC01033306	1.51	4.26
SPC01033307	1.50	4.15
SPC01033308	1.45	4.10
SPC01033309	1.40	3.96
SPC01033310	1.40	3.94
SPC01033311	1.36	3.84
SPC01033312	1.34	3.77
SPC01033313	1.34	3.75
SPC01033314	1.31	3.64
SPC01033315	1.28	3.59
SPC01033316	1.25	3.46
SPC01033317	1.23	3.46
SPC01033318	1.20	3.44
SPC01033319	1.18	3.31
SPC01033320	1.15	3.28
SPC01033321	1.13	3.19
SPC01033322	1.10	3.04
SPC01033323	1.10	3.07
SPC01033324	1.08	3.02
SPC01033325	1.06	2.99

Sample Identification Number	Pentafluorobenzoic Acid (PFBA)	Iodide
SPC01033326	1.05	2.98
SPC01033327	1.04	2.92
SPC01033328	0.991	2.82
SPC01033329	0.974	2.79
SPC01033330	0.973	2.94
SPC01033331	0.965	2.77
SPC01033332	0.956	2.73
SPC01033333	0.937	2.67
SPC01033334	0.915	2.62
SPC01033335	0.909	2.67
SPC01033337	0.872	2.50
SPC01033338	0.862	2.51
SPC01033339	0.821	2.40
SPC01033340	0.829	2.39
SPC01033341	0.824	2.39
SPC01033342	0.806	2.37
SPC01033343	0.797	2.28
SPC01033344	0.767	2.43
SPC01033345	0.728	2.24
SPC01033346	0.698	2.16
SPC01033347	0.671	1.89
SPC01033348	0.625	1.89
SPC01033349	0.617	1.80
SPC01033350	0.584	1.75
SPC01033351	0.563	1.67
SPC01033352	0.544	1.74
SPC01033353	0.513	1.50
SPC01033354	0.499	1.50
SPC01033355	0.482	1.45
SPC01033356	0.457	1.36
SPC01033357	0.444	1.31
SPC01033358	0.418	1.27
SPC01033359	0.408	1.19
SPC01033360	0.398	1.15
SPC01033361	0.379	1.14
SPC01033362	0.365	1.07
SPC01033363	0.347	1.03
SPC01033364	0.339	0.999
SPC01033365	0.328	0.980
SPC01033366	0.307	0.993
SPC01033367	0.294	0.912
SPC01033368	0.286	0.893
SPC01033369	0.277	0.901
SPC01033370	0.273	0.844
SPC01033371	0.265	0.862
SPC01033372	0.252	0.824

Sample Identification Number	Pentafluorobenzoic Acid (PFBA)	Iodide
SPC01033373	0.240	0.788
SPC01033374	0.233	0.762
SPC01033375	0.219	0.741
SPC01033376	0.211	0.730
SPC01033377	0.204	0.723
SPC01033378	0.198	0.690
SPC01033379	0.191	0.680
SPC01033380	0.187	0.665
SPC01033381	0.181	0.644
SPC01033382	0.174	0.628
SPC01033383	0.166	0.614
SPC01033384	0.169	0.593
SPC01033385	0.160	0.595
SPC01033386	0.154	0.571
SPC01033387	0.152	0.558
SPC01033388	0.149	0.533
SPC01033389	0.146	0.546
SPC01033390	0.147	0.522
SPC01033391	0.135	0.525
SPC01033392	0.133	0.481
SPC01033393	0.131	0.480
SPC01033394	0.124	0.473
SPC01033395	0.121	0.460
SPC01033396	0.119	0.447
SPC01033397	0.122	0.443
SPC01033398	0.107	0.443
SPC01033399	0.108	0.423
SPC01033400	0.108	0.413
SPC01033401	0.107	0.403
SPC01033402	0.0939	0.403
SPC01033403	0.100	0.392
SPC01033404	0.0960	0.386
SPC01033405	0.0907	0.381
SPC01033406	0.0890	0.387
SPC01033407	0.0895	0.361
SPC01033408	0.0885	0.366
SPC01033409	0.0854	0.361
SPC01033410	0.0843	0.348
SPC01033411	0.0820	0.339
SPC01033412	0.0739	0.342
SPC01033413	0.0789	0.334
SPC01033414	0.0766	0.307
SPC01033415	0.0747	0.310
SPC01033416	0.0774	0.307
SPC01033417	0.0621	0.307
SPC01033418	0.0664	0.294

Sample Identification Number	Pentafluorobenzoic Acid (PFBA)	Iodide
SPC01033419	0.0646	0.300
SPC01033420	0.0627	0.297
SPC01033421	0.0606	0.287
SPC01033422	0.0618	0.284
SPC01033423	0.0535	0.274
SPC01033424	0.0563	0.269
SPC01033425	0.0551	0.278
SPC01033426	0.0574	0.251
SPC01033427	0.0544	0.227
SPC01033428	0.0502	0.251
SPC01033429	0.0521	0.255
SPC01033430	0.0503	0.241
SPC01033431	0.0426	0.240
SPC01033432	0.0489	0.243
SPC01033433	0.0470	0.236
SPC01033434	0.0456	0.238
SPC01033435	0.0503	0.237
SPC01033436	0.0528	0.243
SPC01033437	0.0476	0.224
SPC01033438	0.0513	0.220
SPC01033439	0.0481	0.217
SPC01033440	0.0444	0.228
SPC01033441	0.0418	0.215
SPC01033442	0.0433	0.201
SPC01033443	0.0435	0.223
SPC01033444	0.0460	0.212
SPC01033445	0.0467	0.195
SPC01033446	0.0466	0.203
SPC01033447	0.0353	0.207
SPC01033448	0.0386	0.207
SPC01033449	0.0440	0.182
SPC01033450	0.0426	0.184
SPC01033451	0.0362	0.177
SPC01033452	0.0338	0.174
SPC01033453	NA	0.178
SPC01033454	NA	0.176
SPC01033455	NA	0.176
SPC01033456	0.0321	0.160
SPC01033457	NA	0.169
SPC01033458	NA	0.157
SPC01033459	NA	0.151
SPC01033460	NA	0.145
SPC01033461	0.0285	0.141
SPC01033462	NA	0.143
SPC01033463	NA	0.137
SPC01033464	0.0257	0.138

Sample Identification Number	Pentafluorobenzoic Acid (PFBA)	Iodide
SPC01033465	0.0247	0.133
SPC01033466	0.0261	0.130
SPC01033467	0.0247	0.120
SPC01033468	0.0333	0.104
SPC01033469	0.0314	0.100
SPC01033470	0.0304	0.105
SPC01033471	0.0306	0.115
SPC01033472	0.0272	0.100
SPC01033473	0.0300	0.0937
SPC01033474	0.0263	0.0954
SPC01033475	0.0274	0.0858
SPC01033476	0.0281	0.0929
SPC01033477	0.0256	0.0850
SPC01033600	1.30	3.72
SPC01033601	1.22	3.44
SPC01033602	1.61	4.46
SPC01033603	2.01	5.55
SPC01033604	2.54	7.07
SPC01033605	3.04	8.43
SPC01033606	3.56	9.55
SPC01033607	4.02	10.8
SPC01033608	4.53	11.8
SPC01033609	4.91	13.2
SPC01033610	5.26	14.1
SPC01033611	5.59	15.3
SPC01033612	5.82	15.9
SPC01033613	6.04	16.3
SPC01033614	6.17	16.7
SPC01033615	6.22	17.3
SPC01033616	6.28	16.9
SPC01033617	6.13	17.0
SPC01033618	5.71	15.6
SPC01033619	5.15	14.1
SPC01033620	4.56	12.5
SPC01033621	4.00	10.7
SPC01033622	3.48	9.37
SPC01033623	2.63	7.16
SPC01033624	2.01	5.65
SPC01033625	1.56	4.36
SPC01033626	1.24	3.48
SPC01033627	1.03	2.84
SPC01033628	0.862	2.39
SPC01033629	0.428	1.23
SPC01033630	0.248	0.764
SPC01033631	0.160	0.439
SPC01033632	0.107	0.326

Sample Identification Number	Pentafluorobenzoic Acid (PFBA)	Iodide
SPC01033633	0.0791	0.236
SPC01033634	0.0641	0.164
SPC01033635	0.0518	0.137
SPC01033636	0.0385	0.110
SPC01033637	0.0310	0.0819
SPC01033638	0.0252	0.0819

Appendix B

2,3,4,5 Tetrafluorobenzoic Acid (2,3,4,5 TFBA) and Iodide Concentrations for the

Single Well #2 Push/Pull Tracer Test at Well NC-EWDP 22S (22S)

All concentrations are in parts per million (ppm). <MDL indicates analyte concentration is below method detection limits. NA indicates analyte not analyzed. NR indicates analyte concentration not reported.

Sample Identification Number	2,3,4,5 Tetrafluorobenzoic Acid (2,3,4,5 TFBA)	Iodide
SPC01020911 Injectate	248	636
SPC01034701	1.97	6.24
SPC01034702	2.69	8.38
SPC01034703	2.68	8.37
SPC01034704	2.76	8.59
SPC01034705	2.86	9.01
SPC01034706	2.96	9.25
SPC01034707	3.09	9.56
SPC01034708	3.19	9.89
SPC01034709	3.27	10.1
SPC01034710	3.35	10.5
SPC01034711	3.44	10.7
SPC01034712	3.56	10.9
SPC01034713	3.61	11.2
SPC01034714	3.65	11.3
SPC01034715	3.74	11.3
SPC01034716	3.75	11.4
SPC01034717	3.79	11.6
SPC01034718	3.79	11.7
SPC01034719	3.87	11.7
SPC01034720	3.85	11.7
SPC01034721	3.88	11.9
SPC01034722	3.90	12.1
SPC01034723	3.89	12.0
SPC01034724	3.91	12.0
SPC01034725	3.84	11.5
SPC01034726	3.87	11.6
SPC01034727	3.83	11.6
SPC01034728	3.82	11.8
SPC01034729	3.83	11.7
SPC01034730	3.77	11.8

Sample Identification Number	2,3,4,5 Tetrafluorobenzoic Acid (2,3,4,5 TFBA)	Iodide
SPC01034731	3.76	11.6
SPC01034732	3.73	11.7
SPC01034733	3.70	11.6
SPC01034734	3.69	11.3
SPC01034735	3.66	11.3
SPC01034736	3.64	11.2
SPC01034737	3.61	11.3
SPC01034738	3.56	11.1
SPC01034739	3.53	11.0
SPC01034740	3.50	10.9
SPC01034741	3.44	10.8
SPC01034742	3.41	10.8
SPC01034743	3.38	10.7
SPC01034744	3.34	10.5
SPC01034745	3.31	10.5
SPC01034746	3.27	10.3
SPC01034747	3.22	10.0
SPC01034748	3.19	9.95
SPC01034749	3.12	9.87
SPC01034750	3.09	9.78
SPC01034751	3.04	9.57
SPC01034752	3.01	9.54
SPC01034753	2.96	9.39
SPC01034754	2.93	9.32
SPC01034755	2.91	9.27
SPC01034756	2.86	9.05
SPC01034757	2.82	8.70
SPC01034758	2.78	8.63
SPC01034759	2.74	8.52
SPC01034760	2.69	8.46
SPC01034761	2.65	8.33
SPC01034762	2.60	8.21
SPC01034763	2.58	8.12
SPC01034764	2.53	7.96
SPC01034765	2.50	8.06
SPC01034766	2.48	7.83
SPC01034767	2.44	7.94
SPC01034768	2.41	7.58
SPC01034769	2.36	7.50
SPC01034770	2.32	7.25
SPC01034771	2.29	7.65
SPC01034772	2.19	7.42
SPC01034773	2.17	7.06
SPC01034774	2.12	6.98
SPC01034775	2.04	6.84

Sample Identification Number	2,3,4,5 Tetrafluorobenzoic Acid (2,3,4,5 TFBA)	Iodide
SPC01034776	2.06	6.76
SPC01034777	2.03	6.65
SPC01034778	2.02	6.61
SPC01034779	1.94	6.30
SPC01034780	1.96	6.30
SPC01034781	1.86	6.28
SPC01034782	1.86	6.21
SPC01034783	1.81	6.08
SPC01034784	1.82	6.00
SPC01034785	1.76	5.91
SPC01034786	1.75	5.83
SPC01034787	1.74	5.68
SPC01034788	1.68	5.54
SPC01034789	1.68	5.58
SPC01034790	1.64	5.47
SPC01034791	1.65	5.69
SPC01034792	1.63	5.29
SPC01034793	1.56	5.42
SPC01034794	1.56	5.24
SPC01034795	1.51	5.07
SPC01034796	1.43	4.95
SPC01034797	1.50	4.84
SPC01034798	1.49	4.82
SPC01034799	1.43	4.70
SPC01034800	1.47	4.75
SPC01034801	1.40	4.73
SPC01034802	1.39	4.61
SPC01034803	1.37	4.56
SPC01034804	1.34	4.37
SPC01034805	1.28	4.38
SPC01034806	1.32	4.38
SPC01034807	1.26	4.22
SPC01034808	1.30	4.17
SPC01034809	1.23	4.02
SPC01034810	1.23	4.16
SPC01034811	1.19	4.12
SPC01034812	1.21	3.94
SPC01034813	1.18	4.01
SPC01034814	1.15	3.82
SPC01034815	1.12	3.84
SPC01034816	1.11	3.84
SPC01034817	1.09	3.71
SPC01034818	1.10	3.68
SPC01034819	1.07	3.67
SPC01034820	1.04	3.60

Sample Identification Number	2,3,4,5 Tetrafluorobenzoic Acid (2,3,4,5 TFBA)	Iodide
SPC01034821	1.02	3.61
SPC01034822	1.04	3.52
SPC01034823	1.04	3.43
SPC01034824	0.983	3.42
SPC01034825	1.02	3.48
SPC01034826	1.00	3.47
SPC01034827	0.994	3.22
SPC01034828	0.989	3.20
SPC01034829	0.913	3.17
SPC01034830	0.916	3.18
SPC01034831	0.876	3.09
SPC01034832	0.938	3.12
SPC01034833	0.890	2.96
SPC01034834	0.913	2.92
SPC01034835	0.855	2.84
SPC01034836	0.883	2.83
SPC01034837	0.823	2.79
SPC01034838	0.876	2.76
SPC01034839	0.882	2.70
SPC01034840	0.777	2.64
SPC01034841	0.802	2.59
SPC01034842	0.842	2.57
SPC01034843	0.785	2.55
SPC01034844	0.749	2.51
SPC01034845	0.742	2.48
SPC01034846	0.761	2.42
SPC01034847	0.733	2.29
SPC01034848	0.588	2.23
SPC01034849	0.683	2.20
SPC01034850	0.595	2.07
SPC01034851	0.645	1.99
SPC01034852	0.617	1.96
SPC01034853	0.590	1.88
SPC01034854	0.544	1.86
SPC01034855	0.495	1.79
SPC01034856	0.532	1.72
SPC01034857	0.520	1.61
SPC01034858	0.522	1.61
SPC01034859	0.503	1.61
SPC01034860	0.481	1.52
SPC01034861	0.508	1.48
SPC01034862	0.414	1.43
SPC01034863	0.455	1.37
SPC01034864	0.505	1.33
SPC01034865	0.485	1.26

Sample Identification Number	2,3,4,5 Tetrafluorobenzoic Acid (2,3,4,5 TFBA)	Iodide
SPC01034866	0.460	1.26
SPC01034867	0.443	1.24
SPC01034868	0.433	1.17
SPC01034869	0.435	1.11
SPC01034870	0.417	1.09
SPC01034871	0.401	1.06
SPC01034872	0.402	1.04
SPC01034873	0.379	0.981
SPC01034874	0.385	0.962
SPC01034875	0.373	0.950
SPC01034876	0.373	0.931
SPC01034877	0.360	0.896
SPC01034878	0.361	0.886
SPC01034879	0.351	0.864
SPC01034880	0.335	0.885
SPC01034881	0.335	0.883
SPC01034882	0.321	0.825
SPC01034883	0.331	0.863
SPC01034884	0.303	0.740
SPC01034885	0.302	0.795
SPC01034886	0.310	0.749
SPC01034887	0.300	0.751
SPC01034888	0.279	0.743
SPC01034889	0.280	0.701
SPC01034890	0.279	0.669
SPC01034891	0.282	0.664
SPC01034892	0.264	0.661
SPC01034893	0.260	0.639
SPC01034894	0.242	0.604
SPC01034895	0.255	0.579
SPC01034896	0.241	0.571
SPC01034897	0.239	0.564
SPC01034898	0.231	0.572
SPC01034899	0.230	0.574
SPC01034900	0.222	0.557
SPC01034901	0.230	0.530
SPC01034902	0.202	0.511
SPC01034903	0.217	0.533
SPC01034904	0.202	0.501
SPC01034905	0.201	0.501
SPC01034906	0.198	0.451
SPC01034907	0.187	0.461
SPC01034908	0.189	0.454
SPC01034909	0.196	0.452
SPC01034910	0.169	0.444

Sample Identification Number	2,3,4,5 Tetrafluorobenzoic Acid (2,3,4,5 TFBA)	Iodide
SPC01034911	0.176	0.422
SPC01034912	0.176	0.414
SPC01034913	0.157	0.411
SPC01034914	0.180	0.411
SPC01034915	0.165	0.404
SPC01034916	0.168	0.400
SPC01034917	0.157	0.396
SPC01034918	0.157	0.433
SPC01034919	0.157	0.401
SPC01034920	0.142	0.391
SPC01034921	0.154	0.355
SPC01034922	0.141	0.353
SPC01034923	0.144	0.363
SPC01034924	0.148	0.359
SPC01034925	0.139	0.369
SPC01034926	0.145	0.356
SPC01034927	0.145	0.314
SPC01034928	0.138	0.346
SPC01034929	0.141	0.335
SPC01034930	0.126	0.321
SPC01034931	0.123	0.334
SPC01034932	0.134	0.313
SPC01034933	0.122	0.326
SPC01034934	0.121	0.310
SPC01034935	0.122	0.311
SPC01034936	0.120	0.277
SPC01034937	0.121	0.292
SPC01034938	0.112	0.267
SPC01034939	0.119	0.291
SPC01034940	0.117	0.261
SPC01034941	0.111	0.245
SPC01034942	0.112	0.259
SPC01034943	0.103	0.246
SPC01034944	0.106	0.274
SPC01034945	0.102	0.237
SPC01034946	0.101	0.244
SPC01034947	0.105	0.248
SPC01034948	0.0947	0.293
SPC01034949	0.103	0.238
SPC01034950	0.0930	0.259
SPC01034951	0.0996	0.247
SPC01034952	0.0935	0.250
SPC01034953	0.0923	0.247
SPC01034954	0.0854	0.227
SPC01034955	0.0817	0.220

Sample Identification Number	2,3,4,5 Tetrafluorobenzoic Acid (2,3,4,5 TFBA)	Iodide
SPC01034956	0.0865	0.220
SPC01034957	0.0866	0.224
SPC01034958	0.0815	0.227
SPC01034959	0.0858	0.231
SPC01034960	0.0837	0.213
SPC01034961	0.0832	0.225
SPC01034962	0.0803	0.241
SPC01034963	0.0825	0.237
SPC01034964	0.0816	0.202
SPC01034965	0.0816	0.190
SPC01034966	0.0806	0.222
SPC01034967	0.0805	0.224
SPC01034968	0.0791	0.227
SPC01034969	0.0745	0.212
SPC01034970	0.0692	0.221
SPC01034971	0.0698	0.215
SPC01034972	0.0684	0.200
SPC01034973	0.0653	0.203
SPC01034974	0.0651	0.193
SPC01034975	0.0644	0.203
SPC01034976	0.0640	0.181
SPC01034977	0.0629	0.196
SPC01034978	0.0677	0.194
SPC01034979	0.0648	0.197
SPC01034980	0.0621	0.220
SPC01034981	0.0624	0.192
SPC01034982	0.0584	0.200
SPC01034983	0.0593	0.200
SPC01034984	0.0673	0.189
SPC01034985	0.0604	0.195
SPC01034986	0.0608	0.191
SPC01034987	0.0664	0.191
SPC01034988	0.0677	0.185
SPC01034989	0.0619	0.185
SPC01034990	0.0651	0.185
SPC01034991	0.0655	0.166
SPC01034992	0.0583	0.179
SPC01034993	0.0524	0.160
SPC01034994	0.0585	0.177
SPC01034995	0.0591	0.182
SPC01034996	0.0623	0.164
SPC01034997	0.0542	0.182
SPC01034998	0.0600	0.176
SPC01034999	0.0572	0.175
SPC01035000	0.0611	0.168

Sample Identification Number	2,3,4,5 Tetrafluorobenzoic Acid (2,3,4,5 TFBA)	Iodide
SPC01035001	0.0603	0.173
SPC01035002	0.0577	0.167
SPC01035003	0.0561	0.165
SPC01035004	0.0641	0.158
SPC01035005	0.0578	0.163
SPC01035006	0.0539	0.160
SPC01035007	0.0560	0.164
SPC01035008	0.0562	0.156
SPC01035009	0.0518	0.161
SPC01035010	0.0535	0.163
SPC01035011	0.0548	0.156
SPC01035012	0.0607	0.150
SPC01035013	0.0512	0.146
SPC01035014	0.0553	0.141
SPC01035015	0.0536	0.147
SPC01035016	0.0532	0.147
SPC01035017	0.0553	0.158
SPC01035018	0.0511	0.138
SPC01035019	0.0518	0.145
SPC01035020	0.0534	0.148
SPC01035021	0.0558	0.148
SPC01035022	0.0539	0.135
SPC01035023	0.0551	0.134
SPC01035024	0.0475	0.143
SPC01035025	0.0506	0.154
SPC01035026	0.0456	0.154
SPC01035027	0.0501	0.139
SPC01035028	0.0463	0.128
SPC01035029	0.0531	0.117
SPC01035030	0.0465	0.120
SPC01035031	0.0446	0.129
SPC01035032	0.0460	0.126
SPC01035033	0.0445	0.112
SPC01035034	0.0470	0.121
SPC01035035	0.0430	0.112
SPC01035036	0.0408	0.138
SPC01035037	0.0455	0.117
SPC01035038	0.0423	0.112
SPC01035039	0.0427	0.0761
SPC01035040	0.0464	0.160
SPC01035041	0.0445	0.124
SPC01035042	0.0445	0.145
SPC01035043	0.0402	0.127
SPC01035044	0.0358	0.118
SPC01035045	0.0361	0.114

Sample Identification Number	2,3,4,5 Tetrafluorobenzoic Acid (2,3,4,5 TFBA)	Iodide
SPC01035046	0.0446	0.121
SPC01035047	0.0422	0.123
SPC01035048	0.0400	0.119
SPC01035049	0.0436	0.116
SPC01035050	0.0364	0.115
SPC01035051	0.0370	0.111
SPC01035052	0.0358	0.117
SPC01035053	0.0385	0.111
SPC01035054	0.0360	0.113
SPC01035055	0.0348	0.112
SPC01035056	0.0372	0.103
SPC01035057	0.0362	0.104
SPC01035058	0.0330	0.108
SPC01035059	0.0350	0.112
SPC01035060	0.0299	0.103
SPC01035061	0.0326	0.0984
SPC01035062	0.0347	0.0990
SPC01035063	0.0345	0.0903
SPC01035064	0.0332	0.0994
SPC01035065	0.0307	0.102
SPC01035066	0.0353	0.103
SPC01035067	0.0306	0.108
SPC01035068	0.0281	0.104
SPC01035069	0.0316	0.0954
SPC01035070	0.0304	0.107
SPC01035071	0.0286	0.0990
SPC01035072	0.0317	0.0964
SPC01035073	0.0301	0.0990
SPC01035074	0.0316	0.0954
SPC01035075	NR	0.0979
SPC01035076	0.0244	0.0947
SPC01035077	0.0249	0.0845
SPC01035078	0.0331	0.0948
SPC01035079	0.0285	0.0951
SPC01035080	0.0310	0.0917
SPC01035081	0.0270	0.0887
SPC01035082	0.0283	0.0904
SPC01035083	0.0262	0.0962
SPC01035084	0.0275	0.103
SPC01035085	0.0290	0.0752
SPC01035086	0.0294	0.0817
SPC01035087	0.0270	0.0711
SPC01035088	0.0258	0.0545
SPC01035089	NA	0.0742
SPC01035090	NA	0.0620

Sample Identification Number	2,3,4,5 Tetrafluorobenzoic Acid (2,3,4,5 TFBA)	Iodide
SPC01035091	NA	0.0881
SPC01035092	NA	0.0606
SPC01035093	NA	0.0824
SPC01035094	NA	0.0807
SPC01035095	NA	0.0845
SPC01035096	NA	0.0712
SPC01035097	NA	0.0554
SPC01035098	NA	0.0487
SPC01035099	NA	0.0535
SPC01035100	NA	0.0634
SPC01035101	NA	0.0592
SPC01035102	NA	0.0673
SPC01035103	NA	0.0597
SPC01035104	NA	0.0560
SPC01035105	NA	0.0532
SPC01035106	NA	0.0466
SPC01035107	NA	0.0478
SPC01035108	NA	0.0477
SPC01035109	NA	0.0489
SPC01035110	NA	0.0421
SPC01035111	NA	0.0460
SPC01035112	NA	0.0527
SPC01035113	NA	0.0432
SPC01035114	NA	0.0567
SPC01035115	NA	0.0493
SPC01035116	NA	0.0591
SPC01035117	NA	0.0592
SPC01035118	NA	0.0468
SPC01035119	NA	0.0559
SPC01035120	NA	0.0536
SPC01035121	NA	0.0448
SPC01035122	0.0383	0.0538
SPC01035123	NA	0.0495
SPC01035124	NA	0.0516
SPC01035125	NA	0.0496
SPC01035126	NA	0.0532
SPC01035127	NA	0.0481
SPC01035128	NA	0.0456
SPC01035129	NA	0.0546
SPC01035130	NA	0.0514
SPC01035131	NA	0.0521
SPC01035132	NA	0.0436
SPC01035133	NA	0.0461
SPC01035134	NA	0.0475
SPC01035135	NA	0.0438

Sample Identification Number	2,3,4,5 Tetrafluorobenzoic Acid (2,3,4,5 TFBA)	Iodide
SPC01035136	NA	0.0363
SPC01035137	NA	0.0437
SPC01035138	NA	0.0405
SPC01035139	NA	0.0456
SPC01035140	NA	0.0460
SPC01035141	NA	0.0456
SPC01035142	NA	0.0380
SPC01035143	NA	0.0442
SPC01035144	NA	0.0354
SPC01035145	NA	0.0423
SPC01035146	NA	0.0429
SPC01035147	NA	0.0377
SPC01035148	NA	0.0508
SPC01035149	NA	0.0445
SPC01035150	NA	0.0432
SPC01035151	NA	0.0449
SPC01035152	NA	0.0435
SPC01035153	NA	0.0365
SPC01035154	NA	0.0356
SPC01035155	NA	0.0497
SPC01035156	NA	0.0241
SPC01035157	NA	0.0290
SPC01035158	NA	0.0266
SPC01035159	NA	0.0299
SPC01035160	NA	0.0265
SPC01035161	NA	0.0243
SPC01035162	NA	0.0292
SPC01035163	NA	0.0198
SPC01035164	NA	0.0360
SPC01035165	NA	0.0284
SPC01035166	NA	0.0248
SPC01035167	NA	0.0199
SPC01035168	NA	0.0281
SPC01035169	NA	0.0279
SPC01035170	NA	0.0247
SPC01035171	NA	0.0204
SPC01035172	NA	0.0201
SPC01035173	NA	0.0201
SPC01035174	NA	0.0200
SPC01035175	NA	0.0226
SPC01035176	NA	0.0234
SPC01035177	NA	0.0193
SPC01035178	<MDL	0.0162
SPC01035179	<MDL	<MDL
SPC01035180	<MDL	0.0150

Sample Identification Number	2,3,4,5 Tetrafluorobenzoic Acid (2,3,4,5 TFBA)	Iodide
SPC01035181	<MDL	<MDL
SPC01035182	0.0334	0.0198
SPC01035183	0.0326	0.0197
SPC01035184	0.0355	0.0199
SPC01035185	0.0312	0.0227
SPC01035186	0.0349	0.0219
SPC01035187	0.0350	0.0296
SPC01035188	0.0324	0.0294
SPC01035189	0.0307	0.0263
SPC01035190	0.0337	0.0223
SPC01035191	0.0307	0.0184
SPC01035192	0.0328	0.0266
SPC01035193	0.0304	0.0183
SPC01035194	0.0332	0.0151
SPC01035195	0.0311	0.0183
SPC01035196	0.0307	0.0180
SPC01035197	0.0307	0.0197
SPC01035198	0.0341	0.0213
SPC01035199	0.0311	0.0156
SPC01035200	0.0342	0.0150
SPC01035201	0.0310	<MDL
SPC01035202	0.0321	0.0155
SPC01035203	0.0327	0.0200
SPC01035204	0.0312	<MDL
SPC01035205	0.0323	0.0184
SPC01035206	NA	<MDL
SPC01035207	NA	<MDL
SPC01035208	NA	<MDL
SPC01035209	NA	<MDL
SPC01035210	NA	<MDL
SPC01035211	NA	<MDL
SPC01035212	NA	<MDL
SPC01035213	NA	<MDL
SPC01035214	NA	<MDL
SPC01035215	NA	<MDL
SPC01035216	NA	<MDL
SPC01035217	NA	<MDL
SPC01035218	NA	<MDL
SPC01035219	NA	<MDL
SPC01035220	NA	<MDL
SPC01035221	NA	<MDL
SPC01035222	NA	<MDL
SPC01035223	NA	<MDL
SPC01035224	NA	<MDL
SPC01035225	NA	<MDL

Sample Identification Number	2,3,4,5 Tetrafluorobenzoic Acid (2,3,4,5 TFBA)	Iodide
SPC01035226	NA	<MDL
SPC01035227	NA	<MDL
SPC01035228	NA	<MDL
SPC01035229	NA	<MDL
SPC01033640	2.80	8.80
SPC01033641	2.71	8.41
SPC01033642	2.92	9.02
SPC01033643	3.13	9.68
SPC01033644	3.31	10.2
SPC01033645	3.49	10.7
SPC01033646	3.61	11.1
SPC01033647	3.73	11.2
SPC01033648	3.79	11.5
SPC01033649	3.85	11.6
SPC01033650	3.87	12.0
SPC01033651	3.88	12.6
SPC01033652	3.87	11.9
SPC01033653	3.87	11.7
SPC01033654	3.83	11.6
SPC01033655	3.79	11.4
SPC01033656	3.62	11.0
SPC01033657	3.39	10.2
SPC01033658	3.15	9.68
SPC01033659	2.91	8.95
SPC01033660	2.65	8.18
SPC01033661	2.44	7.50
SPC01033662	2.23	6.88
SPC01033663	1.86	5.60
SPC01033664	1.55	4.64
SPC01033665	1.30	4.03
SPC01033666	1.11	3.38
SPC01033667	0.951	2.71
SPC01033668	0.891	2.28
SPC01033669	0.544	1.34
SPC01033670	0.378	0.912
SPC01033671	0.263	0.666
SPC01033672	0.198	0.516
SPC01033673	0.157	0.407
SPC01033674	0.137	0.320
SPC01033675	0.107	0.247
SPC01033676	0.0974	0.228
SPC01033677	0.0909	0.182
SPC01033678	0.0788	0.159
SPC01033679	0.0755	0.137
SPC01033680	0.0688	0.130

Sample Identification Number	2,3,4,5 Tetrafluorobenzoic Acid (2,3,4,5 TFBA)	Iodide
SPC01033681	0.0587	0.140
SPC01033682	0.0522	0.100

Appendix C

Lithium (Li), Bromide (Br), 2,6 Difluorobenzoic Acid (2,6 DFBA), 2,5

Difluorobenzoic Acid (2,5 DFBA), and 2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)

Concentrations for the Cross-Hole, Multiple-Well Tracer Test at Site 22

All concentrations are in parts per million (ppm). <MDL indicates analyte concentration is below method detection limits. NA indicates analyte not analyzed. R indicates analyte concentration data was rejected.

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01033921 Injectate	18060	21504	8116	1480	8232
SPC01034701	0.0454	0.0526	<MDL	<MDL	<MDL
SPC01034702	0.0490	0.0527	<MDL	<MDL	<MDL
SPC01034703	0.0485	0.0520	<MDL	<MDL	<MDL
SPC01034704	0.0513	0.0532	<MDL	<MDL	<MDL
SPC01034705	0.0542	0.0516	<MDL	<MDL	<MDL
SPC01034706	0.0480	0.0532	<MDL	<MDL	<MDL
SPC01034707	0.0521	0.0532	<MDL	<MDL	<MDL
SPC01034708	0.0503	0.0536	<MDL	<MDL	<MDL
SPC01034709	0.0484	0.0521	<MDL	<MDL	<MDL
SPC01034710	0.0486	0.0507	<MDL	<MDL	<MDL
SPC01034711	0.0498	0.0506	<MDL	<MDL	<MDL
SPC01034712	0.0490	0.0494	<MDL	<MDL	<MDL
SPC01034713	0.0482	0.0504	<MDL	<MDL	<MDL
SPC01034714	0.0482	0.0514	<MDL	<MDL	<MDL
SPC01034715	0.0508	0.0508	<MDL	<MDL	<MDL
SPC01034716	0.0485	0.0514	<MDL	<MDL	<MDL
SPC01034717	0.0526	0.0512	<MDL	<MDL	<MDL
SPC01034718	0.0479	0.0515	<MDL	<MDL	<MDL
SPC01034719	0.0496	0.0515	<MDL	<MDL	<MDL
SPC01034720	0.0485	0.0513	<MDL	<MDL	<MDL
SPC01034721	0.0490	0.0490	<MDL	<MDL	<MDL
SPC01034722	0.0495	0.0508	<MDL	<MDL	<MDL
SPC01034723	0.0490	0.0504	<MDL	<MDL	<MDL
SPC01034724	0.0501	0.0502	<MDL	<MDL	<MDL
SPC01034725	0.0486	0.0512	<MDL	<MDL	<MDL
SPC01034726	0.0492	0.0507	<MDL	<MDL	<MDL
SPC01034727	0.0484	0.0501	<MDL	<MDL	<MDL
SPC01034728	0.0494	0.0503	<MDL	<MDL	<MDL
SPC01034729	0.0492	0.0508	<MDL	<MDL	<MDL

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01034730	0.0486	0.0506	<MDL	<MDL	<MDL
SPC01034731	0.0496	0.0505	<MDL	<MDL	<MDL
SPC01034732	0.0500	0.0503	<MDL	<MDL	<MDL
SPC01034733	0.0514	0.0512	<MDL	<MDL	<MDL
SPC01034734	0.0503	0.0509	<MDL	<MDL	<MDL
SPC01034735	0.0514	0.0505	<MDL	<MDL	<MDL
SPC01034736	0.0505	0.0525	<MDL	<MDL	<MDL
SPC01034737	0.0505	0.0505	<MDL	<MDL	<MDL
SPC01034738	0.0506	0.0512	<MDL	<MDL	<MDL
SPC01034739	0.0506	0.0513	<MDL	<MDL	<MDL
SPC01034740	0.0492	0.0511	<MDL	<MDL	<MDL
SPC01034741	0.0502	0.0503	<MDL	<MDL	<MDL
SPC01034742	0.0501	0.0505	<MDL	<MDL	<MDL
SPC01034743	0.0525	0.0522	<MDL	<MDL	<MDL
SPC01034744	0.0503	0.0507	<MDL	<MDL	<MDL
SPC01034745	0.0509	0.0508	<MDL	<MDL	<MDL
SPC01034746	0.0524	0.0512	<MDL	<MDL	<MDL
SPC01034747	0.0538	0.0517	<MDL	<MDL	<MDL
SPC01034748	0.0530	0.0510	<MDL	<MDL	<MDL
SPC01034749	0.0520	0.0506	<MDL	<MDL	<MDL
SPC01034750	0.0519	0.0502	<MDL	<MDL	<MDL
SPC01034751	0.0528	0.0507	<MDL	<MDL	<MDL
SPC01034752	0.0499	0.0522	<MDL	<MDL	<MDL
SPC01034753	0.0506	0.0519	<MDL	<MDL	<MDL
SPC01034754	0.0506	0.0520	<MDL	<MDL	<MDL
SPC01034755	0.0506	0.0529	<MDL	<MDL	<MDL
SPC01034756	0.0503	0.0523	<MDL	<MDL	<MDL
SPC01034757	0.0509	0.0514	<MDL	<MDL	<MDL
SPC01034758	0.0525	0.0511	<MDL	<MDL	<MDL
SPC01034759	0.0508	0.0521	<MDL	<MDL	<MDL
SPC01034760	0.0509	0.0519	<MDL	<MDL	<MDL
SPC01034761	0.0477	0.0553	<MDL	<MDL	<MDL
SPC01034762	0.0504	0.0506	<MDL	<MDL	<MDL
SPC01034763	0.0530	0.0525	<MDL	<MDL	<MDL
SPC01034764	0.0529	0.0512	<MDL	<MDL	<MDL
SPC01034765	0.0518	0.0514	<MDL	<MDL	<MDL
SPC01034766	0.0511	0.0518	<MDL	<MDL	<MDL
SPC01034767	0.0513	0.0536	<MDL	<MDL	<MDL
SPC01034768	0.0526	0.0509	<MDL	<MDL	<MDL
SPC01034769	0.0523	0.0520	<MDL	<MDL	<MDL
SPC01034770	0.0519	0.0504	<MDL	<MDL	<MDL
SPC01034771	0.0511	0.0542	<MDL	<MDL	<MDL
SPC01034772	0.0535	0.0523	<MDL	<MDL	<MDL
SPC01034773	0.0538	0.0512	<MDL	<MDL	<MDL
SPC01034774	0.0491	0.0516	<MDL	<MDL	<MDL

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01034775	0.0514	0.0511	<MDL	<MDL	<MDL
SPC01034776	0.0513	0.0513	<MDL	<MDL	<MDL
SPC01034777	0.0495	0.0523	<MDL	<MDL	<MDL
SPC01034778	0.0501	0.0507	<MDL	<MDL	<MDL
SPC01034779	0.0497	0.0509	<MDL	<MDL	<MDL
SPC01034780	0.0505	0.0521	<MDL	<MDL	<MDL
SPC01034781	0.0525	0.0505	<MDL	<MDL	<MDL
SPC01034782	0.0518	0.0513	<MDL	<MDL	<MDL
SPC01034783	0.0490	0.0520	<MDL	<MDL	<MDL
SPC01034784	0.0506	0.0513	<MDL	<MDL	<MDL
SPC01034785	0.0510	0.0529	<MDL	<MDL	<MDL
SPC01034786	0.0510	0.0513	<MDL	<MDL	<MDL
SPC01034787	0.0504	0.0513	<MDL	<MDL	<MDL
SPC01034788	0.0501	0.0511	<MDL	<MDL	<MDL
SPC01034789	0.0507	0.0506	<MDL	<MDL	<MDL
SPC01034790	0.0527	0.0522	<MDL	<MDL	<MDL
SPC01034791	0.0511	0.0518	<MDL	<MDL	<MDL
SPC01034792	0.0506	0.0520	<MDL	<MDL	<MDL
SPC01034793	0.0504	0.0531	<MDL	<MDL	<MDL
SPC01034794	0.0507	0.0514	<MDL	<MDL	<MDL
SPC01034795	0.0514	0.0518	<MDL	<MDL	<MDL
SPC01034796	0.0511	0.0523	<MDL	<MDL	<MDL
SPC01034797	0.0491	0.0509	<MDL	<MDL	<MDL
SPC01034798	0.0502	0.0507	<MDL	<MDL	<MDL
SPC01034799	0.0515	0.0523	<MDL	<MDL	<MDL
SPC01034800	0.0511	0.0519	<MDL	<MDL	<MDL
SPC01034801	0.0519	0.0491	<MDL	<MDL	<MDL
SPC01034802	0.0502	0.0508	<MDL	<MDL	<MDL
SPC01034803	0.0515	0.0506	<MDL	<MDL	<MDL
SPC01034804	0.0514	0.0525	<MDL	<MDL	<MDL
SPC01034805	0.0519	0.0531	<MDL	<MDL	<MDL
SPC01034806	0.0451	0.0515	<MDL	<MDL	<MDL
SPC01034807	0.0510	0.0506	<MDL	<MDL	<MDL
SPC01034808	0.0512	0.0518	<MDL	<MDL	<MDL
SPC01034809	0.0488	0.0522	<MDL	<MDL	<MDL
SPC01034810	0.0517	0.0522	<MDL	<MDL	<MDL
SPC01034811	0.0540	0.0520	<MDL	<MDL	<MDL
SPC01034812	0.0536	0.0506	<MDL	<MDL	<MDL
SPC01034813	0.0508	0.0510	<MDL	<MDL	<MDL
SPC01034814	0.0500	0.0550	<MDL	<MDL	<MDL
SPC01034815	0.0491	0.0509	<MDL	<MDL	<MDL
SPC01034816	0.0499	0.0507	<MDL	<MDL	<MDL
SPC01034817	0.0489	0.0496	<MDL	<MDL	<MDL
SPC01034818	0.0507	0.0495	<MDL	<MDL	<MDL
SPC01034819	0.0496	0.0522	<MDL	<MDL	<MDL

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01034820	0.0515	0.0523	<MDL	<MDL	<MDL
SPC01034821	0.0504	0.0519	<MDL	<MDL	<MDL
SPC01034822	0.0513	0.0520	<MDL	<MDL	<MDL
SPC01034823	0.0511	0.0526	<MDL	<MDL	<MDL
SPC01034824	0.0498	0.0528	<MDL	<MDL	<MDL
SPC01034825	0.0513	0.0535	<MDL	<MDL	<MDL
SPC01034826	0.0509	0.0513	<MDL	<MDL	<MDL
SPC01034827	0.0501	0.0521	<MDL	<MDL	<MDL
SPC01034828	0.0500	0.0498	<MDL	<MDL	<MDL
SPC01034829	0.0519	0.0509	<MDL	<MDL	<MDL
SPC01034830	0.0505	0.0533	<MDL	<MDL	<MDL
SPC01034831	0.0505	0.0513	<MDL	<MDL	<MDL
SPC01034832	0.0491	0.0515	<MDL	<MDL	<MDL
SPC01034833	0.0494	0.0519	<MDL	<MDL	<MDL
SPC01034834	0.0500	0.0521	<MDL	<MDL	<MDL
SPC01034835	0.0508	0.0508	<MDL	<MDL	<MDL
SPC01034836	0.0501	0.0514	<MDL	<MDL	<MDL
SPC01034837	0.0502	0.0500	<MDL	<MDL	<MDL
SPC01034838	0.0504	0.0506	<MDL	<MDL	<MDL
SPC01034839	0.0484	0.0513	<MDL	<MDL	<MDL
SPC01034840	0.0495	0.0494	<MDL	<MDL	<MDL
SPC01034841	0.0494	0.0508	<MDL	<MDL	<MDL
SPC01034842	0.0452	0.0522	<MDL	<MDL	<MDL
SPC01034843	0.0488	0.0528	<MDL	<MDL	<MDL
SPC01034844	0.0509	0.0514	<MDL	<MDL	<MDL
SPC01034845	0.0511	0.0515	<MDL	<MDL	<MDL
SPC01034846	0.0489	0.0512	<MDL	<MDL	<MDL
SPC01034847	0.0510	0.0531	<MDL	<MDL	<MDL
SPC01034848	0.0501	0.0508	<MDL	<MDL	<MDL
SPC01034849	0.0484	0.0524	<MDL	<MDL	<MDL
SPC01034850	0.0477	0.0506	<MDL	<MDL	<MDL
SPC01034851	0.0480	0.0519	<MDL	<MDL	<MDL
SPC01034852	0.0486	0.0502	<MDL	<MDL	<MDL
SPC01034853	0.0467	0.0526	<MDL	<MDL	<MDL
SPC01034854	0.0471	0.0507	<MDL	<MDL	<MDL
SPC01034855	0.0469	0.0505	<MDL	<MDL	<MDL
SPC01034856	0.0487	0.0506	<MDL	<MDL	<MDL
SPC01034857	0.0491	0.0526	<MDL	<MDL	<MDL
SPC01034858	0.0483	0.0527	<MDL	<MDL	<MDL
SPC01034859	0.0488	0.0522	<MDL	<MDL	<MDL
SPC01034860	0.0495	0.0546	<MDL	<MDL	<MDL
SPC01034861	0.0497	0.0602	<MDL	<MDL	<MDL
SPC01034862	0.0498	0.0719	<MDL	<MDL	<MDL
SPC01034863	0.0517	0.0817	<MDL	<MDL	<MDL
SPC01034864	0.0523	0.0946	<MDL	<MDL	0.0300

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01034865	0.0545	0.105	<MDL	<MDL	0.0379
SPC01034866	0.0570	0.123	<MDL	<MDL	0.0473
SPC01034867	0.0569	0.134	<MDL	<MDL	0.0555
SPC01034868	0.0592	0.155	<MDL	<MDL	0.0640
SPC01034869	0.0621	0.170	<MDL	<MDL	0.0707
SPC01034870	0.0643	0.192	<MDL	<MDL	0.0805
SPC01034871	0.0682	0.212	<MDL	<MDL	0.0917
SPC01034872	0.0698	0.232	<MDL	<MDL	0.103
SPC01034873	0.0745	0.252	<MDL	<MDL	0.109
SPC01034874	0.0752	0.276	<MDL	<MDL	0.124
SPC01034875	0.0805	0.295	<MDL	<MDL	0.133
SPC01034876	0.0840	0.319	<MDL	<MDL	0.150
SPC01034877	0.0867	0.337	<MDL	<MDL	0.153
SPC01034878	0.0913	0.365	<MDL	<MDL	0.164
SPC01034879	0.0945	0.386	<MDL	<MDL	0.181
SPC01034880	0.100	0.404	<MDL	<MDL	0.191
SPC01034881	0.104	0.427	<MDL	<MDL	0.196
SPC01034882	0.108	0.450	<MDL	<MDL	0.209
SPC01034883	0.110	0.460	<MDL	<MDL	0.222
SPC01034884	0.114	0.477	<MDL	<MDL	0.231
SPC01034885	0.118	0.488	<MDL	<MDL	0.234
SPC01034886	0.120	0.517	<MDL	<MDL	0.239
SPC01034887	0.124	0.539	<MDL	<MDL	0.242
SPC01034888	0.130	0.547	<MDL	<MDL	0.257
SPC01034889	0.134	0.553	<MDL	<MDL	0.268
SPC01034890	0.137	0.566	<MDL	<MDL	0.273
SPC01034891	0.137	0.588	<MDL	<MDL	0.285
SPC01034892	0.147	0.600	<MDL	<MDL	0.287
SPC01034893	0.146	0.616	<MDL	<MDL	0.298
SPC01034894	0.149	0.621	<MDL	<MDL	0.303
SPC01034895	0.151	0.654	<MDL	<MDL	0.301
SPC01034896	0.153	0.653	<MDL	<MDL	0.318
SPC01034897	0.159	0.681	<MDL	<MDL	0.318
SPC01034898	0.164	0.692	<MDL	<MDL	0.322
SPC01034899	0.165	0.697	<MDL	<MDL	0.325
SPC01034900	0.166	0.708	<MDL	<MDL	0.330
SPC01034901	0.171	0.739	<MDL	<MDL	0.340
SPC01034902	0.175	0.745	<MDL	<MDL	0.349
SPC01034903	0.177	0.747	<MDL	<MDL	0.356
SPC01034904	0.176	0.766	<MDL	<MDL	0.360
SPC01034905	0.179	0.770	<MDL	<MDL	0.364
SPC01034906	0.182	0.781	<MDL	<MDL	0.365
SPC01034907	0.185	0.792	<MDL	<MDL	0.364
SPC01034908	0.185	0.780	<MDL	<MDL	0.381
SPC01034909	0.187	0.774	<MDL	<MDL	0.379

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01034910	0.192	0.807	<MDL	<MDL	0.385
SPC01034911	0.194	0.821	<MDL	<MDL	0.385
SPC01034912	0.195	0.834	<MDL	<MDL	0.394
SPC01034913	0.195	0.821	<MDL	<MDL	0.403
SPC01034914	0.197	0.847	<MDL	<MDL	0.399
SPC01034915	0.199	0.852	<MDL	<MDL	0.404
SPC01034916	0.203	0.863	<MDL	<MDL	0.405
SPC01034917	0.205	0.865	<MDL	<MDL	0.420
SPC01034918	0.206	0.881	<MDL	<MDL	0.414
SPC01034919	0.205	0.906	<MDL	<MDL	0.425
SPC01034920	0.207	0.905	<MDL	<MDL	0.431
SPC01034921	0.210	0.919	<MDL	<MDL	0.432
SPC01034922	0.215	0.926	<MDL	<MDL	0.439
SPC01034923	0.214	0.949	<MDL	<MDL	0.441
SPC01034924	0.216	0.955	<MDL	<MDL	0.454
SPC01034925	0.212	0.963	<MDL	<MDL	0.456
SPC01034926	0.217	0.983	<MDL	<MDL	0.461
SPC01034927	0.212	1.01	<MDL	<MDL	0.468
SPC01034928	0.214	1.00	<MDL	<MDL	0.471
SPC01034929	0.220	1.03	<MDL	<MDL	0.475
SPC01034930	0.220	1.03	<MDL	<MDL	0.481
SPC01034931	0.220	1.05	<MDL	<MDL	0.484
SPC01034932	0.219	1.06	<MDL	<MDL	0.489
SPC01034933	0.226	1.07	<MDL	<MDL	0.498
SPC01034934	0.217	1.07	<MDL	<MDL	0.505
SPC01034935	0.222	1.08	<MDL	<MDL	0.505
SPC01034936	0.221	1.09	<MDL	<MDL	0.518
SPC01034937	0.224	1.10	<MDL	<MDL	0.516
SPC01034938	0.225	1.10	<MDL	<MDL	0.524
SPC01034939	0.221	1.12	<MDL	<MDL	0.522
SPC01034940	0.225	1.13	<MDL	<MDL	0.536
SPC01034941	0.222	1.16	<MDL	<MDL	0.534
SPC01034942	0.225	1.18	<MDL	<MDL	0.541
SPC01034943	0.225	1.19	<MDL	<MDL	0.544
SPC01034944	0.222	1.20	<MDL	<MDL	0.553
SPC01034945	0.223	1.22	<MDL	<MDL	0.560
SPC01034946	0.220	1.24	<MDL	<MDL	0.563
SPC01034947	0.222	1.25	<MDL	<MDL	0.570
SPC01034948	0.224	1.27	<MDL	<MDL	0.564
SPC01034949	0.221	1.28	<MDL	<MDL	0.572
SPC01034950	0.222	1.29	<MDL	<MDL	0.581
SPC01034951	0.225	1.31	<MDL	<MDL	0.590
SPC01034952	0.226	1.32	<MDL	<MDL	0.591
SPC01034953	0.223	1.34	<MDL	<MDL	0.599
SPC01034954	0.225	1.35	<MDL	<MDL	0.606

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01034955	0.220	1.37	<MDL	<MDL	0.600
SPC01034956	0.229	1.38	<MDL	<MDL	0.606
SPC01034957	0.229	1.40	<MDL	<MDL	0.621
SPC01034958	0.228	1.41	<MDL	<MDL	0.620
SPC01034959	0.225	1.42	<MDL	<MDL	0.621
SPC01034960	0.223	1.41	<MDL	<MDL	0.622
SPC01034961	0.226	1.44	<MDL	<MDL	0.631
SPC01034962	0.225	1.45	<MDL	<MDL	0.635
SPC01034963	0.226	1.46	<MDL	<MDL	0.635
SPC01034964	0.225	1.46	<MDL	<MDL	0.645
SPC01034965	0.226	1.47	<MDL	<MDL	0.650
SPC01034966	0.230	1.48	<MDL	<MDL	0.657
SPC01034967	0.225	1.50	<MDL	<MDL	0.658
SPC01034968	0.228	1.51	<MDL	<MDL	0.665
SPC01034969	0.225	1.53	<MDL	<MDL	0.669
SPC01034970	0.225	1.54	<MDL	<MDL	0.673
SPC01034971	0.221	1.57	<MDL	<MDL	0.677
SPC01034972	0.221	1.58	<MDL	<MDL	0.676
SPC01034973	0.221	1.59	<MDL	<MDL	0.676
SPC01034974	0.216	1.60	<MDL	<MDL	0.691
SPC01034975	0.221	1.61	<MDL	<MDL	0.699
SPC01034976	0.219	1.63	<MDL	<MDL	0.699
SPC01034977	0.222	1.64	<MDL	<MDL	0.699
SPC01034978	0.220	1.64	<MDL	<MDL	0.704
SPC01034979	0.221	1.65	<MDL	<MDL	0.709
SPC01034980	0.221	1.66	<MDL	<MDL	0.710
SPC01034981	0.221	1.67	<MDL	<MDL	0.726
SPC01034982	0.221	1.67	<MDL	<MDL	0.715
SPC01034983	0.214	1.68	<MDL	<MDL	0.718
SPC01034984	0.215	1.68	<MDL	<MDL	0.747
SPC01034985	0.223	1.69	<MDL	<MDL	0.748
SPC01034986	0.223	1.71	<MDL	<MDL	0.755
SPC01034987	0.221	1.71	<MDL	<MDL	0.759
SPC01034988	0.222	1.72	<MDL	<MDL	0.756
SPC01034989	0.219	1.73	<MDL	<MDL	0.757
SPC01034990	0.220	1.74	<MDL	<MDL	0.758
SPC01034991	0.221	1.74	<MDL	<MDL	0.767
SPC01034992	0.221	1.75	<MDL	<MDL	0.768
SPC01034993	0.221	1.76	<MDL	<MDL	0.768
SPC01034994	0.225	1.77	<MDL	<MDL	0.778
SPC01034995	0.219	1.77	<MDL	<MDL	0.773
SPC01034996	0.211	1.78	<MDL	<MDL	0.777
SPC01034997	0.212	1.78	<MDL	<MDL	0.784
SPC01034998	0.217	1.80	<MDL	<MDL	0.788
SPC01034999	0.210	1.81	<MDL	<MDL	0.797

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01035000	0.215	1.82	<MDL	<MDL	0.801
SPC01035001	0.220	1.82	<MDL	<MDL	0.798
SPC01035002	0.219	1.83	<MDL	<MDL	0.803
SPC01035003	0.213	1.84	<MDL	<MDL	0.812
SPC01035004	0.215	1.84	<MDL	<MDL	0.808
SPC01035005	0.218	1.85	<MDL	<MDL	0.825
SPC01035006	0.218	1.87	<MDL	<MDL	0.819
SPC01035007	0.220	1.89	<MDL	<MDL	0.820
SPC01035008	0.217	1.91	<MDL	<MDL	0.827
SPC01035009	0.215	1.90	<MDL	<MDL	0.827
SPC01035010	0.205	1.91	<MDL	<MDL	0.832
SPC01035011	0.212	1.92	<MDL	<MDL	0.834
SPC01035012	0.209	1.93	<MDL	<MDL	0.832
SPC01035013	0.209	1.93	<MDL	<MDL	0.828
SPC01035014	0.211	1.95	<MDL	<MDL	0.839
SPC01035015	0.210	1.95	<MDL	<MDL	0.853
SPC01035016	0.209	1.96	<MDL	<MDL	0.852
SPC01035017	0.211	1.96	<MDL	<MDL	0.842
SPC01035018	0.209	1.99	<MDL	<MDL	0.853
SPC01035019	0.213	2.00	<MDL	<MDL	0.858
SPC01035020	0.212	2.00	<MDL	<MDL	0.877
SPC01035021	0.214	2.01	<MDL	<MDL	0.862
SPC01035022	0.209	2.02	<MDL	<MDL	0.864
SPC01035023	0.210	2.04	<MDL	<MDL	0.873
SPC01035024	0.206	2.05	<MDL	<MDL	0.882
SPC01035025	0.210	2.05	<MDL	<MDL	0.872
SPC01035026	0.207	2.07	<MDL	<MDL	0.879
SPC01035027	0.212	2.07	<MDL	<MDL	0.882
SPC01035028	0.212	2.07	<MDL	<MDL	0.887
SPC01035029	0.211	2.08	<MDL	<MDL	0.885
SPC01035030	0.211	2.09	<MDL	<MDL	0.895
SPC01035031	0.210	2.09	<MDL	<MDL	0.900
SPC01035032	0.210	2.10	<MDL	<MDL	0.890
SPC01035033	0.214	2.10	<MDL	<MDL	0.891
SPC01035034	0.208	2.09	<MDL	<MDL	0.894
SPC01035035	0.211	2.09	<MDL	<MDL	0.898
SPC01035036	0.206	2.10	<MDL	<MDL	0.897
SPC01035037	0.213	2.09	<MDL	<MDL	0.910
SPC01035038	0.210	2.09	<MDL	<MDL	0.907
SPC01035039	0.210	2.11	<MDL	<MDL	0.904
SPC01035040	0.206	2.12	<MDL	<MDL	0.916
SPC01035041	0.211	2.11	<MDL	<MDL	0.919
SPC01035042	0.208	2.13	<MDL	<MDL	0.913
SPC01035043	0.210	2.13	0.0113	<MDL	0.936
SPC01035044	0.210	2.15	0.0125	<MDL	0.926

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01035045	0.205	2.15	<MDL	<MDL	0.928
SPC01035046	0.201	2.18	0.0105	<MDL	0.936
SPC01035047	0.203	2.18	0.00927	<MDL	0.945
SPC01035048	0.206	2.20	0.00869	<MDL	0.952
SPC01035049	0.194	2.22	0.0112	<MDL	0.954
SPC01035050	0.196	2.24	0.00914	<MDL	0.966
SPC01035051	0.201	2.25	0.00839	<MDL	0.964
SPC01035052	0.205	2.25	0.00890	<MDL	0.968
SPC01035053	0.195	2.27	0.00822	<MDL	0.975
SPC01035054	0.197	2.27	0.00967	<MDL	0.989
SPC01035055	0.199	2.29	0.0107	<MDL	0.985
SPC01035056	0.196	2.29	0.00823	<MDL	0.999
SPC01035057	0.196	2.31	0.00815	<MDL	0.997
SPC01035058	0.198	2.31	<MDL	<MDL	1.01
SPC01035059	0.199	2.33	0.00858	<MDL	1.00
SPC01035060	0.198	2.33	0.00857	<MDL	1.01
SPC01035061	0.198	2.31	0.00811	<MDL	1.02
SPC01035062	0.197	2.33	<MDL	<MDL	0.988
SPC01035063	0.200	2.34	<MDL	<MDL	1.02
SPC01035064	0.194	2.35	<MDL	<MDL	1.03
SPC01035065	0.196	2.36	<MDL	<MDL	1.04
SPC01035066	0.198	2.36	0.00824	<MDL	1.04
SPC01035067	0.194	2.37	<MDL	<MDL	1.05
SPC01035068	0.192	2.39	0.0098	<MDL	1.04
SPC01035069	0.194	2.41	0.0105	<MDL	1.06
SPC01035070	0.192	2.42	0.0105	<MDL	1.06
SPC01035071	0.194	2.43	0.0120	<MDL	1.06
SPC01035072	0.197	2.45	0.00951	<MDL	1.07
SPC01035073	0.197	2.47	0.0112	<MDL	1.07
SPC01035074	0.194	2.48	0.0118	<MDL	1.08
SPC01035075	0.193	2.50	R	R	R
SPC01035076	0.192	2.50	0.0117	<MDL	1.08
SPC01035077	0.197	2.53	0.0113	<MDL	1.08
SPC01035078	0.193	2.53	<MDL	<MDL	1.08
SPC01035079	0.195	2.52	0.0125	<MDL	1.08
SPC01035080	0.188	2.54	0.0152	<MDL	1.10
SPC01035081	0.187	2.55	0.0161	<MDL	1.10
SPC01035082	0.191	2.56	0.0131	<MDL	1.11
SPC01035083	0.191	2.57	0.0172	<MDL	1.10
SPC01035084	0.185	2.58	0.0180	<MDL	1.11
SPC01035085	0.191	2.56	0.0171	<MDL	1.10
SPC01035086	0.183	2.59	0.0171	<MDL	1.12
SPC01035087	0.190	2.59	0.0188	<MDL	1.11
SPC01035088	0.186	2.59	0.0197	<MDL	1.13
SPC01035089	0.186	2.60	0.0196	<MDL	1.08

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01035090	0.182	2.61	0.0152	<MDL	1.09
SPC01035091	0.183	2.61	0.0171	<MDL	1.09
SPC01035092	0.185	2.63	0.0224	<MDL	1.09
SPC01035093	0.181	2.64	0.0280	<MDL	1.09
SPC01035094	0.179	2.65	0.0317	<MDL	1.11
SPC01035095	0.180	2.65	0.0336	<MDL	1.10
SPC01035096	0.177	2.67	0.0336	<MDL	1.10
SPC01035097	0.177	2.66	0.0377	<MDL	1.09
SPC01035098	0.179	2.67	0.0292	<MDL	1.12
SPC01035099	0.179	2.69	0.0354	R	1.09
SPC01035100	0.179	2.69	0.0374	<MDL	1.11
SPC01035101	0.180	2.68	0.0292	<MDL	1.11
SPC01035102	0.176	2.69	0.0307	<MDL	1.12
SPC01035103	0.178	2.70	0.0323	<MDL	1.12
SPC01035104	0.180	2.71	0.0298	<MDL	1.13
SPC01035105	0.185	2.71	0.0492	<MDL	1.12
SPC01035106	0.177	2.73	0.0470	<MDL	1.14
SPC01035107	0.178	2.72	0.0390	<MDL	1.12
SPC01035108	0.180	2.74	0.0492	<MDL	1.14
SPC01035109	0.179	2.74	0.0467	<MDL	1.14
SPC01035110	0.179	2.75	0.0574	<MDL	1.15
SPC01035111	0.179	2.76	0.0554	<MDL	1.13
SPC01035112	0.179	2.77	0.0606	<MDL	1.14
SPC01035113	0.176	2.78	0.0615	<MDL	1.14
SPC01035114	0.175	2.78	0.0679	R	1.16
SPC01035115	0.178	2.78	0.0748	<MDL	1.14
SPC01035116	0.177	2.79	0.0666	<MDL	1.15
SPC01035117	0.178	2.79	0.0770	<MDL	1.14
SPC01035118	0.171	2.81	0.0643	<MDL	1.16
SPC01035119	0.174	2.82	0.0776	<MDL	1.16
SPC01035120	0.174	2.82	0.0800	<MDL	1.15
SPC01035121	0.174	2.83	0.0844	<MDL	1.16
SPC01035122	0.174	2.84	0.0845	<MDL	1.12
SPC01035123	0.173	2.84	R	R	R
SPC01035124	0.175	2.84	0.0877	<MDL	1.16
SPC01035125	0.175	2.85	0.0814	<MDL	1.16
SPC01035126	0.173	2.85	0.0943	<MDL	1.15
SPC01035127	0.175	2.85	0.0848	<MDL	1.14
SPC01035128	0.174	2.86	0.0979	<MDL	1.13
SPC01035129	0.170	2.86	0.106	<MDL	1.17
SPC01035130	0.169	2.86	0.0963	<MDL	1.17
SPC01035131	0.169	2.87	0.0870	<MDL	1.18
SPC01035132	0.169	2.88	0.0978	<MDL	1.19
SPC01035133	0.169	2.89	0.105	<MDL	1.17
SPC01035134	0.167	2.88	0.109	<MDL	1.16

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01035135	0.167	2.88	0.123	<MDL	1.18
SPC01035136	0.168	2.89	0.123	<MDL	1.17
SPC01035137	0.167	2.89	0.121	<MDL	1.18
SPC01035138	0.168	2.89	0.115	<MDL	1.17
SPC01035139	0.167	2.89	0.121	<MDL	1.17
SPC01035140	0.167	2.89	0.128	<MDL	1.16
SPC01035141	0.167	2.91	0.133	<MDL	1.17
SPC01035142	0.165	2.91	0.140	<MDL	1.19
SPC01035143	0.169	2.91	0.140	<MDL	1.17
SPC01035144	0.164	2.90	0.144	<MDL	1.17
SPC01035145	0.164	2.92	0.145	<MDL	1.18
SPC01035146	0.167	2.93	0.154	<MDL	1.18
SPC01035147	0.167	2.93	0.155	<MDL	1.19
SPC01035148	0.167	2.93	0.162	<MDL	1.19
SPC01035149	0.164	2.92	0.165	<MDL	1.19
SPC01035150	0.165	2.94	0.168	<MDL	1.19
SPC01035151	0.164	2.93	0.165	<MDL	1.16
SPC01035152	0.167	2.93	0.167	<MDL	1.17
SPC01035153	0.166	2.93	0.177	<MDL	1.17
SPC01035154	0.167	2.94	0.179	<MDL	1.18
SPC01035155	0.165	2.95	0.174	<MDL	1.18
SPC01035156	0.166	2.94	0.178	<MDL	1.18
SPC01035157	0.165	2.93	0.195	<MDL	1.19
SPC01035158	0.165	2.96	0.187	<MDL	1.19
SPC01035159	0.165	2.93	0.198	<MDL	1.19
SPC01035160	0.165	2.93	0.202	<MDL	1.19
SPC01035161	0.167	2.94	0.203	<MDL	1.19
SPC01035162	0.165	2.94	0.204	<MDL	1.18
SPC01035163	0.165	2.94	0.214	<MDL	1.18
SPC01035164	0.165	2.95	0.223	<MDL	1.18
SPC01035165	0.165	2.95	0.220	<MDL	1.19
SPC01035166	0.164	2.95	0.221	<MDL	1.18
SPC01035167	0.163	2.95	0.232	<MDL	1.19
SPC01035168	0.164	2.95	0.229	<MDL	1.16
SPC01035169	0.166	2.95	0.232	<MDL	1.16
SPC01035170	0.164	2.95	0.235	<MDL	1.18
SPC01035171	0.163	2.95	0.240	<MDL	1.17
SPC01035172	0.165	2.95	0.232	<MDL	1.17
SPC01035173	0.160	2.96	0.243	<MDL	1.18
SPC01035174	0.158	2.96	0.250	<MDL	1.18
SPC01035175	0.157	2.95	0.242	<MDL	1.17
SPC01035176	0.157	2.97	0.263	<MDL	1.17
SPC01035177	0.156	2.95	0.258	<MDL	1.17
SPC01035178	0.155	2.95	0.271	<MDL	1.13
SPC01035179	0.157	2.95	0.268	<MDL	1.13

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01035180	0.158	2.96	0.266	<MDL	1.12
SPC01035181	0.154	2.95	0.285	<MDL	1.15
SPC01035182	0.158	2.92	0.286	<MDL	1.13
SPC01035183	0.159	2.93	0.294	<MDL	1.13
SPC01035184	0.158	2.93	0.294	<MDL	1.12
SPC01035185	0.161	2.92	0.294	<MDL	1.12
SPC01035186	0.158	2.92	0.304	<MDL	1.13
SPC01035187	0.158	2.94	0.295	<MDL	1.11
SPC01035188	0.159	2.94	0.308	<MDL	1.12
SPC01035189	0.159	2.94	0.311	<MDL	1.12
SPC01035190	0.160	2.93	0.314	<MDL	1.13
SPC01035191	0.159	2.93	0.304	<MDL	1.11
SPC01035192	0.159	2.91	0.315	<MDL	1.12
SPC01035193	0.158	2.92	0.313	<MDL	1.11
SPC01035194	0.160	2.92	0.322	<MDL	1.11
SPC01035195	0.160	2.93	0.331	<MDL	1.11
SPC01035196	0.159	2.91	0.331	<MDL	1.12
SPC01035197	0.158	2.89	0.339	<MDL	1.11
SPC01035198	0.159	2.89	0.338	<MDL	1.13
SPC01035199	0.158	2.89	0.337	<MDL	1.10
SPC01035200	0.159	2.89	0.349	<MDL	1.12
SPC01035201	0.161	2.88	0.350	<MDL	1.10
SPC01035202	0.160	2.87	0.354	<MDL	1.10
SPC01035203	0.164	2.87	0.353	<MDL	1.10
SPC01035204	0.159	2.87	0.353	<MDL	1.10
SPC01035205	0.160	2.85	0.360	R	1.09
SPC01035206	0.160	2.84	0.375	<MDL	1.01
SPC01035207	0.160	2.86	0.387	<MDL	1.01
SPC01035208	0.159	2.87	0.377	<MDL	1.01
SPC01035209	0.157	2.85	0.383	<MDL	1.01
SPC01035210	0.158	2.84	0.389	<MDL	1.00
SPC01035211	0.157	2.84	0.389	<MDL	1.00
SPC01035212	0.159	2.81	0.402	<MDL	1.01
SPC01035213	0.159	2.84	0.400	<MDL	1.00
SPC01035214	0.157	2.83	0.394	<MDL	1.00
SPC01035215	0.158	2.81	0.405	<MDL	1.00
SPC01035216	0.159	2.81	0.409	<MDL	1.00
SPC01035217	0.159	2.82	0.404	<MDL	0.993
SPC01035218	0.157	2.81	0.410	<MDL	0.990
SPC01035219	0.159	2.82	0.416	<MDL	0.987
SPC01035220	0.158	2.81	0.416	<MDL	0.984
SPC01035221	0.157	2.81	0.419	<MDL	0.985
SPC01035222	0.157	2.77	0.426	<MDL	0.980
SPC01035223	0.159	2.79	0.423	<MDL	0.979
SPC01035224	0.159	2.77	0.446	<MDL	0.975

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01035225	0.157	2.79	0.433	<MDL	0.968
SPC01035226	0.157	2.76	0.433	<MDL	0.976
SPC01035227	0.156	2.78	0.436	<MDL	0.970
SPC01035228	0.158	2.76	0.445	<MDL	0.970
SPC01035229	0.159	2.75	0.438	<MDL	0.963
SPC01035230	0.159	2.73	0.438	<MDL	0.962
SPC01035231	0.157	2.72	0.442	<MDL	0.963
SPC01035232	0.158	2.72	0.442	<MDL	0.956
SPC01035233	0.159	2.72	0.450	<MDL	0.956
SPC01035234	0.158	2.71	0.454	<MDL	0.956
SPC01035235	0.157	2.70	0.455	<MDL	0.957
SPC01035236	0.157	2.70	0.462	<MDL	0.955
SPC01035237	0.160	2.69	0.458	<MDL	0.950
SPC01035238	0.159	2.69	0.471	<MDL	0.951
SPC01035239	0.159	2.67	0.462	<MDL	0.943
SPC01035240	0.159	2.65	0.462	<MDL	0.942
SPC01035241	0.158	2.65	0.472	<MDL	0.939
SPC01035242	0.158	2.65	0.479	<MDL	0.934
SPC01035243	0.159	2.65	0.481	<MDL	0.929
SPC01035244	0.160	2.64	0.480	<MDL	0.931
SPC01035245	0.162	2.62	0.480	<MDL	0.939
SPC01035246	0.160	2.64	0.481	<MDL	0.932
SPC01035247	0.160	2.61	0.480	<MDL	0.930
SPC01035248	0.159	2.61	0.491	<MDL	0.928
SPC01035249	0.160	2.61	0.487	<MDL	0.925
SPC01035250	0.160	2.60	0.492	<MDL	0.919
SPC01035251	0.160	2.60	0.503	<MDL	0.921
SPC01035252	0.159	2.60	0.506	<MDL	0.918
SPC01035253	0.160	2.59	0.503	<MDL	0.914
SPC01035254	0.159	2.59	0.507	<MDL	0.912
SPC01035255	0.159	2.57	0.512	<MDL	0.914
SPC01035256	0.159	2.57	0.510	<MDL	0.908
SPC01035257	0.160	2.56	0.513	<MDL	0.910
SPC01035258	0.159	2.56	0.515	<MDL	0.906
SPC01035259	0.160	2.54	0.515	<MDL	0.904
SPC01035260	0.160	2.53	0.515	<MDL	0.899
SPC01035261	0.160	2.51	0.523	<MDL	0.895
SPC01035262	0.159	2.51	0.531	<MDL	0.894
SPC01035263	0.159	2.50	0.532	<MDL	0.884
SPC01035264	0.159	2.49	0.536	<MDL	0.879
SPC01035265	0.159	2.47	0.550	<MDL	0.877
SPC01035266	0.160	2.46	0.551	<MDL	0.874
SPC01035267	0.160	2.45	0.559	<MDL	0.865
SPC01035268	0.159	2.43	0.555	<MDL	0.862
SPC01035269	0.160	2.43	0.562	<MDL	0.864

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01035270	0.160	2.42	0.566	<MDL	0.853
SPC01035271	0.159	2.40	0.571	<MDL	0.853
SPC01035272	0.158	2.38	0.573	<MDL	0.845
SPC01035273	0.159	2.37	0.580	<MDL	0.842
SPC01035274	0.159	2.36	0.578	<MDL	0.839
SPC01035275	0.159	2.34	0.583	<MDL	0.834
SPC01035276	0.159	2.32	0.586	<MDL	0.830
SPC01035277	0.160	2.33	0.589	<MDL	0.823
SPC01035278	0.160	2.29	0.592	<MDL	0.820
SPC01035279	0.159	2.28	0.595	<MDL	0.817
SPC01035280	0.159	2.27	0.601	<MDL	0.814
SPC01035281	0.160	2.28	0.607	<MDL	0.813
SPC01035282	0.160	2.26	0.610	<MDL	0.811
SPC01035283	0.160	2.26	0.609	<MDL	0.804
SPC01035284	0.160	2.23	0.611	<MDL	0.798
SPC01035285	0.160	2.21	0.616	<MDL	0.794
SPC01035286	0.159	2.21	0.618	<MDL	0.785
SPC01035287	0.160	2.19	0.622	<MDL	0.784
SPC01035288	0.160	2.19	0.626	<MDL	0.777
SPC01035289	0.158	2.17	0.620	<MDL	0.771
SPC01035290	0.159	2.16	0.625	<MDL	0.767
SPC01035291	0.160	2.14	0.629	<MDL	0.767
SPC01035292	0.159	2.13	0.719	<MDL	0.873
SPC01035293	0.157	2.13	0.728	<MDL	0.876
SPC01035294	0.158	2.10	0.731	<MDL	0.864
SPC01035295	0.158	2.10	0.730	<MDL	0.864
SPC01035296	0.160	2.09	0.734	<MDL	0.859
SPC01035297	0.159	2.07	0.736	<MDL	0.850
SPC01035298	0.158	2.05	0.727	<MDL	0.836
SPC01035299	0.157	2.04	0.738	<MDL	0.833
SPC01035300	0.158	2.02	0.740	<MDL	0.834
SPC01035301	0.156	1.99	0.739	<MDL	0.828
SPC01035302	0.159	1.99	0.741	<MDL	0.820
SPC01035303	0.158	1.97	0.750	<MDL	0.815
SPC01035304	0.158	1.96	0.741	<MDL	0.809
SPC01035305	0.159	1.97	0.748	<MDL	0.806
SPC01035306	0.156	1.97	0.750	<MDL	0.804
SPC01035307	0.158	1.95	0.754	<MDL	0.799
SPC01035308	0.159	1.93	0.750	<MDL	0.801
SPC01035309	0.159	1.94	0.752	<MDL	0.794
SPC01035310	0.159	1.90	0.757	<MDL	0.787
SPC01035311	0.158	1.90	0.760	<MDL	0.775
SPC01035312	0.159	1.87	0.749	<MDL	0.774
SPC01035313	0.158	1.88	0.763	<MDL	0.767
SPC01035314	0.157	1.88	0.768	<MDL	0.761

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01035315	0.156	1.86	0.758	<MDL	0.753
SPC01035316	0.155	1.83	0.763	<MDL	0.752
SPC01035317	0.157	1.85	0.770	<MDL	0.743
SPC01035318	0.159	1.85	0.772	<MDL	0.754
SPC01035319	0.155	1.84	0.773	<MDL	0.747
SPC01035320	0.156	1.84	0.772	<MDL	0.741
SPC01035321	0.154	1.83	0.776	<MDL	0.733
SPC01035322	0.153	1.82	0.772	<MDL	0.729
SPC01035323	0.155	1.81	0.768	<MDL	0.722
SPC01035324	0.154	1.78	0.776	<MDL	0.715
SPC01035325	0.156	1.75	0.769	<MDL	0.709
SPC01035326	0.153	1.74	0.768	<MDL	0.710
SPC01035327	0.153	1.74	0.780	<MDL	0.700
SPC01035328	0.158	1.70	0.774	<MDL	0.696
SPC01035329	0.156	1.70	0.779	<MDL	0.689
SPC01035330	0.158	1.70	0.766	<MDL	0.694
SPC01035331	0.156	1.69	0.781	<MDL	0.700
SPC01035332	0.155	1.68	0.768	<MDL	0.696
SPC01035333	0.157	1.68	0.777	<MDL	0.685
SPC01035334	0.156	1.67	0.777	<MDL	0.677
SPC01035335	0.154	1.66	0.777	<MDL	0.678
SPC01035336	0.153	1.64	0.779	<MDL	0.674
SPC01035337	0.154	1.63	0.768	<MDL	0.669
SPC01035338	0.153	1.61	0.770	<MDL	0.669
SPC01035339	0.155	1.61	0.769	<MDL	0.659
SPC01035340	0.155	1.59	0.775	<MDL	0.655
SPC01035341	0.154	1.59	0.766	<MDL	0.646
SPC01035342	0.155	1.58	0.778	<MDL	0.653
SPC01035343	0.157	1.58	0.772	<MDL	0.642
SPC01035344	0.155	1.58	0.773	<MDL	0.641
SPC01035345	0.156	1.57	0.767	<MDL	0.642
SPC01035346	0.156	1.53	0.772	<MDL	0.635
SPC01035347	0.156	1.54	0.775	<MDL	0.631
SPC01035348	0.151	1.53	0.772	<MDL	0.625
SPC01035349	0.151	1.52	0.774	<MDL	0.624
SPC01035350	0.154	1.51	0.768	<MDL	0.617
SPC01035351	0.153	1.51	0.774	<MDL	0.616
SPC01035352	0.151	1.49	0.768	<MDL	0.612
SPC01035353	0.150	1.48	0.767	<MDL	0.603
SPC01035354	0.153	1.48	0.770	<MDL	0.608
SPC01035355	0.151	1.47	0.766	<MDL	0.612
SPC01035356	0.152	1.47	0.765	<MDL	0.603
SPC01035357	0.154	1.46	0.773	<MDL	0.601
SPC01035358	0.152	1.45	0.765	<MDL	0.596
SPC01035359	0.154	1.44	0.764	<MDL	0.589

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01035360	0.153	1.43	0.763	<MDL	0.581
SPC01035361	0.157	1.42	0.756	<MDL	0.584
SPC01035362	0.152	1.41	0.757	<MDL	0.577
SPC01035363	0.156	1.40	0.755	<MDL	0.570
SPC01035364	0.154	1.39	0.760	<MDL	0.563
SPC01035365	0.154	1.39	0.759	<MDL	0.568
SPC01035366	0.154	1.39	0.761	<MDL	0.570
SPC01035367	0.156	1.38	0.758	<MDL	0.568
SPC01035368	0.155	1.38	0.763	<MDL	0.565
SPC01035369	0.155	1.37	0.753	<MDL	0.558
SPC01035370	0.155	1.36	0.755	<MDL	0.557
SPC01035371	0.155	1.35	0.757	<MDL	0.550
SPC01035372	0.156	1.34	0.754	<MDL	0.547
SPC01035373	0.154	1.33	0.742	<MDL	0.546
SPC01035374	0.152	1.33	0.750	<MDL	0.540
SPC01035375	0.152	1.32	0.747	<MDL	0.540
SPC01035376	0.147	1.31	0.752	<MDL	0.540
SPC01035377	0.151	1.30	0.743	<MDL	0.535
SPC01035378	0.149	1.25	0.750	<MDL	0.538
SPC01035379	0.149	1.32	0.750	<MDL	0.539
SPC01035380	0.149	1.29	0.749	<MDL	0.529
SPC01035381	0.152	1.28	0.745	<MDL	0.524
SPC01035382	0.154	1.28	0.736	<MDL	0.522
SPC01035383	0.151	1.24	0.739	<MDL	0.518
SPC01035384	0.158	1.22	0.740	<MDL	0.516
SPC01035385	0.151	1.22	0.735	<MDL	0.510
SPC01035386	0.152	1.23	0.737	<MDL	0.513
SPC01035387	0.152	1.23	0.738	<MDL	0.507
SPC01035388	0.150	1.23	0.732	<MDL	0.503
SPC01035389	0.153	1.23	0.730	<MDL	0.500
SPC01035390	0.148	1.25	0.743	<MDL	0.505
SPC01035391	0.148	1.25	0.734	<MDL	0.501
SPC01035392	0.149	1.25	0.736	<MDL	0.497
SPC01035393	0.149	1.24	0.738	<MDL	0.497
SPC01035394	0.149	1.23	0.731	<MDL	0.492
SPC01035395	0.151	1.22	0.728	<MDL	0.490
SPC01035396	0.153	1.20	0.727	<MDL	0.486
SPC01035397	0.147	1.20	0.725	<MDL	0.489
SPC01035398	0.148	1.19	0.729	<MDL	0.480
SPC01035399	0.149	1.19	0.728	<MDL	0.468
SPC01035400	0.149	1.19	0.692	<MDL	0.465
SPC01035401	0.145	1.18	0.696	<MDL	0.467
SPC01035402	0.152	1.18	0.689	<MDL	0.463
SPC01035403	0.151	1.18	0.683	<MDL	0.456
SPC01035404	0.152	1.18	0.684	<MDL	0.463

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01035405	0.152	1.17	0.683	<MDL	0.452
SPC01035406	0.152	1.16	0.685	<MDL	0.453
SPC01035407	0.145	1.16	0.688	<MDL	0.454
SPC01035408	0.148	1.15	0.683	<MDL	0.450
SPC01035409	0.148	1.14	0.678	<MDL	0.449
SPC01035410	0.147	1.13	0.682	<MDL	0.442
SPC01035411	0.149	1.12	0.678	<MDL	0.442
SPC01035412	0.148	1.11	0.681	<MDL	0.440
SPC01035413	0.148	1.10	0.684	<MDL	0.440
SPC01035414	0.147	1.09	0.679	<MDL	0.437
SPC01035415	0.148	1.08	0.681	<MDL	0.437
SPC01035416	0.148	1.08	0.679	<MDL	0.433
SPC01035417	0.150	1.08	0.675	<MDL	0.433
SPC01035418	0.150	1.07	0.673	<MDL	0.429
SPC01035419	0.149	1.06	0.673	<MDL	0.426
SPC01035420	0.147	1.06	0.683	<MDL	0.431
SPC01035421	0.145	1.04	0.659	<MDL	0.425
SPC01035422	0.147	1.04	0.671	<MDL	0.416
SPC01035423	0.145	1.04	0.668	<MDL	0.419
SPC01035424	0.151	1.04	0.664	<MDL	0.415
SPC01035425	0.146	1.04	0.669	<MDL	0.418
SPC01035426	0.147	1.04	0.666	<MDL	0.413
SPC01035427	0.149	1.04	0.661	<MDL	0.411
SPC01035428	0.149	1.04	0.659	<MDL	0.412
SPC01035429	0.147	1.03	0.659	<MDL	0.401
SPC01035430	0.148	1.02	0.662	<MDL	0.403
SPC01035431	0.149	1.02	0.654	<MDL	0.408
SPC01035432	0.149	1.02	0.652	<MDL	0.397
SPC01035433	0.149	1.01	0.646	<MDL	0.399
SPC01035434	0.146	0.988	0.650	<MDL	0.397
SPC01035435	0.146	0.987	0.660	<MDL	0.411
SPC01035436	0.148	0.981	0.646	<MDL	0.394
SPC01035437	0.148	0.980	0.643	<MDL	0.392
SPC01035438	0.145	0.971	0.643	<MDL	0.394
SPC01035439	0.143	0.967	0.642	<MDL	0.387
SPC01035440	0.148	0.967	0.637	<MDL	0.386
SPC01035441	0.149	0.964	0.637	<MDL	0.380
SPC01035442	0.147	0.962	0.633	<MDL	0.380
SPC01035443	0.147	0.956	0.638	<MDL	0.382
SPC01035444	0.147	0.955	0.633	<MDL	0.382
SPC01035445	0.149	0.954	0.630	<MDL	0.374
SPC01035446	0.148	0.951	0.629	<MDL	0.373
SPC01035447	0.153	0.950	0.630	<MDL	0.376
SPC01035448	0.148	0.943	0.643	<MDL	0.381
SPC01035449	0.147	0.941	0.634	<MDL	0.383

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01035450	0.150	0.934	0.632	<MDL	0.371
SPC01035451	0.148	0.929	0.623	<MDL	0.367
SPC01035452	0.149	0.931	0.638	<MDL	0.379
SPC01035453	0.149	0.921	0.619	<MDL	0.366
SPC01035454	0.153	0.920	0.616	<MDL	0.363
SPC01035455	0.148	0.920	0.622	<MDL	0.360
SPC01035456	0.149	0.913	0.616	<MDL	0.363
SPC01035457	0.149	0.905	0.614	<MDL	0.355
SPC01035458	0.149	0.903	0.614	<MDL	0.355
SPC01035459	0.150	0.906	0.607	<MDL	0.356
SPC01035460	0.146	0.903	0.606	<MDL	0.354
SPC01035461	0.150	0.901	0.611	<MDL	0.352
SPC01035462	0.149	0.892	0.619	<MDL	0.356
SPC01035463	0.151	0.885	0.602	<MDL	0.348
SPC01035464	0.145	0.890	0.606	<MDL	0.350
SPC01035465	0.149	0.884	0.602	<MDL	0.348
SPC01035466	0.149	0.882	0.605	<MDL	0.346
SPC01035467	0.152	0.882	0.604	<MDL	0.357
SPC01035468	0.150	0.876	0.598	<MDL	0.341
SPC01035469	0.148	0.873	0.591	<MDL	0.343
SPC01035470	0.150	0.867	0.593	<MDL	0.340
SPC01035471	0.149	0.860	0.587	<MDL	0.337
SPC01035472	0.150	0.855	0.595	<MDL	0.337
SPC01035473	0.150	0.854	0.603	<MDL	0.347
SPC01035474	0.150	0.857	0.587	<MDL	0.338
SPC01035475	0.150	0.858	0.586	<MDL	0.341
SPC01035476	0.150	0.854	0.584	<MDL	0.341
SPC01035477	0.150	0.842	0.584	<MDL	0.341
SPC01035478	0.149	0.834	0.583	<MDL	0.332
SPC01035479	0.150	0.821	0.582	<MDL	0.334
SPC01035480	0.151	0.826	0.575	<MDL	0.333
SPC01035481	0.151	0.825	0.570	<MDL	0.328
SPC01035482	0.151	0.821	0.573	<MDL	0.331
SPC01035483	0.150	0.826	0.573	<MDL	0.330
SPC01035484	0.149	0.823	0.573	<MDL	0.325
SPC01035485	0.152	0.812	0.567	<MDL	0.322
SPC01035486	0.151	0.812	0.572	<MDL	0.323
SPC01035487	0.149	0.807	0.572	<MDL	0.327
SPC01035488	0.150	0.809	0.571	<MDL	0.320
SPC01035489	0.149	0.797	0.561	<MDL	0.321
SPC01035490	0.151	0.808	0.560	<MDL	0.319
SPC01035491	0.149	0.800	0.556	<MDL	0.318
SPC01035492	0.148	0.798	0.560	<MDL	0.314
SPC01035493	0.147	0.794	0.558	<MDL	0.316
SPC01035494	0.149	0.794	0.557	<MDL	0.317

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01035495	0.150	0.788	0.554	<MDL	0.313
SPC01035496	0.152	0.786	0.555	<MDL	0.311
SPC01035497	0.148	0.793	0.554	<MDL	0.310
SPC01035498	0.147	0.786	0.553	<MDL	0.310
SPC01035499	0.150	0.777	0.551	<MDL	0.311
SPC01035500	0.150	0.775	0.557	<MDL	0.313
SPC01035501	0.149	0.777	0.546	<MDL	0.309
SPC01035502	0.147	0.768	0.543	<MDL	0.305
SPC01035503	0.148	0.767	0.539	<MDL	0.301
SPC01035504	0.150	0.763	0.542	<MDL	0.301
SPC01035505	0.151	0.756	0.535	<MDL	0.303
SPC01035506	0.148	0.758	0.534	<MDL	0.299
SPC01035507	0.147	0.748	0.538	<MDL	0.297
SPC01035508	0.150	0.741	0.542	<MDL	0.301
SPC01035509	0.147	0.736	0.539	<MDL	0.293
SPC01035510	0.148	0.743	0.536	<MDL	0.297
SPC01035511	0.147	0.748	0.530	<MDL	0.298
SPC01035512	0.145	0.744	0.529	<MDL	0.291
SPC01035513	0.149	0.737	0.524	<MDL	0.297
SPC01035514	0.150	0.737	0.523	<MDL	0.292
SPC01035515	0.148	0.735	0.523	<MDL	0.286
SPC01035516	0.147	0.736	0.520	<MDL	0.290
SPC01035517	0.146	0.732	0.517	<MDL	0.286
SPC01035518	0.147	0.729	0.524	<MDL	0.286
SPC01035519	0.147	0.721	0.517	<MDL	0.284
SPC01035520	0.148	0.724	0.515	<MDL	0.279
SPC01035521	0.141	0.723	0.520	<MDL	0.288
SPC01035522	0.148	0.724	0.515	<MDL	0.280
SPC01035523	0.141	0.712	0.510	<MDL	0.280
SPC01035524	0.152	0.716	0.505	<MDL	0.279
SPC01035525	0.146	0.713	0.505	<MDL	0.284
SPC01035526	0.144	0.711	0.508	<MDL	0.276
SPC01035527	0.149	0.703	0.504	<MDL	0.273
SPC01035528	0.147	0.698	0.498	<MDL	0.273
SPC01035529	0.151	0.696	0.500	<MDL	0.274
SPC01035530	0.147	0.690	0.496	<MDL	0.272
SPC01035531	0.148	0.690	0.493	<MDL	0.270
SPC01035532	0.143	0.687	0.496	<MDL	0.267
SPC01035533	0.148	0.684	0.504	<MDL	0.272
SPC01035534	0.147	0.685	0.498	<MDL	0.269
SPC01035535	0.147	0.687	0.494	<MDL	0.268
SPC01035536	0.144	0.688	0.501	<MDL	0.267
SPC01035537	0.145	0.678	0.495	<MDL	0.263
SPC01035538	0.145	0.678	0.493	<MDL	0.268
SPC01035539	0.147	0.675	0.484	<MDL	0.262

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01035540	0.145	0.676	0.490	<MDL	0.260
SPC01035541	0.144	0.675	0.485	<MDL	0.259
SPC01035542	0.146	0.673	0.495	<MDL	0.266
SPC01035543	0.143	0.672	0.478	<MDL	0.260
SPC01035544	0.143	0.668	0.476	<MDL	0.256
SPC01035545	0.147	0.667	0.479	<MDL	0.255
SPC01035546	0.146	0.659	0.473	<MDL	0.257
SPC01035547	0.145	0.646	0.473	<MDL	0.258
SPC01035548	0.146	0.644	0.469	<MDL	0.256
SPC01035549	0.146	0.641	0.476	<MDL	0.252
SPC01035550	0.145	0.637	0.474	<MDL	0.254
SPC01035551	0.144	0.664	0.464	<MDL	0.247
SPC01035552	0.148	0.628	0.466	<MDL	0.247
SPC01035553	0.149	0.633	0.466	<MDL	0.251
SPC01035554	0.146	0.631	0.464	<MDL	0.247
SPC01035555	0.145	0.621	0.461	<MDL	0.248
SPC01035556	0.145	0.616	0.460	<MDL	0.244
SPC01035557	0.145	0.614	0.459	<MDL	0.244
SPC01035558	0.144	0.612	0.455	<MDL	0.242
SPC01035559	0.144	0.607	0.458	<MDL	0.246
SPC01035560	0.147	0.606	0.451	<MDL	0.243
SPC01035561	0.145	0.605	0.452	<MDL	0.241
SPC01035562	0.147	0.600	0.455	<MDL	0.240
SPC01035563	0.148	0.593	0.445	<MDL	0.242
SPC01035564	0.146	0.591	0.444	<MDL	0.237
SPC01035565	0.147	0.587	0.449	<MDL	0.236
SPC01035566	0.150	0.586	0.438	<MDL	0.231
SPC01035567	0.146	0.585	0.442	<MDL	0.232
SPC01035568	0.147	0.580	0.435	<MDL	0.228
SPC01035569	0.149	0.577	0.444	<MDL	0.235
SPC01035570	0.149	0.577	0.443	<MDL	0.235
SPC01035571	0.152	0.576	0.440	<MDL	0.230
SPC01035572	0.145	0.570	0.444	<MDL	0.238
SPC01035573	0.146	0.571	0.439	<MDL	0.232
SPC01035574	0.145	0.565	0.437	<MDL	0.235
SPC01035575	0.147	0.562	0.433	<MDL	0.224
SPC01035576	0.147	0.556	0.440	<MDL	0.239
SPC01035577	0.144	0.557	0.433	<MDL	0.226
SPC01035578	0.145	0.552	0.429	<MDL	0.225
SPC01035579	0.146	0.546	0.425	<MDL	0.224
SPC01035580	0.142	0.543	0.425	<MDL	0.220
SPC01035581	0.143	0.538	0.425	<MDL	0.225
SPC01035582	0.144	0.534	0.427	<MDL	0.225
SPC01035583	0.142	0.530	0.426	<MDL	0.221
SPC01035584	0.144	0.531	0.419	<MDL	0.222

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01035585	0.142	0.530	0.417	<MDL	0.218
SPC01035586	0.142	0.527	0.418	<MDL	0.219
SPC01035587	0.144	0.525	0.417	<MDL	0.220
SPC01035588	0.143	0.526	0.416	<MDL	0.214
SPC01035589	0.144	0.519	0.412	<MDL	0.217
SPC01035590	0.140	0.515	0.412	<MDL	0.216
SPC01035591	0.145	0.511	0.406	<MDL	0.215
SPC01035592	0.143	0.510	0.415	<MDL	0.214
SPC01035593	0.145	0.502	0.410	<MDL	0.216
SPC01035594	0.143	0.503	0.409	<MDL	0.215
SPC01035595	0.146	0.504	0.404	<MDL	0.214
SPC01035596	0.144	0.501	0.406	<MDL	0.218
SPC01035597	0.144	0.503	0.408	<MDL	0.210
SPC01035598	0.142	0.502	0.401	<MDL	0.209
SPC01035599	0.144	0.502	0.395	<MDL	0.205
SPC01035600	0.144	0.501	0.397	<MDL	0.209
SPC01035601	0.144	0.501	0.402	<MDL	0.208
SPC01035602	0.145	0.495	0.394	<MDL	0.204
SPC01035603	0.146	0.491	0.393	<MDL	0.203
SPC01035604	0.145	0.494	0.390	<MDL	0.207
SPC01035605	0.145	0.497	0.399	<MDL	0.209
SPC01035606	0.142	0.493	0.392	<MDL	0.202
SPC01035607	0.144	0.492	0.391	<MDL	0.206
SPC01035608	0.146	0.490	0.388	<MDL	0.202
SPC01035609	0.144	0.491	0.390	<MDL	0.197
SPC01035610	0.145	0.489	0.388	<MDL	0.203
SPC01035611	0.145	0.484	0.383	<MDL	0.197
SPC01035612	0.146	0.484	0.382	<MDL	0.202
SPC01035613	0.144	0.481	0.382	<MDL	0.199
SPC01035614	0.144	0.480	0.378	<MDL	0.195
SPC01035615	0.145	0.481	0.380	<MDL	0.197
SPC01035616	0.143	0.489	0.377	<MDL	0.195
SPC01035617	0.147	0.486	0.377	<MDL	0.195
SPC01035618	0.148	0.486	0.372	<MDL	0.195
SPC01035619	0.145	0.483	0.375	<MDL	0.192
SPC01035620	0.143	0.478	0.371	<MDL	0.193
SPC01035621	0.147	0.480	0.373	<MDL	0.195
SPC01035622	0.147	0.475	0.375	<MDL	0.195
SPC01035623	0.144	0.472	0.369	<MDL	0.191
SPC01035624	0.142	0.470	0.373	<MDL	0.196
SPC01035625	0.143	0.467	0.367	<MDL	0.194
SPC01035626	0.141	0.461	0.373	<MDL	0.189
SPC01035627	0.143	0.464	0.367	<MDL	0.189
SPC01035628	0.141	0.461	0.366	<MDL	0.184
SPC01035629	0.141	0.460	0.366	<MDL	0.187

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01035630	0.141	0.459	0.368	<MDL	0.188
SPC01035631	0.144	0.455	0.351	<MDL	0.185
SPC01035632	0.145	0.459	0.364	<MDL	0.186
SPC01035633	0.141	0.456	0.359	<MDL	0.183
SPC01035634	0.143	0.456	0.355	<MDL	0.182
SPC01035635	0.142	0.453	0.361	<MDL	0.187
SPC01035636	0.142	0.451	0.367	<MDL	0.187
SPC01035637	0.143	0.448	0.367	<MDL	0.188
SPC01035638	0.144	0.446	0.370	<MDL	0.185
SPC01035639	0.142	0.449	0.368	<MDL	0.185
SPC01035640	0.142	0.442	0.354	<MDL	0.181
SPC01035641	0.140	0.441	0.358	<MDL	0.183
SPC01035642	0.142	0.447	0.364	<MDL	0.177
SPC01035643	0.143	0.449	0.368	<MDL	0.175
SPC01035644	0.143	0.446	0.364	<MDL	0.178
SPC01035645	0.143	0.435	0.361	<MDL	0.173
SPC01035646	0.145	0.434	0.361	<MDL	0.168
SPC01035647	0.143	0.433	0.358	<MDL	0.174
SPC01035648	0.143	0.433	0.357	<MDL	0.175
SPC01035649	0.141	0.432	0.357	<MDL	0.170
SPC01035650	0.144	0.429	0.353	<MDL	0.168
SPC01035651	0.144	0.427	0.356	<MDL	0.169
SPC01035652	0.143	0.425	0.354	<MDL	0.167
SPC01035653	0.144	0.424	0.362	<MDL	0.166
SPC01035654	0.143	0.426	0.352	<MDL	0.168
SPC01035655	0.143	0.420	0.354	<MDL	0.167
SPC01035656	0.144	0.417	0.351	<MDL	0.168
SPC01035657	0.142	0.417	0.347	<MDL	0.167
SPC01035658	0.142	0.413	0.346	<MDL	0.164
SPC01035659	0.143	0.415	0.352	<MDL	0.164
SPC01035660	0.143	0.410	0.340	<MDL	0.159
SPC01035661	0.143	0.404	0.345	<MDL	0.163
SPC01035662	0.144	0.406	0.342	<MDL	0.159
SPC01035663	0.144	0.403	0.340	<MDL	0.158
SPC01035664	0.144	0.400	0.336	<MDL	0.158
SPC01035665	0.145	0.401	0.336	<MDL	0.163
SPC01035666	0.144	0.400	0.335	<MDL	0.158
SPC01035667	0.144	0.398	0.341	<MDL	0.162
SPC01035668	0.144	0.396	0.332	<MDL	0.157
SPC01035669	0.144	0.395	0.334	<MDL	0.161
SPC01035670	0.144	0.393	0.336	<MDL	0.157
SPC01035671	0.143	0.392	0.331	<MDL	0.153
SPC01035672	0.143	0.391	0.328	<MDL	0.152
SPC01035673	0.143	0.387	0.327	<MDL	0.153
SPC01035674	0.143	0.389	0.327	<MDL	0.153

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01035675	0.144	0.387	0.327	<MDL	0.154
SPC01035676	0.144	0.384	0.326	<MDL	0.151
SPC01035677	0.144	0.385	0.327	<MDL	0.152
SPC01035678	0.144	0.386	0.325	<MDL	0.149
SPC01035679	0.143	0.383	0.323	<MDL	0.149
SPC01035680	0.144	0.380	0.324	<MDL	0.149
SPC01035681	0.144	0.377	0.318	<MDL	0.152
SPC01035682	0.144	0.377	0.320	<MDL	0.147
SPC01035683	0.144	0.375	0.319	<MDL	0.148
SPC01035684	0.144	0.373	0.324	<MDL	0.147
SPC01035685	0.144	0.374	0.319	<MDL	0.148
SPC01035686	0.144	0.370	0.314	<MDL	0.145
SPC01035687	0.145	0.370	0.315	<MDL	0.142
SPC01035688	0.144	0.370	0.313	<MDL	0.144
SPC01035689	0.145	0.367	0.312	<MDL	0.145
SPC01035690	0.145	0.369	0.312	<MDL	0.143
SPC01035691	0.145	0.369	0.309	<MDL	0.142
SPC01035692	0.144	0.363	0.300	<MDL	0.140
SPC01035693	0.144	0.359	0.299	<MDL	0.139
SPC01035694	0.145	0.358	0.301	<MDL	0.140
SPC01035695	0.144	0.356	0.298	<MDL	0.137
SPC01035696	0.155	0.356	0.307	<MDL	0.143
SPC01035697	0.147	0.355	0.303	<MDL	0.135
SPC01035698	0.149	0.354	0.298	<MDL	0.141
SPC01035704	0.150	0.348	0.288	<MDL	0.128
SPC01035705	0.148	0.348	0.284	<MDL	0.130
SPC01035706	0.149	0.341	0.286	<MDL	0.131
SPC01035707	0.153	0.343	0.291	<MDL	0.134
SPC01035708	0.147	0.344	0.282	<MDL	0.134
SPC01035709	0.149	0.341	0.281	<MDL	0.131
SPC01035710	0.150	0.340	0.285	<MDL	0.134
SPC01035711	0.150	0.337	0.287	<MDL	0.130
SPC01035712	0.149	0.335	0.283	<MDL	0.128
SPC01035713	0.148	0.344	0.286	<MDL	0.129
SPC01035714	0.146	0.337	0.281	<MDL	0.127
SPC01035715	0.145	0.333	0.276	<MDL	0.126
SPC01035716	0.144	0.333	0.280	<MDL	0.127
SPC01035717	0.145	0.334	0.275	<MDL	0.133
SPC01035718	0.144	0.334	0.273	<MDL	0.126
SPC01035719	0.145	0.333	0.280	<MDL	0.128
SPC01035720	0.144	0.330	0.280	<MDL	0.127
SPC01035721	0.145	0.326	0.273	<MDL	0.127
SPC01035722	0.145	0.324	0.270	<MDL	0.129
SPC01035723	0.145	0.322	0.270	<MDL	0.127
SPC01035724	0.144	0.323	0.266	<MDL	0.128

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01035725	0.145	0.319	0.268	<MDL	0.127
SPC01035726	0.144	0.314	0.265	<MDL	0.125
SPC01035730	0.147	0.314	0.269	<MDL	0.124
SPC01035731	0.148	0.313	0.274	<MDL	0.126
SPC01035732	0.148	0.311	0.266	<MDL	0.125
SPC01035733	0.148	0.309	0.266	<MDL	0.122
SPC01035734	0.147	0.308	0.267	<MDL	0.121
SPC01035735	0.148	0.307	0.260	<MDL	0.121
SPC01035736	0.146	0.308	0.263	<MDL	0.120
SPC01035737	0.146	0.304	0.261	<MDL	0.121
SPC01035738	0.145	0.303	0.258	<MDL	0.118
SPC01035739	0.146	0.302	0.256	<MDL	0.120
SPC01035740	0.147	0.300	0.258	<MDL	0.120
SPC01035742	0.147	0.301	0.257	<MDL	0.118
SPC01035743	0.148	0.299	0.262	<MDL	0.117
SPC01035744	0.149	0.297	0.256	<MDL	0.118
SPC01035745	0.148	0.297	0.256	<MDL	0.114
SPC01035746	0.148	0.292	0.255	<MDL	0.119
SPC01035747	0.144	0.294	0.252	<MDL	0.118
SPC01035748	0.145	0.292	0.250	<MDL	0.114
SPC01035749	0.143	0.289	0.252	<MDL	0.117
SPC01035750	0.145	0.288	0.249	<MDL	0.114
SPC01035751	0.145	0.288	0.246	<MDL	0.112
SPC01035752	0.146	0.287	0.249	<MDL	0.115
SPC01035753	0.144	0.288	0.247	<MDL	0.115
SPC01035754	0.148	0.288	0.253	<MDL	0.112
SPC01035755	0.145	0.288	0.247	<MDL	0.115
SPC01035756	0.147	0.287	0.249	<MDL	0.114
SPC01035757	0.147	0.288	0.248	<MDL	0.111
SPC01035758	0.143	0.282	0.250	<MDL	0.115
SPC01035759	0.144	0.280	0.244	<MDL	0.114
SPC01035760	0.144	0.279	0.242	<MDL	0.111
SPC01035761	0.143	0.277	0.241	<MDL	0.112
SPC01035762	0.145	0.275	0.239	<MDL	0.110
SPC01035763	0.145	0.273	0.240	<MDL	0.113
SPC01035764	0.146	0.274	0.236	<MDL	0.109
SPC01035765	0.145	0.273	0.238	<MDL	0.110
SPC01035766	0.148	0.272	0.237	<MDL	0.107
SPC01035767	0.147	0.270	0.240	<MDL	0.112
SPC01035768	0.147	0.272	0.239	<MDL	0.107
SPC01035769	0.146	0.269	0.241	<MDL	0.108
SPC01035770	0.146	0.268	0.239	<MDL	0.108
SPC01035771	0.145	0.268	0.236	<MDL	0.108
SPC01035772	0.146	0.269	0.235	<MDL	0.107
SPC01035773	0.149	0.266	0.231	<MDL	0.105

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01035774	0.144	0.268	0.234	<MDL	0.107
SPC01035775	0.143	0.262	0.228	<MDL	0.105
SPC01035776	0.146	0.262	0.229	<MDL	0.106
SPC01035777	0.147	0.261	0.233	<MDL	0.102
SPC01035778	0.149	0.263	0.232	<MDL	0.104
SPC01035779	0.148	0.264	0.231	<MDL	0.103
SPC01035780	0.148	0.261	0.231	<MDL	0.104
SPC01035781	0.146	0.263	0.231	<MDL	0.101
SPC01035782	0.148	0.259	0.231	<MDL	0.104
SPC01035783	0.145	0.259	0.222	<MDL	0.102
SPC01035784	0.145	0.260	0.224	<MDL	0.102
SPC01035785	0.147	0.259	0.225	<MDL	0.101
SPC01035786	0.146	0.256	0.220	<MDL	0.0984
SPC01035787	0.143	0.259	0.222	<MDL	0.102
SPC01035788	0.149	0.259	0.223	<MDL	0.100
SPC01035789	0.145	0.257	0.218	<MDL	0.0983
SPC01035790	0.144	0.256	0.225	<MDL	0.101
SPC01035791	0.143	0.253	0.221	<MDL	0.100
SPC01035792	0.145	0.252	0.218	<MDL	0.0980
SPC01035793	0.145	0.254	0.217	<MDL	0.0994
SPC01035794	0.144	0.251	0.219	<MDL	0.0975
SPC01035795	0.143	0.252	0.218	<MDL	0.0980
SPC01035796	0.143	0.252	0.220	<MDL	0.0958
SPC01035797	0.143	0.253	0.215	<MDL	0.0970
SPC01035798	0.144	0.249	0.219	<MDL	0.0963
SPC01035799	0.143	0.247	0.216	<MDL	0.0944
SPC01035800	0.144	0.247	0.212	<MDL	0.0940
SPC01035801	0.143	0.245	0.213	<MDL	0.0917
SPC01035802	0.143	0.249	0.214	<MDL	0.104
SPC01035803	0.143	0.250	0.215	<MDL	0.101
SPC01035804	0.145	0.249	0.213	<MDL	0.102
SPC01035805	0.144	0.247	0.214	<MDL	0.103
SPC01035806	0.142	0.247	0.218	<MDL	0.105
SPC01035807	0.143	0.246	0.213	<MDL	0.105
SPC01035808	0.144	0.242	0.210	<MDL	0.0996
SPC01035809	0.145	0.242	0.212	<MDL	0.101
SPC01035810	0.144	0.240	0.212	<MDL	0.0995
SPC01035811	0.144	0.239	0.207	<MDL	0.103
SPC01035812	0.143	0.235	0.206	<MDL	0.100
SPC01035813	0.142	0.235	0.206	<MDL	0.101
SPC01035814	0.142	0.235	0.206	<MDL	0.0983
SPC01035815	0.143	0.232	0.209	<MDL	0.102
SPC01035816	0.143	0.232	0.206	<MDL	0.102
SPC01035817	0.143	0.232	0.206	<MDL	0.100
SPC01035818	0.143	0.232	0.201	<MDL	0.0988

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01035819	0.143	0.230	0.210	<MDL	0.101
SPC01035820	0.143	0.228	0.204	<MDL	0.0980
SPC01035821	0.142	0.228	0.204	<MDL	0.0980
SPC01035822	0.143	0.227	0.205	<MDL	0.0989
SPC01035823	0.142	0.225	0.200	<MDL	0.0981
SPC01035824	0.142	0.222	0.202	<MDL	0.0962
SPC01035825	0.142	0.223	0.201	<MDL	0.0950
SPC01035826	0.143	0.224	0.199	<MDL	0.0989
SPC01035827	0.144	0.222	0.201	<MDL	0.0972
SPC01035828	0.144	0.222	0.199	<MDL	0.0950
SPC01035829	0.143	0.219	0.199	<MDL	0.0973
SPC01035830	0.144	0.219	0.199	<MDL	0.0960
SPC01035831	0.143	0.218	0.199	<MDL	0.0974
SPC01035832	0.143	0.217	0.193	<MDL	0.0942
SPC01035833	0.143	0.216	0.194	<MDL	0.0961
SPC01035834	0.143	0.216	0.196	<MDL	0.0950
SPC01035835	0.143	0.216	0.195	<MDL	0.0942
SPC01035836	0.143	0.216	0.196	<MDL	0.0926
SPC01035837	0.142	0.212	0.196	<MDL	0.0945
SPC01035838	0.143	0.212	0.199	<MDL	0.0983
SPC01035839	0.143	0.211	0.193	<MDL	0.0931
SPC01035840	0.143	0.211	0.192	<MDL	0.0904
SPC01035841	0.143	0.212	0.193	<MDL	0.0952
SPC01035842	0.142	0.212	0.195	<MDL	0.0919
SPC01035843	0.143	0.210	0.188	<MDL	0.0918
SPC01035844	0.142	0.210	0.192	<MDL	0.0930
SPC01035845	0.143	0.207	0.189	<MDL	0.0929
SPC01035846	0.143	0.207	0.187	<MDL	0.0912
SPC01035847	0.142	0.208	0.189	<MDL	0.0893
SPC01035848	0.143	0.206	0.186	<MDL	0.0913
SPC01035849	0.143	0.206	0.188	<MDL	0.0894
SPC01035850	0.143	0.205	0.185	<MDL	0.0892
SPC01033640	0.0475	0.0528	<MDL	<MDL	<MDL
SPC01033641	0.0463	0.0543	<MDL	<MDL	<MDL
SPC01033642	0.0447	0.0592	<MDL	<MDL	<MDL
SPC01033643	0.0452	0.0517	<MDL	<MDL	<MDL
SPC01033644	0.0447	0.0522	<MDL	<MDL	<MDL
SPC01033645	0.0441	0.0494	<MDL	<MDL	<MDL
SPC01033646	0.0469	0.0550	<MDL	<MDL	<MDL
SPC01033647	0.0454	0.0532	<MDL	<MDL	<MDL
SPC01033648	0.0461	0.0551	<MDL	<MDL	<MDL
SPC01033649	0.0458	0.0511	<MDL	<MDL	<MDL
SPC01033650	0.0468	0.0543	<MDL	<MDL	<MDL
SPC01033651	0.0466	0.0556	<MDL	<MDL	<MDL
SPC01033652	0.0471	0.0533	<MDL	<MDL	<MDL

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01033653	0.0476	0.0521	<MDL	<MDL	<MDL
SPC01033654	0.0481	0.0520	<MDL	<MDL	<MDL
SPC01033655	0.0488	0.0536	<MDL	<MDL	<MDL
SPC01033656	0.0471	0.0524	<MDL	<MDL	<MDL
SPC01033657	0.0455	0.0518	<MDL	<MDL	<MDL
SPC01033658	0.0463	0.0497	<MDL	<MDL	<MDL
SPC01033659	0.0518	0.0507	<MDL	<MDL	<MDL
SPC01033660	0.0451	0.0520	<MDL	<MDL	<MDL
SPC01033661	0.0462	0.0522	<MDL	<MDL	<MDL
SPC01033662	0.0497	0.0542	<MDL	<MDL	<MDL
SPC01033663	0.0476	0.0521	<MDL	<MDL	<MDL
SPC01033664	0.0480	0.0533	<MDL	<MDL	<MDL
SPC01033665	0.0489	0.0618	<MDL	<MDL	0.0187
SPC01033666	0.0503	0.0567	<MDL	<MDL	<MDL
SPC01033667	0.0494	0.0500	<MDL	<MDL	<MDL
SPC01033668	0.0468	0.0414	<MDL	<MDL	<MDL
SPC01033669	0.0494	0.0524	<MDL	<MDL	<MDL
SPC01033670	0.0790	0.262	<MDL	<MDL	0.136
SPC01033671	0.147	0.574	<MDL	<MDL	0.267
SPC01033672	0.179	0.784	<MDL	<MDL	0.343
SPC01033673	0.209	0.939	<MDL	<MDL	0.424
SPC01033674	0.222	1.14	<MDL	<MDL	0.494
SPC01033675	0.219	1.31	<MDL	<MDL	0.564
SPC01033676	0.220	1.48	<MDL	<MDL	0.630
SPC01033677	0.216	1.66	<MDL	<MDL	0.695
SPC01033678	0.209	1.79	<MDL	<MDL	0.754
SPC01033679	0.203	1.92	<MDL	<MDL	0.792
SPC01033680	0.200	2.05	<MDL	<MDL	0.825
SPC01033681	0.200	2.17	<MDL	<MDL	0.883
SPC01033682	0.197	2.27	<MDL	<MDL	0.902
SPC01033683	0.191	2.36	R	<MDL	1.03
SPC01033684	0.191	2.50	R	<MDL	1.12
SPC01033685	0.182	2.56	R	<MDL	1.11
SPC01033686	0.178	2.64	0.023	<MDL	1.15
SPC01033687	0.176	2.69	0.037	<MDL	1.18
SPC01033688	0.175	2.73	0.051	<MDL	1.18
SPC01033689	0.175	2.80	0.068	<MDL	1.22
SPC01033690	0.169	2.80	0.091	<MDL	1.21
SPC01033691	0.168	2.85	0.125	<MDL	1.22
SPC01033692	0.167	2.89	0.147	<MDL	1.25
SPC01033693	0.166	2.90	0.177	<MDL	1.23
SPC01033694	0.165	2.90	0.206	<MDL	1.25
SPC01033695	0.161	2.91	0.233	<MDL	1.22
SPC01033696	0.159	2.90	0.274	<MDL	1.23
SPC01033697	0.161	2.87	0.308	<MDL	1.23

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01033698	0.162	2.86	0.345	<MDL	1.23
SPC01033699	0.160	2.80	0.369	<MDL	1.20
SPC01033800	0.161	2.80	0.405	<MDL	1.19
SPC01033801	0.157	2.74	0.434	<MDL	1.16
SPC01033802	0.155	2.72	0.463	<MDL	1.12
SPC01033803	0.155	2.72	0.492	<MDL	1.13
SPC01033804	0.154	2.65	0.523	<MDL	1.11
SPC01033805	0.156	2.57	0.551	<MDL	1.09
SPC01033806	0.156	2.53	0.570	<MDL	1.07
SPC01033807	0.156	2.49	0.577	<MDL	1.03
SPC01033808	0.154	2.44	0.627	<MDL	0.991
SPC01033809	0.155	2.26	0.698	<MDL	0.927
SPC01033810	0.154	2.10	0.721	<MDL	0.859
SPC01033811	0.154	1.91	0.749	<MDL	0.800
SPC01033812	0.153	1.81	0.768	<MDL	0.743
SPC01033813	0.151	1.69	0.775	<MDL	0.694
SPC01033814	0.149	1.58	0.719	<MDL	0.596
SPC01033815	0.148	1.48	0.729	<MDL	0.576
SPC01033816	0.150	1.38	0.734	<MDL	0.541
SPC01033817	0.150	1.32	0.712	<MDL	0.512
SPC01033818	0.150	1.26	0.705	<MDL	0.480
SPC01033819	0.151	1.19	0.675	<MDL	0.445
SPC01033820	0.147	1.13	0.678	<MDL	0.430
SPC01033821	0.147	1.04	0.657	<MDL	0.412
SPC01033822	0.143	1.00	0.643	<MDL	0.390
SPC01033823	0.148	0.940	0.623	<MDL	0.374
SPC01033824	0.144	0.883	0.604	<MDL	0.354
SPC01033825	0.140	0.841	0.588	<MDL	0.332
SPC01033826	0.147	0.818	0.571	<MDL	0.323
SPC01033827	0.146	0.795	0.554	<MDL	0.311
SPC01033828	0.143	0.739	0.530	<MDL	0.295
SPC01033829	0.145	0.710	0.513	<MDL	0.280
SPC01033830	0.140	0.674	0.496	<MDL	0.267
SPC01033831	0.146	0.640	0.479	<MDL	0.253
SPC01033832	0.146	0.623	0.461	<MDL	0.248
SPC01033833	0.145	0.581	0.463	<MDL	0.243
SPC01033834	0.146	0.559	0.437	<MDL	0.227
SPC01033835	0.146	0.531	0.426	<MDL	0.218
SPC01033836	0.146	0.505	0.402	<MDL	0.209
SPC01033837	0.146	0.477	0.385	<MDL	0.196
SPC01033838	0.145	0.457	0.374	<MDL	0.185
SPC01033839	0.147	0.438	0.364	<MDL	0.182
SPC01033840	0.147	0.435	0.349	<MDL	0.162
SPC01033841	0.148	0.427	0.337	<MDL	0.157
SPC01033842	0.146	0.404	0.324	<MDL	0.152

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01033843	0.150	0.371	0.311	<MDL	0.147
SPC01033844	0.147	0.349	0.303	<MDL	0.140
SPC01033845	0.147	0.328	0.296	<MDL	0.132
SPC01033846	0.148	0.313	0.284	<MDL	0.122
SPC01033847	0.148	0.300	0.267	<MDL	0.118
SPC01033848	0.147	0.292	0.258	<MDL	0.118
SPC01033849	0.146	0.291	0.246	<MDL	0.114
SPC01033850	0.147	0.285	0.239	<MDL	0.105
SPC01033851	0.148	0.279	0.231	<MDL	0.104
SPC01033852	0.146	0.264	0.220	<MDL	0.0987
SPC01033853	0.145	0.262	0.210	<MDL	0.0926
SPC01033854	0.146	0.260	0.207	<MDL	0.102
SPC01033855	0.144	0.257	0.201	<MDL	0.0982
SPC01033856	0.148	0.252	0.194	<MDL	0.0972
SPC01033857	0.143	0.245	0.188	<MDL	0.0925
SPC01034072	NA	NA	0.0716	134	0.05806
SPC01034300	NA	NA	0.145	74.0	0.216
SPC01034301	NA	NA	0.0842	29.5	0.120
SPC01034302	NA	NA	0.0556	50.3	0.0704
SPC01033512	NA	NA	0.0107	15.4	<MDL
SPC01033513	NA	NA	<MDL	16.0	<MDL
SPC01033514	NA	NA	<MDL	22.4	<MDL
SPC01033515	NA	NA	<MDL	29.5	<MDL
SPC01034073	NA	NA	<MDL	10.1	<MDL
SPC01034074	NA	NA	<MDL	12.9	<MDL
SPC01034307	NA	NA	<MDL	10.6	<MDL
SPC01034308	NA	NA	<MDL	8.61	<MDL
SPC01033516	NA	NA	<MDL	18.5	<MDL
SPC01033517	NA	NA	<MDL	20.2	<MDL
SPC01033518	NA	NA	<MDL	5.72	<MDL
SPC01033519	NA	NA	<MDL	6.04	<MDL
SPC01034075	NA	NA	<MDL	37.1	<MDL
SPC01034076	NA	NA	<MDL	37.3	<MDL
SPC01034079	NA	NA	<MDL	38.2	<MDL
SPC01034080	NA	NA	<MDL	36.9	<MDL
SPC01034077	NA	NA	<MDL	25.9	<MDL
SPC01034078	NA	NA	<MDL	27.5	<MDL
SPC01034309	NA	NA	<MDL	<MDL	<MDL
SPC01034310	NA	NA	<MDL	<MDL	<MDL
SPC01034311	NA	NA	<MDL	<MDL	<MDL
SPC01034312	NA	NA	0.0316	297	<MDL
SPC01034313	NA	NA	0.0331	312	<MDL
SPC01034314	NA	NA	0.0186	0.0965	<MDL
SPC01034315	NA	NA	0.00939	0.0910	<MDL
SPC01034316	NA	NA	0.0139	0.308	<MDL

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01034317	NA	NA	0.0119	0.311	<MDL
SPC01034318	NA	NA	0.0159	0.0617	<MDL
SPC01034319	NA	NA	0.00900	0.0131	<MDL
SPC01034320	NA	NA	0.00939	<MDL	<MDL
SPC01034321	NA	NA	0.0106	0.237	<MDL
SPC01034322	NA	NA	0.0132	0.231	<MDL
SPC01034323	NA	NA	0.00886	0.0174	<MDL
SPC01039502	NA	0.519	0.0959	<MDL	0.296
SPC01039503	NA	0.504	0.0993	<MDL	0.277
SPC01039504	NA	0.493	0.117	<MDL	0.253
SPC01039505	NA	0.476	0.136	<MDL	0.242
SPC01039506	NA	0.448	0.137	<MDL	0.238
SPC01039507	NA	0.430	0.138	<MDL	0.222
SPC01039508	NA	0.425	0.144	<MDL	0.217
SPC01039509	NA	0.415	0.147	<MDL	0.214
SPC01039510	NA	0.399	0.150	<MDL	0.214
SPC01039511	NA	0.378	0.154	<MDL	0.210
SPC01039512	NA	0.369	0.155	<MDL	0.209
SPC01039513	NA	0.359	0.161	<MDL	0.200
SPC01039514	NA	0.334	0.157	<MDL	0.201
SPC01039515	NA	0.330	0.163	<MDL	0.198
SPC01039516	NA	0.316	0.170	<MDL	0.199
SPC01039517	NA	0.318	0.172	<MDL	0.198
SPC01039518	NA	0.308	0.173	<MDL	0.198
SPC01039519	NA	0.304	0.177	<MDL	0.194
SPC01039520	NA	0.302	0.177	<MDL	0.191
SPC01039521	NA	0.302	0.180	<MDL	0.189
SPC01039522	NA	0.297	0.180	<MDL	0.189
SPC01039523	NA	0.289	0.186	<MDL	0.189
SPC01039524	NA	0.285	0.186	<MDL	0.178
SPC01039525	NA	0.291	0.188	<MDL	0.177
SPC01039526	NA	0.283	0.188	<MDL	0.174
SPC01039527	NA	0.290	0.190	<MDL	0.173
SPC01039528	NA	0.278	0.191	<MDL	0.173
SPC01039529	NA	0.279	0.192	<MDL	0.169
SPC01039530	NA	0.270	0.188	<MDL	0.163
SPC01039535	NA	0.277	0.201	<MDL	0.156
SPC01039540	NA	0.244	0.198	<MDL	0.149
SPC01039544	NA	0.223	0.193	<MDL	0.138
SPC01039570	NA	0.240	0.167	<MDL	0.105
SPC01039595	NA	0.198	0.154	<MDL	0.0925
SPC01039621	NA	0.170	0.137	<MDL	0.0797
SPC01039646	NA	0.160	0.121	<MDL	0.0713
SPC01039671	NA	0.119	0.121	<MDL	0.0619
SPC01039685	NA	0.117	0.116	<MDL	0.0587

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01039696	NA	0.106	0.115	<MDL	0.0553
SPC01039703	NA	0.103	0.118	<MDL	0.0549
SPC01039715	NA	0.0898	0.0990	<MDL	0.0513
SPC01039728	NA	0.0795	0.0856	<MDL	0.0463
SPC01039741	NA	0.0709	0.0850	<MDL	0.0400
SPC01039749	NA	0.0600	0.0784	<MDL	0.0346
SPC01039773	NA	0.0535	0.0736	<MDL	0.0311
SPC01039774	NA	0.0681	0.0727	<MDL	0.0362
SPC01039775	NA	0.0655	0.0719	<MDL	0.0370
SPC01039776	NA	0.0634	0.0696	<MDL	0.0353
SPC01039777	NA	0.0680	0.0696	<MDL	0.0357
SPC01039778	NA	0.0664	0.0683	<MDL	0.0338
SPC01039779	NA	0.0655	0.0631	<MDL	0.0337
SPC01039780	NA	0.0581	0.0668	<MDL	0.0325
SPC01039781	NA	0.0577	0.0661	<MDL	0.0318
SPC01039782	NA	0.0574	0.0650	R	0.0294
SPC01039783	NA	0.0589	0.0586	<MDL	0.0288
SPC01039784	NA	0.0565	0.0605	<MDL	0.0293
SPC01039785	NA	0.0554	0.0616	<MDL	0.0285
SPC01039786	NA	0.0535	R	R	R
SPC01039787	NA	0.0493	R	R	R
SPC01039788	NA	0.0500	0.0561	<MDL	0.0287
SPC01039789	NA	0.0521	R	R	R
SPC01039790	NA	0.0475	R	R	R
SPC01039791	NA	0.0488	0.0562	<MDL	0.0285
SPC01039792	NA	0.0499	R	R	R
SPC01039793	NA	0.0493	0.0200	<MDL	0.0275
SPC01039794	NA	0.0476	0.0586	<MDL	0.0290
SPC01039795	NA	0.0450	0.0594	<MDL	0.0278
SPC01039796	NA	0.0522	0.0592	<MDL	0.0272
SPC01039797	NA	0.0486	0.0585	<MDL	0.0270
SPC01039798	NA	0.0447	R	R	R
SPC01039799	NA	0.0465	R	R	R
SPC01039800	NA	0.0416	R	R	R
SPC01039801	NA	0.0389	R	R	R
SPC01039802	NA	0.0352	R	R	R
SPC01039803	NA	0.0400	R	R	R
SPC01039804	NA	0.0416	0.0564	<MDL	0.0279
SPC01039805	NA	0.0375	R	R	R
SPC01039806	NA	0.0287	<MDL	<MDL	0.0267
SPC01039807	NA	0.0341	0.0530	<MDL	0.0236
SPC01039808	NA	0.0330	R	<MDL	0.0264
SPC01039809	NA	0.0300	R	R	R
SPC01039810	NA	0.0388	0.0569	<MDL	0.0263
SPC01039811	NA	0.0232	<MDL	<MDL	0.0318

Sample Identification Number	Lithium	Bromide	2,6 Difluorobenzoic Acid (2,6 DFBA)	2,5 Difluorobenzoic Acid (2,5 DFBA)	2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA)
SPC01039812	NA	0.0408	0.5276	<MDL	0.0234
SPC01039813	NA	0.0338	R	R	R
SPC01039814	NA	0.0340	0.0531	<MDL	0.0236
SPC01039815	NA	0.0313	R	R	R
SPC01039816	NA	0.0315	R	R	R
SPC01039817	NA	0.0410	0.0528	<MDL	0.0247
SPC01039818	NA	0.0300	<MDL	<MDL	0.0234
SPC01039819	NA	0.0332	0.0523	<MDL	0.0240
SPC01039820	NA	0.0229	R	R	R
SPC01039821	NA	0.0271	R	R	R
SPC01039822	NA	0.0257	R	R	R
SPC01039823	NA	0.0245	R	R	R
SPC01039824	NA	0.0351	0.0538	<MDL	0.0236
SPC01039825	NA	0.0250	R	R	R
SPC01039826	NA	0.0290	0.0506	<MDL	0.0223
SPC01039827	NA	0.0290	0.0484	<MDL	0.0227
SPC01039828	NA	0.0221	R	R	R
SPC01039829	NA	0.0270	R	R	R
SPC01039830	NA	0.0233	0.0482	<MDL	0.0207
SPC01039831	NA	0.0180	R	R	R
SPC01039832	NA	0.0290	0.0479	<MDL	0.0204
SPC01039833	NA	0.0266	0.0467	<MDL	0.0207

Appendix D

Perrhenate (ReO_4^-) and Iodide (I^-) Concentrations for the Site 22 Cross-Hole Tracer

Test Using Perrhenate and Iodide

All concentrations are in parts per billion (ppb). <MDL indicates analyte concentration is below method detection limits.

Sample Identification Number	Perrhenate
SPC01020907 Injectate	57710
SPC01020943 Injectate	61770
SPC01039001	<MDL
SPC01039002	<MDL
SPC01039003	<MDL
SPC01039004	0.0135
SPC01039005	0.0913
SPC01039006	0.273
SPC01039007	0.546
SPC01039008	0.894
SPC01039009	1.27
SPC01039011	2.00
SPC01039012	2.34
SPC01039013	2.63
SPC01039014	2.95
SPC01039015	3.33
SPC01039016	3.72
SPC01039017	4.06
SPC01039018	4.58
SPC01039019	5.15
SPC01039020	5.73
SPC01039022	6.99
SPC01039023	7.56
SPC01039024	8.37
SPC01039025	9.29
SPC01039026	10.0
SPC01039027	10.4
SPC01039028	11.1
SPC01039029	11.6
SPC01039030	11.9
SPC01039031	12.3
SPC01039032	12.9
SPC01039033	13.1
SPC01039034	13.2
SPC01039035	13.3
SPC01039036	13.5

Sample Identification Number	Iodide
SPC01020906 Injectate	3347745
SPC01020909 Injectate	3403795
SPC01039525	<MDL
SPC01039526	<MDL
SPC01039527	<MDL
SPC01039528	<MDL
SPC01039529	<MDL
SPC01039530	<MDL
SPC01039531	<MDL
SPC01039532	<MDL
SPC01039533	<MDL
SPC01039534	<MDL
SPC01039535	<MDL
SPC01039536	<MDL
SPC01039537	<MDL
SPC01039538	15.5
SPC01039539	38.9
SPC01039540	63.0
SPC01039541	85.7
SPC01039542	109
SPC01039543	130
SPC01039544	153
SPC01039545	174
SPC01039546	194
SPC01039547	216
SPC01039548	242
SPC01039549	272
SPC01039550	308
SPC01039551	349
SPC01039552	392
SPC01039553	438
SPC01039554	486
SPC01039555	536
SPC01039556	604
SPC01039557	648
SPC01039558	694

Sample Identification Number	Perrhenate
SPC01039037	13.8
SPC01039039	14.1
SPC01039040	14.1
SPC01039041	14.0
SPC01039042	14.1
SPC01039043	14.2
SPC01039044	14.3
SPC01039046	14.2
SPC01039047	14.1
SPC01039048	14.1
SPC01039049	15.4
SPC01039050	14.2
SPC01039051	14.6
SPC01039052	14.6
SPC01039053	14.3
SPC01039054	14.4
SPC01039055	14.8
SPC01039056	14.2
SPC01039057	14.1
SPC01039058	14.2
SPC01039059	14.1
SPC01039060	14.4
SPC01039061	14.4
SPC01039062	14.4
SPC01039064	14.6
SPC01039065	14.3
SPC01039066	13.9
SPC01039067	14.5
SPC01039068	14.5
SPC01039069	13.9
SPC01039070	13.7
SPC01039071	12.6
SPC01039072	12.2
SPC01039073	12.2
SPC01039074	12.9
SPC01039076	11.6
SPC01039077	11.9
SPC01039078	11.3
SPC01039079	12.5
SPC01039080	12.4
SPC01039081	12.4
SPC01039082	12.6
SPC01039083	11.8
SPC01039084	12.0
SPC01039085	12.0
SPC01039086	12.1
SPC01039087	10.4

Sample Identification Number	Iodide
SPC01039559	728
SPC01039560	766
SPC01039561	799
SPC01039562	825
SPC01039563	856
SPC01039564	872
SPC01039565	896
SPC01039566	903
SPC01039567	951
SPC01039568	963
SPC01039569	969
SPC01039570	971
SPC01039571	970
SPC01039572	969
SPC01039573	970
SPC01039574	973
SPC01039575	963
SPC01039576	959
SPC01039577	954
SPC01039578	951
SPC01039579	956
SPC01039580	949
SPC01039581	960
SPC01039582	954
SPC01039583	945
SPC01039584	938
SPC01039585	941
SPC01039586	932
SPC01039587	927
SPC01039588	922
SPC01039589	917
SPC01039590	910
SPC01039591	936
SPC01039592	919
SPC01039593	910
SPC01039594	909
SPC01039595	899
SPC01039596	888
SPC01039597	879
SPC01039598	876
SPC01039599	866
SPC01039600	861
SPC01039601	854
SPC01039602	850
SPC01039603	866
SPC01039604	861
SPC01039605	853

Sample Identification Number	Perrhenate
SPC01039088	11.8
SPC01039089	11.2
SPC01039090	11.3
SPC01039091	11.0
SPC01039092	11.0
SPC01039093	11.2
SPC01039094	11.2
SPC01039095	10.7
SPC01039096	12.9
SPC01039097	11.6
SPC01039098	11.9
SPC01039099	11.9
SPC01039100	11.1
SPC01039101	11.5
SPC01039102	11.7
SPC01039103	10.8
SPC01039104	11.1
SPC01039105	11.1
SPC01039106	11.4
SPC01039107	11.4
SPC01039108	11.1
SPC01039109	11.4
SPC01039110	11.2
SPC01039111	11.0
SPC01039112	11.0
SPC01039113	10.1
SPC01039114	10.9
SPC01039115	10.3
SPC01039116	10.4
SPC01039117	10.0
SPC01039118	10.0
SPC01039119	9.47
SPC01039120	10.2
SPC01039121	9.92
SPC01039122	10.4
SPC01039123	10.0
SPC01039124	10.0
SPC01039125	9.19
SPC01039126	9.26
SPC01039127	9.03
SPC01039128	9.59
SPC01039129	8.95
SPC01039130	9.28
SPC01039131	9.10
SPC01039132	8.83
SPC01039133	8.72
SPC01039134	8.59

Sample Identification Number	Iodide
SPC01039606	845
SPC01039607	836
SPC01039608	827
SPC01039609	822
SPC01039610	816
SPC01039611	809
SPC01039612	803
SPC01039613	796
SPC01039614	789
SPC01039615	798
SPC01039616	793
SPC01039617	784
SPC01039618	776
SPC01039619	769
SPC01039620	761
SPC01039621	755
SPC01039622	749
SPC01039623	742
SPC01039624	736
SPC01039625	730
SPC01039626	723
SPC01039627	733
SPC01039628	727
SPC01039629	718
SPC01039630	711
SPC01039631	703
SPC01039632	696
SPC01039633	689
SPC01039634	683
SPC01039635	676
SPC01039636	671
SPC01039637	664
SPC01039638	657
SPC01039639	664
SPC01039640	668
SPC01039641	651
SPC01039642	642
SPC01039643	636
SPC01039644	630
SPC01039645	623
SPC01039646	617
SPC01039647	610
SPC01039648	603
SPC01039649	597
SPC01039650	574
SPC01039651	599
SPC01039652	594

Sample Identification Number	Perrhenate
SPC01039135	8.66
SPC01039136	8.22
SPC01039137	8.15
SPC01039138	8.43
SPC01039139	8.04
SPC01039141	8.02
SPC01039142	7.31
SPC01039143	7.65
SPC01039144	8.47
SPC01039145	7.63
SPC01039146	7.87
SPC01039147	7.62
SPC01039148	6.94
SPC01039149	7.13
SPC01039150	7.08
SPC01039151	6.52
SPC01039152	7.03
SPC01039153	6.68
SPC01039154	6.92
SPC01039157	5.98
SPC01039158	6.08
SPC01039159	6.05
SPC01039160	7.04
SPC01039161	5.84
SPC01039162	5.72
SPC01039163	5.55
SPC01039164	5.26
SPC01039166	5.41
SPC01039168	5.18
SPC01039169	5.08
SPC01039170	5.15
SPC01039171	4.91
SPC01039172	5.32
SPC01039173	4.80
SPC01039174	5.00
SPC01039177	4.66
SPC01039178	5.00
SPC01039179	4.44
SPC01039180	4.83
SPC01039181	4.66
SPC01039182	4.17
SPC01039183	4.07
SPC01039184	5.09
SPC01039186	4.15
SPC01039187	4.80
SPC01039189	4.03
SPC01039191	3.77

Sample Identification Number	Iodide
SPC01039653	587
SPC01039654	574
SPC01039655	573
SPC01039656	564
SPC01039657	558
SPC01039658	552
SPC01039659	547
SPC01039660	541
SPC01039661	534
SPC01039662	542
SPC01039663	534
SPC01039664	530
SPC01039665	523
SPC01039666	515
SPC01039667	509
SPC01039668	504
SPC01039669	498
SPC01039670	493
SPC01039671	487
SPC01039672	487
SPC01039673	480
SPC01039674	486
SPC01039675	519
SPC01039676	489
SPC01039677	467
SPC01039678	455
SPC01039679	443
SPC01039680	445
SPC01039681	433
SPC01039682	423
SPC01039683	410
SPC01039684	400
SPC01039685	391
SPC01039686	380
SPC01039687	374
SPC01039688	390
SPC01039689	381
SPC01039690	371
SPC01039691	362
SPC01039692	351
SPC01039693	341
SPC01039694	329
SPC01039695	326
SPC01039696	331
SPC01039697	333
SPC01039698	324
SPC01039699	315

Sample Identification Number	Perrhenate
SPC01039192	4.16
SPC01039193	3.63
SPC01039194	3.89
SPC01039195	3.39
SPC01039197	3.48
SPC01039198	3.47
SPC01039201	3.19
SPC01039205	3.22
SPC01039206	3.24
SPC01039207	3.26
SPC01039209	2.81
SPC01039210	2.95
SPC01039211	2.80
SPC01039212	2.96
SPC01039213	2.78
SPC01039214	2.86
SPC01039215	2.69
SPC01039216	2.71
SPC01039217	2.50
SPC01039218	2.59
SPC01039221	2.41
SPC01039230	2.13
SPC01039231	2.01
SPC01039232	2.18
SPC01039233	1.98
SPC01039234	2.05
SPC01039235	1.97
SPC01039236	1.87
SPC01039237	1.82
SPC01039238	1.79
SPC01039239	1.79
SPC01039240	1.85
SPC01039241	1.79
SPC01039242	1.74
SPC01039243	1.74
SPC01039244	1.69
SPC01039245	1.63
SPC01039246	1.69
SPC01039247	1.61
SPC01039248	1.47
SPC01039249	1.56
SPC01039250	1.47
SPC01039251	1.43
SPC01039252	1.47
SPC01039253	1.44
SPC01039254	1.30
SPC01039255	2.21

Sample Identification Number	Iodide
SPC01039700	306
SPC01039701	301
SPC01039703	333
SPC01039704	297
SPC01039705	302
SPC01039706	279
SPC01039707	273
SPC01039708	266
SPC01039709	262
SPC01039710	255
SPC01039711	247
SPC01039712	242
SPC01039713	237
SPC01039714	242
SPC01039715	245
SPC01039716	234
SPC01039717	232
SPC01039718	220
SPC01039719	216
SPC01039720	216
SPC01039721	206
SPC01039722	207
SPC01039723	204
SPC01039724	193
SPC01039725	190
SPC01039726	191
SPC01039727	189
SPC01039728	185
SPC01039729	180
SPC01039730	175
SPC01039731	170
SPC01039732	169
SPC01039733	167
SPC01039734	163
SPC01039735	159
SPC01039736	155
SPC01039737	151
SPC01039738	155
SPC01039739	153
SPC01039740	150
SPC01039741	147
SPC01039742	146
SPC01039743	141
SPC01039744	137
SPC01039745	135
SPC01039746	131
SPC01039747	129

Sample Identification Number	Perrhenate
SPC01039256	2.91
SPC01039257	1.81
SPC01039258	1.91
SPC01039259	1.46
SPC01039260	1.75
SPC01039261	1.38
SPC01039262	1.70
SPC01039263	1.69
SPC01039264	1.69
SPC01039265	1.58
SPC01039266	1.83
SPC01039267	1.67
SPC01039268	1.85
SPC01039269	1.67
SPC01039270	1.62
SPC01039271	1.30
SPC01039272	1.30
SPC01039273	1.16
SPC01039274	1.14
SPC01039275	1.14
SPC01039276	1.09
SPC01039277	1.27
SPC01039278	1.07
SPC01039279	1.03
SPC01039280	1.09
SPC01039281	1.05
SPC01039282	1.05
SPC01039283	1.04
SPC01039284	0.979
SPC01039285	0.927
SPC01039286	0.992
SPC01039287	0.934
SPC01039288	0.857
SPC01039289	0.920
SPC01039290	0.854
SPC01039291	0.909
SPC01039292	0.906
SPC01039293	0.853
SPC01039294	0.826
SPC01039295	0.861
SPC01039296	0.871
SPC01039297	0.843
SPC01039298	0.829
SPC01039299	0.850
SPC01039300	0.863
SPC01039301	0.787
SPC01039302	0.759

Sample Identification Number	Iodide
SPC01039748	127
SPC01039749	124
SPC01039750	123
SPC01039751	119
SPC01039752	116
SPC01039753	115
SPC01039754	111
SPC01039755	108
SPC01039756	106
SPC01039757	105
SPC01039758	104
SPC01039759	100
SPC01039760	100
SPC01039761	97.7
SPC01039762	103
SPC01039763	100
SPC01039764	97.4
SPC01039765	97.9
SPC01039766	89.8
SPC01039767	87.5
SPC01039768	85.1
SPC01039769	81.0
SPC01039770	79.1
SPC01039771	78.0
SPC01039772	74.9
SPC01039773	74.5
SPC01039774	74.2
SPC01039775	72.1
SPC01039776	69.3
SPC01039777	68.0
SPC01039778	65.5
SPC01039779	62.4
SPC01039780	65.4
SPC01039781	65.2
SPC01039782	62.4
SPC01039783	59.7
SPC01039784	57.6
SPC01039785	55.4
SPC01039786	56.3
SPC01039787	69.9
SPC01039788	56.3
SPC01039789	75.8
SPC01039790	120
SPC01039791	45.1
SPC01039792	40.3
SPC01039793	62.7
SPC01039794	36.4

Sample Identification Number	Perrhenate
SPC01039303	0.756
SPC01039304	0.864
SPC01039305	0.747
SPC01039306	0.727
SPC01039307	0.712
SPC01039308	0.701
SPC01039309	0.687
SPC01039310	0.698
SPC01039311	0.696
SPC01039312	0.656
SPC01039314	0.651
SPC01033527	2.34
SPC01033529	9.91
SPC01033532	13.7
SPC01033537	14.0
SPC01033539	15.7
SPC01033541	15.1
SPC01033543	10.3
SPC01033544	11.1
SPC01033550	10.9
SPC01033552	9.36
SPC01033553	8.64
SPC01033556	7.57
SPC01033557	6.10
SPC01033562	5.34
SPC01033564	5.49
SPC01033570	4.23
SPC01033571	3.59
SPC01033574	3.11
SPC01033576	2.64
SPC01033577	2.09
SPC01033582	1.77
SPC01033585	1.31
SPC01033587	1.13
SPC01033589	0.972
SPC01033591	0.851
SPC01033594	0.759
SPC01033597	0.681

Sample Identification Number	Iodide
SPC01039795	34.8
SPC01039796	34.6
SPC01039797	31.7
SPC01039798	28.5
SPC01039799	52.7
SPC01039800	40.4
SPC01039801	47.4
SPC01039802	34.7
SPC01039803	26.5
SPC01039804	26.3
SPC01039805	39.0
SPC01039806	49.0
SPC01039807	23.5
SPC01039808	39.7
SPC01039809	31.7
SPC01039810	23.6
SPC01039811	38.5
SPC01039812	23.2
SPC01039813	41.0
SPC01039814	23.5
SPC01039815	6.9
SPC01039816	36.2
SPC01039817	20.2
SPC01039818	35.5
SPC01039819	14.8
SPC01039820	65.9
SPC01039821	35.6
SPC01039822	<MDL
SPC01039823	<MDL
SPC01039825	<MDL
SPC01039826	6.24
SPC01039827	8.94
SPC01039828	8.04
SPC01039830	4.97
SPC01039831	15.2
SPC01039832	5.50
SPC01039833	3.72
SPC01039834	6.00
SPC01039835	<MDL
SPC01039836	6.39
SPC01039837	<MDL
SPC01039838	6.12
SPC01039839	<MDL
SPC01039840	<MDL
SPC01039841	<MDL
SPC01039842	8.53
SPC01039843	<MDL

Sample Identification Number	Iodide
SPC01039844	<MDL
SPC01039845	<MDL
SPC01033521	<MDL
SPC01033526	121
SPC01033528	8.72
SPC01033530	548
SPC01033531	915
SPC01033536	965
SPC01033538	916
SPC01033540	853
SPC01033542	799
SPC01033545	735
SPC01033549	657
SPC01033551	596
SPC01033554	535
SPC01033555	474
SPC01033558	377
SPC01033563	322
SPC01033565	303
SPC01033569	230
SPC01033572	185
SPC01033573	151
SPC01033575	122
SPC01033578	100
SPC01033584	57.1
SPC01033583	75.2
SPC01033586	41.5
SPC01033588	28.6
SPC01033590	19.0
SPC01033593	10.6
SPC01033596	4.43

Appendix E

Bromide (Br-), Pentafluorobenzoic Acid (PFBA), 2,6 Difluorobenzoic Acid (2,6 DFBA), and 2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA) Concentrations for the Natural Gradient Cross-Hole Tracer Test at Site 22

All concentrations are in parts per billion (ppb). <MDL indicates analyte concentration is below method detection limits. NA indicates analyte not analyzed.

Sample Identification Number	Bromide	Pentafluorobenzoic Acid	2,6 Difluorobenzoic Acid	2,4,5 Trifluorobenzoic Acid
SPC01021006 Injectate	10109758.2	12760000.0	NA	NA
SPC01042300 Injectate	7509758.2	5590000.0	NA	NA
SPC01036141	<MDL	<MDL	<MDL	50.2
SPC01036142	<MDL	<MDL	<MDL	14.9
SPC01036143	<MDL	<MDL	<MDL	7.5
SPC01036144	<MDL	<MDL	<MDL	14.4
SPC01036145	<MDL	<MDL	<MDL	58.2
SPC01036146	44.3	<MDL	<MDL	73.1
SPC01036147	<MDL	<MDL	647.7	<MDL
SPC01036148	<MDL	<MDL	246.3	<MDL
SPC01036149	<MDL	<MDL	220.5	<MDL
SPC01036154	12200.0	13290.0	8.1	66.7
SPC01036155	32.1	<MDL	<MDL	67.5
SPC01036156	52.9	<MDL	<MDL	77.8
SPC01036157	38.9	<MDL	6.1	83.0
SPC01036158	108.9	98.0	7.8	78.0
SPC01036159	<MDL	<MDL	347.5	<MDL
SPC01036160	<MDL	<MDL	307.5	<MDL
SPC01036161	<MDL	<MDL	267.5	<MDL
SPC01036162	<MDL	<MDL	302.1	<MDL
SPC01036163	58.7	<MDL	<MDL	79.4
SPC01035876	14.9	<MDL	<MDL	86.8
SPC01035877	<MDL	<MDL	9.0	86.3
SPC01035878	3.1	<MDL	7.0	87.2
SPC01035879	<MDL	<MDL	319.5	<MDL
SPC01035880	<MDL	<MDL	263.7	<MDL
SPC01035881	<MDL	<MDL	242.5	<MDL
SPC01035882	<MDL	<MDL	271.6	<MDL
SPC01035883	102.0	200.4	7.8	66.7
SPC01035884	<MDL	<MDL	9.4	82.0
SPC01035885	8.0	<MDL	5.8	86.2
SPC01035886	3.0	<MDL	<MDL	88.5

Sample Identification Number	Bromide	Pentafluorobenzoic Acid	2,6 Difluorobenzoic Acid	2,4,5 Trifluorobenzoic Acid
SPC01035887	<MDL	<MDL	5.1	86.8
SPC01035888	<MDL	<MDL	268.5	<MDL
SPC01035889	<MDL	<MDL	251.7	<MDL
SPC01035890	<MDL	<MDL	226.2	<MDL
SPC01035891	<MDL	<MDL	250.2	<MDL
SPC01035892	102.1	162.2	<MDL	54.7
SPC01035893	15.7	<MDL	<MDL	71.7
SPC01035894	27.1	<MDL	<MDL	85.9
SPC01035895	25.9	<MDL	<MDL	83.2
SPC01035896	24.4	<MDL	<MDL	71.9
SPC01035897	<MDL	<MDL	275.3	15.7
SPC01035898	<MDL	<MDL	233.7	<MDL
SPC01035899	<MDL	<MDL	233.1	8.1
SPC01035948	<MDL	<MDL	235.8	16.0
SPC01035949	<MDL	<MDL	<MDL	<MDL
SPC01035950	7.0	<MDL	<MDL	86.7
SPC01035951	14.7	<MDL	<MDL	88.5
SPC01035952	<MDL	<MDL	<MDL	88.1
SPC01035953	<MDL	<MDL	<MDL	87.4
SPC01035954	<MDL	<MDL	234.7	<MDL
SPC01035955	<MDL	<MDL	212.8	<MDL
SPC01035956	<MDL	<MDL	198.9	<MDL
SPC01035957	<MDL	<MDL	213.2	<MDL
SPC01042301	<MDL	<MDL	<MDL	<MDL
SPC01042302	11.2	<MDL	<MDL	80.7
SPC01042303	17.9	<MDL	5.7	81.9
SPC01042304	14.8	<MDL	<MDL	81.5
SPC01042305	13.3	<MDL	4.2	86.6
SPC01042306	<MDL	<MDL	233.4	<MDL
SPC01042307	<MDL	<MDL	222.4	<MDL
SPC01042308	<MDL	<MDL	198.4	<MDL
SPC01042309	<MDL	<MDL	217.6	<MDL
SPC01035970	<MDL	<MDL	<MDL	83.9
SPC01035969	<MDL	<MDL	<MDL	86.5
SPC01035968	59.5	<MDL	<MDL	86.1
SPC01035967	<MDL	<MDL	<MDL	87.7
SPC01035971	<MDL	<MDL	<MDL	<MDL
SPC01035972	<MDL	<MDL	187.5	<MDL
SPC01035973	<MDL	<MDL	184.1	<MDL
SPC01035974	<MDL	<MDL	172.2	<MDL
SPC01035975	<MDL	<MDL	194.2	<MDL
SPC01035976	57.6	<MDL	<MDL	87.4
SPC01035977	52.0	<MDL	<MDL	90.8
SPC01035978	74.0	<MDL	<MDL	84.6
SPC01035979	81.2	<MDL	<MDL	86.2
SPC01035980	<MDL	<MDL	174.9	<MDL

Sample Identification Number	Bromide	Pentafluorobenzoic Acid	2,6 Difluorobenzoic Acid	2,4,5 Trifluorobenzoic Acid
SPC01035981	<MDL	<MDL	190.4	<MDL
SPC01035982	<MDL	<MDL	173.4	<MDL
SPC01035983	<MDL	<MDL	192.9	<MDL
SPC01035984	33.1	11.2	<MDL	86.5
SPC01035985	23.3	11.7	<MDL	89.3
SPC01035986	12.5	14.8	<MDL	83.8
SPC01035987	15.8	9.4	<MDL	85.6
SPC01035988	<MDL	<MDL	176.3	<MDL
SPC01035989	<MDL	<MDL	158.2	<MDL
SPC01035990	<MDL	<MDL	147.8	<MDL
SPC01035991	<MDL	<MDL	160.1	<MDL
SPC01035992	21.5	21.9	<MDL	89.0
SPC01035993	44.0	26.0	<MDL	87.9
SPC01035994	37.1	31.7	<MDL	85.7
SPC01035995	76.4	24.2	<MDL	90.9
SPC01035996	<MDL	<MDL	163.2	<MDL
SPC01035997	<MDL	<MDL	154.7	<MDL
SPC01035998	<MDL	<MDL	138.3	<MDL
SPC01035999	<MDL	<MDL	153.5	<MDL
SPC01036000	55.8	44.4	<MDL	77.6
SPC01036001	53.0	53.5	<MDL	77.5
SPC01036002	41.2	52.2	<MDL	73.7
SPC01036003	49.6	47.9	<MDL	75.8
SPC01036004	<MDL	<MDL	151.4	<MDL
SPC01036005	<MDL	<MDL	141.7	<MDL
SPC01036006	<MDL	<MDL	129.7	<MDL
SPC01036007	<MDL	<MDL	140.4	<MDL
SPC01036008	80.7	73.3	<MDL	78.6
SPC01036009	91.8	86.8	5.7	76.4
SPC01036010	62.0	72.3	<MDL	72.3
SPC01036011	91.5	78.8	<MDL	73.9
SPC01036012	<MDL	<MDL	141.7	<MDL
SPC01036013	<MDL	<MDL	122.5	<MDL
SPC01036014	<MDL	<MDL	117.3	<MDL
SPC01036015	<MDL	<MDL	122.8	<MDL
SPC01036016	118.5	105.8	<MDL	75.6
SPC01036017	121.9	112.3	<MDL	76.3
SPC01036018	86.2	94.7	6.5	72.8
SPC01036019	104.4	107.4	<MDL	74.9
SPC01036020	<MDL	7.8	126.7	<MDL
SPC01036021	<MDL	6.3	119.1	<MDL
SPC01036022	<MDL	7.9	110.2	<MDL
SPC01036023	<MDL	8.5	117.5	<MDL
SPC01036024	105.7	130.9	<MDL	75.7
SPC01036025	122.6	157.6	<MDL	76.2
SPC01036026	90.8	121.4	<MDL	73.3

Sample Identification Number	Bromide	Pentafluorobenzoic Acid	2,6 Difluorobenzoic Acid	2,4,5 Trifluorobenzoic Acid
SPC01036027	104.4	137.4	<MDL	75.0
SPC01036028	<MDL	<MDL	119.2	<MDL
SPC01036029	<MDL	<MDL	107.0	<MDL
SPC01036030	<MDL	<MDL	98.1	<MDL
SPC01036031	<MDL	<MDL	107.9	<MDL
SPC01036032	128.8	140.0	<MDL	78.3
SPC01036033	145.4	163.2	<MDL	73.6
SPC01036034	127.7	145.5	<MDL	70.7
SPC01036035	<MDL	<MDL	113.3	<MDL
SPC01036036	<MDL	<MDL	115.7	<MDL
SPC01036037	<MDL	<MDL	106.8	<MDL
SPC01036038	<MDL	<MDL	108.9	<MDL
SPC01036039	120.7	144.9	<MDL	72.3
SPC01036040	130.9	163.2	<MDL	74.9
SPC01036041	89.3	102.4	<MDL	72.1
SPC01036042	118.8	142.5	<MDL	71.1
SPC01036043	<MDL	<MDL	118.7	<MDL
SPC01036044	<MDL	<MDL	100.4	<MDL
SPC01036045	<MDL	<MDL	94.0	<MDL
SPC01036046	<MDL	<MDL	103.5	<MDL

Appendix F

Bromide (Br⁻) and Pentafluorobenzoic Acid (PFBA) Concentrations for Batch Test

#1

All concentrations are in parts per million (ppm). Dup indicates analysis of a duplicate sample. <MDL indicates analyte concentration is below method detection limits. NA indicates analyte not analyzed.

Sample (Time in Days)	Bromide	Pentafluorobenzoic Acid
Blank (T=0)	0.139	<MDL
Control (T=0)	0.926	0.868
Sample 1 (T=0)	1.130	0.903
Sample 1 Dup (T=0)	2.530	0.896
Blank (T=1)	0.140	<MDL
Control (T=1)	0.919	0.875
Sample 1 (T=1)	1.110	0.880
Sample 1 Dup (T=1)	2.540	0.880
Blank (T=2)	0.136	<MDL
Control (T=2)	0.913	0.880
Sample 1 (T=2)	1.130	0.883
Sample 1 Dup (T=2)	2.570	0.880
Blank (T=7)	0.140	<MDL
Control (T=7)	0.919	0.859
Sample 1 (T=7)	1.130	0.893
Sample 1 Dup (T=7)	2.560	0.891
Blank (T=14)	0.139	<MDL
Control (T=14)	0.920	0.872
Sample 1 (T=14)	1.160	0.901
Sample 1 Dup (T=14)	2.590	0.907
Blank (T=21)	0.137	<MDL
Control (T=21)	0.907	0.855
Sample 1 (T=21)	1.160	0.907
Sample 1 Dup (T=21)	2.590	0.910
Blank (T=28)	0.135	<MDL
Control (T=28)	0.927	0.866
Sample 1 (T=28)	1.160	0.908
Sample 1 Dup (T=28)	2.580	0.902
Blank (T=42)	0.133	<MDL
Control (T=42)	0.923	0.873
Sample 1 (T=42)	1.160	0.906
Sample 1 Dup (T=42)	2.590	NA
Blank (T=56)	0.135	<MDL
Control (T=56)	0.931	0.895

Sample (Time in Days)	Bromide	Pentafluorobenzoic Acid
Sample 1 (T=56)	1.170	0.923
Sample 1 Dup (T=56)	2.580	0.924
Blank (T=70)	0.138	<MDL
Control (T=70)	0.914	0.875
Sample 1 (T=70)	1.160	0.908
Sample 1 Dup (T=70)	2.600	0.909
Blank (T=84)	0.184	<MDL
Control (T=84)	0.916	0.884
Sample 1 (T=84)	1.177	0.913
Sample 1 Dup (T=84)	2.427	0.914
Blank (T=105)	0.186	<MDL
Control (T=105)	0.920	0.883
Sample 1 (T=105)	1.197	0.912
Sample 1 Dup (T=105)	2.470	0.916
Blank (T=126)	0.184	<MDL
Control (T=126)	0.920	0.867
Sample 1 (T=126)	1.193	0.910
Sample 1 Dup (T=126)	2.483	0.906
Blank (T=147)	0.188	<MDL
Control (T=147)	0.929	0.881
Sample 1 (T=147)	1.204	0.898
Sample 1 Dup (T=147)	2.480	0.907
Blank (T=168)	0.186	<MDL
Control (T=168)	0.930	0.871
Sample 1 (T=168)	1.204	0.908
Sample 1 Dup (T=168)	2.507	0.898
Blank (T=190)	0.186	<MDL
Control (T=190)	0.938	0.886
Sample 1 (T=190)	1.209	0.912
Sample 1 Dup (T=190)	2.494	0.916
Blank (T=210)	0.191	<MDL
Control (T=210)	0.949	0.882
Sample 1 (T=210)	1.205	0.931
Sample 1 Dup (T=210)	2.509	0.924
Blank (T=233)	0.189	<MDL
Control (T=233)	0.941	0.878
Sample 1 (T=233)	1.224	0.892
Sample 1 Dup (T=233)	2.534	0.923
Blank (T=252)	0.193	<MDL
Control (T=252)	0.958	0.868
Sample 1 (T=252)	1.219	0.907
Sample 1 Dup (T=252)	2.523	0.933
Blank (T=273)	0.191	<MDL
Control (T=273)	0.948	0.948
Sample 1 (T=273)	1.231	1.231
Sample 1 Dup (T=273)	2.583	2.583
Blank (T=294)	0.193	<MDL

Sample (Time in Days)	Bromide	Pentafluorobenzoic Acid
Control (T=294)	0.952	0.898
Sample 1 (T=294)	1.229	0.900
Sample 1 Dup (T=294)	2.553	0.941
Blank (T=315)	0.178	<MDL
Control (T=315)	0.949	0.897
Sample 1 (T=315)	1.241	0.922
Sample 1 Dup (T=315)	2.589	0.927
Blank (T=336)	0.177	<MDL
Control (T=336)	0.954	0.888
Sample 1 (T=336)	1.242	0.910
Sample 1 Dup (T=336)	2.628	0.929
Blank (T=357)	0.173	<MDL
Control (T=357)	0.941	0.891
Sample 1 (T=357)	1.443	0.912
Sample 1 Dup (T=357)	2.612	0.932
Blank (T=379)	0.171	<MDL
Control (T=379)	0.937	0.901
Sample 1 (T=379)	1.243	0.885
Sample 1 Dup (T=379)	2.612	0.945
Blank (T=401)	0.182	<MDL
Control (T=401)	0.936	0.895
Sample 1 (T=401)	1.207	0.925
Sample 1 Dup (T=401)	2.550	0.943
Blank (T=420)	0.179	<MDL
Control (T=420)	0.934	0.901
Sample 1 (T=420)	1.209	0.924
Sample 1 Dup (T=420)	2.543	0.949
Blank (T=448)	0.180	<MDL
Control (T=448)	0.942	0.909
Sample 1 (T=448)	1.217	0.931
Sample 1 Dup (T=448)	2.561	0.956
Blank (T=479)	0.181	<MDL
Control (T=479)	0.947	0.911
Sample 1 (T=479)	1.217	0.928
Sample 1 Dup (T=479)	2.580	0.952
Blank (T=504)	0.180	<MDL
Control (T=504)	0.944	0.909
Sample 1 (T=504)	1.218	0.934
Sample 1 Dup (T=504)	2.584	0.955
Blank (T=532)	0.184	NA
Control (T=532)	0.946	NA
Sample 1 (T=532)	1.219	NA
Sample 1 Dup (T=532)	2.614	NA
Blank (T=559)	0.182	NA
Control (T=559)	0.953	NA
Sample 1 (T=559)	1.234	NA
Sample 1 Dup (T=559)	2.639	NA

Sample (Time in Days)	Bromide	Pentafluorobenzoic Acid
T=587 Blank	0.178	NA
T=587 Control	0.975	NA
T=587 Sample1	1.235	NA
T=587 Sample1 Dup	2.683	NA

Appendix G

2,6 Difluorobenzoic Acid (2,6 DFBA), 2,5 Difluorobenzoic Acid (2,5 DFBA), 2,4,5 Trifluorobenzoic Acid (2,4,5 TFBA), and 2,3,4,5 Tetrafluorobenzoic Acid (2,3,4,5 TFBA) Concentrations for Batch Test #2

All concentrations are in parts per million (ppm). Dup indicates analysis of a duplicate sample. <MDL indicates analyte concentration is below method detection limits.

Sample (Time in Days)	2,6 Difluorobenzoic Acid	2,5 Difluorobenzoic Acid	2,4,5 Trifluorobenzoic Acid	2,3,4,5 Tetrafluorobenzoic Acid
Blank (T=0)	<MDL	<MDL	<MDL	<MDL
Control (T=0)	0.952	0.883	0.969	1.005
Sample 1 (T=0)	1.017	0.877	0.997	1.044
Sample 1 Dup (T=0)	1.217	0.674	0.996	1.038
Blank (T=1)	<MDL	<MDL	<MDL	<MDL
Control (T=1)	0.983	0.848	0.970	1.007
Sample 1 (T=1)	1.024	0.902	0.994	1.049
Sample 1 Dup (T=1)	1.015	0.846	0.993	1.046
Blank (T=2)	<MDL	<MDL	<MDL	<MDL
Control (T=2)	0.982	0.871	0.972	1.014
Sample 1 (T=2)	0.997	0.869	1.006	1.054
Sample 1 Dup (T=2)	1.029	0.894	1.001	1.049
Blank (T=7)	<MDL	<MDL	<MDL	<MDL
Control (T=7)	0.965	0.855	0.969	1.011
Sample 1 (T=7)	1.012	0.862	1.001	1.073
Sample 1 Dup (T=7)	1.020	0.845	1.003	1.054
Blank (T=14)	<MDL	<MDL	<MDL	<MDL
Control (T=14)	0.987	0.848	0.967	1.005
Sample 1 (T=14)	1.003	0.716	1.000	1.052
Sample 1 Dup (T=14)	1.020	0.849	1.006	1.065
Blank (T=21)	<MDL	<MDL	<MDL	<MDL
Control (T=21)	0.985	0.845	0.967	1.018
Sample 1 (T=21)	1.020	0.847	0.998	1.050
Sample 1 Dup (T=21)	1.027	0.844	0.996	1.042
Blank (T=28)	<MDL	<MDL	<MDL	<MDL
Control (T=28)	0.979	0.882	0.972	1.006
Sample 1 (T=28)	1.008	0.776	1.001	1.032
Sample 1 Dup (T=28)	1.010	0.842	1.005	1.040
Blank (T=42)	<MDL	<MDL	<MDL	<MDL
Control (T=42)	0.992	0.854	0.973	1.013
Sample 1 (T=42)	1.003	0.842	1.005	1.042
Sample 1 Dup (T=42)	1.007	0.804	0.996	1.040

Sample (Time in Days)	2,6 Difluorobenzoic Acid	2,5 Difluorobenzoic Acid	2,4,5 Trifluorobenzoic Acid	2,3,4,5 Tetrafluorobenzoic Acid
Blank (T=56)	<MDL	<MDL	<MDL	<MDL
Control (T=56)	0.990	0.854	0.970	1.009
Sample 1 (T=56)	0.926	0.631	1.004	1.032
Sample 1 Dup (T=56)	1.004	0.810	0.989	1.042
Blank (T=70)	<MDL	<MDL	<MDL	<MDL
Control (T=70)	0.989	0.847	0.961	1.000
Sample 1 (T=70)	1.004	0.836	0.989	1.041
Sample 1 Dup (T=70)	0.998	0.809	0.985	1.033
Blank (T=84)	<MDL	<MDL	<MDL	<MDL
Control (T=84)	1.005	0.849	0.971	1.001
Sample 1 (T=84)	1.003	0.839	0.990	1.028
Sample 1 Dup (T=84)	0.996	0.794	0.983	1.026
Blank (T=105)	<MDL	<MDL	<MDL	<MDL
Control (T=105)	0.993	0.847	0.964	0.998
Sample 1 (T=105)	0.998	0.823	0.994	1.027
Sample 1 Dup (T=105)	0.982	0.789	0.988	1.021
Blank (T=126)	<MDL	<MDL	<MDL	<MDL
Control (T=126)	0.979	0.831	0.970	0.997
Sample 1 (T=126)	1.000	0.834	0.995	1.035
Sample 1 Dup (T=126)	0.979	0.790	0.985	1.023
Blank (T=147)	<MDL	<MDL	<MDL	<MDL
Control (T=147)	0.989	0.837	0.968	0.985
Sample 1 (T=147)	1.004	0.835	0.999	1.030
Sample 1 Dup (T=147)	0.971	0.792	0.991	1.019
Blank (T=168)	<MDL	<MDL	<MDL	<MDL
Control (T=168)	0.981	0.833	0.969	0.991
Sample 1 (T=168)	1.003	0.841	1.008	1.032
Sample 1 Dup (T=168)	0.981	0.791	0.993	1.021
Blank (T=190)	<MDL	<MDL	<MDL	<MDL
Control (T=190)	0.981	0.837	0.967	0.981
Sample 1 (T=190)	1.002	0.841	1.007	1.023
Sample 1 Dup (T=190)	0.985	0.801	1.002	1.028
Blank (T=210)	<MDL	<MDL	<MDL	<MDL
Control (T=210)	0.978	0.837	0.971	0.989
Sample 1 (T=210)	1.001	0.842	1.007	1.029
Sample 1 Dup (T=210)	0.978	0.796	0.994	1.018
Blank (T=233)	<MDL	<MDL	<MDL	<MDL
Control (T=233)	1.010	0.832	0.964	0.990
Sample 1 (T=233)	1.040	0.844	1.006	1.043
Sample 1 Dup (T=233)	1.023	0.785	0.993	1.026
Blank (T=252)	<MDL	<MDL	<MDL	<MDL
Control (T=252)	1.025	0.827	0.964	0.991
Sample 1 (T=252)	1.036	0.831	1.003	1.038
Sample 1 Dup (T=252)	1.023	0.793	0.994	1.029
Blank (T=273)	<MDL	<MDL	<MDL	<MDL

Sample (Time in Days)	2,6 Difluorobenzoic Acid	2,5 Difluorobenzoic Acid	2,4,5 Trifluorobenzoic Acid	2,3,4,5 Tetrafluorobenzoic Acid
Control (T=273)	1.009	0.817	0.970	0.992
Sample 1 (T=273)	1.030	0.832	1.006	1.042
Sample 1 Dup (T=273)	1.017	0.796	0.992	1.026
Blank (T=294)	<MDL	<MDL	<MDL	<MDL
Control (T=294)	1.001	0.840	0.958	0.991
Sample 1 (T=294)	1.029	0.814	0.994	1.036
Sample 1 Dup (T=294)	1.015	0.775	0.982	1.032
Blank (T=315)	<MDL	<MDL	<MDL	<MDL
Control (T=315)	1.005	0.838	0.969	1.002
Sample 1 (T=315)	1.024	0.834	1.008	1.050
Sample 1 Dup (T=315)	1.023	0.795	1.004	1.045
Blank (T=336)	<MDL	<MDL	<MDL	<MDL
Control (T=336)	1.014	0.853	0.975	1.009
Sample 1 (T=336)	1.020	0.847	1.008	1.053
Sample 1 Dup (T=336)	1.008	0.793	0.998	1.041
Blank (T=357)	<MDL	<MDL	<MDL	<MDL
Control (T=357)	1.007	0.835	0.971	1.006
Sample 1 (T=357)	1.025	0.836	1.008	1.053
Sample 1 Dup (T=357)	1.014	0.797	1.002	1.043
Blank (T=379)	<MDL	<MDL	<MDL	<MDL
Control (T=379)	1.006	0.849	0.971	1.003
Sample 1 (T=379)	1.020	0.847	1.009	1.043
Sample 1 Dup (T=379)	1.011	0.805	1.004	1.040
Blank (T=401)	<MDL	<MDL	<MDL	<MDL
Control (T=401)	1.006	0.850	0.972	1.003
Sample 1 (T=401)	1.025	0.849	1.011	1.049
Sample 1 Dup (T=401)	1.008	0.806	1.003	1.045
Blank (T=420)	<MDL	<MDL	<MDL	<MDL
Control (T=420)	1.007	0.851	0.973	1.005
Sample 1 (T=420)	1.024	0.850	1.010	1.053
Sample 1 Dup (T=420)	1.012	0.809	1.005	1.049
Blank (T=448)	<MDL	<MDL	<MDL	<MDL
Control (T=448)	1.007	0.852	0.977	1.005
Sample 1 (T=448)	1.029	0.854	1.014	1.056
Sample 1 Dup (T=448)	1.014	0.809	1.007	1.049
Blank (T=479)	<MDL	<MDL	<MDL	<MDL
Control (T=479)	1.007	0.851	0.972	1.007
Sample 1 (T=479)	1.034	0.850	1.018	1.060
Sample 1 Dup (T=479)	1.022	0.811	1.016	1.054
Blank (T=504)	<MDL	<MDL	<MDL	<MDL
Control (T=504)	1.012	0.850	0.967	1.006
Sample 1 (T=504)	1.042	0.855	1.015	1.065
Sample 1 Dup (T=504)	1.032	0.816	1.011	1.057
Blank (T=532)	<MDL	<MDL	<MDL	<MDL
Control (T=532)	0.993	0.857	0.977	1.020

Sample (Time in Days)	2,6 Difluorobenzoic Acid	2,5 Difluorobenzoic Acid	2,4,5 Trifluorobenzoic Acid	2,3,4,5 Tetrafluorobenzoic Acid
Sample 1 (T=532)	1.012	0.856	1.014	1.066
Sample 1 Dup (T=532)	0.999	0.811	1.009	1.057
Blank (T=559)	<MDL	<MDL	<MDL	<MDL
Control (T=559)	0.983	0.846	0.970	1.008
Sample 1 (T=559)	1.002	0.818	1.027	1.073
Sample 1 Dup (T=559)	1.004	0.846	1.012	1.061

Appendix H

Conductivity Measurements of Water Samples Collected for Task ORD-FY04-010

All conductivity measurements are in mS/cm. Dup indicates analysis of a duplicate sample.

Sample Date	Sample Site	Conductivity
8/5/2003	NCEWDP-22S Zone 1	0.281
8/5/2003	NCEWDP-22S Zone 1 Dup	0.279
8/12/2003	NCEWDP-22S Zone 2	0.304
8/12/2003	NCEWDP-22S Zone 2 Dup	0.309
9/9/2003	NCEWDP-22S Zone 3	0.321
9/9/2003	NCEWDP-22S Zone 3 Dup	0.314
9/23/2003	NCEWDP-22S Zone 4	0.325
9/23/2003	NCEWDP-22S Zone 4 Dup	0.324
9/29/2003	NCEWDP-27P	0.508
9/30/2003	NCEWDP-24P	0.351
9/30/2003	NCEWDP-24P Dup	0.354
9/30/2003	NCEWDP-28P	0.470
10/1/2003	NCEWDP-19P	0.304
10/1/2003	NCEWDP-29P	0.312
10/1/2003	NCEWDP-29P Dup	0.312
10/2/2003	NCEWDP-4PB	0.295
10/2/2003	NCEWDP-4PB Dup	0.294
10/6/2003	NCEWDP-10P Shallow	0.285
10/6/2003	NCEWDP-10P Shallow Dup	0.291
10/7/2003	NCEWDP-10P Deep	0.283
10/7/2003	NCEWDP-10P Deep Dup	0.283
10/7/2003	NCEWDP-22PA Shallow	0.280
10/8/2003	NCEWDP-22PA Deep	0.286
10/8/2003	NCEWDP-22PA Deep Dup	0.287
10/9/2003	NCEWDP-22PB Shallow	0.324
10/9/2003	NCEWDP-22PB Shallow Dup	0.324
10/10/2003	NCEWDP-22PB Deep	0.342
10/10/2003	NCEWDP-22PB Deep Dup	0.344
10/13/2003	NCEWDP-23P Shallow	0.625
10/13/2003	NCEWDP-23P Shallow Dup	0.626
10/15/2003	NCEWDP-23P Deep	0.636
10/15/2003	NCEWDP-23P Deep Dup	0.633
10/16/2003	NCEWDP-18P	0.353
10/16/2003	NCEWDP-18P Dup	0.353
10/27/2003	NCEWDP-19IM1 Zone 5	0.432
10/27/2003	NCEWDP-19IM1 Zone 5 Dup	0.430
10/28/2003	NCEWDP-16P	0.470
10/28/2003	NCEWDP-19IM2	0.439

Sample Date	Sample Site	Conductivity
10/28/2003	NCEWDP-19IM2 Dup	0.438
10/30/2003	NCEWDP-7SC Zone 4	0.718
10/30/2003	NCEWDP-7SC Zone 4 Dup	0.718
10/31/2003	NCEWDP-7SC Zone 3	0.936
10/31/2003	NCEWDP-7SC Zone 3 Dup	0.937
11/3/2003	NCEWDP-19IM1 Zone 1	0.418
11/3/2003	NCEWDP-7SC Zone 2	0.947
11/3/2003	NCEWDP-7SC Zone 2 Dup	0.945
11/4/2003	NCEWDP-7SC Zone 1	0.949
11/4/2003	NCEWDP-7SC Zone 1 Dup	0.952
11/5/2003	NCEWDP-3S Zone 2	0.829
11/5/2003	NCEWDP-3S Zone 2 Dup	0.824
11/6/2003	NCEWDP-10S Zone 1	0.276
11/6/2003	NCEWDP-10S Zone 1 Dup	0.274
11/7/2003	NCEWDP-10S Zone 2	0.287
11/7/2003	NCEWDP-10S Zone 2 Dup	0.287
5/10/2004	NCEWDP-19PB Deep	0.404
5/10/2004	NCEWDP-19PB Deep Dup	0.391
5/11/2004	NCEWDP-19PB Shallow	0.321
5/11/2004	NCEWDP-19PB Shallow Dup	0.328
5/13/2004	NCEWDP-Washburn 1X	0.293
5/13/2004	NCEWDP-Washburn 1X Dup	0.293
11/10/2004	NCEWDP-4PA	0.332
11/10/2004	NCEWDP-4PA Dup	0.333
9/19/2005	NCEWDP-27P	0.470
9/19/2005	NCEWDP-27P Dup	0.467
9/21/2005	NCEWDP-28P	0.438
9/21/2005	NCEWDP-28P Dup	0.440
9/22/2005	NCEWDP-24P	0.322
9/22/2005	NCEWDP-24P Dup	0.319
9/23/2005	NCEWDP-29P	0.299
9/23/2005	NCEWDP-29P Dup	0.298
9/27/2005	NCEWDP-12PA	0.890
9/27/2005	NCEWDP-12PA Dup	0.893
9/28/2005	NCEWDP-12PB	0.857
9/28/2005	NCEWDP-12PB Dup	0.857
9/18/2006	NCEWDP-191M1 Zone 1	0.423
9/19/2006	NCEWDP-191M1 Zone 5	0.422
9/19/2006	NCEWDP-191M1 Zone 5 Dup	0.421
9/20/2006	NCEWDP-1S Zone 1	0.813
9/21/2006	NCEWDP-1S Zone 2	0.816
9/22/2006	NCEWDP-9SX Zone 1	0.464
9/25/2006	NCEWDP-9SX Zone 2	0.489
9/25/2006	NCEWDP-9SX Zone 2-B	0.486
9/26/2006	NCEWDP-9SX Zone 3	0.461
9/27/2006	NCEWDP-9SX Zone 4	0.455

Appendix I

Measurement of pH of Water Samples Collected for Task ORD-FY04-010

All pH measurements are in pH units. Dup indicates analysis of a duplicate sample. NA indicates that sample was not analyzed.

Sample Date	Sample Site	pH
8/5/2003	NCEWDP-22S Zone 1	7.35
8/5/2003	NCEWDP-22S Zone 1 Dup	7.38
8/12/2003	NCEWDP-22S Zone 2	7.57
8/12/2003	NCEWDP-22S Zone 2 Dup	7.52
9/9/2003	NCEWDP-22S Zone 3	7.81
9/9/2003	NCEWDP-22S Zone 3 Dup	7.79
9/23/2003	NCEWDP-22S Zone 4	7.99
9/23/2003	NCEWDP-22S Zone 4 Dup	8.02
9/29/2003	NCEWDP-27P	8.36
9/30/2003	NCEWDP-24P	7.77
9/30/2003	NCEWDP-24P Dup	7.93
9/30/2003	NCEWDP-28P	8.19
10/1/2003	NCEWDP-19P	7.35
10/1/2003	NCEWDP-29P	8.10
10/1/2003	NCEWDP-29P Dup	8.22
10/2/2003	NCEWDP-4PB	9.23
10/2/2003	NCEWDP-4PB Dup	9.36
10/6/2003	NCEWDP-10P Shallow	7.39
10/6/2003	NCEWDP-10P Shallow Dup	7.47
10/7/2003	NCEWDP-10P Deep	7.57
10/7/2003	NCEWDP-10P Deep Dup	7.64
10/7/2003	NCEWDP-22PA Shallow	7.49
10/8/2003	NCEWDP-22PA Deep	7.39
10/8/2003	NCEWDP-22PA Deep Dup	7.46
10/9/2003	NCEWDP-22PB Shallow	7.79
10/9/2003	NCEWDP-22PB Shallow Dup	7.90
10/10/2003	NCEWDP-22PB Deep	7.76
10/10/2003	NCEWDP-22PB Deep Dup	7.79
10/13/2003	NCEWDP-23P Shallow	7.70
10/13/2003	NCEWDP-23P Shallow Dup	7.85
10/15/2003	NCEWDP-23P Deep	7.94
10/15/2003	NCEWDP-23P Deep Dup	8.10
10/16/2003	NCEWDP-18P	NA
10/16/2003	NCEWDP-18P Dup	8.22
10/27/2003	NCEWDP-19IM1 Zone 5	8.77
10/27/2003	NCEWDP-19IM1 Zone 5 Dup	8.75
10/28/2003	NCEWDP-16P	8.51
10/28/2003	NCEWDP-19IM2	8.85

Sample Date	Sample Site	pH
10/28/2003	NCEWDP-19IM2 Dup	8.86
10/30/2003	NCEWDP-7SC Zone 4	8.11
10/30/2003	NCEWDP-7SC Zone 4 Dup	8.33
10/31/2003	NCEWDP-7SC Zone 3	7.60
10/31/2003	NCEWDP-7SC Zone 3 Dup	7.65
11/3/2003	NCEWDP-19IM1 Zone 1	8.41
11/3/2003	NCEWDP-7SC Zone 2	7.22
11/3/2003	NCEWDP-7SC Zone 2 Dup	7.20
11/4/2003	NCEWDP-7SC Zone 1	7.40
11/4/2003	NCEWDP-7SC Zone 1 Dup	7.42
11/5/2003	NCEWDP-3S Zone 2	8.61
11/5/2003	NCEWDP-3S Zone 2 Dup	8.60
11/6/2003	NCEWDP-10S Zone 1	7.80
11/6/2003	NCEWDP-10S Zone 1 Dup	7.84
11/7/2003	NCEWDP-10S Zone 2	7.83
11/7/2003	NCEWDP-10S Zone 2 Dup	7.79
5/10/2004	NCEWDP-19PB Deep	8.46
5/10/2004	NCEWDP-19PB Deep Dup	8.46
5/11/2004	NCEWDP-19PB Shallow	8.40
5/11/2004	NCEWDP-19PB Shallow Dup	8.38
5/13/2004	NCEWDP-Washburn 1X	7.60
5/13/2004	NCEWDP-Washburn 1X Dup	7.51
11/10/2004	NCEWDP-4PA	7.83
11/10/2004	NCEWDP-4PA Dup	7.88
9/19/2005	NCEWDP-27P	8.35
9/19/2005	NCEWDP-27P Dup	8.34
9/21/2005	NCEWDP-28P	8.58
9/21/2005	NCEWDP-28P Dup	8.58
9/22/2005	NCEWDP-24P	7.87
9/22/2005	NCEWDP-24P Dup	7.94
9/23/2005	NCEWDP-29P	8.09
9/23/2005	NCEWDP-29P Dup	8.09
9/27/2005	NCEWDP-12PA	6.62
9/27/2005	NCEWDP-12PA Dup	6.58
9/28/2005	NCEWDP-12PB	6.63
9/28/2005	NCEWDP-12PB Dup	6.56
9/18/2006	NCEWDP-191M1 Zone 1	8.78
9/19/2006	NCEWDP-191M1 Zone 5	8.82
9/19/2006	NCEWDP-191M1 Zone 5 Dup	8.80
9/20/2006	NCEWDP-1S Zone 1	7.58
9/21/2006	NCEWDP-1S Zone 2	7.35
9/22/2006	NCEWDP-9SX Zone 1	7.90
9/25/2006	NCEWDP-9SX Zone 2	7.76
9/25/2006	NCEWDP-9SX Zone 2-B	7.91
9/26/2006	NCEWDP-9SX Zone 3	8.17
9/27/2006	NCEWDP-9SX Zone 4	7.64

Appendix J

Alkalinity Measurement of Water Samples Collected for Task ORD-FY04-010

All alkalinity measurements are in mg/L (CaCO₃). Dup indicates analysis of a duplicate sample.

Samples Identification Number	Sample Site	Alkalinity
SPC01019572	NCEWDP-22S Zone 1	98
SPC01019577	NCEWDP-22S Zone 1 Dup	97
SPC01019586	NCEWDP-22S Zone 2 Dup	111
SPC01019593	NCEWDP-22S Zone 2	110
SPC01019605	NCEWDP-22S Zone 3	127
SPC01019612	NCEWDP-22S Zone 3 Dup	122
SPC01019618	NCEWDP-10S Zone 2	133
SPC01019624	NCEWDP-10S Zone 1	121
SPC01019629	NCEWDP-7SC Zone 1 Dup	367
SPC01019634	NCEWDP-3S Zone 2	418
SPC01019639	NCEWDP-3S Zone 2 Dup	415
SPC01019649	NCEWDP-10S Zone 1 Dup	120
SPC01019654	NCEWDP-10S Zone 2 Dup	130
SPC01019669	NCEWDP-19PB Shallow	122
SPC01019673	NCEWDP-19PB Shallow Dup	122
SPC01019677	NCEWDP-19PB Deep	166
SPC01019681	NCEWDP-19PB Deep Dup	166
SPC01019692	NCEWDP-Washburn 1X	103
SPC01019696	NCEWDP-Washburn 1X Dup	107
SPC01019718	NCEWDP-22S Zone 4	126
SPC01019725	NCEWDP-22S Zone 4 Dup	128
SPC01019742	NCEWDP-27P	182
SPC01019762	NCEWDP-28P	177
SPC01019768	NCEWDP-24P	140
SPC01019774	NCEWDP-24P Dup	143
SPC01019785	NCEWDP-29P	121
SPC01019791	NCEWDP-29P Dup	117
SPC01019802	NCEWDP-19P	121
SPC01019807	NCEWDP-4PB	121
SPC01019812	NCEWDP-4PB Dup	118
SPC01019817	NCEWDP-18P	148
SPC01019822	NCEWDP-10P Shallow Dup	115
SPC01019827	NCEWDP-10P Deep	108
SPC01019832	NCEWDP-22PA Shallow	108
SPC01019837	NCEWDP-10P Deep Dup	110
SPC01019842	NCEWDP-10P Shallow	118
SPC01019847	NCEWDP-22PA Deep	111

Samples Identification Number	Sample Site	Alkalinity
SPC01019852	NCEWDP-22PA Deep Dup	110
SPC01019857	NCEWDP-22PB Shallow	134
SPC01019862	NCEWDP-22PB Shallow Dup	134
SPC01019867	NCEWDP-22PB Deep	135
SPC01019872	NCEWDP-22PB Deep Dup	132
SPC01019877	NCEWDP-23P Shallow	143
SPC01019882	NCEWDP-23P Deep	125
SPC01019887	NCEWDP-23P Shallow Dup	145
SPC01019892	NCEWDP-23P Deep Dup	122
SPC01019897	NCEWDP-18P Dup	151
SPC01019902	NCEWDP-7SC Zone 4	241
SPC01019907	NCEWDP-19IM1 Zone 5	203
SPC01019927	NCEWDP-19IM1 Zone 5 Dup	205
SPC01019942	NCEWDP-19IM2 Dup	202
SPC01019947	NCEWDP-19IM2	200
SPC01019957	NCEWDP-16P	167
SPC01019962	NCEWDP-7SC Zone 2 Dup	369
SPC01019967	NCEWDP-7SC Zone 1	367
SPC01019972	NCEWDP-7SC Zone 2	379
SPC01019977	NCEWDP-7SC Zone 4 Dup	242
SPC01019982	NCEWDP-7SC Zone 3	368
SPC01019987	NCEWDP-7SC Zone 3 Dup	369
SPC01019992	NCEWDP-19IM1 Zone 1	195
SPC01020904	NCEWDP-27P	179
SPC01020981	NCEWDP-4PA	103
SPC01020985	NCEWDP-4PA Dup	101
SPC01021020	NCEWDP-27P Dup	182
SPC01021044	NCEWDP-28P	175
SPC01021045	NCEWDP-28P Dup	176
SPC01021058	NCEWDP-24P	134
SPC01021059	NCEWDP-24P Dup	135
SPC01021066	NCEWDP-29P	126
SPC01021067	NCEWDP-29P Dup	122
SPC'01021085	NCEWDP-12PA	350
SPC'01021086	NCEWDP-12PA Dup	341
SPC'01021093	NCEWDP-12PB	343
SPC'01021094	NCEWDP-12PB Dup	338
SPC01041509	NCEWDP-191M1 Zone 5 Dup	153
SPC01041512	NCEWDP-191M1 Zone 1	169
SPC01041517	NCEWDP-191M1 Zone 5	152
SPC01041521	NCEWDP-1S Zone 1	244
SPC01041525	NCEWDP-1S Zone 2	266
SPC01041529	NCEWDP-9SX Zone 1	186
SPC01041536	NCEWDP-9SX Zone 2	179
SPC01041537	NCEWDP-9SX Zone 2-B	174
SPC01041541	NCEWDP-9SX Zone 3	174
SPC01041545	NCEWDP-9SX Zone 4	172

Appendix K

Cation Concentrations of Water Samples Collected for Task ORD-FY04-010

All concentrations are in parts per million (ppm). Dup indicates analysis of a duplicate sample. <MDL indicates analyte concentration is below method detection limits.

Samples Identification Number	Sample Site	Sodium	Potassium	Magnesium	Calcium
SPC01041500	Lab Blank	<MDL	<MDL	<MDL	<MDL
SPC01041506	19 IM1 Zone 1	102	3.07	<MDL	1.27
SPC01041514	19 IM1 Zone 5	100	3.1	<MDL	<MDL
SPC01041513	19 IM1 Zone 5 Dup	100	3.09	<MDL	<MDL
SPC01041518	1S Zone 1	70.6	8.78	32.2	59.4
SPC01041522	1S Zone 2	66.9	8.72	31.9	58.5
SPC01041526	9SX Zone 1	75.8	3.62	7.09	19
SPC01041530	9SX Zone 2	76.3	3.76	7.59	19.3
SPC01041533	9SX Zone 2 Dup	76.1	3.74	7.58	19.2
SPC01041538	9SX Zone 3	76.1	3.75	7.8	18.8
SPC01041542	9SX Zone 4	76.3	3.66	7.85	20.4
SPC01034578	ESF	1005	230	58.5	296
SPC01034573	ESF	281	9.42	134	5124
SPC01034580	ESF	1790	219	71.6	283
SPC01033719	ESF	4060	1531	295	1937
SPC01033720	ESF	9770	299	23.5	81.3
SPC01033721	ESF	651	41.9	3494	2460
SPC01033722	ESF	611	34.7	3111	2151
SPC01033723	ESF	237	15.5	1352	769
SPC01033724	ESF	388	16.6	2298	1064
SPC01034568	ESF	25.9	3.55	15.7	64.4
SPC01034569	ESF	41.6	5.26	21.0	104
SPC01034570	ESF	30.4	3.72	15.3	76.6
SPC01034571	ESF	28.8	3.18	13.8	98.1
SPC01034574	ESF	33.6	5.31	17.4	107
SPC01034575	ESF	31.4	3.26	10.4	65.0
SPC01034576	ESF	28.1	4.04	11.6	71.8
SPC01034579	ESF	27.9	3.85	13.7	71.1
SPC01015594	ESF	30.6	3.78	12.8	65.1
SPC01015595	ESF	30.3	3.89	11.8	76.3
SPC01015596	ESF	35.4	3.92	10.4	66.2
SPC01015597	ESF	26.0	2.99	11.5	85.2
SPC01015599	ESF	30.1	3.55	11.8	74.3
SPC01014188	ESF	26.8	3.34	12.9	59.1
SPC01014189	ESF	31.2	3.62	13.5	74.5
SPC01014191	ESF	37.7	3.99	11.9	68.6
SPC01014193	ESF	25.6	2.95	13.8	84.8

Samples Identification Number	Sample Site	Sodium	Potassium	Magnesium	Calcium
SPC01014194	ESF	27.5	3.70	15.0	60.1
SPC01034581	ESF	49.2	6.81	21.8	106
SPC01034582	ESF	30.7	3.45	15.6	94.4
SPC01034583	ESF	35.3	3.42	14.2	85.7
SPC01034585	ESF	33.0	3.66	17.3	100
SPC01034586	ESF	119	20.6	64.3	374
SPC01034587	ESF	31.8	3.32	15.0	98.5
SPC01036762	ESF	41.9	5.57	16.7	63.4
SPC01036763	ESF	29.7	3.12	14.9	101
SPC01036764	ESF	30.3	3.17	13.6	78.7
SPC01036765	ESF	69.1	8.61	23.7	136
SPC01036766	ESF	29.6	3.91	14.8	84.8
SPC01036767	ESF	34.5	4.07	15.2	87.7
SPC01036768	ESF	29.4	3.05	14.9	96.4
SPC01036774	ESF	37.7	4.34	15.4	86.5
SPC01036775	ESF	29.2	3.11	15.3	101
SPC01036776	ESF	29.7	4.18	15.9	90.7
SPC01036777	ESF	29.2	3.23	14.8	99.7
SPC01036778	ESF	43.7	6.96	23.2	173
SPC01019649	Lab Blank	<MDL	<MDL	<MDL	<MDL
SPC01020901	27P	80.0	4.10	1.47	5.48
SPC01020979	27P Dup	96.7	4.39	1.53	5.92
SPC01021046	28P	83.8	4.99	0.66	4.03
SPC01021049	28P Dup	98.2	4.38	0.63	3.80
SPC01021052	24P	49.7	2.91	0.813	14.0
SPC01021055	24P Dup	55.7	3.22	0.931	15.8
SPC01021060	29P	53.1	4.45	1.20	16.7
SPC01021063	29P Dup	50.0	4.12	1.11	14.9
SPC01021079	12PA	172	23.2	7.52	30.7
SPC01021082	12PA Dup	147	22.4	7.27	27.2
SPC01021087	12PB	152	23.8	7.32	27.2
SPC01021090	12PB Dup	141	23.4	7.18	26.7

Appendix L

Anion Concentrations of Water Samples Collected for Task ORD-FY04-010

All concentrations are in parts per million (ppm). Dup indicates analysis of a duplicate sample. <MDL indicates analyte concentration is below method detection limits. NA indicates analyte not analyzed.

Samples Identification Number	Sample Site	Fluoride	Chloride	Bromide	Nitrite	Nitrate	Sulfate	Phosphate
SPC01041500	Lab Blank	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
SPC01041506	19 IM1 Zone 1	2.34	5.25	<MDL	6.5471	1.62	15.5	<MDL
SPC01041514	19 IM1 Zone 5	2.32	5.31	<MDL	7.4683	1.56	15.2	<MDL
SPC01041513	19 IM1 Zone 5 Dup	2.33	5.49	<MDL	7.4354	1.59	17.3	<MDL
SPC01041518	1S Zone 1	0.583	15.5	<MDL	9.8371	2.87	126	<MDL
SPC01041522	1S Zone 2	0.589	15.3	<MDL	7.8302	0.855	120	<MDL
SPC01041526	9SX Zone 1	2.22	10.2	<MDL	5.4943	1.76	56.4	<MDL
SPC01041530	9SX Zone 2	2.19	10.2	<MDL	6.7445	2.78	56.4	<MDL
SPC01041533	9SX Zone 2 Dup	2.19	10.2	<MDL	6.7445	2.78	56	<MDL
SPC01041538	9SX Zone 3	2.18	10.2	<MDL	6.6787	2.28	58.2	<MDL
SPC01041542	9SX Zone 4	2.23	10.2	<MDL	6.7774	2.91	58.5	<MDL
SPC01021018	Lab Blank	<MDL	0.062	<MDL	0.25	<MDL	0.33	<MDL
SPC01021010	Field Blank	<MDL	0.05	<MDL	<MDL	0.18	<MDL	<MDL
SPC01019679	19PB Deep	1.38	5.85	<MDL	1.78	4.22	24.12	0.06
SPC01019683	19PB Deep Dup	1.2	5.91	<MDL	1.78	3.88	22.88	0.05
SPC01019671	19PB Shallow	1.6	6.67	0.03	1.44	4.56	29.91	0.02
SPC01019675	19PB Shallow Dup	1.67	6.69	0.04	1.42	4.57	31.42	0.01
SPC01019694	Washburn 1X	1.43	7.07	0.04	1.39	7.88	27.78	0.04
SPC01019698	Washburn 1X Dup	1.44	7.07	0.03	1.36	7.89	27.87	0.04
SPC01020982	4PA	1.18	7.84	0.0366	1.03	6.48	52.5	<MDL
SPC01020986	4PA Dup	1.18	7.77	0.0341	1.02	6.47	52.4	<MDL
SPC01033719	ESF	61.2	6128	171	NA	128	480	NA
SPC01033720	ESF	23.3	4932	98.8	NA	12.6	410	NA
SPC01033721	ESF	40.6	2500	4.18	NA	0.58	1264	NA
SPC01033722	ESF	<MDL	7699	108	NA	33.6	1552	NA
SPC01033723	ESF	93.2	486	1.37	NA	78.0	876	NA
SPC01033724	ESF	67.7	1673	1.24	NA	3.02	1214	NA
SPC01034568	ESF	3.12	50.7	0.29	NA	31.0	118	NA
SPC01034569	ESF	4.27	73.0	0.41	NA	51.4	157	NA
SPC01034570	ESF	3.65	54.1	0.31	NA	35.6	115	NA
SPC'01034571	ESF	3.09	74.0	0.40	NA	35.7	151	NA
SPC'01034573	ESF	3.69	52.4	0.29	NA	35.1	124	NA
SPC01034574	ESF	3.78	90.7	0.54	NA	53.9	170	NA
SPC'01034575	ESF	3.32	40.9	0.24	NA	31.5	109	NA

Samples Identification Number	Sample Site	Fluoride	Chloride	Bromide	Nitrite	Nitrate	Sulfate	Phosphate
SPC01034576	ESF	3.02	61.3	0.34	NA	33.7	133	NA
SPC01034578	ESF	2.77	171	0.65	NA	44.6	286	NA
SPC01034579	ESF	3.12	54.7	0.30	NA	34.3	122	NA
SPC01034580	ESF	3.83	64.8	0.37	NA	43.0	139	NA
SPC01014188	ESF	2.70	47.1	0.54	NA	27.6	103	NA
SPC01014189	ESF	3.03	52.4	0.56	NA	32.9	111	NA
SPC01014191	ESF	3.28	44.0	0.54	NA	33.4	105	NA
SPC01014193	ESF	2.69	64.9	0.59	NA	30.3	128	NA
SPC01014194	ESF	2.96	49.0	0.55	NA	29.1	107	NA
SPC01015599	ESF	2.97	52.1	0.57	NA	32.8	113	NA
SPC01036762	ESF	3.39	72.0	0.68	NA	36.0	134	NA
SPC01036763	ESF	3.27	77.4	0.62	NA	36.2	157	NA
SPC01036764	ESF	3.17	53.9	0.57	NA	33.6	117	NA
SPC01036765	ESF	4.26	138	0.95	NA	76.0	240	NA
SPC01015594	ESF	3.03	50.8	0.58	NA	31.9	109	NA
SPC01015595	ESF	3.07	53.1	0.55	NA	33.7	116	NA
SPC01015596	ESF	3.14	41.3	0.54	NA	30.9	98.5	NA
SPC01015597	ESF	2.68	63.9	0.57	NA	30.2	127	NA
SPC01036766	ESF	3.32	58.0	0.45	NA	37.7	121	NA
SPC01036767	ESF	3.42	59.4	0.46	NA	38.9	126	NA
SPC01036768	ESF	3.06	70.0	0.45	NA	34.7	135	NA
SPC01036769	ESF	3.86	199	0.67	NA	62.0	319	NA
SPC01036774	ESF	3.34	58.4	0.45	NA	37.7	122	NA
SPC01036775	ESF	2.97	71.9	0.44	NA	35.3	141	NA
SPC01036776	ESF	3.44	60.5	0.44	NA	39.6	128	NA
SPC01036777	ESF	3.01	71.1	0.46	NA	34.8	141	NA
SPC01036778	ESF	2.99	149	0.57	NA	46.4	255	NA
SPC01034581	ESF	4.79	100	0.21	NA	56.1	193	NA
SPC01034582	ESF	4.06	79.3	0.15	NA	35.4	169	NA
SPC01034583	ESF	3.75	67.4	0.16	NA	33.7	151	NA
SPC01034584	ESF	4.37	181	0.28	NA	N/A	N/A	NA
SPC01034585	ESF	3.09	88.7	0.18	NA	40.0	176	NA
SPC01034586	ESF	5.39	491	1.25	NA	129	655	NA
SPC01034587	ESF	2.75	79.5	0.17	NA	36.2	153	NA
SPC01021082	Lab Blank	<MDL	0.159	<MDL	<MDL	0.513	<MDL	<MDL
SPC01021096	Field Blank	<MDL	0.145	<MDL	<MDL	0.525	<MDL	<MDL
SPC01021092	Travertine Well #1	3.87	39.8	<MDL	<MDL	0.805	163	<MDL
SPC01021087	Travertine Well #1 Dup	3.90	40.0	<MDL	<MDL	0.976	165	<MDL
SPC01019649	Lab Blank	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
SPC01020901	27P	4.33	9.29	<MDL	2.48	2.78	38.5	0.07
SPC01020979	27P Dup	4.28	9.26	<MDL	2.49	2.76	38.4	0.08
SPC01021046	28P	2.12	7.59	<MDL	1.47	5.86	26.8	0.13
SPC01021049	28P Dup	2.04	7.40	<MDL	1.65	5.61	26.7	0.13
SPC01021052	24P	2.12	6.76	<MDL	1.37	4.72	24.0	<MDL
SPC01021055	24P Dup	2.23	6.71	<MDL	1.38	4.64	24.0	<MDL
SPC01021060	29P	1.91	6.32	<MDL	1.33	5.75	21.4	<MDL

Samples Identification Number	Sample Site	Fluoride	Chloride	Bromide	Nitrite	Nitrate	Sulfate	Phosphate
SPC01021063	29P Dup	2.24	6.31	<MDL	1.31	5.72	21.0	<MDL
SPC01021079	12PA	4.03	14.9	<MDL	3.40	1.11	111	<MDL
SPC01021082	12PA Dup	3.91	14.9	<MDL	3.40	1.09	110	<MDL
SPC01021087	12PB	4.02	15.1	<MDL	3.21	0.625	109	<MDL
SPC01021090	12PB Dup	3.70	15.1	<MDL	3.25	0.650	113	<MDL

Appendix M

Alkali and Alkaline Earth Element Concentrations of Water Samples Collected for Task ORD-FY04-010

All concentrations are in parts per billion (ppb). Dup indicates analysis of a duplicate sample. <MDL indicates analyte concentration is below method detection limits. <LOQ indicates analyte concentration is below limit of quantification. R indicates analyte concentration data was rejected.

Sample Identification Number	Sample Site	Li	Rb	Cs	Be	Sr	Ba
SPC01018608	22S Zone 3 Dup	32.428	10.185	0.849	0.023	92.191	5.318
SPC01018672	19 PB Shallow Dup	48.563	7.396	0.150	<MDL	70.255	10.630
SPC01019568	22S Zone 1	32.317	10.681	1.026	0.025	55.601	3.700
SPC01019573	22S Zone 1 Dup	34.110	10.406	1.095	0.074	56.143	3.917
SPC01019582	22S Zone 2	34.994	9.903	0.965	0.027	65.525	3.904
SPC01019592	22S Zone 2 Dup	33.663	10.534	1.024	0.017	64.161	3.601
SPC01019601	22S Zone 3	31.585	10.526	0.837	0.033	90.602	5.231
SPC01019615	10S Zone 2	39.490	9.959	0.884	0.021	51.962	24.920
SPC01019621	10S Zone 1	39.438	12.266	1.280	0.071	57.101	17.988
SPC01019626	7SC Zone 1 Dup	131.309	16.084	2.791	0.044	507.814	27.910
SPC01019631	3S Zone 2	231.454	13.002	0.470	0.045	5.335	0.666
SPC01019636	3S Zone2 Dup	213.311	12.274	0.410	0.051	5.183	0.606
SPC01019646	10S Zone 1 Dup	42.921	12.277	1.296	0.008	59.328	18.181
SPC01019651	10S Zone 2 Dup	R	9.822	9.822	R	R	R
SPC01019668	19 PB Shallow	46.364	7.504	0.153	<MDL	78.114	10.406
SPC01019672	19 PB Shallow Dup	48.563	7.396	0.150	<MDL	70.255	10.630
SPC01019676	19 PB Deep	96.923	9.669	0.416	<MDL	31.329	8.474
SPC01019680	19 PB Deep Dup	117.046	8.147	0.331	<MDL	38.427	7.153
SPC01019695	Washburn IX Dup	33.675	10.770	0.719	<MDL	53.343	2.855
SPC01019699	Washburn IX	53.735	12.541	0.743	<MDL	65.210	2.944
SPC01019715	22S Zone 4	32.417	9.533	1.033	0.038	72.017	17.242
SPC01019722	22S Zone 4 Dup	32.160	9.521	1.024	0.036	69.510	16.260
SPC01019739	27P	89.052	6.125	0.179	<MDL	43.835	5.947
SPC01019744	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01019759	28P	56.709	7.500	0.141	0.025	29.434	5.335
SPC01019765	24P	60.783	8.701	0.144	<MDL	63.842	25.577
SPC01019771	24P Dup	60.447	9.130	0.133	<MDL	65.119	26.052
SPC01019782	29P	49.959	8.754	0.269	<MDL	68.268	13.214
SPC01019788	29P Dup	47.891	8.901	0.273	<MDL	65.649	12.649

Sample Identification Number	Sample Site	Li	Rb	Cs	Be	Sr	Ba
SPC01019799	19P	40.829	8.625	0.346	<MDL	59.652	5.036
SPC01019804	4PB	42.207	4.272	0.644	<MDL	30.481	0.877
SPC01019809	4PB Dup	42.966	4.161	0.614	<MDL	31.624	0.816
SPC01019814	18P	55.262	7.118	0.861	<MDL	23.257	6.464
SPC01019819	10P Shallow	40.192	11.308	1.246	<MDL	56.091	5.139
SPC01019824	10P Deep	52.856	11.292	1.185	<MDL	52.606	3.223
SPC01019829	22PA Shallow	36.898	10.071	0.990	<MDL	56.855	3.995
SPC01019834	10P Deep Dup	49.660	11.495	1.197	<MDL	52.189	3.507
SPC01019839	10P Shallow Dup	39.126	11.297	1.204	<MDL	53.942	4.334
SPC01019844	22PA Deep	40.180	9.867	1.068	<MDL	63.825	2.160
SPC01019849	22PA Deep Dup	38.634	10.064	1.052	<MDL	64.040	2.070
SPC01019854	22PB Shallow	35.867	10.456	0.256	<MDL	87.224	5.962
SPC01019859	22PB Shallow Dup	37.633	10.106	0.250	<MDL	90.497	6.195
SPC01019864	22PB Deep	32.599	8.583	0.086	<MDL	61.705	7.256
SPC01019869	22PB Deep Dup	35.191	9.005	0.099	<MDL	64.101	7.372
SPC01019874	23P Shallow	45.378	15.826	0.530	<MDL	133.759	15.225
SPC01019879	23P Deep	50.750	7.115	<MDL	0.001	128.216	9.151
SPC01019884	23P Shallow Dup	45.577	16.298	0.515	<MDL	136.538	14.742
SPC01019889	23P Deep Dup	50.664	7.556	<MDL	<MDL	108.001	8.614
SPC01019894	18P Dup	57.260	7.216	0.869	<MDL	23.236	6.457
SPC01019899	7SC Zone 4	98.681	22.132	0.531	0.088	380.549	49.994
SPC01019904	19IM1 Zone 5	115.090	7.022	0.121	0.043	1.467	0.233
SPC01019924	19IM1 Zone 5 Dup	118.627	7.129	0.166	0.041	1.464	0.132
SPC01019939	19IM2 Dup	122.909	7.957	0.213	0.097	0.668	0.005
SPC01019944	19IM2	112.801	7.885	0.196	0.043	0.632	0.103
SPC01019954	16P	73.783	4.751	0.392	0.067	8.597	2.108
SPC01019959	7SC Zone 2 Dup	100.297	15.535	2.995	0.018	509.765	26.238
SPC01019964	7SC Zone 1	118.831	15.306	2.604	0.015	434.299	28.693
SPC01019969	7SC Zone 2	97.730	16.198	2.944	0.020	516.300	26.098
SPC01019974	7SC Zone 4 Dup	94.547	20.961	0.515	0.072	377.787	53.620
SPC01019979	7SC Zone 3	117.654	15.235	0.550	0.022	529.600	43.392
SPC01019984	7SC Zone 3 Dup	120.998	15.111	0.531	0.032	519.866	43.682
SPC01020902	27P	116.500	9.131	0.514	R	34.400	3.710
SPC01020905	4PA	56.852	7.652	1.091	<MDL	72.444	5.309
SPC01020905	4PA Dup	56.254	8.427	1.169	<MDL	74.642	5.484
SPC01020980	27P Dup	125.154	8.333	0.485	R	29.321	3.520
SPC01020983	4PA Dup	56.254	8.427	1.169	<MDL	74.642	5.484
SPC01021007	Filter Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01021015	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01021048	28P	65.665	7.160	0.213	<MDL	R	6.069
SPC01021050	28P Dup	63.976	7.155	0.216	<MDL	R	6.155
SPC01021054	24P	48.355	10.758	0.931	<MDL	39.022	7.201
SPC01021057	24P Dup	49.667	10.420	0.902	<MDL	36.489	7.023
SPC01021062	29P	48.762	10.120	0.850	<MDL	55.347	4.417
SPC01021065	29P Dup	53.114	10.711	0.846	<MDL	57.770	4.449

Sample Identification Number	Sample Site	Li	Rb	Cs	Be	Sr	Ba
SPC01021070	Lab Blank	R	R	R	R	R	R
SPC01021081	12PA	353.385	78.902	1.668	0.093	296.755	3.654
SPC01021083	Lab Blank	R	<LOQ	<LOQ	R	<LOQ	<LOQ
SPC01021084	12PA Dup	345.172	79.427	1.893	0.109	292.742	4.223
SPC01021088	Travertine #1Dup	160.000	22.207	2.365	R	1655.912	46.039
SPC01021089	12PB	288.752	69.227	1.209	0.039	259.451	7.633
SPC01021092	12PB Dup	287.870	70.422	1.240	0.039	249.616	8.233
SPC01021093	Travertine #1	159.000	20.799	2.557	R	1386.000	41.863
SPC01021097	Field Blank	R	<LOQ	<LOQ	R	R	<LOQ
SPC01029648	Lab Blank	R	<LOQ	<LOQ	R	<LOQ	<LOQ
SPC01041502	Lab Blank	R	R	<LOQ	<LOQ	<LOQ	<LOQ
SPC01041508	19IM1 Zone 1	137.000	7.600	0.432	<MDL	8.520	12.835
SPC01041511	19IM1 Zone 5 Dup	117.882	7.488	0.123	<MDL	1.714	4.351
SPC01041516	19IM1 Zone 5	119.948	7.489	0.119	<MDL	1.785	1.734
SPC01041520	1S Zone 1	66.690	25.716	1.305	<MDL	534.785	39.477
SPC01041524	1S Zone 2	68.766	25.434	1.466	<MDL	530.270	41.752
SPC01041532	9SX Zone 2	79.951	11.102	1.402	<MDL	145.059	7.139
SPC01041535	9SX Zone 2B	82.093	11.396	1.452	<MDL	148.739	7.024
SPC01041540	9SX Zone 3	76.511	11.033	1.320	<MDL	144.856	5.945
SPC01041544	9SX Zone 4	78.164	10.446	1.535	<MDL	140.818	3.904
SPC01541528	9SX Zone 1	78.083	10.850	1.050	<MDL	129.487	3.508

Appendix N

3d Transition Metal Element Concentrations of Water Samples Collected for Task

ORD-FY04-010

All concentrations are in parts per billion (ppb). Dup indicates analysis of a duplicate sample. <MDL indicates analyte concentration is below method detection limits. <LOQ indicates analyte concentration is below limit of quantification. R indicates analyte concentration data was rejected.

Sample Identification Number	Sample Site	Ti	V	Cr	Mn	Co	Ni	Cu	Zn
SPC01018608	22S Zone 3 Dup	0.121	3.042	0.465	10.020	0.020	0.140	0.620	123.388
SPC01018672	19PB Shallow Dup	1.173	13.610	0.427	2.116	<MDL	0.095	0.242	1.068
SPC01019568	22S Zone 1	0.132	3.681	0.417	10.518	0.014	0.101	1.237	135.570
SPC01019573	22S Zone 1 Dup	0.100	3.789	0.409	10.431	0.045	0.126	1.447	114.183
SPC01019582	22S Zone 2	0.156	3.606	0.364	25.226	0.036	0.174	0.563	110.524
SPC01019592	22S Zone 2 Dup	0.127	3.669	0.317	23.884	0.024	0.120	0.487	92.851
SPC01019601	22S Zone 3	0.149	3.175	0.489	10.535	0.016	0.144	0.792	123.634
SPC01019615	10S Zone 2	0.093	5.418	0.299	25.466	<MDL	0.166	0.672	10.167
SPC01019621	10S Zone 1	0.118	5.129	0.311	21.288	<MDL	0.295	R	6.787
SPC01019626	7SC Zone 1 Dup	1.418	0.249	0.181	R	0.089	1.107	1.130	R
SPC01019631	3S Zone 2	0.680	0.482	0.155	59.146	0.085	0.314	3.098	<MDL
SPC01019636	3S Zone 2 Dup	0.579	0.492	0.101	54.776	0.073	0.245	R	1.963
SPC01019646	10S Zone 1 Dup	0.101	5.237	0.293	20.993	<MDL	0.316	R	6.375
SPC01019651	10S Zone 2 Dup	0.101	5.547	0.310	25.975	<MDL	0.158	0.663	R
SPC01019668	19PB Shallow	1.195	14.445	0.431	2.041	<MDL	0.091	0.266	1.181
SPC01019672	19PB Shallow Dup	1.173	13.610	0.427	2.116	<MDL	<MDL	0.242	1.068
SPC01019676	19 PB Deep	2.217	4.749	1.041	0.951	<MDL	<MDL	0.109	1.073
SPC01019680	19PB Deep Dup	2.396	4.111	0.855	1.071	<MDL	<MDL	0.132	1.490
SPC01019695	Washburn 1X Dup	1.318	4.180	0.683	0.334	0.025	0.393	0.065	4.986
SPC01019699	Washburn 1X	1.366	4.454	0.731	0.495	<MDL	0.614	0.081	7.755
SPC01019715	22S Zone 4	0.143	3.641	0.723	20.340	0.036	0.512	0.519	104.046
SPC01019722	22S Zone 4 Dup	0.146	3.575	0.747	19.846	0.035	0.520	0.539	102.734
SPC01019739	27P	0.373	1.711	0.246	6.201	0.029	0.188	1.239	NA
SPC01019744	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	NA
SPC01019759	28P	0.361	4.372	0.682	0.854	0.037	0.374	1.391	NA
SPC01019765	24P	0.155	0.003	0.093	NA	<MDL	0.205	0.657	1.070
SPC01019771	24P Dup	0.180	0.006	0.071	NA	<MDL	0.203	0.728	1.218
SPC01019782	29P	0.196	0.012	0.963	7.341	<MDL	<MDL	0.612	0.596
SPC01019788	29P Dup	0.146	0.007	0.939	6.132	<MDL	<MDL	0.614	0.616

Sample Identification Number	Sample Site	Ti	V	Cr	Mn	Co	Ni	Cu	Zn
SPC01019799	19P	0.111	0.006	0.049	NA	0.049	1.573	0.511	3.038
SPC01019804	4PB	0.189	0.025	2.546	NA	<MDL	0.157	0.782	0.327
SPC01019809	4PB Dup	0.148	0.005	2.570	NA	<MDL	0.123	0.730	0.232
SPC01019814	18P	0.113	0.005	0.121	8.792	<MDL	NA	1.030	NA
SPC01019819	10P Shallow	0.077	0.015	0.469	6.313	<MDL	0.241	0.608	2.348
SPC01019824	10P Deep	0.067	0.004	0.431	1.236	<MDL	0.118	0.807	NA
SPC01019829	22PA Shallow	0.064	0.011	0.432	2.297	<MDL	0.175	1.715	12.520
SPC01019834	10P Deep Dup	0.053	0.004	0.468	1.264	<MDL	0.112	0.834	NA
SPC01019839	10P Shallow Dup	0.064	0.003	0.460	5.237	<MDL	0.204	0.616	2.319
SPC01019844	22PA Deep	0.062	0.002	0.621	0.960	<MDL	NA	2.993	9.266
SPC01019849	22PA Deep Dup	0.056	0.005	0.602	0.922	<MDL	NA	3.127	9.348
SPC01019854	22PB Shallow	0.090	0.003	0.637	0.277	<MDL	NA	1.732	8.480
SPC01019859	22PB Shallow Dup	0.090	0.004	0.638	0.282	<MDL	NA	1.676	8.140
SPC01019864	22PB Deep	0.133	0.017	1.112	0.322	<MDL	NA	1.314	13.583
SPC01019869	22PB Deep Dup	0.158	R	1.134	0.335	<MDL	R	1.344	14.545
SPC01019874	23P Shallow	0.717	R	3.299	0.200	<MDL	R	2.060	7.304
SPC01019879	23P Deep	0.817	R	3.324	0.167	<MDL	R	2.085	6.661
SPC01019884	23P Shallow Dup	0.713	R	2.477	0.109	<MDL	R	2.024	1.605
SPC01019889	23P Deep Dup	0.853	R	2.642	0.117	<MDL	R	2.073	1.742
SPC01019894	18P Dup	0.133	R	0.137	9.023	<MDL	R	1.056	R
SPC01019899	7SC Zone 4	0.748	0.042	0.134	62.527	0.034	0.226	1.298	R
SPC01019904	19IM1 Zone 5	0.121	4.436	0.580	12.585	<MDL	0.118	1.525	<MDL
SPC01019924	19IM1 Zone 5 Dup	0.101	4.534	0.636	12.723	0.029	0.107	1.533	<MDL
SPC01019939	19IM2 Dup	0.076	5.632	0.653	2.063	R	R	1.520	R
SPC01019944	19IM2	0.082	5.501	0.629	2.174	R	0.093	1.524	R
SPC01019954	16P	0.353	2.001	0.703	0.304	0.404	0.053	1.733	7.501
SPC01019959	7SC Zone2 Dup	0.750	0.168	0.297	28.063	0.049	0.649	1.636	6.405
SPC01019964	7SC Zone 1	1.448	0.261	0.180	R	0.080	1.195	1.083	R
SPC01019969	7SC Zone 2	0.712	0.181	0.364	28.211	0.059	0.658	1.724	6.389
SPC01019974	7SC Zone 4 Dup	0.668	0.061	0.174	61.410	0.038	0.240	1.413	R
SPC01019979	7SC Zone 3	0.572	0.080	0.629	262.469	0.063	0.615	1.601	R
SPC01019984	7SC Zone 3 Dup	0.568	0.075	0.640	293.263	0.064	0.638	1.706	R
SPC01020902	27P	1.782	2.850	1.142	5.093	<MDL	0.080	R	1.595
SPC01020905	4PA	0.305	2.777	1.546	57.692	0.142	1.152	0.949	3.781
SPC01020905	4PA Dup	0.179	3.445	1.313	54.595	0.161	1.468	1.445	6.430
SPC01020980	27P Dup	1.562	2.874	1.108	5.156	<MDL	0.075	R	2.831
SPC01020983	4PA Dup	0.179	3.445	1.313	54.595	0.161	1.468	1.445	6.430
SPC01021007	Field Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01021015	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01021048	28P	1.460	3.703	0.850	0.291	0.017	0.188	R	1.165
SPC01021050	28P Dup	1.397	3.799	1.020	0.236	0.018	0.200	R	1.336
SPC01021054	24P	0.987	4.000	1.666	0.176	<MDL	0.107	R	1.813
SPC01021057	24P Dup	1.054	3.975	1.808	0.163	<MDL	0.100	R	1.474
SPC01021062	29P	0.321	5.190	1.234	0.237	<MDL	0.083	R	R
SPC01021065	29P Dup	0.299	5.112	1.296	0.254	<MDL	0.075	R	R

Sample Identification Number	Sample Site	Ti	V	Cr	Mn	Co	Ni	Cu	Zn
SPC01021070	Lab Blank	R	R	R	R	R	R	R	R
SPC01021081	12PA	2.788	0.389	2.116	R	0.109	0.747	R	R
SPC01021083	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	R	<LOQ
SPC01021084	12PA Dup	3.697	0.438	2.734	R	0.125	0.889	R	R
SPC01021088	Travertine #1 Dup	1.602	0.776	0.811	4.392	0.017	0.189	R	R
SPC01021089	12PB	3.294	0.094	2.182	R	0.449	4.154	R	R
SPC01021092	12PB Dup	3.694	0.108	2.078	R	0.483	4.314	R	R
SPC01021093	Travertine #1	1.409	0.667	0.765	4.337	0.019	0.234	R	R
SPC01021097	Field Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	R	<LOQ
SPC01029648	Lab Blank	<LOQ	<LOQ	R	<LOQ	<LOQ	<LOQ	R	R
SPC01041502	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	R
SPC01041508	19IM1 Zone 1	1.207	4.260	0.330	0.262	<MDL	0.095	7.371	<MDL
SPC01041511	19IM1 Zone 5 Dup	1.424	4.408	0.440	6.568	<MDL	0.174	6.621	1.266
SPC01041516	19IM1 Zone 5	1.533	4.498	0.463	6.256	<MDL	<MDL	5.613	1.557
SPC01041520	1S Zone 1	1.497	2.090	0.095	13.646	0.063	3.090	3.815	R
SPC01041524	1S Zone 2	1.041	1.914	0.128	17.252	0.031	2.897	3.979	9.724
SPC01041532	9SX Zone 2	1.042	1.761	0.192	6.830	<MDL	0.924	3.960	1.993
SPC01041535	9SX Zone 2B	1.198	2.052	0.231	7.719	<MDL	1.131	4.588	1.706
SPC01041540	9SX Zone 3	1.076	1.543	0.185	6.806	<MDL	0.927	4.527	1.918
SPC01041544	9SX Zone 4	1.080	1.860	0.213	4.799	<MDL	1.046	4.133	3.701
SPC01541528	9SX Zone 1	1.049	1.434	0.152	8.541	0.017	1.056	3.794	1.017

Appendix O

4d Transition Metal Element Concentrations of Water Samples Collected for Task

ORD-FY04-010

All concentrations are in parts per billion (ppb). Dup indicates analysis of a duplicate sample. <MDL indicates analyte concentration is below method detection limits. <LOQ indicates analyte concentration is below limit of quantification. R indicates analyte concentration data was rejected.

Sample Identification Number	Sample Site	Zr	Nb	Mo	Ru	Rh	Pd	Ag	Cd
SPC01018608	22S Zone 3 Dup	0.018	0.001	4.406	0.001	0.001	0.066	0.009	0.011
SPC01018672	19PB Shallow Dup	<MDL	<MDL	12.006	<MDL	<MDL	<MDL	<MDL	<MDL
SPC01019568	22S Zone 1	0.110	0.002	7.015	0.002	0.001	0.054	0.012	0.013
SPC01019573	22S Zone 1 Dup	0.055	0.001	7.009	0.002	0.001	0.050	0.021	0.045
SPC01019582	22S Zone 2	0.033	0.001	6.758	0.002	<MDL	0.056	0.012	0.020
SPC01019592	22S Zone 2 Dup	0.037	0.001	7.360	0.003	0.001	0.055	0.008	0.009
SPC01019601	22S Zone 3	0.015	0.001	4.483	0.001	0.001	0.057	0.006	0.007
SPC01019615	10S Zone 2	R	<MDL	9.685	<MDL	<MDL	0.039	<MDL	<MDL
SPC01019621	10S Zone 1	<MDL	<MDL	6.247	<MDL	<MDL	<MDL	<MDL	<MDL
SPC01019626	7SC Zone 1 Dup	0.081	<MDL	3.101	<MDL	<MDL	0.122	<MDL	0.048
SPC01019631	3S Zone 2	0.160	0.030	R	<MDL	<MDL	0.037	<MDL	0.033
SPC01019636	3S Zone 2 Dup	0.114	<MDL	R	0.010	<MDL	0.043	<MDL	0.015
SPC01019646	10S Zone 1 Dup	<MDL	<MDL	6.219	<MDL	<MDL	<MDL	<MDL	<MDL
SPC01019651	10S Zone 2 Dup	0.066	<MDL	9.530	<MDL	<MDL	0.112	<MDL	0.025
SPC01019668	19PB Shallow	<MDL	<MDL	12.427	<MDL	<MDL	<MDL	<MDL	<MDL
SPC01019672	19PB Shallow Dup	<MDL	<MDL	12.006	<MDL	<MDL	<MDL	<MDL	<MDL
SPC01019676	19 PB Deep	0.138	0.069	9.681	<MDL	<MDL	<MDL	<MDL	<MDL
SPC01019680	19PB Deep Dup	0.222	<MDL	9.582	<MDL	<MDL	<MDL	<MDL	<MDL
SPC01019695	Washburn 1X Dup	<MDL	<MDL	5.351	<MDL	<MDL	<MDL	<MDL	<MDL
SPC01019699	Washburn 1X	<MDL	<MDL	5.598	<MDL	<MDL	<MDL	<MDL	<MDL
SPC01019715	22S Zone 4	0.011	<MDL	4.354	0.001	0.001	0.053	0.030	0.014
SPC01019722	22S Zone 4 Dup	0.020	0.001	4.395	0.002	0.001	0.074	0.014	0.019
SPC01019739	27P	0.083	0.012	99.097	0.028	<MDL	0.053	<MDL	0.055
SPC01019744	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01019759	28P	0.077	0.037	9.603	0.004	<MDL	0.090	<MDL	0.057
SPC01019765	24P	0.023	0.003	56.929	0.014	0.001	0.068	<MDL	<MDL
SPC01019771	24P Dup	0.032	0.006	57.718	0.017	0.001	0.091	<MDL	<MDL
SPC01019782	29P	0.266	0.012	6.533	0.003	0.001	<MDL	<MDL	<MDL
SPC01019788	29P Dup	0.092	0.007	6.288	0.003	<MDL	<MDL	<MDL	<MDL

Sample Identification Number	Sample Site	Zr	Nb	Mo	Ru	Rh	Pd	Ag	Cd
SPC01019799	19P	0.082	0.006	7.933	0.004	<MDL	<MDL	<MDL	<MDL
SPC01019804	4PB	0.113	0.025	7.894	0.005	<MDL	0.179	<MDL	<MDL
SPC01019809	4PB Dup	0.064	0.005	8.043	0.003	<MDL	0.018	<MDL	<MDL
SPC01019814	18P	0.064	0.003	5.291	0.001	<MDL	0.028	<MDL	<MDL
SPC01019819	10P Shallow	0.043	0.005	7.825	0.004	<MDL	0.003	<MDL	<MDL
SPC01019824	10P Deep	0.034	0.004	6.489	0.002	<MDL	0.004	<MDL	<MDL
SPC01019829	22PA Shallow	0.026	0.004	10.125	0.004	<MDL	0.010	<MDL	<MDL
SPC01019834	10P Deep Dup	0.034	0.011	6.454	0.003	<MDL	0.007	<MDL	<MDL
SPC01019839	10P Shallow Dup	0.038	0.015	7.685	0.003	<MDL	0.017	<MDL	<MDL
SPC01019844	22PA Deep	0.019	0.003	6.403	0.002	<MDL	0.015	<MDL	<MDL
SPC01019849	22PA Deep Dup	0.020	0.002	6.502	0.003	<MDL	0.010	<MDL	<MDL
SPC01019854	22PB Shallow	0.180	0.005	4.371	0.001	0.001	0.017	<MDL	<MDL
SPC01019859	22PB Shallow Dup	0.067	0.003	4.048	0.001	<MDL	0.018	<MDL	<MDL
SPC01019864	22PB Deep	0.068	0.004	3.221	0.001	0.002	0.031	<MDL	<MDL
SPC01019869	22PB Deep Dup	0.185	0.017	3.234	0.001	0.002	0.038	<MDL	<MDL
SPC01019874	23P Shallow	0.052	0.007	34.215	0.008	0.001	0.031	<MDL	<MDL
SPC01019879	23P Deep	0.022	0.003	27.428	0.007	0.001	0.033	<MDL	<MDL
SPC01019884	23P Shallow Dup	0.039	0.012	34.256	0.008	0.001	0.042	<MDL	<MDL
SPC01019889	23P Deep Dup	0.026	0.003	28.337	0.006	0.001	0.040	<MDL	<MDL
SPC01019894	18P Dup	0.039	0.003	5.196	0.001	<MDL	0.023	<MDL	<MDL
SPC01019899	7SC Zone 4	0.058	<MDL	6.402	<MDL	<MDL	0.106	<MDL	<MDL
SPC01019904	19IM1 Zone 5	0.139	<MDL	5.763	<MDL	<MDL	<MDL	<MDL	<MDL
SPC01019924	19IM1 Zone 5 Dup	0.075	0.035	5.668	<MDL	<MDL	<MDL	<MDL	0.028
SPC01019939	19IM2 Dup	0.105	<MDL	5.563	<MDL	<MDL	<MDL	<MDL	0.060
SPC01019944	19IM2	0.083	<MDL	5.477	<MDL	<MDL	<MDL	<MDL	0.015
SPC01019954	16P	0.092	<MDL	R	0.032	<MDL	<MDL	<MDL	0.041
SPC01019959	7SC Zone2 Dup	0.031	<MDL	2.911	<MDL	<MDL	0.195	<MDL	0.017
SPC01019964	7SC Zone 1	0.186	<MDL	3.098	<MDL	<MDL	0.108	<MDL	<MDL
SPC01019969	7SC Zone 2	0.035	<MDL	2.981	<MDL	<MDL	0.181	<MDL	0.027
SPC01019974	7SC Zone 4 Dup	0.054	<MDL	6.248	<MDL	<MDL	0.115	<MDL	<MDL
SPC01019979	7SC Zone 3	0.054	<MDL	4.704	<MDL	<MDL	0.151	<MDL	0.027
SPC01019984	7SC Zone 3 Dup	0.047	<MDL	4.811	<MDL	<MDL	0.172	<MDL	<MDL
SPC01020902	27P	R	0.061	50.978	<MDL	<MDL	R	R	0.049
SPC01020905	4PA	0.050	<MDL	7.125	<MDL	<MDL	<MDL	<MDL	<MDL
SPC01020905	4PA Dup	0.050	<MDL	6.792	<MDL	<MDL	<MDL	<MDL	<MDL
SPC01020980	27P Dup	R	<MDL	48.785	<MDL	<MDL	R	R	0.051
SPC01020983	4PA Dup	0.050	<MDL	6.792	<MDL	<MDL	<MDL	<MDL	<MDL
SPC01021007	Field Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01021015	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01021048	28P	0.148	0.080	5.878	<MDL	<MDL	<MDL	R	R
SPC01021050	28P Dup	0.127	0.067	5.844	<MDL	<MDL	<MDL	R	R
SPC01021054	24P	0.788	<MDL	7.798	<MDL	<MDL	<MDL	R	R
SPC01021057	24P Dup	0.414	<MDL	8.081	<MDL	<MDL	<MDL	R	R
SPC01021062	29P	0.223	<MDL	4.634	<MDL	<MDL	<MDL	R	R
SPC01021065	29P Dup	0.286	<MDL	4.826	<MDL	<MDL	<MDL	R	R

Sample Identification Number	Sample Site	Zr	Nb	Mo	Ru	Rh	Pd	Ag	Cd
SPC01021070	Lab Blank	R	R	R	R	R	R	R	R
SPC01021081	12PA	0.794	<MDL	19.547	<MDL	<MDL	0.076	R	R
SPC01021083	Lab Blank	R	<LOQ	<LOQ	<LOQ	<LOQ	R	R	R
SPC01021084	12PA Dup	0.657	<MDL	18.200	<MDL	<MDL	0.069	R	R
SPC01021088	Travertine #1 Dup	R	<MDL	14.206	<MDL	0.016	R	R	0.013
SPC01021089	12PB	0.451	<MDL	27.356	<MDL	<MDL	0.075	R	R
SPC01021092	12PB Dup	0.372	<MDL	29.639	<MDL	<MDL	0.066	R	R
SPC01021093	Travertine #1	R	<MDL	12.834	<MDL	0.017	R	R	0.014
SPC01021097	Field Blank	R	<LOQ	<LOQ	<LOQ	<LOQ	R	R	R
SPC01029648	Lab Blank	R	<LOQ	<LOQ	<LOQ	R	R	R	R
SPC01041502	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01041508	19IM1 Zone 1	0.081	<MDL	5.070	<MDL	<MDL	<MDL	<MDL	0.024
SPC01041511	19IM1 Zone 5 Dup	0.066	<MDL	6.370	<MDL	<MDL	0.029	<MDL	0.028
SPC01041516	19IM1 Zone 5	0.093	<MDL	6.466	<MDL	<MDL	<MDL	<MDL	0.026
SPC01041520	1S Zone 1	<MDL	<MDL	3.777	<MDL	0.015	<MDL	<MDL	0.021
SPC01041524	1S Zone 2	<MDL	<MDL	3.017	<MDL	<MDL	<MDL	<MDL	0.023
SPC01041532	9SX Zone 2	<MDL	<MDL	5.204	<MDL	<MDL	<MDL	<MDL	0.031
SPC01041535	9SX Zone 2B	<MDL	<MDL	5.475	<MDL	<MDL	<MDL	<MDL	0.026
SPC01041540	9SX Zone 3	<MDL	<MDL	5.064	<MDL	<MDL	<MDL	<MDL	0.027
SPC01041544	9SX Zone 4	0.304	<MDL	4.483	<MDL	<MDL	<MDL	<MDL	0.027
SPC01541528	9SX Zone 1	<MDL	<MDL	4.911	<MDL	<MDL	<MDL	<MDL	0.025

Appendix P

5d Transition Metal and Uranium Element Concentrations of Water Samples

Collected for Task ORD-FY04-010

All concentrations are in parts per billion (ppb). Dup indicates analysis of a duplicate sample. <MDL indicates analyte concentration is below method detection limits. <LOQ indicates analyte concentration is below limit of quantification. R indicates analyte concentration data was rejected.

Sample Identification Number	Sample Site	Hf	Ta	W	Re	Ir	Pt	Au	U
SPC01018608	22S Zone 3 Dup	0.003	0.003	0.401	0.003	<MDL	0.001	0.005	0.772
SPC01018672	19PB Shallow Dup	<MDL	<MDL	1.449	<MDL	<MDL	<MDL	<MDL	1.467
SPC01019568	22S Zone 1	0.010	0.005	0.326	0.002	0.001	0.003	0.004	0.436
SPC01019573	22S Zone 1 Dup	0.028	0.004	0.346	0.003	<MDL	0.001	0.002	0.467
SPC01019582	22S Zone 2	0.019	0.003	0.206	0.003	<MDL	0.001	0.002	0.506
SPC01019592	22S Zone 2 Dup	0.013	0.003	0.214	0.003	<MDL	0.001	0.002	0.510
SPC01019601	22S Zone 3	0.004	0.002	0.416	0.004	<MDL	0.001	0.001	0.797
SPC01019615	10S Zone 2	<MDL	<MDL	4.288	<MDL	<MDL	<MDL	<MDL	R
SPC01019621	10S Zone 1	<MDL	<MDL	1.080	<MDL	<MDL	<MDL	<MDL	R
SPC01019626	7SC Zone 1 Dup	<MDL	<MDL	0.262	0.009	<MDL	<MDL	<MDL	R
SPC01019631	3S Zone 2	0.008	<MDL	11.424	0.020	<MDL	<MDL	<MDL	R
SPC01019636	3S Zone 2 Dup	<MDL	<MDL	11.039	0.021	<MDL	<MDL	<MDL	R
SPC01019646	10S Zone 1 Dup	<MDL	<MDL	1.071	<MDL	<MDL	<MDL	<MDL	R
SPC01019651	10S Zone 2 Dup	<MDL	<MDL	4.136	<MDL	<MDL	<MDL	<MDL	R
SPC01019668	19PB Shallow	<MDL	<MDL	1.531	<MDL	<MDL	<MDL	<MDL	1.432
SPC01019672	19PB Shallow Dup	<MDL	<MDL	1.449	<MDL	<MDL	<MDL	<MDL	1.467
SPC01019676	19 PB Deep	0.040	<MDL	1.970	<MDL	<MDL	<MDL	<MDL	2.257
SPC01019680	19PB Deep Dup	<MDL	<MDL	1.619	<MDL	<MDL	<MDL	<MDL	1.823
SPC01019695	Washburn 1X Dup	<MDL	<MDL	0.256	<MDL	<MDL	<MDL	<MDL	0.513
SPC01019699	Washburn 1X	<MDL	<MDL	0.259	<MDL	<MDL	<MDL	<MDL	0.615
SPC01019715	22S Zone 4	0.001	0.002	0.534	0.002	<MDL	0.001	0.001	1.046
SPC01019722	22S Zone 4 Dup	0.001	0.003	0.538	0.003	<MDL	0.001	0.013	1.047
SPC01019739	27P	<MDL	0.006	9.857	0.012	0.001	0.001	0.003	3.682
SPC01019744	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01019759	28P	0.010	0.003	2.237	0.004	<MDL	0.001	0.002	3.950
SPC01019765	24P	<MDL	0.002	1.457	0.006	<MDL	0.001	0.002	0.466
SPC01019771	24P Dup	<MDL	0.012	1.483	0.007	<MDL	0.010	0.013	0.472
SPC01019782	29P	0.038	0.025	2.843	0.006	0.004	0.002	0.050	0.841
SPC01019788	29P Dup	0.003	0.015	2.750	0.004	0.002	0.008	0.029	0.841

Sample Identification Number	Sample Site	Hf	Ta	W	Re	Ir	Pt	Au	U
SPC01019799	19P	0.007	0.012	0.324	0.002	0.002	0.030	0.021	0.607
SPC01019804	4PB	<MDL	0.026	4.941	0.008	0.004	0.038	0.037	0.431
SPC01019809	4PB Dup	<MDL	0.012	4.918	0.007	0.002	0.002	0.091	0.419
SPC01019814	18P	0.111	0.008	0.762	0.003	0.001	0.006	0.004	2.104
SPC01019819	10P Shallow	0.003	0.010	0.910	0.004	0.001	0.003	0.025	0.631
SPC01019824	10P Deep	<MDL	0.008	2.348	0.004	0.001	0.013	0.008	0.601
SPC01019829	22PA Shallow	<MDL	0.006	0.419	0.004	0.001	0.024	0.011	0.491
SPC01019834	10P Deep Dup	<MDL	0.013	2.310	0.004	0.001	0.001	0.005	0.569
SPC01019839	10P Shallow Dup	0.003	0.025	0.901	0.004	0.002	0.004	0.024	0.614
SPC01019844	22PA Deep	<MDL	0.007	0.565	0.004	0.002	0.004	0.011	0.406
SPC01019849	22PA Deep Dup	<MDL	0.005	0.567	0.004	0.001	<MDL	0.021	0.394
SPC01019854	22PB Shallow	0.047	0.016	0.483	0.004	0.004	0.046	0.021	0.848
SPC01019859	22PB Shallow Dup	0.019	0.011	0.456	0.003	0.002	0.035	0.015	0.825
SPC01019864	22PB Deep	0.012	0.011	0.548	0.006	0.013	0.219	0.009	1.178
SPC01019869	22PB Deep Dup	0.014	0.018	0.547	0.007	0.011	0.016	0.015	1.233
SPC01019874	23P Shallow	0.007	0.010	1.177	0.011	0.001	0.004	0.013	4.486
SPC01019879	23P Deep	<MDL	0.007	1.316	0.018	<MDL	0.005	0.002	2.293
SPC01019884	23P Shallow Dup	0.003	0.010	1.176	0.011	0.001	0.008	0.008	4.631
SPC01019889	23P Deep Dup	<MDL	0.006	1.305	0.018	0.001	0.005	0.002	2.405
SPC01019894	18P Dup	0.033	0.008	1.220	0.003	0.001	0.014	0.005	2.166
SPC01019899	7SC Zone 4	0.005	<MDL	6.834	0.013	<MDL	<MDL	<MDL	0.166
SPC01019904	19IM1 Zone 5	0.129	<MDL	2.114	<MDL	<MDL	<MDL	<MDL	1.864
SPC01019924	19IM1 Zone 5 Dup	0.038	<MDL	2.111	<MDL	<MDL	<MDL	<MDL	1.798
SPC01019939	19IM2 Dup	0.006	<MDL	2.115	<MDL	<MDL	<MDL	<MDL	1.838
SPC01019944	19IM2	0.014	<MDL	1.977	<MDL	<MDL	<MDL	<MDL	1.874
SPC01019954	16P	0.012	<MDL	1.354	0.063	<MDL	<MDL	<MDL	2.950
SPC01019959	7SC Zone2 Dup	<MDL	<MDL	0.104	0.010	<MDL	<MDL	<MDL	4.798
SPC01019964	7SC Zone 1	<MDL	<MDL	0.270	0.010	<MDL	<MDL	<MDL	R
SPC01019969	7SC Zone 2	<MDL	<MDL	0.109	0.010	<MDL	<MDL	<MDL	4.599
SPC01019974	7SC Zone 4 Dup	<MDL	<MDL	6.856	0.012	<MDL	0.121	<MDL	0.172
SPC01019979	7SC Zone 3	<MDL	<MDL	0.668	0.009	<MDL	<MDL	<MDL	3.091
SPC01019984	7SC Zone 3 Dup	<MDL	<MDL	0.671	0.012	<MDL	<MDL	<MDL	2.992
SPC01020902	27P	0.238	0.017	8.373	<MDL	<MDL	<MDL	R	3.779
SPC01020905	4PA	<MDL	<MDL	0.545	<MDL	<MDL	<MDL	<MDL	0.700
SPC01020905	4PA Dup	0.017	<MDL	0.531	<MDL	<MDL	<MDL	<MDL	0.776
SPC01020980	27P Dup	0.607	0.013	8.384	<MDL	<MDL	<MDL	R	4.008
SPC01020983	4PA Dup	<MDL	<MDL	0.531	<MDL	<MDL	<MDL	<MDL	0.776
SPC01021007	Field Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	0.049	<LOQ	<LOQ
SPC01021015	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01021048	28P	0.078	0.011	1.966	<MDL	R	<MDL	R	3.582
SPC01021050	28P Dup	0.064	<MDL	1.972	<MDL	R	<MDL	R	3.557
SPC01021054	24P	0.372	<MDL	0.715	<MDL	R	<MDL	R	1.078
SPC01021057	24P Dup	0.174	<MDL	0.872	<MDL	R	<MDL	R	1.103
SPC01021062	29P	0.098	<MDL	0.835	<MDL	R	<MDL	R	0.955
SPC01021065	29P Dup	0.155	<MDL	0.060	<MDL	R	<MDL	R	1.107

Sample Identification Number	Sample Site	Hf	Ta	W	Re	Ir	Pt	Au	U
SPC01021070	Lab Blank	R	R	R	R	R	R	R	R
SPC01021081	12PA	0.330	<MDL	0.062	<MDL	R	<MDL	R	1.383
SPC01021083	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	R	<LOQ
SPC01021084	12PA Dup	0.284	<MDL	0.069	<MDL	R	<MDL	R	1.663
SPC01021088	Travertine #1 Dup	0.291	0.019	0.490	<MDL	<MDL	<MDL	R	2.550
SPC01021089	12PB	0.197	<MDL	0.048	<MDL	R	<MDL	R	1.053
SPC01021092	12PB Dup	0.151	<MDL	0.050	<MDL	R	<MDL	R	1.082
SPC01021093	Travertine #1	0.609	0.024	0.515	<MDL	<MDL	<MDL	R	2.088
SPC01021097	Field Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	R	<LOQ
SPC01029648	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	R	R	R	R
SPC01041502	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01041508	19IM1 Zone 1	<MDL	<MDL	2.287	<MDL	<MDL	<MDL	0.023	2.100
SPC01041511	19IM1 Zone 5 Dup	<MDL	<MDL	1.908	<MDL	<MDL	<MDL	0.022	2.264
SPC01041516	19IM1 Zone 5	<MDL	<MDL	1.988	<MDL	<MDL	<MDL	0.023	2.519
SPC01041520	1S Zone 1	<MDL	<MDL	0.363	<MDL	<MDL	<MDL	0.015	11.820
SPC01041524	1S Zone 2	<MDL	<MDL	0.180	<MDL	<MDL	<MDL	0.012	11.965
SPC01041532	9SX Zone 2	<MDL	<MDL	1.222	<MDL	<MDL	<MDL	0.020	6.629
SPC01041535	9SX Zone 2B	<MDL	<MDL	1.430	<MDL	<MDL	<MDL	0.016	7.697
SPC01041540	9SX Zone 3	<MDL	<MDL	1.336	<MDL	<MDL	<MDL	0.017	6.101
SPC01041544	9SX Zone 4	<MDL	<MDL	1.150	<MDL	<MDL	<MDL	0.014	6.564
SPC01541528	9SX Zone 1	<MDL	<MDL	1.080	<MDL	<MDL	<MDL	0.014	7.515

Appendix Q

Group 13 and Group 14 Element Concentrations of Water Samples Collected for

Task ORD-FY04-010

All concentrations are in parts per billion (ppb). Dup indicates analysis of a duplicate sample. <MDL indicates analyte concentration is below method detection limits. <LOQ indicates analyte concentration is below limit of quantification. R indicates analyte concentration data was rejected.

Sample Identification Number	Sample Site	Al	Ga	In	Tl	Ge	Sn	Pb
SPC01018608	22S Zone 3 Dup	8.832	0.087	0.008	0.012	0.329	0.005	0.796
SPC01018672	19PB Shallow Dup	4.944	0.316	<MDL	0.056	0.041	0.074	<MDL
SPC01019568	22S Zone 1	7.564	0.071	0.006	0.017	0.218	0.014	2.707
SPC01019573	22S Zone 1 Dup	8.557	0.097	0.034	0.018	0.219	0.011	3.031
SPC01019582	22S Zone 2	10.226	0.093	0.015	0.015	0.249	0.007	0.411
SPC01019592	22S Zone 2 Dup	8.223	0.072	0.006	0.013	0.268	0.006	0.321
SPC01019601	22S Zone 3	8.802	0.092	0.005	0.010	0.330	0.007	1.057
SPC01019615	10S Zone 2	R	0.369	<MDL	R	0.222	0.032	0.076
SPC01019621	10S Zone 1	R	0.276	<MDL	R	0.288	<MDL	0.136
SPC01019626	7SC Zone 1 Dup	R	0.424	R	R	0.483	0.017	0.047
SPC01019631	3S Zone 2	R	0.060	<MDL	R	2.057	0.031	0.115
SPC01019636	3S Zone 2 Dup	R	0.051	<MDL	R	2.021	0.027	0.093
SPC01019646	10S Zone 1 Dup	R	0.267	<MDL	R	0.300	<MDL	0.195
SPC01019651	10S Zone 2 Dup	R	0.362	<MDL	R	0.227	0.029	0.079
SPC01019668	19PB Shallow	5.901	0.341	<MDL	0.058	0.139	0.063	<MDL
SPC01019672	19PB Shallow Dup	4.944	0.316	<MDL	0.056	0.041	0.061	<MDL
SPC01019676	19 PB Deep	10.150	0.265	<MDL	0.086	0.572	<MDL	0.132
SPC01019680	19PB Deep Dup	<MDL	0.229	<MDL	0.063	0.560	<MDL	0.289
SPC01019695	Washburn 1X Dup	1.019	0.073	<MDL	0.052	0.245	<MDL	0.025
SPC01019699	Washburn 1X	1.694	0.087	<MDL	0.085	0.231	<MDL	0.045
SPC01019715	22S Zone 4	7.728	0.276	0.014	0.011	0.311	0.010	0.080
SPC01019722	22S Zone 4 Dup	7.655	0.281	0.014	0.011	0.301	0.013	0.100
SPC01019739	27P	R	0.144	<MDL	R	0.317	0.023	0.200
SPC01019744	Lab Blank	<LOQ	<LOQ	<LOQ	R	<LOQ	<LOQ	<LOQ
SPC01019759	28P	R	0.072	<MDL	R	0.238	0.025	0.513
SPC01019765	24P	6.329	0.423	<MDL	<MDL	0.200	0.011	<MDL
SPC01019771	24P Dup	6.648	0.413	<MDL	<MDL	0.208	0.014	<MDL
SPC01019782	29P	5.992	0.218	<MDL	<MDL	0.330	0.020	<MDL
SPC01019788	29P Dup	6.347	0.222	<MDL	<MDL	0.324	0.014	<MDL

Sample Identification Number	Sample Site	Al	Ga	In	Tl	Ge	Sn	Pb
SPC01019799	19P	5.525	0.122	<MDL	<MDL	0.208	0.014	<MDL
SPC01019804	4PB	R	0.199	<MDL	<MDL	0.453	0.014	<MDL
SPC01019809	4PB Dup	R	0.169	<MDL	<MDL	0.437	0.013	<MDL
SPC01019814	18P	8.635	0.183	<MDL	<MDL	0.663	0.042	<MDL
SPC01019819	10P Shallow	5.268	0.101	<MDL	<MDL	0.286	0.011	<MDL
SPC01019824	10P Deep	5.830	0.072	<MDL	<MDL	0.275	0.011	<MDL
SPC01019829	22PA Shallow	4.362	0.074	<MDL	<MDL	0.176	0.010	<MDL
SPC01019834	10P Deep Dup	4.949	0.073	<MDL	<MDL	0.277	0.011	<MDL
SPC01019839	10P Shallow Dup	4.914	0.091	<MDL	<MDL	0.285	0.010	<MDL
SPC01019844	22PA Deep	7.639	0.064	<MDL	<MDL	0.257	0.021	<MDL
SPC01019849	22PA Deep Dup	5.864	0.055	<MDL	<MDL	0.265	0.008	<MDL
SPC01019854	22PB Shallow	3.139	0.109	<MDL	<MDL	0.243	0.011	<MDL
SPC01019859	22PB Shallow Dup	3.582	0.106	<MDL	<MDL	0.231	0.012	<MDL
SPC01019864	22PB Deep	9.130	0.135	<MDL	<MDL	0.266	0.014	<MDL
SPC01019869	22PB Deep Dup	6.440	0.142	<MDL	<MDL	0.274	0.015	<MDL
SPC01019874	23P Shallow	2.593	0.206	<MDL	<MDL	0.241	0.009	<MDL
SPC01019879	23P Deep	2.573	0.125	<MDL	<MDL	0.316	0.008	<MDL
SPC01019884	23P Shallow Dup	2.891	0.206	<MDL	<MDL	0.245	0.011	<MDL
SPC01019889	23P Deep Dup	2.941	0.127	<MDL	<MDL	0.338	0.014	<MDL
SPC01019894	18P Dup	6.830	0.186	<MDL	<MDL	0.637	0.016	<MDL
SPC01019899	7SC Zone 4	11.678	0.566	<MDL	0.038	0.236	0.026	0.023
SPC01019904	19IM1 Zone 5	10.002	0.272	<MDL	0.064	1.006	0.024	0.040
SPC01019924	19IM1 Zone 5 Dup	9.909	0.284	<MDL	0.072	1.012	0.024	0.056
SPC01019939	19IM2 Dup	R	0.267	<MDL	0.083	1.020	<MDL	0.086
SPC01019944	19IM2	12.173	0.231	<MDL	0.044	0.996	<MDL	0.058
SPC01019954	16P	5.324	0.056	<MDL	0.059	0.325	<MDL	0.045
SPC01019959	7SC Zone2 Dup	1.651	0.317	<MDL	0.087	0.424	<MDL	0.110
SPC01019964	7SC Zone 1	R	0.431	R	R	0.477	0.021	0.050
SPC01019969	7SC Zone 2	1.759	0.329	<MDL	0.088	0.408	<MDL	<MDL
SPC01019974	7SC Zone 4 Dup	11.237	0.544	<MDL	0.038	0.222	0.029	0.038
SPC01019979	7SC Zone 3	2.532	0.595	0.028	R	0.288	0.023	0.035
SPC01019984	7SC Zone 3 Dup	2.466	0.588	<MDL	R	0.282	<MDL	<MDL
SPC01020902	27P	R	0.071	<MDL	0.020	0.281	0.030	0.052
SPC01020905	4PA	3.316	0.101	<MDL	<MDL	0.368	<MDL	0.042
SPC01020905	4PA Dup	4.501	0.107	<MDL	<MDL	0.362	<MDL	0.176
SPC01020980	27P Dup	R	0.065	<MDL	<MDL	0.282	0.044	0.091
SPC01020983	4PA Dup	4.501	0.107	<MDL	<MDL	0.362	<MDL	0.176
SPC01021007	Field Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01021015	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01021048	28P	R	0.065	<MDL	<MDL	0.148	0.039	0.671
SPC01021050	28P Dup	R	0.061	<MDL	<MDL	0.146	0.034	0.554
SPC01021054	24P	R	0.110	<MDL	0.025	0.309	0.032	<MDL
SPC01021057	24P Dup	R	0.105	<MDL	0.021	0.340	0.024	<MDL
SPC01021062	29P	R	0.065	<MDL	<MDL	0.321	<MDL	<MDL
SPC01021065	29P Dup	R	0.066	<MDL	<MDL	2.183	0.026	<MDL

Sample Identification Number	Sample Site	Al	Ga	In	Tl	Ge	Sn	Pb
SPC01021070	Lab Blank	R	R	R	R	R	R	R
SPC01021081	12PA	R	0.043	<MDL	<MDL	2.208	0.025	<MDL
SPC01021083	Lab Blank	R	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01021084	12PA Dup	R	0.053	<MDL	<MDL	2.537	0.023	<MDL
SPC01021088	Travertine #1 Dup	R	0.514	<MDL	0.107	0.419	0.330	0.041
SPC01021089	12PB	R	0.085	<MDL	<MDL	1.568	0.017	<MDL
SPC01021092	12PB Dup	R	0.092	<MDL	<MDL	1.624	0.023	<MDL
SPC01021093	Travertine #1	R	0.604	<MDL	0.120	0.427	0.358	0.043
SPC01021097	Field Blank	R	<LOQ	<LOQ	<LOQ	<LOQ	R	<LOQ
SPC01029648	Lab Blank	R	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01041502	Lab Blank	R	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01041508	19IM1 Zone 1	R	0.044	<MDL	0.031	0.765	<MDL	0.076
SPC01041511	19IM1 Zone 5 Dup	R	0.207	<MDL	0.020	0.900	<MDL	0.248
SPC01041516	19IM1 Zone 5	R	0.200	<MDL	0.022	0.995	<MDL	0.048
SPC01041520	1S Zone 1	R	<MDL	<MDL	0.040	0.585	<MDL	1.579
SPC01041524	1S Zone 2	R	<MDL	<MDL	0.037	0.435	<MDL	0.059
SPC01041532	9SX Zone 2	R	<MDL	<MDL	0.020	0.757	<MDL	0.169
SPC01041535	9SX Zone 2B	R	<MDL	<MDL	<MDL	0.885	<MDL	0.177
SPC01041540	9SX Zone 3	R	<MDL	<MDL	0.021	0.687	<MDL	0.122
SPC01041544	9SX Zone 4	R	<MDL	<MDL	<MDL	0.752	<MDL	0.059
SPC01541528	9SX Zone 1	R	<MDL	<MDL	<MDL	0.580	<MDL	0.027

Appendix R

Group 15 and Group 16 Element Concentrations of Water Samples Collected for

Task ORD-FY04-010

All concentrations are in parts per billion (ppb). Dup indicates analysis of a duplicate sample. <MDL indicates analyte concentration is below method detection limits. <LOQ indicates analyte concentration is below limit of quantification. R indicates analyte concentration data was rejected.

Sample Identification Number	Sample Site	As	Sb	Bi	Se	Te
SPC01018608	22S Zone 3 Dup	3.605	0.129	0.004	0.474	0.003
SPC01018672	19PB Shallow Dup	7.540	0.375	<MDL	0.421	<MDL
SPC01019568	22S Zone 1	5.020	0.167	0.028	0.435	<MDL
SPC01019573	22S Zone 1 Dup	4.977	0.170	0.018	0.420	0.001
SPC01019582	22S Zone 2	4.339	0.173	0.005	0.552	0.001
SPC01019592	22S Zone 2 Dup	4.468	0.180	0.003	0.530	0.001
SPC01019601	22S Zone 3	3.774	0.128	0.004	0.581	<MDL
SPC01019615	10S Zone 2	9.578	0.273	<MDL	0.572	R
SPC01019621	10S Zone 1	9.021	0.196	<MDL	0.500	R
SPC01019626	7SC Zone 1 Dup	0.950	0.333	0.024	0.559	R
SPC01019631	3S Zone 2	9.324	0.071	<MDL	0.303	R
SPC01019636	3S Zone 2 Dup	9.025	0.089	<MDL	0.161	R
SPC01019646	10S Zone 1 Dup	8.964	0.203	<MDL	0.621	R
SPC01019651	10S Zone 2 Dup	9.579	0.264	0.037	0.576	R
SPC01019668	19PB Shallow	7.803	0.396	<MDL	0.421	<MDL
SPC01019672	19PB Shallow Dup	7.540	0.375	<MDL	0.421	<MDL
SPC01019676	19 PB Deep	13.616	0.352	<MDL	0.445	<MDL
SPC01019680	19PB Deep Dup	16.170	0.294	<MDL	0.298	<MDL
SPC01019695	Washburn 1X Dup	4.389	0.143	<MDL	0.584	<MDL
SPC01019699	Washburn 1X	5.320	0.160	<MDL	0.700	<MDL
SPC01019715	22S Zone 4	5.748	0.193	0.002	0.699	<MDL
SPC01019722	22S Zone 4 Dup	5.714	0.196	0.003	0.731	<MDL
SPC01019739	27P	12.637	0.841	R	0.439	0.001
SPC01019744	Lab Blank	<LOQ	<LOQ	R	<LOQ	<LOQ
SPC01019759	28P	11.588	1.306	R	0.577	0.001
SPC01019765	24P	1.906	0.285	0.027	<MDL	<MDL
SPC01019771	24P Dup	2.060	0.288	<MDL	<MDL	0.001
SPC01019782	29P	8.688	0.287	<MDL	0.576	0.012
SPC01019788	29P Dup	8.952	0.287	<MDL	0.509	0.004

Sample Identification Number	Sample Site	As	Sb	Bi	Se	Te
SPC01019799	19P	1.571	0.123	<MDL	0.538	0.001
SPC01019804	4PB	R	0.331	0.044	0.481	0.020
SPC01019809	4PB Dup	R	0.338	<MDL	0.512	0.007
SPC01019814	18P	5.951	0.443	<MDL	0.573	0.002
SPC01019819	10P Shallow	9.869	0.277	<MDL	0.599	0.005
SPC01019824	10P Deep	9.535	0.253	<MDL	0.671	0.004
SPC01019829	22PA Shallow	5.294	0.390	<MDL	0.636	0.006
SPC01019834	10P Deep Dup	10.014	0.242	<MDL	0.616	0.005
SPC01019839	10P Shallow Dup	9.508	0.276	<MDL	0.549	0.006
SPC01019844	22PA Deep	4.771	0.171	<MDL	0.645	0.003
SPC01019849	22PA Deep Dup	4.698	0.176	<MDL	0.622	0.002
SPC01019854	22PB Shallow	4.163	0.148	<MDL	0.656	0.007
SPC01019859	22PB Shallow Dup	4.030	0.138	<MDL	0.671	0.003
SPC01019864	22PB Deep	6.135	0.204	<MDL	0.790	0.003
SPC01019869	22PB Deep Dup	6.185	0.140	<MDL	0.811	0.014
SPC01019874	23P Shallow	10.596	1.044	<MDL	2.261	0.007
SPC01019879	23P Deep	14.510	1.255	<MDL	3.082	0.003
SPC01019884	23P Shallow Dup	11.123	1.041	<MDL	2.299	0.005
SPC01019889	23P Deep Dup	15.102	1.223	<MDL	3.308	0.004
SPC01019894	18P Dup	6.374	0.440	<MDL	0.605	0.002
SPC01019899	7SC Zone 4	1.225	0.916	R	<MDL	0.023
SPC01019904	19IM1 Zone 5	R	0.379	R	0.440	<MDL
SPC01019924	19IM1 Zone 5 Dup	R	0.392	R	0.350	<MDL
SPC01019939	19IM2 Dup	R	0.392	R	0.493	0.047
SPC01019944	19IM2	R	0.372	R	0.462	<MDL
SPC01019954	16P	11.919	0.981	R	0.921	0.035
SPC01019959	7SC Zone2 Dup	0.859	0.304	R	0.583	0.016
SPC01019964	7SC Zone 1	0.944	0.312	0.027	0.517	R
SPC01019969	7SC Zone 2	0.982	0.300	R	0.391	0.015
SPC01019974	7SC Zone 4 Dup	1.462	0.952	R	<MDL	0.017
SPC01019979	7SC Zone 3	1.817	0.047	R	<MDL	0.017
SPC01019984	7SC Zone 3 Dup	1.827	0.049	R	<MDL	0.017
SPC01020902	27P	10.550	0.386	0.043	R	R
SPC01020905	4PA	6.555	0.176	0.013	0.670	<MDL
SPC01020905	4PA Dup	6.521	0.174	0.018	0.602	<MDL
SPC01020980	27P Dup	10.453	0.391	<MDL	R	R
SPC01020983	4PA Dup	6.521	0.174	0.018	0.602	<MDL
SPC01021007	Field Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01021015	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01021048	28P	9.510	0.687	<MDL	R	R
SPC01021050	28P Dup	9.993	0.705	<MDL	R	R
SPC01021054	24P	7.659	0.165	<MDL	R	R
SPC01021057	24P Dup	7.778	0.164	<MDL	R	R
SPC01021062	29P	9.150	0.154	<MDL	R	R
SPC01021065	29P Dup	9.444	<MDL	<MDL	R	R

Sample Identification Number	Sample Site	As	Sb	Bi	Se	Te
SPC01021070	Lab Blank	R	R	R	R	R
SPC01021081	12PA	12.303	<MDL	<MDL	R	R
SPC01021083	Lab Blank	<LOQ	<LOQ	<LOQ	R	R
SPC01021084	12PA Dup	13.342	<MDL	<MDL	R	R
SPC01021088	Travertine #1 Dup	22.608	0.117	<MDL	R	R
SPC01021089	12PB	5.965	0.117	<MDL	R	R
SPC01021092	12PB Dup	5.901	0.124	<MDL	R	R
SPC01021093	Travertine #1	21.296	0.124	<MDL	R	R
SPC01021097	Field Blank	<LOQ	<LOQ	<LOQ	R	R
SPC01029648	Lab Blank	<LOQ	<LOQ	<LOQ	R	R
SPC01041502	Lab Blank	<LOQ	<LOQ	<LOQ	R	R
SPC01041508	19IM1 Zone 1	23.531	0.291	<MDL	0.348	<MDL
SPC01041511	19IM1 Zone 5 Dup	22.868	0.280	<MDL	0.404	R
SPC01041516	19IM1 Zone 5	23.798	0.283	<MDL	0.392	R
SPC01041520	1S Zone 1	4.087	0.211	<MDL	0.862	R
SPC01041524	1S Zone 2	4.547	0.096	<MDL	0.942	R
SPC01041532	9SX Zone 2	10.904	0.295	<MDL	0.632	R
SPC01041535	9SX Zone 2B	9.618	0.343	<MDL	0.658	R
SPC01041540	9SX Zone 3	8.637	0.313	<MDL	0.630	R
SPC01041544	9SX Zone 4	9.968	0.255	<MDL	0.613	R
SPC01541528	9SX Zone 1	8.462	0.259	<MDL	0.661	R

Appendix S

Yttrium, Lanthanum, and 4f¹ through 4f⁷ Element Concentrations of Water

Samples Collected for Task ORD-FY04-010

All concentrations are in parts per trillion (ppt). Dup indicates analysis of a duplicate sample. <MDL indicates analyte concentration is below method detection limits. <LOQ indicates analyte concentration is below limit of quantification. R indicates analyte concentration data was rejected.

Sample Identification Number	Sample Site	Y	La	Ce	Pr	Nd	Sm	Eu	Gd
SPC01019668	19 PB Shallow	7.97	3.51	3.49	0.703	2.39	0.53	0.157	0.89
SPC01019615	10 S Zone 2	13.1	NA	8.41	0.861	3.12	0.766	NA	0.894
SPC01019621	10 S Zone 1	13.2	NA	3.13	0.208	0.826	0.297	NA	0.419
SPC01019626	7 SC Zone 1 Dup	14.1	NA	3.84	0.213	1.49	0.545	NA	0.659
SPC01019631	3 S Zone 2	156	NA	58.2	2.67	15.0	8.35	NA	20.4
SPC01019636	3 S Zone 2 Dup	140	NA	44.9	2.15	12.3	7.54	NA	19.0
SPC01019646	10 S Zone 1 Dup	11.8	NA	3.35	0.198	0.946	0.274	NA	0.408
SPC01019651	10 S Zone 2 Dup	11.1	NA	6.68	0.689	2.41	0.626	NA	0.64
SPC01019652	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01019668	19 PB Shallow	7.970	3.510	3.490	0.703	2.390	0.530	0.157	0.890
SPC01019672	19 PB Shallow Dup	7.050	2.470	3.640	0.370	1.310	0.364	<MDL	0.566
SPC01019695	Washburn 1X Dup	4.15	1.74	1.35	0.208	0.55	<MDL	<MDL	0.29
SPC01019699	Washburn 1X	3.88	1.28	1.19	0.169	0.539	<MDL	<MDL	0.258
SPC01019715	22 S Zone 4	0.942	NA	2.10	0.159	0.561	0.2	NA	0.163
SPC01019722	22 S Zone 4 Dup	0.574	NA	2.67	0.216	0.695	0.203	NA	0.197
SPC01019739	27 P	28.2	NA	128	6.17	24.6	4.75	NA	7.79
SPC01019744	Lab Blank	<LOQ	NA	<LOQ	<LOQ	<LOQ	<LOQ	NA	<LOQ
SPC01019765	24 P	14.2	NA	22.3	1.38	5.73	1.2	NA	1.4
SPC01019771	24 P Dup	17.0	NA	27.3	1.74	7.07	1.45	NA	1.74
SPC01019782	29 P	13.7	NA	11.8	1.19	4.51	0.846	NA	1.20
SPC01019788	29 P Dup	11.3	NA	11.4	1.13	4.68	0.873	NA	1.14
SPC01019799	19 P	3.87	NA	4.39	0.53	1.91	0.354	NA	0.391
SPC01019804	4 PB	1.89	NA	2.66	0.29	0.998	<MDL	NA	0.291
SPC01019809	4 PB Dup	2.5	NA	2.95	0.456	1.53	0.279	NA	0.385
SPC01019814	18 P	4.87	NA	5.45	0.395	1.41	0.311	NA	0.501
SPC01019819	10 P Shallow	0.464	NA	2.27	0.288	0.643	<MDL	NA	0.204
SPC01019824	10 P Deep	2.03	NA	1.5	0.296	0.63	<MDL	NA	0.191
SPC01019829	22 PA Shallow	1.20	NA	2.12	0.296	0.904	0.203	NA	0.190
SPC01019834	10 P Deep Dup	2.62	NA	1.15	0.23	0.461	<MDL	NA	0.132
SPC01019839	10 P Shallow Dup	0.871	NA	2.63	0.334	0.909	<MDL	NA	0.264
SPC01019844	22 PA Deep	2.71	NA	1.52	0.277	0.811	0.241	NA	0.204
SPC01019849	22 PA Deep Dup	2.86	NA	1.66	0.225	0.724	<MDL	NA	0.211
SPC01019854	22 PB Shallow	6.12	NA	1.47	0.198	0.867	0.19	NA	0.273

Sample Identification Number	Sample Site	Y	La	Ce	Pr	Nd	Sm	Eu	Gd
SPC01019859	22 PB Shallow Dup	4.78	NA	1.08	0.212	0.728	<MDL	NA	0.38
SPC01019864	22 PB Deep	6.20	NA	1.93	0.267	1.12	0.260	NA	0.339
SPC01019869	22 PB Deep Dup	5.06	NA	1.35	0.164	0.801	0.204	NA	0.277
SPC01019874	23 P Shallow	17.8	NA	1.93	0.589	4.65	2.29	NA	3.79
SPC01019879	23 P Deep	10.1	NA	0.49	0.65	4.88	2.7	NA	4.97
SPC01019884	23 P Shallow Dup	17.0	NA	1.94	0.59	4.42	2.37	NA	3.57
SPC01019889	23 P Deep Dup	12.7	NA	0.697	0.565	4.44	2.7	NA	4.59
SPC01019894	18 P Dup	4.15	NA	4.79	0.32	1.19	0.239	NA	0.42
SPC01019899	7 SC Zone 4	33.6	NA	53.0	3.66	13.8	2.78	NA	4.62
SPC01019904	19 IM1 Zone 5	7.05	NA	19.7	1.09	4.27	0.949	NA	1.23
SPC01019924	19 IM1 Zone 5 Dup	6.65	NA	19.6	0.993	3.67	0.768	NA	1.08
SPC01019939	19 IM2 Dup	4.61	NA	7.89	0.616	2.33	0.607	NA	0.813
SPC01019944	19 IM2	5.04	NA	9.26	0.706	2.66	0.67	NA	0.924
SPC01019954	16 P	8.05	NA	3.60	0.405	1.67	0.732	NA	1.49
SPC01019959	7 SC Zone 2 Dup	13.6	NA	7.39	0.23	1.25	0.337	NA	0.641
SPC01019964	7 SC Zone 1	16.6	NA	5.31	0.344	1.81	0.578	NA	0.844
SPC01019969	7 SC Zone 2	12.3	NA	6.39	0.253	1.66	0.508	NA	0.891
SPC01019974	7 SC Zone 4 Dup	30.1	NA	45.8	3.04	11.6	2.57	NA	3.72
SPC01019979	7 SC Zone 3	78.6	NA	116	2.27	10.1	2.49	NA	5.30
SPC01019984	7 SC Zone 3 Dup	74.5	NA	108	1.98	9.46	2.03	NA	5.48
SPC01020903	NCEWDP 27 P	16.139	16.244	71.258	3.344	13.388	2.611	0.427	3.842
SPC01020983	4 PA Dup	3.87	1.99	3.23	0.666	2.57	0.530	0.140	0.574
SPC01021000	Filter Blank	<LOQ	NA	<LOQ	<LOQ	<LOQ	<LOQ	NA	<LOQ
SPC01021007	Field Blank	<LOQ	0.385	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01021015	Lab Blank	<LOQ	0.524	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01021019	NCEWDP 27 P Dup	15.753	14.918	62.449	2.994	11.687	2.590	0.393	3.362
SPC01021047	NCEWDP 28 P	1351.929	150.297	263.420	64.510	410.307	166.682	25.900	286.898
SPC01021051	NCEWDP 28 P Dup	1307.031	145.380	248.992	63.194	406.712	163.740	25.900	278.983
SPC01021053	NCEWDP 24 P	7.638	2.371	2.999	0.407	2.069	0.429	0.103	0.497
SPC01021056	NCEWDP 24 P Dup	7.964	2.571	3.220	0.420	2.082	0.948	<MDL	0.574
SPC01021061	NCEWDP 29 P	12.234	1.852	4.712	0.374	2.219	0.625	<MDL	0.616
SPC01021064	NCEWDP 29 P Dup	11.479	2.203	6.641	0.443	2.385	0.470	<MDL	0.640
SPC01021069	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01021080	NCEWDP 12 PA	2.151	0.344	0.359	0.044	0.192	<MDL	<MDL	<MDL
SPC01021083	NCEWDP 12 PA Dup	2.233	0.591	0.563	0.063	0.210	<MDL	<MDL	<MDL
SPC01021084	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01021088	NCEWDP 12 PB	1.999	1.073	1.878	0.167	0.694	<MDL	0.284	0.138
SPC01021089	Travertine #1 Well Dup	5.690	2.590	0.601	0.076	0.239	0.491	0.334	0.125
SPC01021091	NCEWDP 12 PB Dup	1.990	1.535	2.084	0.203	0.837	0.193	<MDL	<MDL
SPC01021094	Travertine #1 Well	5.750	0.602	0.299	0.054	0.335	0.315	0.668	0.123
SPC01021098	Field Blank	0.458	0.948	0.509	<LOQ	0.350	<LOQ	<LOQ	<LOQ
SPC01041501	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01041507	19 IM1 Zone 1	3.480	1.350	4.310	0.196	0.996	0.338	0.390	0.453
SPC01041510	19 IM1 Zone 5 Dup	4.990	4.678	16.400	0.939	3.730	0.986	0.984	1.250
SPC01041515	19 IM1 Zone 5	4.300	3.440	10.900	0.598	2.610	0.676	0.924	0.812
SPC01041519	1S Zone 1	17.200	5.060	11.300	0.710	3.270	1.100	0.480	1.000
SPC01041523	1S Zone 2	23.100	2.400	4.340	0.283	1.480	0.564	2.000	0.782
SPC01041527	9 SX Zone 1	5.330	2.080	9.000	0.335	1.460	1.310	0.181	0.437
SPC01041531	9 SX Zone 2	7.500	2.270	6.580	0.344	1.530	0.709	0.154	0.539
SPC01041534	9 SX Zone 2 Dup	7.230	2.470	5.790	0.349	1.570	0.463	0.182	0.488
SPC01041539	9 SX Zone 3	7.310	1.440	4.780	0.189	1.010	0.270	0.327	0.454

Sample Identification Number	Sample Site	Y	La	Ce	Pr	Nd	Sm	Eu	Gd
SPC01041543	9 SX Zone 4	9.470	1.370	5.290	0.252	1.290	0.402	0.297	0.727

Appendix T

⁴⁷ through ⁴⁴ and Thorium Element Concentrations of Water Samples Collected

for Task ORD-FY04-010

All concentrations are in parts per trillion (ppt). Dup indicates analysis of a duplicate sample. <MDL indicates analyte concentration is below method detection limits. <LOQ indicates analyte concentration is below limit of quantification. R indicates analyte concentration data was rejected.

Sample Identification Number	Sample Site	Tb	Dy	Ho	Er	Tm	Yb	Lu	Th
SPC01019668	19 PB Shallow	0.363	0.62	0.313	0.617	0.06	0.523	0.32	0.732
SPC01019615	10 S Zone 2	0.143	1.12	0.307	0.971	0.121	0.863	0.120	1.21
SPC01019621	10 S Zone 1	0.099	0.948	0.25	0.932	0.108	0.784	0.095	0.364
SPC01019626	7 SC Zone 1 Dup	0.086	0.683	0.261	0.984	0.169	1.67	0.288	<MDL
SPC01019631	3 S Zone 2	4.73	36.4	8.76	24.3	3.25	19.1	3.7	7.92
SPC01019636	3 S Zone 2 Dup	4.54	34.8	8.32	23.1	3.10	18.9	3.67	5.28
SPC01019646	10 S Zone 1 Dup	0.081	0.804	0.239	0.802	0.097	0.721	0.085	0.156
SPC01019651	10 S Zone 2 Dup	0.106	0.904	0.279	0.836	0.09	0.732	0.098	1.18
SPC01019652	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01019668	19 PB Shallow	0.363	0.620	0.313	0.617	0.060	0.523	0.320	0.732
SPC01019672	19 PB Shallow Dup	0.229	0.486	0.273	0.539	0.062	0.473	0.205	0.395
SPC01019695	Washburn 1X Dup	0.231	0.238	0.13	0.29	<MDL	0.3	0.232	0.119
SPC01019699	Washburn 1X	0.25	0.234	0.138	0.262	<MDL	0.247	0.234	0.128
SPC01019715	22 S Zone 4	<MDL	0.231	0.083	0.156	<MDL	0.126	<MDL	0.164
SPC01019722	22 S Zone 4 Dup	<MDL	0.252	0.091	0.179	<MDL	0.114	0.042	0.185
SPC01019739	27 P	0.857	4.95	1.65	2.76	0.303	2.02	0.306	11.5
SPC01019744	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01019765	24 P	0.207	1.09	0.392	0.925	0.13	0.801	0.131	0.922
SPC01019771	24 P Dup	0.238	1.32	0.464	1.09	0.161	0.937	0.159	0.96
SPC01019782	29 P	0.168	0.976	0.381	0.793	0.103	0.592	0.104	0.888
SPC01019788	29 P Dup	0.169	1.01	0.359	0.72	0.094	0.652	0.097	1.06
SPC01019799	19 P	0.067	0.341	0.109	0.249	0.034	0.219	0.044	0.473
SPC01019804	4 PB	0.045	0.507	0.485	0.332	0.035	0.301	0.048	0.429
SPC01019809	4 PB Dup	0.096	0.366	0.491	0.235	0.032	0.162	0.052	0.494
SPC01019814	18 P	0.076	0.461	0.238	0.354	<MDL	0.45	0.044	0.74
SPC01019819	10 P Shallow	0.085	0.127	0.116	0.123	<MDL	<MDL	<MDL	0.282
SPC01019824	10 P Deep	0.077	0.182	0.129	0.187	<MDL	0.159	0.037	0.149
SPC01019829	22 PA Shallow	0.045	0.185	0.090	0.162	<MDL	0.132	<MDL	0.298
SPC01019834	10 P Deep Dup	0.071	0.164	0.087	0.155	<MDL	0.139	0.047	0.096
SPC01019839	10 P Shallow Dup	0.064	0.149	0.132	0.147	<MDL	0.112	<MDL	0.417
SPC01019844	22 PA Deep	0.113	0.294	0.169	0.276	0.099	0.255	0.123	0.283
SPC01019849	22 PA Deep Dup	0.046	0.236	0.093	0.195	0.035	0.172	0.096	0.176
SPC01019854	22 PB Shallow	0.049	0.352	0.13	0.365	0.062	0.306	0.056	0.042

Sample Identification Number	Sample Site	Tb	Dy	Ho	Er	Tm	Yb	Lu	Th
SPC01019859	22 PB Shallow Dup	0.063	0.438	0.15	0.419	0.056	0.353	0.062	0.086
SPC01019864	22 PB Deep	0.067	0.509	0.154	0.389	0.054	0.325	0.069	0.136
SPC01019869	22 PB Deep Dup	0.062	0.409	0.124	0.354	0.053	0.287	0.055	0.123
SPC01019874	23 P Shallow	0.848	4.74	1.64	2.5	0.257	1.2	0.179	0.083
SPC01019879	23 P Deep	0.914	4.96	2.18	2.28	0.174	0.848	0.092	0.05
SPC01019884	23 P Shallow Dup	0.788	4.37	1.49	2.48	0.263	1.16	0.174	0.059
SPC01019889	23 P Deep Dup	0.838	4.69	1.81	2.12	0.171	0.812	0.091	0.151
SPC01019894	18 P Dup	0.058	0.366	0.227	0.312	<MDL	0.37	0.054	0.466
SPC01019899	7 SC Zone 4	0.69	4.00	1.46	5.29	1.04	12	3.36	1.66
SPC01019904	19 IM1 Zone 5	0.165	0.98	0.321	0.665	0.055	0.55	0.067	2.22
SPC01019924	19 IM1 Zone 5 Dup	0.14	0.753	0.296	0.594	0.045	0.542	0.061	1.96
SPC01019939	19 IM2 Dup	0.106	0.713	0.228	0.412	<MDL	0.341	<MDL	1.70
SPC01019944	19 IM2	0.107	0.72	0.281	0.407	<MDL	0.344	0.032	1.80
SPC01019954	16 P	0.275	2.04	0.97	1.20	0.121	0.986	0.134	1.75
SPC01019959	7 SC Zone 2 Dup	0.052	0.62	0.21	0.841	0.151	1.39	0.227	<MDL
SPC01019964	7 SC Zone 1	0.113	0.973	0.299	1.13	0.204	1.85	0.328	<MDL
SPC01019969	7 SC Zone 2	0.084	0.753	0.265	1.07	0.178	1.50	0.379	<MDL
SPC01019974	7 SC Zone 4 Dup	0.518	3.58	1.15	4.21	0.889	9.97	2.69	1.36
SPC01019979	7 SC Zone 3	0.686	6.15	2.28	11.5	2.65	27.3	6.91	0.667
SPC01019984	7 SC Zone 3 Dup	0.669	6.07	2.14	11.0	2.53	26.4	6.69	0.224
SPC01020903	NCEWDP 27 P	0.529	2.664	0.654	2.865	0.229	1.416	0.201	8.075
SPC01020983	4 PA Dup	0.152	0.422	0.348	0.309	0.039	0.252	0.093	0.634
SPC01021000	Filter Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01021007	Field Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01021015	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01021019	NCEWDP 27 P Dup	0.354	2.443	0.613	3.231	0.232	1.363	0.197	6.765
SPC01021047	NCEWDP 28 P	47.994	351.015	80.119	208.126	19.491	67.276	8.156	184.115
SPC01021051	NCEWDP 28 P Dup	46.759	345.043	78.354	205.623	18.850	65.651	7.876	172.559
SPC01021053	NCEWDP 24 P	0.069	0.526	0.138	0.806	0.067	0.444	0.076	0.515
SPC01021056	NCEWDP 24 P Dup	0.051	0.562	0.144	0.893	0.073	0.447	0.073	0.312
SPC01021061	NCEWDP 29 P	0.075	0.743	0.216	1.304	0.120	0.634	0.098	0.231
SPC01021064	NCEWDP 29 P Dup	0.074	0.762	0.206	1.048	0.111	0.641	0.107	0.417
SPC01021069	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01021080	NCEWDP 12 PA	0.077	<MDL	0.117	<MDL	<MDL	<MDL	<MDL	0.365
SPC01021083	NCEWDP 12 PA Dup	0.048	<MDL	0.096	<MDL	<MDL	<MDL	<MDL	0.203
SPC01021084	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01021088	NCEWDP 12 PB	0.063	<MDL	0.122	<MDL	<MDL	<MDL	<MDL	0.529
SPC01021089	Travertine #1 Well Dup	0.059	0.174	0.189	0.410	<MDL	0.169	0.032	0.225
SPC01021091	NCEWDP 12 PB Dup	0.049	0.101	0.122	0.289	<MDL	<MDL	<MDL	1.824
SPC01021094	Travertine #1 Well	0.254	0.176	0.241	0.264	<MDL	0.153	0.031	0.250
SPC01021098	Field Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01041501	Lab Blank	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
SPC01041507	19 IM1 Zone 1	<MDL	0.337	0.127	0.556	0.031	0.215	<MDL	0.760
SPC01041510	19 IM1 Zone 5 Dup	<MDL	0.748	0.182	0.854	0.055	0.422	<MDL	2.854
SPC01041515	19 IM1 Zone 5	<MDL	0.525	0.145	0.549	0.046	0.336	<MDL	1.740
SPC01041519	1S Zone 1	<MDL	1.050	0.274	1.530	0.147	1.170	0.101	0.587
SPC01041523	1S Zone 2	<MDL	1.160	0.355	1.490	0.238	1.860	0.264	<MDL
SPC01041527	9 SX Zone 1	<MDL	0.374	0.123	2.480	0.044	0.318	<MDL	0.422
SPC01041531	9 SX Zone 2	<MDL	0.495	0.158	2.040	0.067	0.452	<MDL	0.586
SPC01041534	9 SX Zone 2 Dup	<MDL	0.464	0.175	1.120	0.064	0.499	<MDL	<MDL

Sample Identification Number	Sample Site	Tb	Dy	Ho	Er	Tm	Yb	Lu	Th
SPC01041539	9 SX Zone 3	<MDL	0.492	0.172	0.713	0.068	0.502	<MDL	<MDL
SPC01041543	9 SX Zone 4	<MDL	0.816	0.233	0.941	0.103	0.714	<MDL	<MDL