Deep River and Dan River Triassic basins: Shale inorganic geochemistry for geosteering and environmental baseline hydraulic fracturing

By

Jeffrey C. Reid

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Figure 1. Map showing the locations of the Sanford sub-basin, Deep River basin, and the Dan River basin, North Carolina (after Reid and Milici, 2008).

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Table 1. List of analytical method abbreviations used.

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Appendix 1. Deep River basin, Sanford sub-basin, inorganic chemistry – Certificate of analysis and data table.

Appendix 2. Deep River basin inorganic chemistry – Inorganic chemistry plots by drill hole.

Appendix 3. Dan River basin inorganic chemistry – Certificate of analysis and data table.

Appendix 4. Dan River basin inorganic chemistry – Inorganic chemistry plots by drill hole.

Deep River and Dan River Triassic basins: Shale inorganic geochemistry for geosteering and environmental baseline hydraulic fracturing

By Jeffrey C. Reid

Abstract

Multivariate inorganic reconnaissance geochemical data were obtained for the organic shale formations of the Triassic Deep River (Sanford sub-basin)- and Dan River basins, North Carolina, to screen for potential elements to help guide possible hydrocarbon exploration drilling including horizontal drill holes, and to determine background inorganic geochemistry values prior to potential hydraulic fracturing of the reservoirs.

This report summarizes multivariate inorganic geochemical reconnaissance data from the organic-rich shale source rocks of the Triassic Cumnock Formation, Sanford sub-basin, Deep River basin. Samples (N=100) from nine drill cores, and cuttings from one oil and gas exploration well, from Chatham, Lee, and Moore counties, North Carolina, were analyzed using a broad suite of inorganic geochemical data using: Multi-element INAA, Multi-element INAA/TD-ICP, Multi-element INAA/ICP-MS, and TD-ICP. Multiple elements were determined by different analytical methods, each with a separate detection limit.

This report also summarizes inorganic geochemical reconnaissance data from the organic-rich shale source rocks of the Triassic Cow Branch and Walnut Cove formations, Dan River basin, Stokes County, North Carolina. Samples (N=34) from two drill cores, one outcrop, and one quarry were analyzed using a broad suite of inorganic geochemical data determined using: INAA, Multi-element INAA/TD-ICP/TD-MS, TD-ICP, and TD-MS. Multiple elements were determined by different analytical methods, each with a separate detection limit.

The range of inorganic geochemical data presented herein may lead to pre-drilling insights using measurement while drilling and geosteering, and as a means to focus on background elements for pre-drilling environmental monitoring while eliminating those elements of limited, or no value pre-drilling or pre-hydraulic fracturing.

Introduction and objectives

Multivariate inorganic reconnaissance geochemical data were obtained for the organic shale formations of the Triassic Deep River (Sanford sub-basin)- and Dan River basins, North Carolina, to provide potential elements to help guide possible hydrocarbon exploration drilling including horizontal drill holes, and to obtain background (pre-drill and pre-hydraulic fracturing) inorganic geochemistry data from the organic shales. **Table 1** lists the analytical methods used. **Figure 1** shows the locations of the two rift basins. **Appendix 1** contains the Deep River chemical certificate of analysis. **Appendix 2** contains the Deep River basin reported analytical data for the Cumnock Formation. **Appendix 3** contains the chemical plots for each inorganic analyte by drill hole along with $\%R_o$, T_{max} and TOC. Similar data for the Dan River basin are presented in the same order in **Appendices 4-6. Appendix 6** is color-coded by organic-rich formation (Walnut Cove and Cow Branch formations). Organic geochemical data ($\%R_o$, T_{max}, and total organic carbon [TOC]) were taken from **Reid (2018b,c)** respectively for the Deep River- and Dan River basins.

A geological summary of these two basins, and that of the Cumberland-Marlboro 'basin' with supporting oil and gas data for the hydrocarbon potential is presented in three related North Carolina Geological Survey Special Publications that describe two continuous Late Triassic (Norian) onshore rift basins of North Carolina and south-central Virginia (Deep River and Dan River total petroleum systems), and assessment units for continuous gas accumulation. Noble gas accumulation, origin and concentrations are also presented for both basins. Readers are referred to those reports for detailed geology and supporting disciplines, and the basins' hydrocarbon potential. Extensive references, data tables, and figures are in each of those publications and are not repeated here.

Special Publication 12 (**Reid *et al.*, 2018a**) provides an overview of the Triassic rift / lacustrine basins, their hydrocarbon potential in North Carolina, a regulatory framework overview and data access information. Special Publication 12 should be read first to provide a context and as an introduction for the two other Special Publications. Special Publication 12 also summarizes geological information about the Cumberland-Marlboro 'basin' (no samples from it are included in this report). Special Publication 9 (**Reid, 2018b**) discusses the Deep River basin Total Petroleum System, North Carolina. Special Publication 10 (**Reid, 2019c**) discusses the Dan River basin Total Petroleum System, North Carolina. **Milici *et al.*** (**2012**) assessed the undiscovered oil and gas resources of the East Coast Mesozoic basins of the Piedmont, Blue Ridge Thrust Belt, Atlantic Coastal Plain, and New England Provinces.

Methodology and analytical techniques

Deep River basin (Sanford sub-basin)

Samples (N=100) for inorganic chemical analyses were obtained from nine diamond drill coal exploration core holes (sawed core pieces), and cuttings / core from one oil and gas exploration drill hole – all from the Cumnock Formation. **Appendix 1** contains the Deep River chemical certificate of analysis, and lists the drill holes and depth intervals sampled for analysis of a broad suite of inorganic geochemical data determined using: Multi-element INAA, Multi-element INAA/TD-ICP, Multi-element INAA/ICP-MS, and TD-ICP. Multiple elements were determined by different analytical methods, each with a separate detection limit. **Appendix 2** contains the chemical plots for each inorganic analyte by drill hole along with $\%R_o$, T_{max} and TOC for the Cumnock Formation.

The locations of all core holes and oil and gas exploration drill holes for the Sanford sub-basin, including the subset of holes used in this study, are shown in **Reid *et al.*, 2010**.

Box plots were prepared for each analyte, by drill hole. Analytical values reported with a "<" (less than sign) were assigned a value one half of that reported. In limited cases, a reported ">" (greater than sign) analyses were assigned an increased value of one unit (e.g., >10,000 ppm became 10,001 ppm, etc.). Results were split out for each core hole, well or outcrop, by analyte, showing the mean, standard deviation, and outliers.

Graphic analyses include TOC, $\%R_o$, and T_{max} for comparison with the inorganic data. The box plots provide a rapid visual means to visualize possible preferred elements to include in a measure while drilling program and their concentration range. These also provide robust background for pre-hydrologic fracturing geochemistry of the reservoir-source rock.

Dan River basin

Samples (N=34) from two drill cores, one outcrop, and one quarry in Stokes County, North Carolina, were analyzed using a broad suite of inorganic geochemical data determined using: INAA, Multi-element INAA/TD-ICP/TD-MS, TD-ICP, and TD-MS. **Appendix 3** contains the Dan River chemical certificate of analysis, and lists the drill holes and depth intervals sampled; road outcrop, and open pit mine exposure with corresponding inorganic chemistry results by formation; by analytical method. Multiple elements were determined by different analytical methods, each with a separate detection limit. **Appendix 4** contains the chemical plots for each inorganic analyte by drill hole, outcrop, and quarry along with $\%R_o$, T_{max} and TOC for the Cows Branch- and Walnut Cove formations**.** The locations of all core holes and oil and gas exploration drill holes for the Dan River basin, including the subset of holes used in this study, are shown in **Reid (2018d)**.

Box plots were prepared for each analyte. Analytical values reported with a "<" (less than sign) were assigned a value one half of that reported. In rare cases, a reported ">" (greater than sign) was assigned an increased value of one (e.g., >10,000 became 10,001). Analytical results

were split out for each formation; then by core hole, well or outcrop; and by analyte, showing the mean, standard deviation, and outliers. Graphic analyses include TOC, $\%R_o$, and T_{max} for comparison with the inorganic data. The box plots provide a rapid visual means to visualize possible preferred elements to include in a measure while drilling program, and elemental concentration range. These also provide robust background for pre-hydraulic fracturing geochemistry of the reservoir-source rocks.

Summary and conclusions

A robust suite of inorganic element content from hydrocarbon source rocks in the Sanford sub-basin (Deep River basin) and the Dan River basin provide: 1) potential indicator elements for measurement while drilling vertical and non-vertical exploration holes, and 2) background geochemistry before hydraulic fracturing.

Chemostratigraphy using inorganic chemistry has been used for measurement while drilling and geosteering (**Blood, 2015**; **Blood and Lash, 2011a,b, 2013**; **Lash and Blood, 2011, 2012**; **Martinez-Kulikowski *et al*., 2013**; and **Saboda and Lash, 2014**). The reconnaissance inorganic geochemical data presented herein may prove useful to select elements to use in geosteering.

The extensive suite of inorganic elements, many of which were determined by multiple analytical methods, may also prove useful to determine the background concentration of naturally occurring elements before subsequent horizontal and vertical drilling and hydraulic fracturing. This may lead to suitable elements to do this, and the elimination of unneeded analytes. Because the paleo-lacustrine depositional environment was primarily fresh water, analytes used successfully in marine or brackish water paleoenvironments studies, may or may not prove useful in these freshwater paleo-lacustrine environments.

A review of clay types documented by x-ray fluorescence (XRD) in the Deep River- and Dan River basins may be useful to guide analyte selection for chemostratrigraphy and measurement while drilling (refer to **Reid 2018a,b**). Knowledge of the clay minerals is essential so as not to introduce chemicals during hydraulic fracturing that could damage reservoirs and / or diminish potential hydrocarbon and noble gas production. This includes potential damage to, or killing favorable bacteria populations hinted at through reservoir stable isotope studies. **Wuchter *et al.*** (**2013**) provide a good summary of microbial diversity and methanogenic activity of the Antrim Shale Formation (Michigan) from recently fractured wells – a possible consideration for the North Carolina shales that are prospective hydrocarbon resources.

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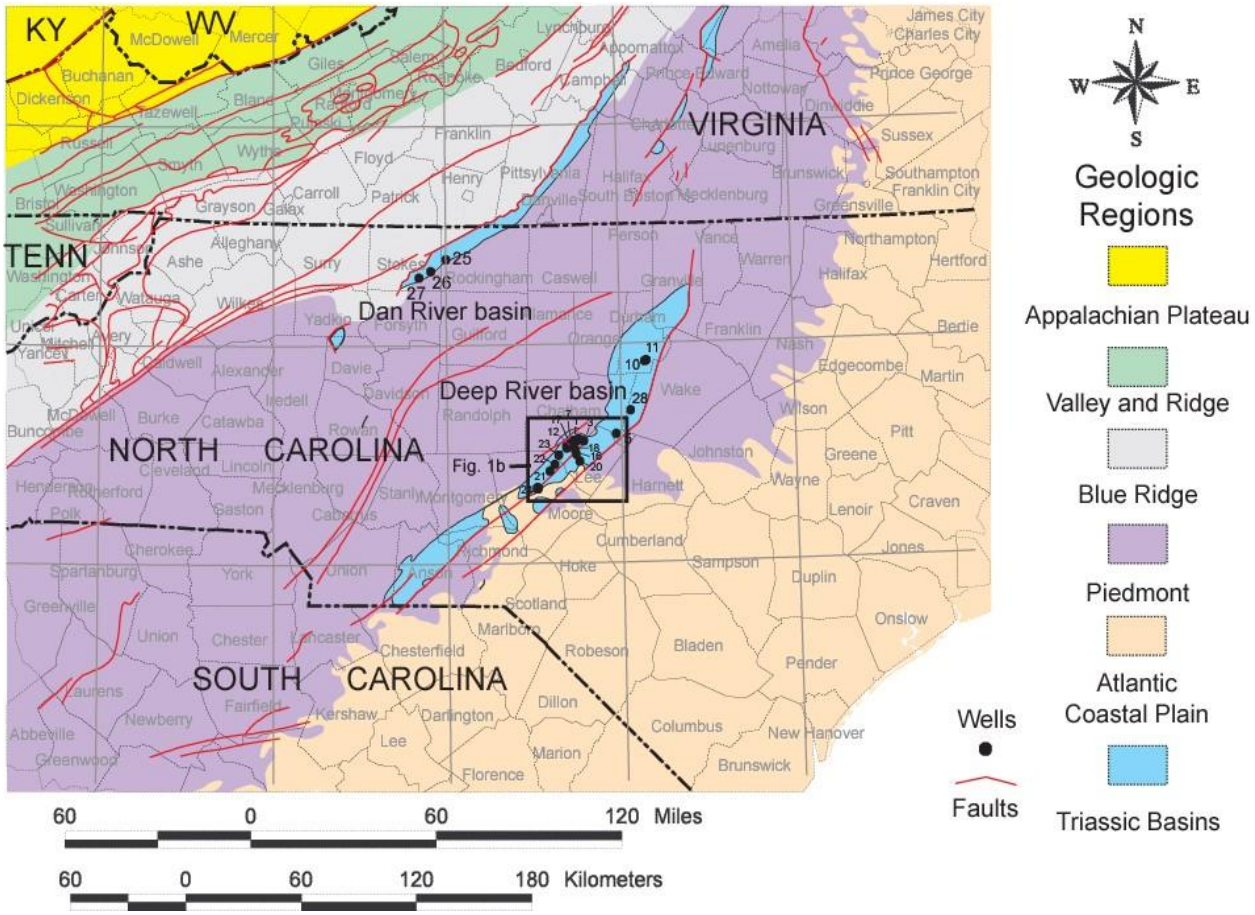
Acknowledgement

This report was improved by comments from Kenneth B. Taylor.

Figure

Figure 1. Map showing the locations of the Sanford sub-basin, Deep River basin, and the Dan River basin, North Carolina (after **Reid and Milici, 2008**). Drill holes, some of which were sampled for this project, are shown as dots with numbers. Actual drill holes, their coordinates, analytical results, and graphical analyses used in this study are listed in Appendices 1-4.



Table

Table 1. List of analytical method abbreviations used.

- INAA – Instrumental neutron activation analysis
- INAA/TD-ICP - Instrumental neutron activation analysis/Total dissolution-inductively coupled plasma mass spectrometry
- INAA/ICP-MS - Instrumental neutron activation analysis/Total dissolution-mass spectrometry
- TD-ICP - Total dissolution-inductively coupled plasma mass spectrometry

Appendices

Appendix 1. Deep River basin, Sanford sub-basin, inorganic chemistry – Certificate of analysis and data table.

Quality Analysis ... *Innovative Technologies*

Date Submitted: 18-Jun-12
Invoice No.: A12-06602
Invoice Date: 27-Jul-12
Your Reference: SANFORD SUB-BASIN, NC

North Carolina Geological Survey
1612 Mail Service Center
Raleigh NC 27699
United States

ATTN: Jeff Reid

CERTIFICATE OF ANALYSIS

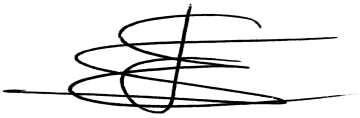
100 Crushed Rock samples were submitted for analysis.

The following analytical packages were requested: Code 1D Enh INAA(INAAGEO)
Code UT-3 INAA(INAAGEO)/Total digestion ICP(Total)Total Digestion ICP/MS

REPORT **A12-06602**

Notes:
For values exceeding the upper limits we recommend assays.
Unaltered silicates and resistate minerals may not be dissolved. Values which exceed upper limit should be assayed.

CERTIFIED BY :



Emmanuel Eseme , Ph.D.
Quality Control

ISO/IEC 17025
SCC Accredited
LAB 266
LAB 266
Accrédité CCN

ACTIVATION LABORATORIES LTD.

1336 Sandhill Drive, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1.905.648.9611 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Analyte Symbol	Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sn	Sr	Ta	Th
Unit Symbol	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm
Detection Limit	2	5	0.5	50	0.5	1	1	5	1	0.01	1	1	5	1	0.01	20	15	0.1	0.1	3	0.02	0.05	0.5	0.2
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
LE-OT-1-82 (Dummitt Palmer #1)-692ft	< 2				4.8					6.96	< 1	< 1						< 0.1	21.6					
LE-OT-1-82 (Dummitt Palmer #1)-701ft	< 2	< 5	15.8	1960	< 0.5	7	26	79	6	5.85	< 1	< 1	< 5	< 1	1.34	< 20	104	1.0	21.7	< 3	< 0.02	< 0.05	< 0.5	9.8
LE-OT-1-82 (Dummitt Palmer #1)-721ft	3				< 0.5					5.36	< 1	< 1						< 0.1	20.4					
LE-OT-1-82 (Dummitt Palmer #1)-751ft	< 2	< 5	< 0.5	< 50	< 0.5	8	55	219	< 1	6.73	< 1	< 1	< 5	< 1	1.70	< 20	< 15	0.5	36.9	< 3	< 0.02	< 0.05	< 0.5	< 0.2
LE-OT-1-82 (Dummitt Palmer #1)-768.25ft	< 2				< 0.5					8.69	< 1	< 1						0.7	25.7					
LE-OT-1-82 (Dummitt Palmer #1)-790ft	< 2	< 5	17.6	560	< 0.5	4	31	102	8	10.2	< 1	< 1	< 5	< 1	0.48	< 20	< 15	< 0.1	24.7	< 3	< 0.02	< 0.05	< 0.5	7.9
LE-OT-1-82 (Dummitt Palmer #1)-804ft	< 2				< 0.5					4.63	3	< 1						1.2	25.0					
LE-OT-1-82 (Dummitt Palmer #1)-820ft	< 2				< 0.5					9.95	3	< 1						0.7	21.8					
LE-OT-1-82 (Dummitt Palmer #1)-845ft	7				< 0.5					6.44	3	< 1						1.3	28.8					
LE-OT-1-82 (Dummitt Palmer #1)-852ft	< 2	< 5	27.7	740	< 0.5	< 1	24	88	9	6.07	4	< 1	< 5	< 1	0.90	< 20	< 15	0.7	25.5	< 3	< 0.02	< 0.05	< 0.5	11.9
LE-OT-1-82 (Dummitt Palmer #1)-875ft	< 2				< 0.5					5.70	2	< 1						0.7	22.3					
LE-OT-1-82 (Dummitt Palmer #1)-894ft	10	< 5	9.9	700	< 0.5	< 1	28	86	12	6.93	4	< 1	< 5	< 1	0.70	< 20	140	1.2	24.2	< 3	< 0.02	< 0.05	< 0.5	11.1
LE-OT-1-82 (Dummitt Palmer #1)-915.5ft	< 2				< 0.5					1.82	4	< 1						0.9	29.9					
LE-OT-1-82 (Dummitt Palmer #1)-945ft	< 2	< 5	< 0.5	490	< 0.5	< 1	14	82	7	4.34	5	< 1	< 5	< 1	0.58	< 20	< 15	0.9	24.1	< 3	< 0.02	< 0.05	< 0.5	9.0
LE-OT-1-82 (Dummitt Palmer #1)-951ft	< 2				< 0.5					3.17	5	< 1						1.4	29.0					
CH-C-1-45-365ft	< 2	< 5	5.8	670	< 0.5	< 1	25	88	< 1	5.81	3	< 1	< 5	3	1.51	< 20	149	< 0.1	18.9	< 3	< 0.02	< 0.05	< 0.5	8.4
CH-C-1-45-435ft	< 2				< 0.5					7.11	< 1	< 1						< 0.1	40.3					
CH-C-1-45-526ft	< 2	< 5	6.6	< 50	< 0.5	7	50	403	4	6.68	< 1	< 1	< 5	< 1	1.48	< 20	< 15	< 0.1	38.8	< 3	< 0.02	< 0.05	< 0.5	< 0.2
CH-C-1-45-610ft	< 2				< 0.5					4.97	4	< 1						0.6	20.8					
CH-C-1-45-718ft	< 2	< 5	10.9	320	< 0.5	< 1	9	36	4	3.17	12	< 1	< 5	< 1	1.43	< 20	< 15	2.1	11.6	< 3	< 0.02	< 0.05	< 0.5	7.3
CH-C-1-45-774ft	< 2				< 0.5					5.43	4	< 1						< 0.1	21.9					
CH-C-1-45-826ft	< 2	< 5	3.5	700	< 0.5	< 1	19	81	7	4.09	6	< 1	< 5	< 1	1.50	< 20	< 15	1.0	18.4	< 3	< 0.02	< 0.05	4.0	9.9
CH-C-1-45-946ft	< 2				< 0.5					6.59	4	< 1						1.8	22.1					
CH-C-1-45-1056ft	< 2	< 5	16.1	590	< 0.5	4	20	84	6	5.74	2	< 1	< 5	< 1	0.67	< 20	85	0.9	22.5	< 3	< 0.02	< 0.05	< 0.5	9.0
CH-C-1-45-1104ft	< 2				< 0.5					5.59	3	< 1						0.6	20.2					
CH-C-1-45-1164ft	< 2	< 5	9.8	590	< 0.5	5	18	73	5	5.25	1	< 1	< 5	3	0.95	< 20	< 15	< 0.1	18.5	< 3	< 0.02	< 0.05	< 0.5	8.2
CH-C-1-45-1210ft	< 2				< 0.5					5.03	2	< 1						< 0.1	18.7					
CH-C-1-45-1263ft	< 2	< 5	7.7	670	< 0.5	< 1	22	84	6	5.81	2	< 1	< 5	< 1	1.47	< 20	73	< 0.1	21.4	< 3	< 0.02	< 0.05	< 0.5	7.9
CH-C-1-45-1325ft	< 2				< 0.5					6.03	2	< 1						< 0.1	21.4					
CH-C-1-45-1376ft	< 2	< 5	9.3	810	< 0.5	3	24	89	7	3.92	3	< 1	< 5	< 1	1.13	< 20	155	0.5	22.3	< 3	< 0.02	< 0.05	< 0.5	9.8
CH-C-1-45-1429ft	< 2				4.6					11.7	1	< 1						1.5	6.0					
MO-C-4-81-158ft	< 2	< 5	5.6	440	< 0.5	< 1	16	60	8	3.85	8	< 1	< 5	< 1	1.13	< 20	< 15	1.5	16.1	< 3	< 0.02	< 0.05	2.6	8.2
MO-C-4-81-204ft	< 2				< 0.5					4.11	6	< 1						2.1	17.9					
MO-C-4-81-256ft	< 2	< 5	12.0	540	< 0.5	< 1	14	55	5	3.64	6	< 1	< 5	< 1	1.02	< 20	71	1.4	14.0	< 3	< 0.02	< 0.05	3.2	8.0
MO-C-4-81-309ft	< 2				< 0.5					4.21	6	< 1						1.6	18.0					
MO-C-4-81-357ft	< 2	< 5	3.1	400	< 0.5	< 1	12	38	3	3.10	9	< 1	< 5	< 1	1.40	< 20	< 15	1.7	10.9	< 3	< 0.02	< 0.05	< 0.5	7.1
MO-C-4-81-405ft	< 2				< 0.5					6.66	4	< 1						1.6	24.8					
MO-C-4-81-452ft	< 2	< 5	20.7	500	< 0.5	< 1	20	91	8	4.75	8	< 1	< 5	13	1.31	< 20	77	2.2	22.7	< 3	< 0.02	< 0.05	< 0.5	13.4
Coal Box 1a	< 2				9.5					0.42	< 1	< 1						2.4	4.6					
Coal Box 1b	< 2				6.8					0.95	< 1	< 1						< 0.1	7.2					
Coal Box 2a	< 2				< 0.5					13.0	2	< 1						< 0.1	18.1					
Coal Box 2b	< 2				5.6					0.56	< 1	< 1						0.3	2.7					

Analyte Symbol	Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sn	Sr	Ta	Th
Unit Symbol	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm
Detection Limit	2	5	0.5	50	0.5	1	1	5	1	0.01	1	1	5	1	0.01	20	15	0.1	0.1	3	0.02	0.05	0.5	0.2
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
Coal Box 3a	< 2				9.5					0.50	< 1	< 1						0.8	2.5					
Coal Box 3b	< 2				8.4					4.03	< 1	< 1						0.7	1.5					
Coal Box 4a	< 2				5.7					14.2	2	< 1						< 0.1	6.2					
Coal Box 4b	< 2				5.7					14.9	< 1	< 1						< 0.1	7.0					
CH-C-2-81-36ft	< 2				< 0.5					2.18	5	< 1						0.4	12.8					
CH-C-2-81-88ft	< 2	< 5	8.3	1090	< 0.5	< 1	28	78	12	5.03	6	< 1	< 5	< 1	0.78	< 20	152	2.8	29.4	< 3	< 0.02	< 0.05	< 0.5	9.4
CH-C-2-81-132ft	< 2				< 0.5					4.29	6	< 1						< 0.1	19.6					
CH-C-2-81-186ft	< 2	< 5	< 0.5	690	< 0.5	< 1	9	11	< 1	3.62	6	< 1	< 5	< 1	2.30	< 20	< 15	< 0.1	17.9	< 3	< 0.02	< 0.05	< 0.5	6.8
MO-C-2-81-133ft	< 2				< 0.5					5.42	4	< 1						3.7	28.4					
MO-C-2-81-137ft	< 2	< 5	14.2	1130	< 0.5	< 1	24	87	12	7.29	3	< 1	< 5	< 1	0.69	< 20	206	1.2	28.1	< 3	< 0.02	< 0.05	< 0.5	14.2
MO-C-2-81-151ft	< 2				< 0.5					7.80	4	< 1						1.0	26.1					
MO-C-2-81-163ft	< 2	< 5	8.6	940	< 0.5	5	22	86	10	6.12	3	< 1	< 5	< 1	1.02	< 20	141	0.9	22.4	< 3	< 0.02	< 0.05	< 0.5	12.1
MO-C-2-81-174ft	12				< 0.5					4.37	4	< 1						1.1	20.2					
MO-C-2-81-178ft	< 2	< 5	10.5	930	< 0.5	8	21	83	12	4.88	3	< 1	< 5	4	1.56	< 20	130	1.1	19.7	< 3	< 0.02	< 0.05	2.6	8.7
MO-C-2-81-188ft	< 2				< 0.5					5.48	5	< 1						1.4	23.5					
MO-C-2-81-196ft	< 2	< 5	< 0.5	740	< 0.5	5	19	74	9	4.55	4	< 1	< 5	< 1	1.49	< 20	110	1.0	20.0	< 3	< 0.02	< 0.05	< 0.5	9.3
MO-C-2-81-207ft	< 2				< 0.5					5.25	3	< 1						1.4	21.7					
LE-OT-2-83 (Bobby Hall #1)-3960 - 3970ft	< 2				< 0.5					2.43	6	< 1						2.1	9.3					
LE-OT-2-83 (Bobby Hall #1)-3980 - 3990ft	< 2				< 0.5					2.85	7	< 1						1.7	11.7					
LE-OT-2-83 (Bobby Hall #1)-4020 - 4030ft	< 2				< 0.5					3.28	7	< 1						1.9	14.8					
LE-OT-2-83 (Bobby Hall #1)-4070 - 4080ft	< 2				< 0.5					2.73	8	< 1						1.7	10.7					
LE-OT-2-83 (Bobby Hall #1)-4090 - 4100ft	< 2				< 0.5					2.70	7	< 1						1.9	9.5					
LE-OT-2-83 (Bobby Hall #1)-4120 - 4130ft	< 2				< 0.5					3.17	6	< 1						1.5	15.0					
LE-OT-2-83 (Bobby Hall #1)-4130 - 4140ft	< 2				< 0.5					2.68	5	< 1						1.8	12.1					
LE-OT-2-83 (Bobby Hall #1)-4190 - 4200ft	< 2				< 0.5					4.29	5	< 1						3.2	17.3					
LE-OT-2-83 (Bobby Hall #1)-4230 - 4240ft	< 2				< 0.5					3.55	10	< 1						2.4	13.7					
LE-OT-2-83 (Bobby Hall #1)-4280 - 4290ft	< 2				< 0.5					3.02	8	< 1						2.0	14.5					
LE-OT-1-98 (Simpson #1)-1960 - 1970ft	< 2				< 0.5					4.50	8	< 1						3.0	18.1					
LE-OT-1-98 (Simpson #1)-2020 - 2030ft	< 2				< 0.5					2.16	13	< 1						1.8	6.3					
LE-OT-1-98 (Simpson #1)-2070 - 2080ft	< 2				< 0.5					3.61	6	< 1						2.2	18.5					
LE-OT-1-98 (Simpson #1)-2090 - 2100ft	10				< 0.5					2.17	6	< 1						1.6	10.6					
LE-OT-1-98 (Simpson #1)-2430 - 2440ft	< 2				< 0.5					3.33	7	< 1						1.6	13.7					
LE-OT-1-98 (Simpson #1)-2150 - 2160ft	< 2				< 0.5					4.44	6	< 1						2.4	18.0					
LE-OT-1-98 (Simpson #1)-2240 - 2250ft	< 2				< 0.5					3.39	8	< 1						2.9	25.1					
LE-OT-1-98 (Simpson #1)-2310 - 2320ft	< 2				< 0.5					4.11	4	< 1						2.1	18.0					
LE-OT-1-98 (Simpson #1)-2370 - 2380ft	8				< 0.5					3.65	7	< 1						1.7	15.5					
LE-OT-1-98 (Simpson #1)-2390 - 2400ft	< 2				< 0.5					3.35	8	< 1						1.6	13.7					
LE-OT-1-98 (Simpson #1)-2410 - 2420ft	< 2				< 0.5					3.23	7	< 1						1.8	12.5					

Analyte Symbol	Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sn	Sr	Ta	Th
Unit Symbol	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm
Detection Limit	2	5	0.5	50	0.5	1	1	5	1	0.01	1	1	5	1	0.01	20	15	0.1	0.1	3	0.02	0.05	0.5	0.2
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
LE-OT-1-98 (Simpson #1)-2510 - 2520ft	< 2				3.5					4.30	6	< 1						1.8	17.6					
LE-OT-1-98 (Simpson #1)-2550 - 2560ft	3				< 0.5					3.79	6	< 1						1.8	15.5					
LE-OT-1-98 (Simpson #1)-2610-2620ft	< 2				2.9					4.74	6	< 1						1.8	17.8					
VR Groce #1-263.9 - 273.8ft	< 2				< 0.5					3.22	4	< 1						1.3	16.8					
VR Groce #1-2404ft	< 2				< 0.5					6.05	5	< 1						4.7	26.2					
VR Groce #1-2404 - 2114ft	< 2				< 0.5					6.29	4	< 1						1.5	26.0					
VR Groce #1-2415ft	< 2				< 0.5					4.20	5	< 1						1.4	23.4					
VR Groce #1-2418ft	7				< 0.5					5.14	5	< 1						1.4	27.8					
VR Groce #1-2416 - 2421ft	< 2				< 0.5					5.62	5	< 1						1.0	27.2					
VR Groce #1-2426ft	< 2				< 0.5					7.44	5	< 1						1.0	25.5					
LE-OT-1-83 (Butler #1)-2020-2030ft	< 2				< 0.5					3.18	7	< 1						1.6	13.2					
LE-OT-1-83 (Butler #1)-2090 - 2100ft	< 2				< 0.5					4.99	3	< 1						1.1	19.9					
LE-OT-1-83 (Butler #1)-2330 - 2340ft	< 2				< 0.5					5.81	3	< 1						1.2	22.2					
LE-OT-1-83 (Butler #1)-2400 - 2410 ft	< 2				< 0.5					4.94	7	< 1						1.7	18.8					
LE-OT-1-83 (Butler #1)-2450 - 2460ft	< 2				< 0.5					4.02	6	< 1						1.7	17.8					
LE-OT-1-83 (Butler #1)-2160 - 2170ft	< 2				< 0.5					3.99	5	< 1						2.0	17.0					
LE-OT-1-83 (Butler #1)-2250 - 2260ft	< 2				< 0.5					5.09	3	< 1						1.2	21.0					
LE-OT-1-83 (Butler #1)-2480 - 2490ft	< 2				< 0.5					6.05	5	< 1						1.9	18.5					
LE-OT-1-83 (Butler #1)-2550 - 2560ft	< 2				< 0.5					4.68	7	< 1						2.4	19.1					
LE-OT-1-83 (Butler #1)-2610 - 2620ft	3				< 0.5					4.85	8	< 1						2.2	19.6					

Analyte Symbol	U	W	Zn	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass	Ag	Cu	Cd	Pb	Ni	Zn	As	Ba	Be	Bi	Co	Cr
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.5	1	50	0.5	3	5	0.1	0.2	0.5	0.2	0.05		0.05	0.2	0.1	0.5	0.5	0.5	0.5	1	0.1	0.1	0.1	1
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	MULT INAA/TD-ICP/TD-MS	MULT TD-ICP/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	MULT INAA/TD-ICP/TD-MS	MULT INAA/TD-ICP/TD-MS	INAA	MULT INAA/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	MULT INAA/TD-ICP-MS	MULT INAA/TD-ICP-MS
LE-OT-1-82 (Dummitt Palmer #1)-692ft		< 1		29.4	48	11	6.3					1.02	0.06	57.3	0.1	14.6	47.7	103	11.3	925	2.4	0.5	31.5	75
LE-OT-1-82 (Dummitt Palmer #1)-701ft	4.6	< 1	< 50	38.5	52	20	7.9	1.4	< 0.5	2.4	0.44	1.01												
LE-OT-1-82 (Dummitt Palmer #1)-721ft		< 1		29.3	40	< 5	6.1					1.06	< 0.05	53.5	< 0.1	12.8	47.3	106	3.7	666	1.7	0.4	24.0	94
LE-OT-1-82 (Dummitt Palmer #1)-751ft	< 0.5	< 1	240	4.2	< 3	< 5	1.9	0.3	< 0.5	2.0	0.30	1.06												
LE-OT-1-82 (Dummitt Palmer #1)-768.25ft		< 1		22.9	34	< 5	5.3					1.07	< 0.05	86.2	0.2	13.2	66.4	120	6.7	814	3.0	0.5	29.2	110
LE-OT-1-82 (Dummitt Palmer #1)-790ft	3.5	< 1	160	34.4	47	< 5	8.6	1.8	< 0.5	2.8	0.41	1.05												
LE-OT-1-82 (Dummitt Palmer #1)-804ft		< 1		30.9	50	15	7.2					1.07	< 0.05	62.7	0.1	16.8	65.3	108	9.6	666	2.5	0.4	25.9	103
LE-OT-1-82 (Dummitt Palmer #1)-820ft		< 1		27.6	55	14	7.0					1.08	< 0.05	65.5	0.1	14.5	50.8	125	50.7	264	2.5	0.3	25.5	73
LE-OT-1-82 (Dummitt Palmer #1)-845ft		< 1		51.5	81	30	12.2					1.01	< 0.05	82.8	0.2	17.1	48.7	140	8.7	777	2.9	0.6	27.4	90
LE-OT-1-82 (Dummitt Palmer #1)-852ft	2.4	< 1	< 50	26.3	48	< 5	6.1	1.2	< 0.5	2.0	0.40	1.05												
LE-OT-1-82 (Dummitt Palmer #1)-875ft		< 1		27.9	49	12	6.2					1.05	< 0.05	65.6	< 0.1	16.6	44.5	104	16.1	275	2.2	0.4	24.0	63
LE-OT-1-82 (Dummitt Palmer #1)-894ft	2.6	5	< 50	37.8	61	20	8.2	1.4	< 0.5	3.0	0.50	1.03												
LE-OT-1-82 (Dummitt Palmer #1)-915.5ft		< 1		37.8	75	25	7.9					1.04	< 0.05	114	0.1	17.6	65.0	173	9.2	550	2.7	0.5	32.5	91
LE-OT-1-82 (Dummitt Palmer #1)-945ft	3.6	< 1	< 50	32.3	51	18	6.8	1.1	< 0.5	2.9	0.55	1.08												
LE-OT-1-82 (Dummitt Palmer #1)-951ft		< 1		37.5	66	15	9.1					1.08	< 0.05	70.5	0.1	14.9	43.5	110	4.7	1020	3.5	0.5	15.4	116
CH-C-1-45-365ft	3.4	5	120	36.0	57	22	8.3	1.0	< 0.5	2.6	0.42	1.06												
CH-C-1-45-435ft		< 1		3.9	< 3	< 5	1.9					1.03	< 0.05	101	0.1	1.4	251	72.2	22.0	137	0.2	< 0.1	53.5	427
CH-C-1-45-526ft	< 0.5	< 1	< 50	4.1	10	< 5	1.9	0.4	< 0.5	2.1	0.38	1.08												
CH-C-1-45-610ft		6		33.8	58	20	7.0					1.07	< 0.05	60.6	< 0.1	14.7	40.1	96.7	4.1	595	3.1	0.5	17.5	82
CH-C-1-45-718ft	3.8	< 1	< 50	31.4	51	16	7.6	0.8	< 0.5	2.9	0.54	1.05												
CH-C-1-45-774ft		< 1		44.5	62	14	10.3					1.04	< 0.05	58.4	< 0.1	13.7	47.6	129	25.9	700	3.0	0.5	22.4	81
CH-C-1-45-826ft	4.0	< 1	130	32.9	52	14	7.0	1.0	< 0.5	2.3	0.39	1.02												
CH-C-1-45-946ft		< 1		46.4	67	27	10.1					1.09	< 0.05	102	0.2	19.7	67.2	159	29.3	28	3.3	0.6	39.2	99
CH-C-1-45-1056ft	2.2	< 1	< 50	31.9	47	< 5	9.1	1.2	< 0.5	2.0	0.42	1.01												
CH-C-1-45-1104ft		< 1		31.4	49	13	8.0					1.10	< 0.05	62.4	< 0.1	14.2	43.0	106	25.0	740	2.1	0.4	24.0	88
CH-C-1-45-1164ft	3.8	< 1	< 50	30.5	54	12	8.8	1.2	< 0.5	1.8	0.38	1.08												
CH-C-1-45-1210ft		< 1		24.0	36	13	6.7					1.00	< 0.05	58.1	0.1	10.1	43.2	107	6.2	851	2.2	0.3	20.7	74
CH-C-1-45-1263ft	< 0.5	< 1	< 50	31.7	48	19	9.3	0.7	< 0.5	1.9	0.32	1.03												
CH-C-1-45-1325ft		< 1		30.4	50	15	8.3					1.06	< 0.05	62.3	0.1	13.7	36.0	109	5.4	486	2.3	0.4	15.5	74
CH-C-1-45-1376ft	3.6	< 1	< 50	38.5	57	37	5.8	1.8	< 0.5	2.6	0.53	1.05												
CH-C-1-45-1429ft		< 1		16.4	24	13	5.0					1.04	< 0.05	60.8	0.2	6.2	92.6	197	147	57	1.9	0.2	63.3	< 1
MO-C-4-81-158ft	2.3	< 1	< 50	33.5	54	20	8.9	1.3	< 0.5	2.9	0.55	1.03												
MO-C-4-81-204ft		< 1		37.1	58	27	10.7					1.02	< 0.05	21.7	< 0.1	14.1	27.9	66.4	4.7	476	2.2	0.3	15.2	56
MO-C-4-81-256ft	3.3	< 1	< 50	32.4	51	25	8.7	1.3	< 0.5	2.8	0.49	1.08												
MO-C-4-81-309ft		< 1		33.5	62	21	9.1					1.05	< 0.05	55.7	< 0.1	15.6	35.1	84.9	3.9	469	2.3	0.3	17.6	67
MO-C-4-81-357ft	3.6	< 1	< 50	32.5	59	17	8.6	1.2	< 0.5	2.8	0.50	1.07												
MO-C-4-81-405ft		< 1		34.5	59	19	9.4					1.05	< 0.05	43.9	0.1	17.5	54.2	119	19.7	756	3.3	0.4	28.8	93
MO-C-4-81-452ft	2.3	< 1	< 50	47.5	74	30	13.4	1.8	< 0.5	3.6	0.63	1.06												
Coal Box 1a		< 1		8.2	15	< 5	2.5					0.877	< 0.05	9.1	< 0.1	5.9	8.8	6.5	5.0	46	1.3	0.1	2.1	13
Coal Box 1b		< 1		17.4	27	13	5.0					0.918	< 0.05	20.6	< 0.1	4.7	19.7	12.7	8.9	100	0.8	0.2	15.1	22
Coal Box 2a		< 1		23.4	43	18	6.5					1.09	< 0.05	65.8	0.1	8.7	49.3	105	44.2	172	2.6	0.3	27.4	57

Analyte Symbol	U	W	Zn	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass	Ag	Cu	Cd	Pb	Ni	Zn	As	Ba	Be	Bi	Co	Cr
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.5	1	50	0.5	3	5	0.1	0.2	0.5	0.2	0.05		0.05	0.2	0.1	0.5	0.5	0.5	0.5	1	0.1	0.1	0.1	1
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	MULT INAA/TD-ICP/TD-MS	MULT TD-ICP/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	MULT INAA/TD-ICP/TD-MS	MULT INAA/TD-ICP/TD-MS	INAA	MULT INAA/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	MULT INAA/TD-ICP-MS	MULT INAA/TD-ICP-MS
Coal Box 2b		< 1		6.8	9	< 5	1.8					0.798	< 0.05	9.3	< 0.1	3.9	14.7	10.1	5.4	47	1.0	0.1	7.8	10
Coal Box 3a		< 1		7.3	14	10	2.5					0.763	< 0.05	17.5	< 0.1	2.5	17.0	8.4	7.8	30	0.6	< 0.1	9.3	8
Coal Box 3b		< 1		5.3	10	< 5	2.3					0.883	< 0.05	21.3	< 0.1	1.9	21.0	8.0	32.0	20	1.2	< 0.1	22.0	7
Coal Box 4a		< 1		12.7	20	< 5	3.4					1.21	< 0.05	48.9	0.1	5.4	33.1	120	84.6	54	1.1	0.2	24.6	20
Coal Box 4b		< 1		19.2	36	< 5	5.1					1.12	< 0.05	53.5	0.2	9.8	49.5	129	121	33	1.3	0.3	55.8	26
CH-C-2-81-36ft		< 1		19.4	33	< 5	5.9					1.04	< 0.05	12.6	< 0.1	10.6	3.4	62.2	< 0.5	306	1.3	0.3	4.3	16
CH-C-2-81-88ft	2.5	< 1	130	30.6	57	19	9.3	1.3	< 0.5	2.9	0.68	1.03												
CH-C-2-81-132ft		< 1		30.6	55	17	10.0					1.04	< 0.05	20.8	0.2	18.2	5.7	131	< 0.5	476	1.7	0.6	12.1	11
CH-C-2-81-186ft	3.1	< 1	< 50	24.5	46	19	6.9	1.8	1.0	3.6	0.78	1.08												
MO-C-2-81-133ft		< 1		36.8	62	17	9.4					1.05	< 0.05	73.0	0.2	17.7	47.2	127	35.4	115	2.8	0.5	26.5	102
MO-C-2-81-137ft	4.8	< 1	190	41.1	72	25	11.0	1.5	< 0.5	3.1	0.57	1.07												
MO-C-2-81-151ft		< 1		40.7	67	15	10.4					1.07	0.09	92.4	0.2	12.4	55.3	128	13.1	897	3.0	0.6	22.2	100
MO-C-2-81-163ft	3.5	< 1	180	32.3	48	20	8.1	1.0	1.2	2.4	0.42	1.04												
MO-C-2-81-174ft		< 1		27.0	48	13	6.9					1.00	< 0.05	28.8	< 0.1	9.3	35.8	83.0	2.9	897	1.8	0.2	18.3	71
MO-C-2-81-178ft	4.4	< 1	110	26.9	39	17	6.5	0.9	1.0	1.8	0.38	1.09												
MO-C-2-81-188ft		< 1		38.5	67	25	9.2					1.04	< 0.05	39.2	< 0.1	12.3	44.2	110	2.4	703	3.6	0.3	20.4	83
MO-C-2-81-196ft	< 0.5	< 1	100	30.7	50	16	7.6	1.1	< 0.5	2.4	0.43	1.06												
MO-C-2-81-207ft		< 1		30.6	60	25	7.8					1.07	< 0.05	62.6	0.1	14.7	47.5	95.3	18.9	166	2.5	0.4	22.6	67
LE-OT-2-83 (Bobby Hall #1)-3960 - 3970ft		< 1		30.9	58	20	5.2					1.06	< 0.05	17.8	< 0.1	8.0	19.6	46.1	< 0.5	341	1.2	0.1	9.1	37
LE-OT-2-83 (Bobby Hall #1)-3980 - 3990ft		< 1		30.2	60	22	7.8					1.03	< 0.05	20.6	< 0.1	10.2	21.0	54.5	2.8	436	1.7	0.2	9.6	41
LE-OT-2-83 (Bobby Hall #1)-4020 - 4030ft		< 1		35.4	65	13	8.8					1.03	< 0.05	26.2	< 0.1	14.8	26.9	66.9	9.8	481	2.6	0.2	14.1	48
LE-OT-2-83 (Bobby Hall #1)-4070 - 4080ft		< 1		28.4	55	13	7.3					1.03	< 0.05	19.4	< 0.1	11.3	18.2	59.8	5.3	344	1.4	0.2	9.3	37
LE-OT-2-83 (Bobby Hall #1)-4090 - 4100ft		< 1		28.2	53	14	7.0					1.02	< 0.05	16.6	< 0.1	9.0	17.2	41.7	4.6	315	1.0	0.2	9.4	30
LE-OT-2-83 (Bobby Hall #1)-4120 - 4130ft		< 1		34.8	59	13	8.2					1.07	< 0.05	29.4	0.1	12.6	25.7	65.1	3.6	481	2.0	0.2	14.1	48
LE-OT-2-83 (Bobby Hall #1)-4130 - 4140ft		< 1		28.9	46	16	6.9					1.06	< 0.05	17.8	< 0.1	9.8	21.9	53.1	3.1	435	1.6	0.2	8.5	37
LE-OT-2-83 (Bobby Hall #1)-4190 - 4200ft		< 1		39.1	55	23	5.8					1.01	< 0.05	37.4	0.1	11.9	32.7	84.6	64.0	353	2.1	0.2	16.3	63
LE-OT-2-83 (Bobby Hall #1)-4230 - 4240ft		< 1		39.8	52	25	5.5					1.03	< 0.05	22.1	0.1	13.3	22.7	56.1	18.4	409	1.9	0.2	13.0	46
LE-OT-2-83 (Bobby Hall #1)-4280 - 4290ft		< 1		40.5	58	32	5.8					1.00	< 0.05	22.9	< 0.1	9.4	27.4	54.4	3.3	423	1.7	0.2	11.5	52
LE-OT-1-98 (Simpson #1)-1960 - 1970ft		< 1		34.8	60	25	6.0					1.05	< 0.05	30.4	< 0.1	26.5	27.9	62.0	30.2	1100	2.7	0.4	13.4	80
LE-OT-1-98 (Simpson #1)-2020 - 2030ft		< 1		20.1	28	15	3.1					1.03	< 0.05	14.1	0.2	8.5	9.1	23.3	4.7	150	0.5	0.1	5.5	26
LE-OT-1-98 (Simpson #1)-2070 - 2080ft		< 1		43.1	65	24	6.2					1.01	< 0.05	47.8	0.1	14.5	32.6	103	6.8	816	2.4	0.3	18.2	78
LE-OT-1-98 (Simpson #1)-2090 - 2100ft		< 1		29.9	47	< 5	4.4					1.03	< 0.05	30.5	0.1	11.0	17.7	63.5	4.0	311	1.3	0.3	9.3	44
LE-OT-1-98 (Simpson #1)-2430 - 2440ft		< 1		33.5	53	28	5.2					1.03	< 0.05	26.3	< 0.1	10.2	23.6	65.8	9.0	360	1.6	0.2	13.9	45
LE-OT-1-98 (Simpson #1)-2150 - 2160ft		< 1		39.9	63	17	6.3					1.06	< 0.05	23.8	< 0.1	19.0	27.0	70.4	7.5	624	2.2	0.3	12.5	64
LE-OT-1-98 (Simpson #1)-2240 - 2250ft		< 1		55.7	77	42	8.5					1.02	< 0.05	66.8	0.2	24.1	33.4	129	13.8	912	3.0	0.6	13.4	104
LE-OT-1-98 (Simpson #1)-2310 - 2320ft		< 1		33.9	53	26	5.0					1.05	< 0.05	43.5	0.2	13.6	34.6	101	24.8	720	2.0	0.4	17.3	79
LE-OT-1-98 (Simpson #1)-2370 - 2380ft		< 1		34.8	53	24	5.5					1.05	< 0.05	34.7	0.1	17.5	28.1	118	8.9	482	1.8	0.4	13.0	59
LE-OT-1-98 (Simpson #1)-2390 - 2400ft		< 1		36.6	62	33	5.5					1.06	< 0.05	28.7	0.1	10.8	24.7	68.3	7.6	373	1.6	0.2	14.4	61

Analyte Symbol	U	W	Zn	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass	Ag	Cu	Cd	Pb	Ni	Zn	As	Ba	Be	Bi	Co	Cr
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.5	1	50	0.5	3	5	0.1	0.2	0.5	0.2	0.05		0.05	0.2	0.1	0.5	0.5	0.5	0.5	1	0.1	0.1	0.1	1
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	MULT INAA/TD-ICP/TD-MS	MULT TD-ICP/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	MULT INAA/TD-ICP/TD-MS	MULT INAA/TD-ICP/TD-MS	INAA	MULT INAA/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	MULT INAA/TD-ICP-MS	MULT INAA/TD-ICP-MS
LE-OT-1-98 (Simpson #1)-2410 - 2420ft		< 1		34.2	51	22	5.0					1.01	< 0.05	29.3	< 0.1	11.1	21.9	57.3	10.3	362	1.6	0.2	11.5	53
LE-OT-1-98 (Simpson #1)-2510 - 2520ft		< 1		36.0	52	36	5.4					1.01	< 0.05	36.8	0.2	15.1	32.7	94.2	10.7	576	2.2	0.3	17.8	65
LE-OT-1-98 (Simpson #1)-2550 - 2560ft		< 1		34.8	58	34	5.1					1.06	< 0.05	37.4	0.1	11.7	29.6	81.9	12.3	418	2.2	0.2	15.4	63
LE-OT-1-98 (Simpson #1)-2610-2620ft		< 1		37.5	61	29	5.6					1.02	< 0.05	53.0	0.2	14.0	37.2	101	16.3	576	1.9	0.3	21.1	73
VR Groce #1-263.9 - 273.8ft		< 1		34.0	56	28	5.0					1.06	< 0.05	46.0	0.1	22.4	27.7	72.0	2.1	912	2.0	0.3	13.0	72
VR Groce #1-2404ft		< 1		51.4	70	57	7.5					1.03	< 0.05	71.3	0.2	30.4	70.3	123	139	62	3.3	0.5	33.6	110
VR Groce #1-2404 - 2114ft		< 1		50.4	64	36	7.3					1.04	< 0.05	87.1	0.2	16.7	59.1	140	74.2	92	3.3	0.6	26.4	119
VR Groce #1-2415ft		< 1		40.5	59	39	5.6					1.05	< 0.05	56.3	0.2	13.5	39.9	107	15.0	1300	3.6	0.3	25.0	98
VR Groce #1-2418ft		< 1		44.9	64	39	6.3					1.06	< 0.05	63.2	0.1	14.5	44.5	113	15.1	1300	3.7	0.4	22.1	120
VR Groce #1-2416 - 2421ft		< 1		48.0	70	41	7.0					1.08	< 0.05	73.2	0.2	14.4	45.8	120	12.4	960	3.4	0.5	25.9	108
VR Groce #1-2426ft		< 1		50.4	77	41	7.6					1.04	< 0.05	90.5	0.3	18.4	59.7	129	14.6	1150	3.5	0.6	27.8	105
LE-OT-1-83 (Butler #1)-2020-2030ft		< 1		37.4	66	23	5.5					1.08	0.14	34.8	< 0.1	11.3	24.1	62.0	4.3	419	2.1	0.2	12.5	41
LE-OT-1-83 (Butler #1)-2090 - 2100ft		< 1		35.8	45	37	5.0					1.07	< 0.05	63.0	0.2	14.0	38.4	98.8	9.5	816	2.4	0.4	21.1	79
LE-OT-1-83 (Butler #1)-2330 - 2340ft		< 1		36.1	57	38	5.5					1.05	< 0.05	71.8	0.2	16.6	51.5	108	14.1	672	3.0	0.5	24.0	85
LE-OT-1-83 (Butler #1)-2400 - 2410 ft		< 1		40.7	55	36	6.2					1.06	< 0.05	41.7	0.1	13.9	35.3	86.1	8.6	488	2.5	0.3	15.4	68
LE-OT-1-83 (Butler #1)-2450 - 2460ft		< 1		36.9	51	32	5.4					1.08	0.09	39.5	0.1	11.9	29.7	82.5	8.8	528	2.4	0.3	17.8	67
LE-OT-1-83 (Butler #1)-2160 - 2170ft		< 1		36.0	64	24	5.3					1.02	< 0.05	44.0	0.1	11.9	36.0	87.8	12.5	576	2.3	0.2	15.8	66
LE-OT-1-83 (Butler #1)-2250 - 2260ft		< 1		37.5	59	31	5.2					1.03	< 0.05	58.3	0.1	15.3	44.3	101	8.8	960	2.8	0.4	21.1	90
LE-OT-1-83 (Butler #1)-2480 - 2490ft		< 1		40.0	54	30	6.3					1.05	< 0.05	45.7	0.2	13.4	31.5	82.4	13.8	458	2.2	0.3	16.3	64
LE-OT-1-83 (Butler #1)-2550 - 2560ft		< 1		44.6	72	38	6.4					1.07	< 0.05	38.0	0.1	13.8	33.0	82.0	17.9	576	3.0	0.3	16.3	75
LE-OT-1-83 (Butler #1)-2610 - 2620ft		< 1		42.4	76	46	6.4					1.05	< 0.05	41.9	0.1	15.6	34.2	88.0	8.4	884	3.1	0.3	18.7	79

Analyte Symbol	Cs	Ir	Na	Rb	Se	Ta	Th	U	Eu	Tb	Yb	Lu	Mo	S	Al	Ca	Hf	Ga	Ge	In	K	Li	Mg	Mn
Unit Symbol	ppm	ppb	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	%	ppm
Detection Limit	0.05	5	0.01	0.2	0.1	0.1	0.1	0.1	0.2	0.5	0.2	0.05	1	0.01	0.01	0.01	0.1	0.1	0.1	0.1	0.01	0.5	0.01	1
Analysis Method	MULT INAA/TD-ICP-MS	INAA	INAA	MULT INAA/TD-ICP-MS	MULT INAA/TD-ICP-MS	MULT INAA/TD-ICP-MS	MULT INAA/TD-ICP-MS	MULT INAA/TD-ICP-MS	INAA	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-ICP
LE-OT-1-82 (Dummitt Palmer #1)-692ft	3.01	< 5	2.19	40.6	1.9	0.5	8.1	2.1	1.4	< 0.5	1.8	0.27	2	0.05	7.01	4.62	1.6	21.9	1.0	< 0.1	1.80	47.2	3.75	1320
LE-OT-1-82 (Dummitt Palmer #1)-701ft																								
LE-OT-1-82 (Dummitt Palmer #1)-721ft	3.26	< 5	1.51	33.9	0.6	0.5	8.0	2.9	1.0	< 0.5	2.2	0.42	< 1	0.05	7.39	5.13	1.8	23.1	0.8	< 0.1	2.01	45.7	2.66	793
LE-OT-1-82 (Dummitt Palmer #1)-751ft																								
LE-OT-1-82 (Dummitt Palmer #1)-768.25ft	6.61	< 5	0.73	107	1.2	0.4	10.9	5.7	1.0	< 0.5	1.9	0.37	2	0.16	10.9	0.75	2.0	28.1	0.5	< 0.1	2.35	71.4	1.87	3750
LE-OT-1-82 (Dummitt Palmer #1)-790ft																								
LE-OT-1-82 (Dummitt Palmer #1)-804ft	7.07	< 5	0.85	92.5	0.7	0.2	10.0	3.4	1.2	< 0.5	2.6	0.39	4	0.28	9.90	1.60	2.9	28.8	0.6	< 0.1	2.38	35.9	1.81	422
LE-OT-1-82 (Dummitt Palmer #1)-820ft	6.03	< 5	0.58	114	2.1	< 0.1	8.6	1.9	1.2	< 0.5	2.0	0.39	3	1.17	8.57	4.16	1.8	22.9	0.2	< 0.1	1.95	52.3	1.48	4560
LE-OT-1-82 (Dummitt Palmer #1)-845ft	7.99	< 5	0.90	107	1.5	< 0.1	13.2	3.2	2.3	< 0.5	4.0	0.65	1	0.16	10.7	1.48	0.9	28.1	0.3	< 0.1	2.30	57.8	1.35	1830
LE-OT-1-82 (Dummitt Palmer #1)-852ft																								
LE-OT-1-82 (Dummitt Palmer #1)-875ft	5.66	< 5	0.66	104	0.7	0.3	8.5	2.2	0.6	< 0.5	1.9	0.43	3	0.77	8.58	5.91	2.1	23.3	0.2	< 0.1	2.04	34.9	1.78	1530
LE-OT-1-82 (Dummitt Palmer #1)-894ft																								
LE-OT-1-82 (Dummitt Palmer #1)-915.5ft	9.29	< 5	0.33	119	1.0	0.4	11.2	3.1	0.9	< 0.5	2.5	0.52	4	0.49	13.7	0.20	3.7	31.7	0.7	0.1	2.28	81.2	0.44	93
LE-OT-1-82 (Dummitt Palmer #1)-945ft																								
LE-OT-1-82 (Dummitt Palmer #1)-951ft	11.9	< 5	0.41	104	0.3	0.2	11.9	3.1	1.6	< 0.5	3.2	0.58	2	0.07	12.6	0.13	4.3	33.2	1.8	0.1	2.97	74.6	1.00	239
CH-C-1-45-365ft																								
CH-C-1-45-435ft	0.29	< 5	1.52	2.1	0.4	< 0.1	0.4	0.1	0.6	< 0.5	2.1	0.37	< 1	0.07	7.99	6.97	1.2	14.7	0.5	< 0.1	0.10	15.3	5.10	1680
CH-C-1-45-526ft																								
CH-C-1-45-610ft	4.78	< 5	1.21	90.1	< 0.1	< 0.1	12.9	6.4	1.2	< 0.5	2.7	0.42	< 1	0.02	10.7	0.69	1.5	27.3	0.6	< 0.1	1.90	46.4	1.07	810
CH-C-1-45-718ft																								
CH-C-1-45-774ft	6.74	< 5	1.37	74.2	0.9	0.6	12.9	5.4	1.8	< 0.5	3.8	0.63	< 1	< 0.01	13.3	0.86	2.5	27.3	0.5	< 0.1	1.39	84.9	1.69	625
CH-C-1-45-826ft																								
CH-C-1-45-946ft	5.92	< 5	0.60	84.1	1.3	0.6	11.4	17.9	1.4	< 0.5	2.2	0.47	12	3.51	9.80	0.36	2.1	24.6	0.2	< 0.1	1.66	67.8	0.72	231
CH-C-1-45-1056ft																								
CH-C-1-45-1104ft	6.87	< 5	1.96	88.1	0.6	< 0.1	8.5	6.5	1.0	< 0.5	2.0	0.33	10	0.27	8.53	4.58	1.9	24.0	0.6	< 0.1	2.08	53.3	2.89	860
CH-C-1-45-1164ft																								
CH-C-1-45-1210ft	5.55	< 5	1.32	99.7	< 0.1	< 0.1	7.0	2.4	0.8	< 0.5	1.5	0.30	< 1	0.06	7.51	6.01	1.3	20.1	0.6	< 0.1	2.46	53.5	3.16	1110
CH-C-1-45-1263ft																								
CH-C-1-45-1325ft	5.69	< 5	0.73	95.2	1.2	< 0.1	8.9	3.0	1.1	< 0.5	1.5	0.50	3	0.48	8.54	4.39	1.9	23.4	0.4	< 0.1	2.57	33.1	2.67	2000
CH-C-1-45-1376ft																								
CH-C-1-45-1429ft	1.59	< 5	0.21	27.0	4.6	< 0.1	4.9	1.2	0.7	< 0.5	1.1	0.14	8	2.83	2.55	5.83	< 0.1	6.3	0.2	< 0.1	0.43	12.9	0.51	5960
MO-C-4-81-158ft																								
MO-C-4-81-204ft	5.47	< 5	1.10	67.0	< 0.1	< 0.1	9.0	1.7	1.5	< 0.5	2.8	0.57	< 1	< 0.01	7.90	0.23	1.7	16.7	0.2	< 0.1	2.18	30.0	1.04	505
MO-C-4-81-256ft																								
MO-C-4-81-309ft	5.66	< 5	1.13	76.6	0.7	< 0.1	9.4	3.7	1.3	< 0.5	2.8	0.55	< 1	< 0.01	7.96	0.44	1.1	21.3	0.3	< 0.1	1.60	35.4	1.07	585
MO-C-4-81-357ft																								
MO-C-4-81-405ft	8.54	< 5	0.88	86.9	0.3	< 0.1	9.3	2.4	1.3	< 0.5	2.7	0.40	< 1	0.14	10.4	0.81	3.0	25.5	0.8	< 0.1	1.84	75.8	1.53	1030
MO-C-4-81-452ft																								
Coal Box 1a	0.44	< 5	0.06	5.0	1.7	< 0.1	2.4	1.0	0.4	< 0.5	0.8	0.10	10	1.30	1.19	0.09	0.3	4.7	0.3	< 0.1	0.12	4.1	0.03	79
Coal Box 1b	1.40	< 5	0.11	15.8	1.0	< 0.1	4.9	0.7	0.6	< 0.5	0.9	0.21	5	0.76	1.62	0.03	0.4	4.1	0.2	< 0.1	0.28	12.1	0.08	17
Coal Box 2a	5.11	< 5	0.09	67.5	1.4	0.3	7.8	2.3	0.8	< 0.5	1.5	0.29	3	1.19	7.93	1.51	1.3	20.8	0.2	< 0.1	0.96	40.7	0.84	6520

Analyte Symbol	Cs	Ir	Na	Rb	Se	Ta	Th	U	Eu	Tb	Yb	Lu	Mo	S	Al	Ca	Hf	Ga	Ge	In	K	Li	Mg	Mn
Unit Symbol	ppm	ppb	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	%	ppm
Detection Limit	0.05	5	0.01	0.2	0.1	0.1	0.1	0.1	0.2	0.5	0.2	0.05	1	0.01	0.01	0.01	0.1	0.1	0.1	0.1	0.01	0.5	0.01	1
Analysis Method	MULT INAA/TD-ICP-MS	INAA	INAA	MULT INAA/TD-ICP-MS	MULT INAA/TD-ICP-MS	MULT INAA/TD-ICP-MS	MULT INAA/TD-ICP-MS	MULT INAA/TD-ICP-MS	INAA	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-ICP
Coal Box 2b	0.76	< 5	0.06	8.4	1.1	< 0.1	1.7	0.4	0.3	< 0.5	0.5	0.08	6	1.30	1.04	0.02	0.3	3.1	0.1	< 0.1	0.15	5.0	0.04	32
Coal Box 3a	0.35	< 5	0.07	4.5	0.5	< 0.1	1.7	0.9	0.4	< 0.5	0.5	0.09	7	0.86	0.78	0.01	< 0.1	2.2	0.1	< 0.1	0.07	2.2	0.02	14
Coal Box 3b	0.11	< 5	0.05	0.7	0.3	< 0.1	1.4	0.7	0.3	< 0.5	< 0.2	0.06	9	2.08	0.38	0.52	< 0.1	1.2	0.2	< 0.1	0.02	2.3	0.13	1040
Coal Box 4a	2.16	< 5	0.32	33.5	3.6	< 0.1	4.3	0.8	0.6	< 0.5	0.8	0.11	8	4.64	2.48	6.27	< 0.1	6.3	0.2	< 0.1	0.59	10.9	0.53	5740
Coal Box 4b	2.20	< 5	0.29	32.5	3.9	< 0.1	7.4	0.8	0.8	< 0.5	1.1	0.17	6	7.43	3.04	5.78	< 0.1	7.0	0.2	< 0.1	0.54	9.8	0.44	6650
CH-C-2-81-36ft	0.77	< 5	2.88	30.2	< 0.1	< 0.1	5.8	1.4	1.1	< 0.5	2.6	0.54	1	0.03	7.00	1.61	1.2	15.4	0.4	< 0.1	1.12	8.5	0.38	448
CH-C-2-81-88ft																								
CH-C-2-81-132ft	2.18	< 5	1.94	51.6	0.8	< 0.1	6.2	1.4	1.4	< 0.5	4.2	0.74	< 1	0.02	8.86	0.91	2.2	25.8	0.5	< 0.1	1.93	27.2	0.70	540
CH-C-2-81-186ft																								
MO-C-2-81-133ft	12.1	< 5	0.73	161	0.9	0.6	11.9	2.7	1.1	< 0.5	2.2	0.47	5	1.17	10.8	1.48	3.1	28.1	0.2	< 0.1	4.06	56.4	1.59	516
MO-C-2-81-137ft																								
MO-C-2-81-151ft	12.5	< 5	0.91	109	0.7	< 0.1	14.7	3.6	1.3	< 0.5	2.6	0.50	3	0.37	10.1	0.62	2.8	26.2	0.5	< 0.1	2.50	76.4	1.69	1930
MO-C-2-81-163ft																								
MO-C-2-81-174ft	5.76	< 5	2.07	71.4	< 0.1	< 0.1	7.9	2.7	1.1	< 0.5	2.5	0.57	< 1	0.04	8.19	3.98	2.3	19.8	0.3	< 0.1	1.70	53.6	1.84	1280
MO-C-2-81-178ft																								
MO-C-2-81-188ft	7.95	< 5	1.72	94.7	< 0.1	< 0.1	12.2	2.3	1.4	< 0.5	2.7	0.59	< 1	< 0.01	9.70	0.40	2.1	29.7	0.6	< 0.1	2.18	72.6	2.06	408
MO-C-2-81-196ft																								
MO-C-2-81-207ft	15.2	< 5	1.55	145	0.6	0.2	9.4	3.0	1.0	< 0.5	2.0	0.31	10	1.12	9.06	4.25	2.1	21.8	0.2	< 0.1	3.48	55.8	2.33	1190
LE-OT-2-83 (Bobby Hall #1)-3960 - 3970ft	3.72	< 5	1.47	70.6	< 0.1	< 0.1	7.5	1.6	1.0	< 0.5	2.3	0.47	1	0.01	5.54	1.06	1.8	12.1	0.4	< 0.1	1.82	22.6	0.56	478
LE-OT-2-83 (Bobby Hall #1)-3980 - 3990ft	4.29	< 5	1.33	80.2	0.1	< 0.1	8.7	1.7	0.9	0.6	2.6	0.46	< 1	< 0.01	6.34	0.90	2.5	15.5	0.6	< 0.1	2.16	24.6	0.62	482
LE-OT-2-83 (Bobby Hall #1)-4020 - 4030ft	6.31	< 5	1.27	96.0	0.2	0.7	10.3	1.6	1.1	< 0.5	2.6	0.53	< 1	0.07	7.51	0.45	4.1	21.8	0.9	< 0.1	3.24	43.0	0.76	502
LE-OT-2-83 (Bobby Hall #1)-4070 - 4080ft	3.73	< 5	1.43	64.4	< 0.1	< 0.1	8.3	2.2	1.2	< 0.5	2.7	0.51	< 1	0.01	5.61	1.28	0.2	14.3	0.2	< 0.1	1.33	26.2	0.60	745
LE-OT-2-83 (Bobby Hall #1)-4090 - 4100ft	2.94	< 5	1.67	41.6	< 0.1	0.2	2.9	1.0	1.0	< 0.5	2.7	0.40	1	< 0.01	4.40	0.42	3.0	10.9	0.9	< 0.1	1.42	20.4	0.44	367
LE-OT-2-83 (Bobby Hall #1)-4120 - 4130ft	6.10	< 5	1.57	69.3	< 0.1	< 0.1	9.6	1.8	1.2	< 0.5	2.7	0.54	< 1	0.01	6.92	1.15	3.1	17.9	0.2	< 0.1	1.59	31.3	0.82	705
LE-OT-2-83 (Bobby Hall #1)-4130 - 4140ft	4.64	< 5	1.72	67.1	< 0.1	< 0.1	7.7	1.6	1.0	< 0.5	2.0	0.42	< 1	< 0.01	6.21	0.93	2.1	13.6	0.2	< 0.1	1.60	27.1	0.75	567
LE-OT-2-83 (Bobby Hall #1)-4190 - 4200ft	5.94	< 5	1.54	112	0.9	0.4	9.4	3.3	1.5	1.1	2.9	0.48	9	0.97	6.95	3.25	2.7	19.6	0.2	< 0.1	2.34	39.4	1.27	1170
LE-OT-2-83 (Bobby Hall #1)-4230 - 4240ft	4.73	< 5	1.67	62.6	< 0.1	< 0.1	8.5	2.2	1.7	< 0.5	3.3	0.58	< 1	0.11	6.30	0.37	2.4	16.0	0.2	< 0.1	1.54	27.0	0.65	654
LE-OT-2-83 (Bobby Hall #1)-4280 - 4290ft	5.16	< 5	1.65	65.7	< 0.1	< 0.1	11.0	2.0	1.7	< 0.5	3.3	0.56	< 1	< 0.01	6.68	0.22	1.5	14.0	0.2	< 0.1	1.86	32.9	0.61	268
LE-OT-1-98 (Simpson #1)-1960 - 1970ft	7.66	< 5	1.23	87.3	0.7	< 0.1	11.1	2.3	1.2	1.1	3.6	0.69	< 1	< 0.01	8.06	0.25	3.6	22.3	1.0	< 0.1	2.48	70.4	0.60	397
LE-OT-1-98 (Simpson #1)-2020 - 2030ft	1.65	< 5	1.45	28.5	< 0.1	< 0.1	5.7	1.5	1.0	< 0.5	2.6	0.55	< 1	< 0.01	3.44	1.55	2.2	6.0	0.3	< 0.1	0.68	10.1	0.25	1780
LE-OT-1-98 (Simpson #1)-2070 - 2080ft	6.98	< 5	1.67	103	0.5	< 0.1	10.6	1.9	2.1	1.1	3.3	0.59	< 1	< 0.01	8.27	0.24	3.3	22.8	1.0	< 0.1	2.48	43.5	0.91	484
LE-OT-1-98 (Simpson #1)-2090 - 2100ft	3.51	< 5	1.64	54.1	< 0.1	< 0.1	7.2	1.7	0.7	< 0.5	2.3	0.34	< 1	< 0.01	5.41	0.97	0.4	12.0	0.2	< 0.1	1.69	17.4	0.51	1120
LE-OT-1-98 (Simpson #1)-2430 - 2440ft	3.78	< 5	2.14	64.7	0.2	0.5	7.3	2.3	1.1	< 0.5	2.7	0.44	2	0.20	5.64	1.46	2.8	16.4	0.6	< 0.1	1.65	30.4	0.98	683
LE-OT-1-98 (Simpson #1)-2150 - 2160ft	6.83	< 5	1.27	73.5	0.4	< 0.1	9.6	1.8	1.7	< 0.5	3.5	0.46	< 1	< 0.01	7.62	0.39	2.8	17.6	0.2	< 0.1	1.50	36.4	0.61	347
LE-OT-1-98 (Simpson #1)-2240 - 2250ft	9.91	< 5	1.38	74.9	0.2	< 0.1	13.8	2.2	2.6	< 0.5	4.3	0.71	< 1	0.01	9.90	0.49	3.0	27.6	0.7	< 0.1	2.07	65.3	0.80	446
LE-OT-1-98 (Simpson #1)-2310 - 2320ft	6.34	< 5	1.35	85.2	< 0.1	< 0.1	9.8	3.5	1.3	< 0.5	2.8	0.48	3	0.30	7.45	5.37	1.7	18.6	0.3	< 0.1	2.21	49.0	2.58	976
LE-OT-1-98 (Simpson #1)-2370 - 2380ft	4.66	< 5	1.80	63.5	0.5	< 0.1	7.9	4.2	1.5	< 0.5	3.1	0.54	< 1	0.13	6.94	1.86	< 0.1	16.3	0.5	< 0.1	2.03	40.6	1.01	585
LE-OT-1-98 (Simpson #1)-2390 - 2400ft	3.52	< 5	2.45	69.7	0.7	< 0.1	8.0	2.4	1.9	< 0.5	3.4	0.40	< 1	0.11	6.43	2.86	0.4	16.5	0.4	< 0.1	1.88	33.1	1.17	894

Analyte Symbol	Cs	Ir	Na	Rb	Se	Ta	Th	U	Eu	Tb	Yb	Lu	Mo	S	Al	Ca	Hf	Ga	Ge	In	K	Li	Mg	Mn
Unit Symbol	ppm	ppb	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	%	ppm
Detection Limit	0.05	5	0.01	0.2	0.1	0.1	0.1	0.1	0.2	0.5	0.2	0.05	1	0.01	0.01	0.01	0.1	0.1	0.1	0.1	0.01	0.5	0.01	1
Analysis Method	MULT INAA/TD-ICP-MS	INAA	INAA	MULT INAA/TD-ICP-MS	MULT INAA/TD-ICP-MS	MULT INAA/TD-ICP-MS	MULT INAA/TD-ICP-MS	MULT INAA/TD-ICP-MS	INAA	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-ICP
LE-OT-1-98 (Simpson #1)-2410 - 2420ft	3.80	< 5	2.22	61.6	0.4	< 0.1	7.6	2.4	1.4	< 0.5	2.9	0.38	< 1	0.14	6.10	1.40	2.3	14.0	0.5	< 0.1	2.03	25.8	0.96	618
LE-OT-1-98 (Simpson #1)-2510 - 2520ft	5.66	< 5	1.53	83.2	0.6	< 0.1	7.5	2.8	1.7	< 0.5	3.2	0.48	1	0.14	7.45	1.91	2.3	19.0	0.8	< 0.1	2.76	45.7	1.43	798
LE-OT-1-98 (Simpson #1)-2550 - 2560ft	4.71	< 5	1.69	78.4	1.0	< 0.1	7.0	3.6	1.3	< 0.5	3.0	0.54	1	0.15	6.86	2.20	2.4	19.3	0.6	< 0.1	2.54	35.4	1.39	679
LE-OT-1-98 (Simpson #1)-2610-2620ft	6.34	< 5	1.28	211	1.3	0.4	8.9	2.6	1.7	< 0.5	2.7	0.47	2	0.59	7.64	2.44	3.0	22.5	0.3	< 0.1	3.21	41.4	1.12	1690
VR Groce #1-263.9 - 273.8ft	6.41	< 5	1.39	88.5	0.5	0.1	7.0	1.7	1.3	< 0.5	2.6	0.44	< 1	0.05	7.36	4.58	1.3	17.3	0.4	< 0.1	2.24	29.0	2.30	977
VR Groce #1-2404ft	12.0	< 5	1.52	115	2.3	0.6	11.4	35.1	1.7	1.4	3.3	0.61	19	2.16	12.3	2.18	3.3	26.0	1.7	< 0.1	2.98	72.8	1.77	670
VR Groce #1-2404 - 2114ft	9.04	< 5	1.02	139	1.7	< 0.1	11.0	5.4	2.4	0.8	3.7	0.55	28	1.49	9.75	2.32	0.9	26.3	0.4	< 0.1	3.04	70.1	1.80	758
VR Groce #1-2415ft	8.27	< 5	0.94	119	1.1	< 0.1	9.7	6.5	1.4	< 0.5	2.9	0.49	2	0.44	9.44	4.13	2.6	26.0	0.7	< 0.1	3.31	65.9	3.41	896
VR Groce #1-2418ft	12.0	< 5	0.72	121	0.7	< 0.1	11.5	2.7	1.7	< 0.5	3.4	0.53	1	0.50	11.1	2.10	3.0	31.6	0.7	0.1	3.33	96.4	1.73	569
VR Groce #1-2416 - 2421ft	12.5	< 5	0.81	94.1	0.6	0.2	12.8	2.5	2.3	1.5	3.4	0.51	< 1	0.33	10.8	0.96	3.2	29.5	0.5	< 0.1	3.17	102	1.64	791
VR Groce #1-2426ft	9.39	< 5	0.73	116	1.3	0.1	12.1	4.7	3.0	< 0.5	3.7	0.54	1	0.41	10.1	1.47	2.2	23.9	0.3	< 0.1	3.00	98.9	1.73	3350
LE-OT-1-83 (Butler #1)-2020-2030ft	4.63	< 5	1.62	78.6	0.2	< 0.1	8.6	2.1	1.8	1.0	3.2	0.44	< 1	0.06	6.52	0.34	1.7	17.1	0.4	< 0.1	1.92	41.4	0.66	460
LE-OT-1-83 (Butler #1)-2090 - 2100ft	6.26	< 5	1.34	84.1	0.7	0.3	9.8	2.6	1.6	< 0.5	2.3	0.32	1	0.32	8.76	4.92	2.0	22.8	0.5	< 0.1	2.94	50.2	2.52	1330
LE-OT-1-83 (Butler #1)-2330 - 2340ft	8.20	< 5	0.80	88.0	1.2	0.5	9.7	3.0	1.9	< 0.5	2.6	0.36	2	0.58	9.63	2.85	2.8	26.9	0.3	< 0.1	2.60	61.4	1.61	2620
LE-OT-1-83 (Butler #1)-2400 - 2410 ft	5.66	< 5	1.30	69.5	0.8	0.6	9.4	2.4	1.8	1.0	2.8	0.38	< 1	0.09	11.7	0.84	3.1	20.6	1.6	< 0.1	1.74	60.6	1.05	1880
LE-OT-1-83 (Butler #1)-2450 - 2460ft	5.97	< 5	1.28	67.6	0.5	< 0.1	9.4	2.1	1.7	< 0.5	2.7	0.31	2	0.21	7.84	2.07	0.3	19.7	0.6	< 0.1	1.87	34.7	1.08	975
LE-OT-1-83 (Butler #1)-2160 - 2170ft	5.48	< 5	2.19	81.0	1.0	< 0.1	8.4	2.9	1.6	< 0.5	2.6	0.39	3	0.34	7.56	2.12	1.8	20.8	0.5	< 0.1	1.98	50.1	1.45	843
LE-OT-1-83 (Butler #1)-2250 - 2260ft	7.06	< 5	1.53	92.9	1.4	< 0.1	10.3	3.4	1.7	< 0.5	2.6	0.27	3	0.20	9.05	2.57	2.5	28.9	0.8	< 0.1	2.94	68.1	2.02	1010
LE-OT-1-83 (Butler #1)-2480 - 2490ft	6.04	< 5	1.21	74.4	0.8	0.3	9.6	2.2	2.0	< 0.5	2.7	0.44	< 1	0.20	7.93	1.41	2.9	19.0	0.3	< 0.1	2.67	35.0	1.09	1870
LE-OT-1-83 (Butler #1)-2550 - 2560ft	7.41	< 5	1.10	85.8	0.7	0.5	11.4	2.4	2.1	< 0.5	3.5	0.45	2	0.23	8.64	0.22	3.2	20.3	0.8	< 0.1	3.14	45.3	0.76	592
LE-OT-1-83 (Butler #1)-2610 - 2620ft	7.13	< 5	1.08	116	1.3	0.6	10.0	2.5	2.2	< 0.5	3.3	0.53	3	0.28	8.41	0.40	3.7	24.5	0.7	< 0.1	2.71	47.3	0.70	799

Analyte Symbol	Nb	P	Re	Sn	Sr	Te	Ti	Tl	V	Y	Zr	La	Ce	Pr	Nd	Sm	Eu	Gd	Dy	Tb	Ho	Er	Tm	Yb
Unit Symbol	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.001	0.001	1	0.2	0.1	0.01	0.05	2	0.1	1	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Analysis Method	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
LE-OT-1-82 (Dummitt Palmer #1)-692ft	7.7	0.095	0.004	2	467	0.2	0.37	0.43	139	15.4	50	16.2	32.9	4.0	14.2	2.9	0.69	2.9	2.9	0.5	0.6	1.6	0.2	1.5
LE-OT-1-82 (Dummitt Palmer #1)-701ft																								
LE-OT-1-82 (Dummitt Palmer #1)-721ft	8.6	0.123	0.003	2	415	< 0.1	0.36	0.61	117	16.1	56	17.0	34.7	4.5	16.7	3.4	0.84	3.3	3.0	0.5	0.6	1.7	0.3	1.6
LE-OT-1-82 (Dummitt Palmer #1)-751ft																								
LE-OT-1-82 (Dummitt Palmer #1)-768.25ft	9.1	0.123	0.005	3	200	< 0.1	0.49	0.71	165	15.2	66	20.3	39.6	5.0	17.8	3.4	0.72	3.2	3.1	0.5	0.6	1.7	0.3	1.7
LE-OT-1-82 (Dummitt Palmer #1)-790ft																								
LE-OT-1-82 (Dummitt Palmer #1)-804ft	8.2	0.185	0.008	2	177	< 0.1	0.50	0.74	171	21.8	90	26.5	52.2	6.6	24.5	5.0	1.13	4.5	4.0	0.6	0.8	2.2	0.3	2.2
LE-OT-1-82 (Dummitt Palmer #1)-820ft	6.7	0.428	0.004	2	284	< 0.1	0.37	0.54	135	24.3	61	28.4	56.0	6.7	24.1	4.6	1.04	4.1	4.2	0.7	0.8	2.3	0.3	2.1
LE-OT-1-82 (Dummitt Palmer #1)-845ft	0.8	0.368	0.007	< 1	262	< 0.1	0.31	0.77	168	40.2	49	45.4	88.1	10.8	40.8	8.5	2.10	8.7	8.0	1.3	1.5	4.0	0.6	3.5
LE-OT-1-82 (Dummitt Palmer #1)-852ft																								
LE-OT-1-82 (Dummitt Palmer #1)-875ft	7.6	0.182	0.014	2	442	< 0.1	0.40	0.50	134	19.8	66	27.4	55.0	6.9	25.4	4.9	1.09	4.1	3.7	0.6	0.7	2.1	0.3	2.1
LE-OT-1-82 (Dummitt Palmer #1)-894ft																								
LE-OT-1-82 (Dummitt Palmer #1)-915.5ft	11.2	0.029	0.002	3	158	< 0.1	0.61	0.72	200	25.6	118	42.7	77.7	9.7	33.0	5.7	1.15	4.5	4.7	0.7	1.0	2.9	0.4	2.7
LE-OT-1-82 (Dummitt Palmer #1)-945ft																								
LE-OT-1-82 (Dummitt Palmer #1)-951ft	8.4	0.026	0.005	3	143	< 0.1	0.52	0.98	179	24.2	129	34.6	66.6	8.3	31.1	6.4	1.39	6.0	5.1	0.9	1.0	2.7	0.4	2.7
CH-C-1-45-365ft																								
CH-C-1-45-435ft	1.6	0.025	0.004	< 1	170	< 0.1	0.32	0.38	197	19.5	35	3.3	7.7	1.0	4.8	1.5	0.59	2.3	3.1	0.4	0.7	2.1	0.3	2.2
CH-C-1-45-526ft																								
CH-C-1-45-610ft	0.3	0.016	0.005	1	214	< 0.1	0.28	0.70	93	23.4	44	31.6	60.0	7.2	26.0	5.2	1.23	5.0	4.9	0.8	0.9	2.6	0.4	2.5
CH-C-1-45-718ft																								
CH-C-1-45-774ft	11.2	0.132	0.005	3	192	< 0.1	0.54	0.72	140	29.7	89	22.8	51.5	6.4	24.4	5.3	1.29	5.3	5.4	0.8	1.1	3.2	0.4	2.8
CH-C-1-45-826ft																								
CH-C-1-45-946ft	9.7	0.025	0.015	3	145	< 0.1	0.55	1.92	220	27.8	65	36.1	72.7	8.9	31.3	5.6	1.21	5.1	5.0	0.8	1.0	2.7	0.4	2.6
CH-C-1-45-1056ft																								
CH-C-1-45-1104ft	1.4	0.122	0.008	2	424	< 0.1	0.32	0.63	130	21.1	58	25.7	50.7	6.3	23.3	4.7	1.09	4.4	3.8	0.6	0.7	2.0	0.3	2.0
CH-C-1-45-1164ft																								
CH-C-1-45-1210ft	0.8	0.127	0.006	2	612	< 0.1	0.31	0.53	116	18.5	48	22.2	43.8	5.2	18.3	3.5	0.81	3.4	3.3	0.5	0.6	1.8	0.3	1.6
CH-C-1-45-1263ft																								
CH-C-1-45-1325ft	4.3	0.108	0.007	2	366	< 0.1	0.38	0.56	149	18.6	57	27.0	52.9	6.5	24.8	5.0	1.07	4.6	3.7	0.7	0.7	1.9	0.3	2.0
CH-C-1-45-1376ft																								
CH-C-1-45-1429ft	0.2	2.97	0.017	< 1	603	0.4	0.03	0.70	42	14.5	2	14.0	27.4	3.3	11.9	2.3	0.53	2.3	2.1	0.3	0.4	1.3	0.2	1.1
MO-C-4-81-158ft																								
MO-C-4-81-204ft	< 0.1	0.024	0.004	< 1	68.9	0.1	0.15	0.50	41	16.8	56	29.7	58.8	6.6	23.7	4.8	1.13	4.4	3.5	0.6	0.7	1.9	0.3	1.9
MO-C-4-81-256ft																								
MO-C-4-81-309ft	< 0.1	0.039	0.006	< 1	98.2	< 0.1	0.10	0.58	37	23.4	39	29.6	62.4	7.3	26.9	5.5	1.26	5.0	4.2	0.7	0.8	2.4	0.4	2.6
MO-C-4-81-357ft																								
MO-C-4-81-405ft	3.4	0.090	0.005	2	128	< 0.1	0.44	0.83	156	23.4	99	31.1	60.2	7.0	25.2	5.1	1.27	5.2	4.4	0.8	0.9	2.4	0.3	2.2
MO-C-4-81-452ft																								
Coal Box 1a	1.5	0.005	0.020	< 1	21.6	< 0.1	0.06	0.29	57	8.2	9	6.9	13.9	1.8	6.7	1.4	0.33	1.3	1.4	0.2	0.3	0.9	0.1	0.9
Coal Box 1b	1.2	0.006	0.008	< 1	25.3	< 0.1	0.08	0.07	39	7.0	13	10.1	18.1	2.2	7.8	1.5	0.37	1.5	1.4	0.2	0.3	0.7	< 0.1	0.6
Coal Box 2a	6.0	0.363	0.011	2	88.5	< 0.1	0.31	0.42	129	18.1	44	22.6	41.9	5.6	19.6	3.7	0.88	3.3	3.1	0.5	0.6	1.8	0.3	1.7
Coal Box 2b	1.0	0.005	0.012	< 1	12.6	< 0.1	0.05	0.13	22	6.6	9	5.5	10.6	1.2	4.6	1.0	0.25	1.1	1.1	0.2	0.2	0.7	< 0.1	0.6

Analyte Symbol	Nb	P	Re	Sn	Sr	Te	Ti	Tl	V	Y	Zr	La	Ce	Pr	Nd	Sm	Eu	Gd	Dy	Tb	Ho	Er	Tm	Yb
Unit Symbol	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.001	0.001	1	0.2	0.1	0.01	0.05	2	0.1	1	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Analysis Method	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
Coal Box 3a	0.4	0.003	0.008	2	11.5	< 0.1	0.03	< 0.05	37	7.0	3	5.9	11.4	1.5	5.4	1.1	0.27	1.1	1.1	0.2	0.2	0.6	< 0.1	0.5
Coal Box 3b	0.3	0.020	0.013	< 1	13.1	< 0.1	0.01	0.08	26	5.3	3	4.0	9.2	1.2	5.1	1.2	0.25	1.1	0.9	0.2	0.2	0.5	< 0.1	0.5
Coal Box 4a	< 0.1	2.52	0.008	< 1	628	< 0.1	0.04	0.40	34	9.5	5	10.8	21.1	2.5	9.2	1.9	0.44	1.8	1.7	0.3	0.3	0.9	0.1	0.8
Coal Box 4b	1.3	2.16	0.010	< 1	617	< 0.1	0.09	0.57	36	13.6	7	16.8	35.1	4.4	16.3	3.3	0.73	2.9	2.5	0.4	0.5	1.3	0.2	1.1
CH-C-2-81-36ft	< 0.1	0.014	0.004	< 1	208	< 0.1	0.12	0.15	15	25.1	35	17.0	38.1	4.6	17.0	3.6	1.08	4.0	4.7	0.7	1.0	2.7	0.4	2.4
CH-C-2-81-88ft																								
CH-C-2-81-132ft	< 0.1	0.014	0.005	< 1	168	< 0.1	0.20	0.34	34	42.5	72	25.7	55.8	7.3	29.0	6.6	1.57	6.4	7.0	1.1	1.5	4.4	0.7	4.1
CH-C-2-81-186ft																								
MO-C-2-81-133ft	9.6	0.174	0.009	3	218	< 0.1	0.47	1.26	206	22.4	86	28.9	60.2	7.5	28.1	6.0	1.28	5.6	4.6	0.8	0.9	2.4	0.4	2.5
MO-C-2-81-137ft																								
MO-C-2-81-151ft	7.0	0.153	0.006	3	220	0.2	0.46	1.09	159	25.9	89	37.7	76.0	9.5	34.4	6.8	1.39	6.4	5.9	1.0	1.1	3.0	0.4	2.6
MO-C-2-81-163ft																								
MO-C-2-81-174ft	0.4	0.086	0.004	< 1	380	< 0.1	0.27	0.53	92	21.7	81	24.8	50.3	6.0	21.3	4.1	0.96	4.1	4.2	0.7	0.8	2.4	0.3	2.2
MO-C-2-81-178ft																								
MO-C-2-81-188ft	< 0.1	0.035	0.008	< 1	140	< 0.1	0.19	0.79	75	16.4	73	35.9	74.2	8.8	31.2	5.8	1.16	4.5	3.4	0.6	0.7	1.8	0.3	1.9
MO-C-2-81-196ft																								
MO-C-2-81-207ft	6.9	0.153	0.005	2	409	< 0.1	0.42	0.77	156	22.2	68	27.9	57.6	6.9	25.0	5.0	1.11	5.1	4.7	0.8	0.9	2.4	0.3	2.1
LE-OT-2-83 (Bobby Hall #1)-3960 - 3970ft	< 0.1	0.039	0.004	< 1	97.6	< 0.1	0.16	0.35	32	17.2	62	27.5	56.0	6.4	22.3	4.3	0.98	3.8	3.2	0.5	0.6	1.8	0.3	1.7
LE-OT-2-83 (Bobby Hall #1)-3980 - 3990ft	< 0.1	0.095	0.003	< 1	112	< 0.1	0.27	0.43	56	20.5	84	27.8	60.9	6.8	24.3	4.7	1.05	4.0	3.5	0.6	0.7	2.1	0.3	2.1
LE-OT-2-83 (Bobby Hall #1)-4020 - 4030ft	11.5	0.039	0.004	2	106	< 0.1	0.46	0.64	103	19.7	122	26.6	59.1	7.4	28.2	5.8	1.29	4.7	3.9	0.7	0.8	2.2	0.3	2.4
LE-OT-2-83 (Bobby Hall #1)-4070 - 4080ft	< 0.1	0.021	0.005	< 1	160	< 0.1	0.13	0.36	19	21.8	14	28.6	61.6	7.3	26.4	5.3	1.20	4.4	3.8	0.6	0.8	2.3	0.3	2.3
LE-OT-2-83 (Bobby Hall #1)-4090 - 4100ft	5.8	0.032	0.003	1	84.5	< 0.1	0.43	0.29	57	11.5	101	7.5	25.2	2.2	8.2	1.9	0.47	2.1	2.3	0.4	0.5	1.4	0.2	1.4
LE-OT-2-83 (Bobby Hall #1)-4120 - 4130ft	< 0.1	0.055	0.005	< 1	162	< 0.1	0.26	0.55	69	19.4	92	29.6	63.4	7.2	27.0	5.6	1.31	5.1	3.9	0.7	0.7	2.1	0.3	2.2
LE-OT-2-83 (Bobby Hall #1)-4130 - 4140ft	< 0.1	0.042	0.006	< 1	154	< 0.1	0.21	0.40	52	16.2	73	25.1	51.8	5.8	20.4	4.1	0.97	4.0	3.3	0.6	0.6	1.7	0.3	1.7
LE-OT-2-83 (Bobby Hall #1)-4190 - 4200ft	8.5	0.153	0.006	2	372	0.1	0.39	0.70	101	21.9	93	27.0	57.1	6.8	24.7	4.9	1.08	4.3	3.7	0.6	0.8	2.2	0.3	2.1
LE-OT-2-83 (Bobby Hall #1)-4230 - 4240ft	< 0.1	0.016	0.007	< 1	97.0	< 0.1	0.16	0.46	49	19.7	62	29.0	60.0	7.0	25.9	5.4	1.26	5.0	3.9	0.7	0.7	2.1	0.3	2.2
LE-OT-2-83 (Bobby Hall #1)-4280 - 4290ft	< 0.1	0.019	0.004	< 1	86.4	< 0.1	0.07	0.42	21	18.4	50	29.0	59.8	6.8	23.7	4.8	1.11	4.5	3.6	0.6	0.7	2.0	0.3	1.9
LE-OT-1-98 (Simpson #1)-1960 - 1970ft	2.1	0.040	0.004	2	93.2	< 0.1	0.36	0.68	106	26.9	105	27.3	62.0	7.6	29.2	6.4	1.52	6.2	5.0	0.9	1.0	2.8	0.4	2.8
LE-OT-1-98 (Simpson #1)-2020 - 2030ft	< 0.1	0.002	0.004	< 1	63.4	< 0.1	0.23	0.14	19	15.0	70	15.0	30.4	3.5	12.5	2.6	0.67	2.8	2.9	0.5	0.6	1.7	0.2	1.7
LE-OT-1-98 (Simpson #1)-2070 - 2080ft	4.2	0.029	0.004	2	101	< 0.1	0.38	0.68	97	24.4	107	34.7	71.7	8.4	30.5	5.9	1.36	5.4	4.4	0.8	0.9	2.6	0.4	2.5
LE-OT-1-98 (Simpson #1)-2090 - 2100ft	< 0.1	0.014	0.007	< 1	78.4	< 0.1	0.11	0.32	22	18.6	25	24.6	50.7	5.9	21.8	4.4	1.06	4.2	3.6	0.6	0.7	2.1	0.3	2.2
LE-OT-1-98 (Simpson #1)-2430 - 2440ft	9.0	0.080	0.007	2	204	< 0.1	0.39	0.39	92	18.0	95	23.4	50.7	6.0	21.7	4.2	0.99	3.7	3.2	0.5	0.7	1.9	0.3	1.9
LE-OT-1-98 (Simpson #1)-2150 - 2160ft	< 0.1	0.038	0.004	1	97.3	< 0.1	0.36	0.55	90	24.3	97	32.5	65.6	7.6	27.2	5.5	1.35	5.6	4.7	0.8	1.0	2.5	0.4	2.3
LE-OT-1-98 (Simpson #1)-2240 - 2250ft	0.2	0.018	0.005	2	122	< 0.1	0.19	0.90	74	26.0	86	35.5	78.4	9.4	36.8	8.1	1.90	7.4	5.5	1.0	1.0	2.9	0.4	2.9
LE-OT-1-98 (Simpson #1)-2310 - 2320ft	1.6	0.112	0.008	1	405	< 0.1	0.36	0.56	112	20.1	60	25.0	50.0	5.9	21.9	4.5	1.11	4.6	4.0	0.7	0.8	2.2	0.3	2.0
LE-OT-1-98 (Simpson #1)-2370 - 2380ft	< 0.1	0.087	0.010	< 1	235	< 0.1	0.26	0.44	77	20.8	10	26.3	52.8	6.1	21.9	4.4	1.08	4.3	3.9	0.6	0.8	2.2	0.3	1.9
LE-OT-1-98 (Simpson #1)-2390 - 2400ft	< 0.1	0.085	0.006	< 1	287	< 0.1	0.22	0.38	71	23.0	27	28.9	61.2	7.3	26.8	5.3	1.29	4.6	4.0	0.7	0.8	2.4	0.3	2.4
LE-OT-1-98 (Simpson #1)-2410 - 2420ft	< 0.1	0.062	0.017	1	183	< 0.1	0.23	0.36	69	18.1	63	25.9	53.2	6.2	22.6	4.6	1.15	4.6	3.7	0.6	0.7	2.0	0.3	2.0

Analyte Symbol	Nb	P	Re	Sn	Sr	Te	Ti	Tl	V	Y	Zr	La	Ce	Pr	Nd	Sm	Eu	Gd	Dy	Tb	Ho	Er	Tm	Yb
Unit Symbol	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.001	0.001	1	0.2	0.1	0.01	0.05	2	0.1	1	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Analysis Method	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
LE-OT-1-98 (Simpson #1)-2510 - 2520ft	0.6	0.090	0.008	1	219	< 0.1	0.34	0.53	100	21.1	80	28.5	57.2	6.7	24.1	4.7	1.11	4.3	3.8	0.7	0.8	2.2	0.3	2.0
LE-OT-1-98 (Simpson #1)-2550 - 2560ft	< 0.1	0.090	0.011	< 1	206	< 0.1	0.29	0.54	80	21.9	74	27.7	58.1	6.9	24.9	5.1	1.19	4.6	3.9	0.6	0.8	2.3	0.3	2.2
LE-OT-1-98 (Simpson #1)-2610-2620ft	9.1	0.195	0.010	3	210	0.2	0.39	0.63	115	23.3	95	29.5	61.5	7.5	27.3	5.5	1.30	4.9	4.0	0.7	0.8	2.4	0.4	2.3
VR Groce #1-263.9 - 273.8ft	4.0	0.146	0.006	< 1	435	0.2	0.41	0.49	109	20.6	53	26.6	53.0	6.0	21.5	4.4	1.08	4.5	4.0	0.7	0.8	2.2	0.3	2.0
VR Groce #1-2404ft	11.6	0.231	0.184	3	253	0.2	0.48	1.87	305	28.3	107	29.3	65.6	8.3	31.0	6.4	1.50	5.8	5.2	0.9	1.0	3.0	0.4	3.0
VR Groce #1-2404 - 2114ft	0.5	0.494	0.010	3	352	0.3	0.14	1.48	165	35.3	50	34.6	70.0	8.6	31.9	6.6	1.83	6.8	6.2	1.0	1.2	3.6	0.5	3.3
VR Groce #1-2415ft	2.5	0.064	0.017	3	525	0.3	0.38	0.81	138	19.5	86	32.7	65.8	7.5	27.0	5.2	1.10	4.4	3.5	0.6	0.7	2.1	0.3	2.0
VR Groce #1-2418ft	7.7	0.107	0.007	3	328	0.3	0.48	0.94	191	22.8	96	34.8	71.1	8.8	31.9	6.3	1.38	5.5	4.5	0.8	0.9	2.5	0.4	2.4
VR Groce #1-2416 - 2421ft	7.6	0.216	0.006	2	237	< 0.1	0.49	0.96	184	26.2	89	33.3	67.1	8.7	33.2	7.0	1.87	6.7	5.3	0.9	1.1	2.9	0.4	2.8
VR Groce #1-2426ft	7.5	0.360	0.005	3	311	< 0.1	0.42	0.98	171	39.3	72	42.2	81.1	10.0	36.5	7.5	2.12	8.3	7.5	1.3	1.5	4.1	0.6	3.4
LE-OT-1-83 (Butler #1)-2020-2030ft	< 0.1	0.033	0.005	< 1	92.3	< 0.1	0.17	0.46	56	22.1	53	32.0	68.5	8.1	29.8	5.7	1.32	5.0	4.1	0.7	0.8	2.4	0.4	2.3
LE-OT-1-83 (Butler #1)-2090 - 2100ft	6.6	0.166	0.006	2	430	< 0.1	0.41	0.65	142	20.5	58	25.7	51.3	6.3	23.7	4.8	1.17	4.8	3.9	0.7	0.8	2.2	0.3	2.2
LE-OT-1-83 (Butler #1)-2330 - 2340ft	9.1	0.222	0.008	3	287	0.2	0.43	0.79	148	22.6	79	30.5	60.8	7.7	29.2	5.9	1.45	5.9	4.6	0.8	0.9	2.5	0.4	2.4
LE-OT-1-83 (Butler #1)-2400 - 2410 ft	10.3	0.089	0.009	2	97.3	0.2	0.45	0.61	117	15.4	102	21.1	45.9	5.5	19.6	3.9	0.94	3.7	3.1	0.5	0.6	1.8	0.3	1.8
LE-OT-1-83 (Butler #1)-2450 - 2460ft	0.3	0.100	0.007	< 1	165	0.1	0.31	0.58	108	17.7	20	27.6	56.2	6.8	25.1	5.1	1.21	4.6	3.5	0.6	0.7	1.9	0.3	2.1
LE-OT-1-83 (Butler #1)-2160 - 2170ft	0.8	0.102	0.009	2	329	0.4	0.36	0.59	103	23.1	74	31.4	64.0	7.5	26.6	5.0	1.12	4.5	4.1	0.7	0.8	2.4	0.3	2.2
LE-OT-1-83 (Butler #1)-2250 - 2260ft	6.4	0.097	0.012	3	370	0.1	0.43	0.73	144	22.3	83	30.9	62.1	7.7	28.6	5.4	1.27	4.8	4.0	0.7	0.8	2.3	0.3	2.3
LE-OT-1-83 (Butler #1)-2480 - 2490ft	7.6	0.213	0.009	2	132	0.2	0.38	0.57	114	19.6	84	29.1	60.1	7.3	27.7	5.8	1.39	5.6	4.1	0.8	0.8	2.1	0.3	2.2
LE-OT-1-83 (Butler #1)-2550 - 2560ft	9.5	0.032	0.008	3	103	0.3	0.43	0.71	124	21.4	105	35.4	71.2	8.2	29.2	5.8	1.43	5.5	4.3	0.8	0.8	2.3	0.3	2.2
LE-OT-1-83 (Butler #1)-2610 - 2620ft	11.3	0.081	0.007	3	146	0.5	0.45	0.71	122	25.7	121	37.9	79.8	9.7	35.5	6.9	1.66	5.9	4.5	0.8	0.9	2.7	0.4	2.7

Analyte Symbol	Lu
Unit Symbol	ppm
Detection Limit	0.1
Analysis Method	TD-MS
LE-OT-1-82 (Dummitt Palmer #1)-692ft	0.2
LE-OT-1-82 (Dummitt Palmer #1)-701ft	
LE-OT-1-82 (Dummitt Palmer #1)-721ft	0.3
LE-OT-1-82 (Dummitt Palmer #1)-751ft	
LE-OT-1-82 (Dummitt Palmer #1)-768.25ft	0.3
LE-OT-1-82 (Dummitt Palmer #1)-790ft	
LE-OT-1-82 (Dummitt Palmer #1)-804ft	0.4
LE-OT-1-82 (Dummitt Palmer #1)-820ft	0.3
LE-OT-1-82 (Dummitt Palmer #1)-845ft	0.5
LE-OT-1-82 (Dummitt Palmer #1)-852ft	
LE-OT-1-82 (Dummitt Palmer #1)-875ft	0.3
LE-OT-1-82 (Dummitt Palmer #1)-894ft	
LE-OT-1-82 (Dummitt Palmer #1)-915.5ft	0.4
LE-OT-1-82 (Dummitt Palmer #1)-945ft	
LE-OT-1-82 (Dummitt Palmer #1)-951ft	0.5
CH-C-1-45-365ft	
CH-C-1-45-435ft	0.3
CH-C-1-45-526ft	
CH-C-1-45-610ft	0.4
CH-C-1-45-718ft	
CH-C-1-45-774ft	0.4
CH-C-1-45-826ft	
CH-C-1-45-946ft	0.4
CH-C-1-45-1056ft	
CH-C-1-45-1104ft	0.3
CH-C-1-45-1164ft	
CH-C-1-45-1210ft	0.2
CH-C-1-45-1263ft	
CH-C-1-45-1325ft	0.3
CH-C-1-45-1376ft	
CH-C-1-45-1429ft	0.2
MO-C-4-81-158ft	
MO-C-4-81-204ft	0.3
MO-C-4-81-256ft	
MO-C-4-81-309ft	0.4
MO-C-4-81-357ft	
MO-C-4-81-405ft	0.4
MO-C-4-81-452ft	
Coal Box 1a	0.1
Coal Box 1b	< 0.1
Coal Box 2a	0.2
Coal Box 2b	< 0.1

Analyte Symbol	Lu
Unit Symbol	ppm
Detection Limit	0.1
Analysis Method	TD-MS
Coal Box 3a	< 0.1
Coal Box 3b	< 0.1
Coal Box 4a	0.1
Coal Box 4b	0.2
CH-C-2-81-36ft	0.4
CH-C-2-81-88ft	
CH-C-2-81-132ft	0.6
CH-C-2-81-186ft	
MO-C-2-81-133ft	0.4
MO-C-2-81-137ft	
MO-C-2-81-151ft	0.4
MO-C-2-81-163ft	
MO-C-2-81-174ft	0.3
MO-C-2-81-178ft	
MO-C-2-81-188ft	0.3
MO-C-2-81-196ft	
MO-C-2-81-207ft	0.3
LE-OT-2-83 (Bobby Hall #1)-3960 - 3970ft	0.3
LE-OT-2-83 (Bobby Hall #1)-3980 - 3990ft	0.3
LE-OT-2-83 (Bobby Hall #1)-4020 - 4030ft	0.4
LE-OT-2-83 (Bobby Hall #1)-4070 - 4080ft	0.4
LE-OT-2-83 (Bobby Hall #1)-4090 - 4100ft	0.2
LE-OT-2-83 (Bobby Hall #1)-4120 - 4130ft	0.4
LE-OT-2-83 (Bobby Hall #1)-4130 - 4140ft	0.3
LE-OT-2-83 (Bobby Hall #1)-4190 - 4200ft	0.3
LE-OT-2-83 (Bobby Hall #1)-4230 - 4240ft	0.4
LE-OT-2-83 (Bobby Hall #1)-4280 - 4290ft	0.3
LE-OT-1-98 (Simpson #1)-1960 - 1970ft	0.4
LE-OT-1-98 (Simpson #1)-2020 - 2030ft	0.3
LE-OT-1-98 (Simpson #1)-2070 - 2080ft	0.4
LE-OT-1-98 (Simpson #1)-2090 - 2100ft	0.4
LE-OT-1-98 (Simpson #1)-2430 - 2440ft	0.3
LE-OT-1-98 (Simpson #1)-2150 - 2160ft	0.4
LE-OT-1-98 (Simpson #1)-2240 - 2250ft	0.5
LE-OT-1-98 (Simpson #1)-2310 - 2320ft	0.4
LE-OT-1-98 (Simpson #1)-2370 - 2380ft	0.3
LE-OT-1-98 (Simpson #1)-2390 - 2400ft	0.4
LE-OT-1-98 (Simpson #1)-2410 - 2420ft	0.3

Analyte Symbol	Lu
Unit Symbol	ppm
Detection Limit	0.1
Analysis Method	TD-MS
LE-OT-1-98 (Simpson #1)-2510 - 2520ft	0.3
LE-OT-1-98 (Simpson #1)-2550 - 2560ft	0.4
LE-OT-1-98 (Simpson #1)-2610-2620ft	0.4
VR Groce #1-263.9 - 273.8ft	0.3
VR Groce #1-2404ft	0.5
VR Groce #1-2404 - 2114ft	0.5
VR Groce #1-2415ft	0.3
VR Groce #1-2418ft	0.4
VR Groce #1-2416 - 2421ft	0.5
VR Groce #1-2426ft	0.5
LE-OT-1-83 (Butler #1)-2020-2030ft	0.4
LE-OT-1-83 (Butler #1)-2090 - 2100ft	0.3
LE-OT-1-83 (Butler #1)-2330 - 2340ft	0.4
LE-OT-1-83 (Butler #1)-2400 - 2410 ft	0.3
LE-OT-1-83 (Butler #1)-2450 - 2460ft	0.3
LE-OT-1-83 (Butler #1)-2160 - 2170ft	0.3
LE-OT-1-83 (Butler #1)-2250 - 2260ft	0.3
LE-OT-1-83 (Butler #1)-2480 - 2490ft	0.4
LE-OT-1-83 (Butler #1)-2550 - 2560ft	0.4
LE-OT-1-83 (Butler #1)-2610 - 2620ft	0.4

Quality Control

Analyte Symbol	Au	Ag	As	Ba	Br	Ca	Cr	Fe	Ir	Mo	Na	Ni	Se	Sn	Sr	Eu	Tb	Yb	Lu	Ni	Zn	As	Co	Cr
Unit Symbol	ppb	ppm	ppm	ppm	ppm	%	ppm	%	ppb	ppm	%	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	5	0.5	50	0.5	1	5	0.01	5	1	0.01	20	3	0.02	0.05	0.2	0.5	0.2	0.05	20	50	0.5	1	2
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
GXR-1 Meas	3320	29	432	800	< 0.5	< 1	15	24.5		18	0.06	< 20	16	< 0.02	< 0.05	0.7	< 0.5	1.9	0.28	< 20	790	430	9	18
GXR-1 Cert	3300	31.0	427	750	0.500	0.960	12.0	23.6		18.0	0.0520	41.0	16.6	0.00540	0.0275	0.690	0.830	1.90	0.280	41.0	760	427	8.20	12.0
GXR-1 Meas	3330	35		770	< 0.5			24.2													770		7	
GXR-1 Cert	3300	31.0		750	0.500			23.6													760		8.20	
GXR-1 Meas																								
GXR-1 Cert																								
DH-1a Meas																								
DH-1a Cert																								
DH-1a Meas																								
DH-1a Cert																								
GXR-4 Meas																								
GXR-4 Cert																								
GXR-4 Meas																								
GXR-4 Cert																								
GXR-4 Meas																								
GXR-4 Cert																								
SDC-1 Meas																								
SDC-1 Cert																								
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SCO-1 Meas																								
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GXR-6 Meas																								
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GXR-6 Meas																								
GXR-6 Cert																								
DNC-1a Meas																								
DNC-1a Cert																								
DNC-1a Meas																								
DNC-1a Cert																								
DNC-1a Meas																								
DNC-1a Cert																								
CH-C-1-45-946ft Orig																								
CH-C-1-45-946ft Dup																								
CH-C-1-45-1376ft Orig	< 2	< 5	9.3	810	< 0.5	3	89	3.92	< 5	< 1	1.13	< 20	< 3	< 0.02	< 0.05	1.8	< 0.5	2.6	0.53		< 50		24	
CH-C-1-45-1376ft Split	< 2	< 5	7.9	720	< 0.5	4	95	4.46	< 5	< 1	1.25	< 20	< 3	< 0.02	< 0.05	2.0	< 0.5	2.7	0.53		< 50		23	
Coal Box 4a Orig																								
Coal Box 4a Dup																								
CH-C-2-81-186ft Orig	< 2	< 5	< 0.5	690	< 0.5	< 1	11	3.62	< 5	< 1	2.30	< 20	< 3	< 0.02	< 0.05	1.8	1.0	3.6	0.78		< 50		9	
CH-C-2-81-186ft Split	< 2	< 5	< 0.5	730	< 0.5	< 1	18	3.70	< 5	< 1	2.57	< 20	< 3	< 0.02	< 0.05	2.1	1.1	4.3	0.73		< 50		10	
LE-OT-2-83 (Bobby Hall #1)-3960 - 3970ft Split	< 2	< 5	< 0.5	480	< 0.5	< 1	45	2.67	< 5	< 1	1.57	< 20	< 3	< 0.02	< 0.05	1.2	< 0.5	2.8	0.49		< 50		9	
LE-OT-1-98 (Simpson #1)-2070 - 2080ft Orig																								
LE-OT-1-98 (Simpson #1)-2070 - 2080ft Dup																								
VR Groce #1-2404 - 2114ft Orig																								
VR Groce #1-2404 - 2114ft Dup																								

Quality Control

Analyte Symbol	Au	Ag	As	Ba	Br	Ca	Cr	Fe	Ir	Mo	Na	Ni	Se	Sn	Sr	Eu	Tb	Yb	Lu	Ni	Zn	As	Co	Cr
Unit Symbol	ppb	ppm	ppm	ppm	ppm	%	ppm	%	ppb	ppm	%	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	5	0.5	50	0.5	1	5	0.01	5	1	0.01	20	3	0.02	0.05	0.2	0.5	0.2	0.05	20	50	0.5	1	2
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
VR Groce #1-2426ft Split	< 2	< 5	12.4	990	< 0.5	< 1	110	8.11	< 5	9	0.80	< 20	< 3	< 0.02	< 0.05	3.0	< 0.5	3.9	0.50		240		28	
Method Blank	< 2	< 5	< 0.5	< 50	< 0.5	< 1	< 5	< 0.01	< 5	< 1	< 0.01	< 20	< 3	< 0.02	< 0.05	< 0.2	< 0.5	< 0.2	< 0.05		< 50		< 1	
Method Blank																								
Method Blank																								
Method Blank																								
Method Blank																								
Method Blank	< 2	< 5		< 50	< 0.5			< 0.01												< 20	< 50	< 0.5	< 1	< 2
Method Blank																								
Method Blank																								
Method Blank																								

Quality Control

Analyte Symbol	Cs	Hf	Hg	Ir	Na	Rb	Sb	Sc	Se	Ta	Th	U	W	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass	Cd	Ni
Unit Symbol	ppm	ppm	ppm	ppb	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g	ppm	ppm
Detection Limit	1	1	1	5	0.01	15	0.1	0.1	3	0.5	0.2	0.5	1	0.5	3	5	0.1	0.2	0.5	0.2	0.05		0.1	1
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	TD-MS	TD-ICP
GXR-1 Meas	3	< 1	< 1		0.07	< 15	121	1.6	17	< 0.5	2.8	34.2	159	8.0	16	17	2.7	< 0.2	< 0.5	1.9	0.27		2.2	50
GXR-1 Cert	3.00	0.960	3.90		0.0520	14.0	122	1.58	16.6	0.175	2.44	34.9	164	7.50	17.0	18.0	2.70	0.690	0.830	1.90	0.280		3.30	41.0
GXR-1 Meas	4	< 1	< 1			< 15	123	1.6		< 0.5	2.5	34.7	174	8.8	16	17	2.7						2.1	44
GXR-1 Cert	3.00	0.960	3.90			14.0	122	1.58		0.175	2.44	34.9	164	7.50	17.0	18.0	2.70						3.30	41.0
GXR-1 Meas																							2.4	
GXR-1 Cert																							3.30	
DH-1a Meas											907	2610												
DH-1a Cert											910	2629												
DH-1a Meas											909	2640												
DH-1a Cert											910	2629												
GXR-4 Meas																							0.2	45
GXR-4 Cert																							0.860	42.0
GXR-4 Meas																							0.1	46
GXR-4 Cert																							0.860	42.0
GXR-4 Meas																							0.2	
GXR-4 Cert																							0.860	
SDC-1 Meas																							0.1	37
SDC-1 Cert																							0.0800	38.0
SDC-1 Meas																							< 0.1	35
SDC-1 Cert																							0.0800	38.0
SDC-1 Meas																							0.1	
SDC-1 Cert																							0.0800	
SCO-1 Meas																							0.2	28
SCO-1 Cert																							0.140	27
SCO-1 Meas																							0.1	27
SCO-1 Cert																							0.140	27
SCO-1 Meas																							0.2	
SCO-1 Cert																							0.140	
GXR-6 Meas																							0.1	28
GXR-6 Cert																							1.00	27.0
GXR-6 Meas																							0.1	28
GXR-6 Cert																							1.00	27.0
GXR-6 Meas																							0.2	
GXR-6 Cert																							1.00	
DNC-1a Meas																								261
DNC-1a Cert																								247
DNC-1a Meas																								239
DNC-1a Cert																								247
DNC-1a Meas																								
DNC-1a Cert																								
CH-C-1-45-946ft Orig																							0.2	79
CH-C-1-45-946ft Dup																							0.2	79
CH-C-1-45-1376ft Orig	7	3	< 1			155	0.5	22.3		< 0.5	9.8	3.6	< 1	38.5	57	37	5.8					1.05		
CH-C-1-45-1376ft Split	7	4	< 1			109	0.6	24.1		< 0.5	9.7	4.9	< 1	40.5	55	36	5.5					1.02		
Coal Box 4a Orig																							0.1	32
Coal Box 4a Dup																							0.2	33
CH-C-2-81-186ft Orig	< 1	6	< 1			< 15	< 0.1	17.9		< 0.5	6.8	3.1	< 1	24.5	46	19	6.9					1.08		
CH-C-2-81-186ft Split	< 1	7	< 1			< 15	< 0.1	18.7		< 0.5	6.5	2.2	< 1	28.0	40	20	6.2					1.03		
LE-OT-2-83 (Bobby Hall #1)-3960 - 3970ft Split	4	7	< 1			78	1.9	10.8		< 0.5	7.6	< 0.5	< 1	32.9	46	20	4.7					1.01		
LE-OT-1-98 (Simpson #1)-2070 - 2080ft Orig																							0.1	36
LE-OT-1-98 (Simpson #1)-2070 - 2080ft Dup																							< 0.1	34
VR Groce #1-2404 - 2114ft Orig																							0.2	63
VR Groce #1-2404 - 2114ft Dup																							0.3	62

Quality Control

Analyte Symbol	Cs	Hf	Hg	Ir	Na	Rb	Sb	Sc	Se	Ta	Th	U	W	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass	Cd	Ni
Unit Symbol	ppm	ppm	ppm	ppb	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g	ppm	ppm
Detection Limit	1	1	1	5	0.01	15	0.1	0.1	3	0.5	0.2	0.5	1	0.5	3	5	0.1	0.2	0.5	0.2	0.05		0.1	1
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	TD-MS	TD-ICP
VR Groce #1-2426ft Split	12	4	< 1			175	0.9	27.2		< 0.5	11.5	4.6	< 1	50.4	67	42	7.5					1.06		
Method Blank	< 1	< 1	< 1			< 15	< 0.1	< 0.1		< 0.5	< 0.2	< 0.5	< 1	< 0.5	< 3	< 5	< 0.1					1.00		
Method Blank																							< 0.1	< 1
Method Blank																								< 1
Method Blank																								< 1
Method Blank																								< 1
Method Blank	< 1	< 1	< 1	< 5	< 0.01	< 15	< 0.1	< 0.1	< 3	< 0.5	< 0.2	< 0.5	< 1	< 0.5	< 3	< 5	< 0.1	< 0.2	< 0.5	< 0.2	< 0.05	1.00		
Method Blank																							< 0.1	
Method Blank																							< 0.1	
Method Blank																								< 1

Quality Control

Analyte Symbol	Zn	Be	Co	Cs	Y	Ag	Ag	Cu	Cu	Cd	Mo	Pb	Pb	Ni	Zn	S	Al	Ba	Be	Bi	Bi	Ca	Cr	Hf
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm
Detection Limit	0.5	0.1	0.1	0.05	0.1	0.05	0.3	0.2	1	0.3	1	0.5	3	0.5	1	0.01	0.01	1	1	0.02	2	0.01	1	0.1
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-ICP	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-ICP	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-ICP	TD-MS	TD-MS
GXR-1 Meas	784	1.2	8.0	2.50	26.7	29.9	31.5	1160	1160	3.5	14	650	768	39.1	767	0.24	2.00	561	1	1520	1390	0.89	9	0.3
GXR-1 Cert	760	1.22	8.20	3.00	32.0	31.0	31.0	1110	1110	3.30	18.0	730	730	41.0	760	0.257	3.52	750	1.22	1380	1380	0.960	12.0	0.960
GXR-1 Meas	771	1.6	7.4	2.37	23.5	27.2	31.5	1130	1170	3.3	15	619	702	36.4	712	0.25	2.22	537	1	1490	1380	0.86	7	0.4
GXR-1 Cert	760	1.22	8.20	3.00	32.0	31.0	31.0	1110	1110	3.30	18.0	730	730	41.0	760	0.257	3.52	750	1.22	1380	1380	0.960	12.0	0.960
GXR-1 Meas	729	1.2	8.2	2.65	26.9	30.9		1030				699		39.0				633		> 2000			> 10.0	0.2
GXR-1 Cert	760	1.22	8.20	3.00	32.0	31.0		1110				730		41.0				750		1380			12.0	0.960
DH-1a Meas																								
DH-1a Cert																								
DH-1a Meas																								
DH-1a Cert																								
GXR-4 Meas	70.9	2.4	13.2	2.40	12.7	2.85	3.3	6080	6040	0.3	289	43.8	45	37.3	69	1.61	5.74	112	2	19.6	14	0.99	> 10.0	1.1
GXR-4 Cert	73.0	1.90	14.6	2.80	14.0	4.00	4.00	6520	6520	0.860	310	52.0	52.0	42.0	73.0	1.77	7.20	1640	1.90	19.0	19.0	1.01	64.0	6.30
GXR-4 Meas	75.3	2.9	12.4	2.27	12.1	2.66	3.6	6240	6460	0.7	309	47.8	48	35.1	69	1.76	6.88	163	2	20.6	16	1.06	> 10.0	1.2
GXR-4 Cert	73.0	1.90	14.6	2.80	14.0	4.00	4.00	6520	6520	0.860	310	52.0	52.0	42.0	73.0	1.77	7.20	1640	1.90	19.0	19.0	1.01	64.0	6.30
GXR-4 Meas	75.7	2.5	15.6	2.65	14.0	3.38		6440				42.2		41.5				82		24.3			> 10.0	1.2
GXR-4 Cert	73.0	1.90	14.6	2.80	14.0	4.00		6520				52.0		42.0				1640		19.0			64.0	6.30
SDC-1 Meas	108	3.5	17.7	3.50	33.1	0.07	< 0.3	40.5	29	< 0.3	< 1	20.8	22	34.1	98	0.07	7.34	556	3	0.22	< 2	1.02	> 10.0	0.8
SDC-1 Cert	103.00	3.00	18.0	4.00	40.0	0.0410	0.0410	30.00	30.00	0.0800	0.250	25.00	25.00	38.0	103.00	0.0650	8.34	630	3.00	2.60	2.60	1.00	64.00	8.30
SDC-1 Meas	110	4.1	16.4	3.38	31.2	0.07	< 0.3	48.0	30	< 0.3	< 1	22.6		32.5	102	0.07	7.94	558	3	0.24	< 2	1.09	> 10.0	0.7
SDC-1 Cert	103.00	3.00	18.0	4.00	40.0	0.0410	0.0410	30.00	30.00	0.0800	0.250	25.00		38.0	103.00	0.0650	8.34	630	3.00	2.60	2.60	1.00	64.00	8.30
SDC-1 Meas	103	3.5	18.3	3.74	31.8	0.13		28.3				45.7		33.1				616		0.38			> 10.0	1.0
SDC-1 Cert	103.00	3.00	18.0	4.00	40.0	0.0410		30.00				25.00		38.0				630		2.60			64.00	8.30
SCO-1 Meas	90.6	1.8	10.2	6.30	15.7	< 0.05	0.4	25.3	26	< 0.3	< 1	26.0	22	23.9	94	0.07	5.11	450	2	0.36	< 2	1.68	> 10.0	
SCO-1 Cert	100	1.80	11.00	7.80	26	0.134	0.134	29	29	0.140	1.4	31.0	31.0	27	100	0.0630	7.24	570	1.80	0.37	0.37	1.87	68.0	
SCO-1 Meas	86.9	2.3	9.4	5.86	12.9	< 0.05	0.3	24.9	27	0.4	< 1	23.6	27	22.6	92	0.08	6.50	427	2	0.33	< 2	1.90	> 10.0	
SCO-1 Cert	100	1.80	11.00	7.80	26	0.134	0.134	29	29	0.140	1.4	31.0	31.0	27	100	0.0630	7.24	570	1.80	0.37	0.37	1.87	68.0	
SCO-1 Meas	101	2.2	11.4	6.98	19.4	0.22		27.5				29.6		27.0				501		0.49			> 10.0	
SCO-1 Cert	100	1.80	11.00	7.80	26	0.134		29				31.0		27				570		0.37			68.0	
GXR-6 Meas	145	1.4	14.0	3.70	13.9	0.18	0.5	76.5	63	< 0.3	3	91.5	93	24.9	129	0.01	11.4	1100	1	0.48	< 2	0.17	> 10.0	2.2
GXR-6 Cert	118	1.40	13.8	4.20	14.0	1.30	1.30	66.0	66.0	1.00	2.40	101	101	27.0	118	0.0160	17.7	1300	1.40	0.290	0.290	0.180	96.0	4.30
GXR-6 Meas	138	1.8	13.0	3.46	11.9	0.13	0.4	72.7	72	0.6	< 1	80.3	98	23.4	131	0.02	12.6	1040	1	0.67	< 2	0.18	> 10.0	2.1
GXR-6 Cert	118	1.40	13.8	4.20	14.0	1.30	1.30	66.0	66.0	1.00	2.40	101	101	27.0	118	0.0160	17.7	1300	1.40	0.290	0.290	0.180	96.0	4.30
GXR-6 Meas	129	1.4	14.1	4.10	12.5	0.23		64.6				101		23.8				1210		0.26			> 10.0	1.9
GXR-6 Cert	118	1.40	13.8	4.20	14.0	1.30		66.0				101		27.0				1300		0.290			96.0	4.30
DNC-1a Meas	69.0		55.2		15.9			97.8	93					256	56			90					> 10.0	
DNC-1a Cert	70.0		57.0		18.0			100.0	100.0					247	70.0			118					270	
DNC-1a Meas	63.4		51.0		13.0			90.7	109					233	56			87					> 10.0	
DNC-1a Cert	70.0		57.0		18.0			100.0	100.0					247	70.0			118					270	
DNC-1a Meas	67.5		57.0		13.6			106						254				101					> 10.0	
DNC-1a Cert	70.0		57.0		18.0			100.0						247				118					270	
CH-C-1-45-946ft Orig	158	3.7	38.8	6.22	29.2	< 0.05	0.3	92.4	102	0.5	12	21.8	17	68.9	158	3.51	9.83	31	3	0.73	< 2	0.36	> 10.0	2.4
CH-C-1-45-946ft Dup	143	3.0	36.2	5.63	26.4	< 0.05	< 0.3	85.7	103	0.5	12	17.6	19	65.5	159	3.51	9.76	25	3	0.56	< 2	0.35	> 10.0	1.8
CH-C-1-45-1376ft Orig																								
CH-C-1-45-1376ft Split																								
Coal Box 4a Orig	122	1.3	28.6	2.16	10.1	< 0.05	< 0.3	48.3	45	0.8	9	5.3	7	34.2	96	5.59	2.47	56	1	0.17	< 2	7.28	> 10.0	< 0.1
Coal Box 4a Dup	117	1.0	27.6	2.17	8.8	< 0.05	< 0.3	49.4	51	0.9	6	5.5	8	31.9	103	3.69	2.48	52	1	0.18	4	5.26	> 10.0	< 0.1
CH-C-2-81-186ft Orig																								
CH-C-2-81-186ft Split																								
LE-OT-2-83 (Bobby Hall #1)-3960 - 3970ft Split																								
LE-OT-1-98 (Simpson #1)-2070 - 2080ft Orig	109	2.4	16.4	6.91	24.6	< 0.05	< 0.3	49.4	49	0.4	< 1	15.4	12	32.8	103	< 0.01	8.28	603	2	0.29	< 2	0.24	> 10.0	3.4
LE-OT-1-98 (Simpson #1)-2070 - 2080ft Dup	105	2.4	16.6	7.04	24.2	< 0.05	0.3	46.3	47	< 0.3	< 1	13.6	11	32.5	102	< 0.01	8.26	624	2	0.28	< 2	0.24	> 10.0	3.2
VR Groce #1-2404 - 2114ft Orig	155	3.2	26.8	9.12	35.4	< 0.05	< 0.3	83.4	87	0.6	28	15.3	14	60.8	141	1.49	9.60	95	3	0.53	< 2	2.30	> 10.0	0.2
VR Groce #1-2404 - 2114ft Dup	159	3.3	25.8	8.97	35.2	< 0.05	< 0.3	82.6	87	0.5	28	18.1	14	57.3	140	1.50	9.91	88	3	0.63	< 2	2.33	> 10.0	1.5

Quality Control

Analyte Symbol	Zn	Be	Co	Cs	Y	Ag	Ag	Cu	Cu	Cd	Mo	Pb	Pb	Ni	Zn	S	Al	Ba	Be	Bi	Bi	Ca	Cr	Hf
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm
Detection Limit	0.5	0.1	0.1	0.05	0.1	0.05	0.3	0.2	1	0.3	1	0.5	3	0.5	1	0.01	0.01	1	1	0.02	2	0.01	1	0.1
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-ICP	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-ICP	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-ICP	TD-MS	TD-MS
VR Groce #1-2426ft Split																								
Method Blank																								
Method Blank	< 0.5	< 0.1	< 0.1	< 0.05	< 0.1	< 0.05	< 0.3	< 0.2	1	< 0.3	< 1	< 0.5	< 3	< 0.5	1	< 0.01	< 0.01	< 1	< 1	< 0.02	< 2	< 0.01	< 1	< 0.1
Method Blank							< 0.3		< 1	< 0.3	< 1		< 3		< 1	< 0.01	< 0.01		< 1		< 2	< 0.01		
Method Blank							< 0.3		< 1	< 0.3	< 1		< 3		< 1	< 0.01	< 0.01		< 1		< 2	< 0.01		
Method Blank							< 0.3		2	< 0.3	< 1		< 3		< 1	< 0.01	< 0.01		< 1		< 2	< 0.01		
Method Blank																								
Method Blank	< 0.5	< 0.1	< 0.1	< 0.05	< 0.1	< 0.05		< 0.2				< 0.5		< 0.5				< 1		< 0.02			< 1	< 0.1
Method Blank	< 0.5	< 0.1	< 0.1	< 0.05	< 0.1	< 0.05		< 0.2				< 0.5		< 0.5				< 1		< 0.02			< 1	< 0.1
Method Blank							< 0.3		< 1	< 0.3	< 1		< 3		< 1	< 0.01	< 0.01		< 1		< 2	< 0.01		

Quality Control

Analyte Symbol	Ga	Ge	In	K	Li	Mg	Mn	Nb	P	Rb	Re	Se	Sn	Sr	Ta	Te	Ti	Th	Tl	U	V	Zr	La	Ce
Unit Symbol	ppm	ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.1	0.1	0.01	0.5	0.01	1	0.1	0.001	0.2	0.001	0.1	1	0.2	0.1	0.1	0.01	0.1	0.05	0.1	2	1	0.1	0.1
Analysis Method	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS
GXR-1 Meas	8.4		0.7	0.04	9.2	0.21	939	0.6	0.050	2.5		16.0	28	271	< 0.1	12.9		2.6	0.35	31.0	86	12	6.6	13.0
GXR-1 Cert	13.8		0.770	0.050	8.20	0.217	852	0.800	0.0650	14.0		16.6	54.0	275	0.175	13.0		2.44	0.390	34.9	80.0	38.0	7.50	17.0
GXR-1 Meas	8.0		0.6	0.04	8.7	0.21	864	0.8	0.059	2.3		14.1	27	239	< 0.1	9.5		2.3	0.32	29.1	89	17	6.0	11.7
GXR-1 Cert	13.8		0.770	0.050	8.20	0.217	852	0.800	0.0650	14.0		16.6	54.0	275	0.175	13.0		2.44	0.390	34.9	80.0	38.0	7.50	17.0
GXR-1 Meas	11.6		0.8		8.5			0.3		2.5		15.4	29	271	< 0.1	12.5		2.8	0.42	32.5		9	7.1	13.7
GXR-1 Cert	13.8		0.770		8.20			0.800		14.0		16.6	54.0	275	0.175	13.0		2.44	0.390	34.9		38.0	7.50	17.0
DH-1a Meas																								
DH-1a Cert																								
DH-1a Meas																								
DH-1a Cert																								
GXR-4 Meas	16.8		0.2	3.35	12.0	1.62	153	8.1	0.114	116		5.3	7	205	0.4	1.2		17.0	2.93	5.0	88	37	53.3	104
GXR-4 Cert	20.0		0.270	4.01	11.1	1.66	155	10.0	0.120	160		5.60	5.60	221	0.790	0.970		22.5	3.20	6.20	87.0	186	64.5	102
GXR-4 Meas	18.2		0.2	4.00	11.4	1.71	167	8.4	0.133	103		4.2	7	191	0.4	0.8		16.0	2.99	4.6	93	39	51.9	101
GXR-4 Cert	20.0		0.270	4.01	11.1	1.66	155	10.0	0.120	160		5.60	5.60	221	0.790	0.970		22.5	3.20	6.20	87.0	186	64.5	102
GXR-4 Meas	18.8		0.2		16.2			8.1		153		6.2	7	226	0.4	1.5		17.7	3.28	5.3		39	56.7	106
GXR-4 Cert	20.0		0.270		11.1			10.0		160		5.60	5.60	221	0.790	0.970		22.5	3.20	6.20		186	64.5	102
SDC-1 Meas	23.6			2.84	41.7	0.96	894	0.9	0.044	66.3			< 1	185	< 0.1		0.18	10.0	0.58	2.6	49	33	39.0	87.0
SDC-1 Cert	21.00			2.72	34.00	1.02	880.00	21.00	0.0690	127.00			3.00	180.00	1.20		0.606	12.00	0.70	3.10	102.00	290.00	42.00	93.00
SDC-1 Meas	25.4			2.45	38.6	1.01	891	1.7	0.055	62.2			< 1	170	< 0.1		0.15	9.8	0.58	2.5	43	27	37.4	83.3
SDC-1 Cert	21.00			2.72	34.00	1.02	880.00	21.00	0.0690	127.00			3.00	180.00	1.20		0.606	12.00	0.70	3.10	102.00	290.00	42.00	93.00
SDC-1 Meas	24.3				41.6			< 0.1		75.7			< 1	170	< 0.1			12.5	0.67	3.3		29	40.8	87.8
SDC-1 Cert	21.00				34.00			21.00		127.00			3.00	180.00	1.20			12.00	0.70	3.10		290.00	42.00	93.00
SCO-1 Meas	13.3			1.70	43.3	1.37	384	4.3	0.066	61.9			2	139			0.33	7.8			128	73	22.1	42.9
SCO-1 Cert	15			2.30	45	1.64	410	11	0.0900	110.0			3.7	170			0.380	9.70			130	160	30.0	62.00
SCO-1 Meas	11.7			1.33	40.4	1.59	371	8.4	0.082	62.0			3	122			0.33	6.1			133	85	18.3	35.1
SCO-1 Cert	15			2.30	45	1.64	410	11	0.0900	110.0			3.7	170			0.380	9.70			130	160	30.0	62.00
SCO-1 Meas	19.3				50.6			0.3		79.5			3	164				9.0				91	27.9	54.5
SCO-1 Cert	15				45			11		110.0			3.7	170				9.70				160	30.0	62.00
GXR-6 Meas	34.5		0.1	1.66	43.3	0.59	1110	2.3	0.033	61.1		1.0	1	41.2	< 0.1	< 0.1		4.7	2.13	1.3	177	90	12.3	34.4
GXR-6 Cert	35.0		0.260	1.87	32.0	0.609	1010	7.50	0.0350	90.0		0.940	1.70	35.0	0.485	0.0180		5.30	2.20	1.54	186	110	13.9	36.0
GXR-6 Meas	30.4		< 0.1	1.66	40.1	0.61	1090	4.0	0.035	63.8		1.0	< 1	36.1	0.1	< 0.1		4.0	1.79	1.1	123	95	10.8	29.9
GXR-6 Cert	35.0		0.260	1.87	32.0	0.609	1010	7.50	0.0350	90.0		0.940	1.70	35.0	0.485	0.0180		5.30	2.20	1.54	186	110	13.9	36.0
GXR-6 Meas	33.5		< 0.1		41.0			< 0.1		64.8		1.0	< 1	36.1	< 0.1	< 0.1		5.4	2.39	1.4		56	12.7	34.3
GXR-6 Cert	35.0		0.260		32.0			7.50		90.0		0.940	1.70	35.0	0.485	0.0180		5.30	2.20	1.54		110	13.9	36.0
DNC-1a Meas					5.2									139							142	34	3.3	
DNC-1a Cert					5.20									144.0							148.0	38	3.6	
DNC-1a Meas					4.7									114							140	32	2.9	
DNC-1a Cert					5.20									144.0							148.0	38	3.6	
DNC-1a Meas					6.0									136								31	3.2	
DNC-1a Cert					5.20									144.0								38	3.6	
CH-C-1-45-946ft Orig	26.2	0.2	< 0.1	1.78	69.3	0.72	236	10.4	0.025	85.0	0.016	1.3	3	150	0.6	< 0.1	0.55	10.9	2.11	16.0	219	68	38.0	76.7
CH-C-1-45-946ft Dup	23.0	0.2	< 0.1	1.54	66.2	0.72	226	9.0	0.025	83.3	0.013	1.3	2	140	0.5	< 0.1	0.54	9.8	1.73	13.8	221	61	34.3	68.6
CH-C-1-45-1376ft Orig																								
CH-C-1-45-1376ft Split																								
Coal Box 4a Orig	6.5	0.2	< 0.1	0.59	11.6	0.52	5640	< 0.1	2.49	35.9	0.007	3.8	< 1	672	< 0.1	< 0.1	0.04	3.8	0.41	0.8	34	5	11.5	22.6
Coal Box 4a Dup	6.1	0.1	< 0.1	0.58	10.3	0.54	5850	0.2	2.54	31.2	0.009	3.3	< 1	584	< 0.1	< 0.1	0.05	3.9	0.40	0.8	35	5	10.2	19.6
CH-C-2-81-186ft Orig																								
CH-C-2-81-186ft Split																								
LE-OT-2-83 (Bobby Hall #1)-3960 - 3970ft Split																								
LE-OT-1-98 (Simpson #1)-2070 - 2080ft Orig	24.6	1.1	< 0.1	2.36	41.7	0.90	490	4.6	0.029	98.4	0.005	0.5	2	100	< 0.1	< 0.1	0.37	10.4	0.69	1.9	97	108	34.5	72.6
LE-OT-1-98 (Simpson #1)-2070 - 2080ft Dup	21.0	1.0	< 0.1	2.61	45.2	0.91	477	3.9	0.029	107	0.004	0.5	2	102	< 0.1	< 0.1	0.38	10.2	0.67	1.9	97	106	35.0	70.8
VR Groce #1-2404 - 2114ft Orig	25.5	0.4	< 0.1	2.87	74.9	1.78	751	0.2	0.487	141	0.009	1.6	3	359	< 0.1	0.3	0.14	9.4	1.43	5.4	164	32	35.2	70.1
VR Groce #1-2404 - 2114ft Dup	27.0	0.3	< 0.1	3.21	65.2	1.81	765	0.8	0.500	136	0.011	1.8	3	345	< 0.1	0.2	0.14	11.0	1.53	5.5	165	67	34.1	70.0

Quality Control

Analyte Symbol	Ga	Ge	In	K	Li	Mg	Mn	Nb	P	Rb	Re	Se	Sn	Sr	Ta	Te	Ti	Th	Tl	U	V	Zr	La	Ce
Unit Symbol	ppm	ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.1	0.1	0.01	0.5	0.01	1	0.1	0.001	0.2	0.001	0.1	1	0.2	0.1	0.1	0.01	0.1	0.05	0.1	2	1	0.1	0.1
Analysis Method	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS
VR Groce #1-2426ft Split																								
Method Blank																								
Method Blank	< 0.1	< 0.1	< 0.1	< 0.01	< 0.5	< 0.01		< 0.1	< 0.001	< 0.2	< 0.001	< 0.1	< 1	< 0.2	< 0.1	< 0.1	< 0.01	< 0.1	< 0.05	< 0.1	< 2	< 1	< 0.1	< 0.1
Method Blank				< 0.01		< 0.01			< 0.001								< 0.01				< 2			
Method Blank				< 0.01		< 0.01			< 0.001								< 0.01				< 2			
Method Blank				< 0.01		< 0.01			< 0.001								< 0.01				< 2			
Method Blank																								
Method Blank	< 0.1	< 0.1	< 0.1		< 0.5			< 0.1		< 0.2	< 0.001	< 0.1	< 1	< 0.2	< 0.1	< 0.1		< 0.1	< 0.05	< 0.1		< 1	< 0.1	< 0.1
Method Blank	< 0.1	< 0.1	< 0.1		< 0.5			< 0.1		< 0.2	< 0.001	< 0.1	< 1	< 0.2	< 0.1	< 0.1		< 0.1	< 0.05	< 0.1		< 1	< 0.1	< 0.1
Method Blank				< 0.01		< 0.01			< 0.001								< 0.01				< 2			

Quality Control

Analyte Symbol	Pr	Nd	Sm	Eu	Gd	Dy	Tb	Ho	Er	Tm	Yb	Lu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
GXR-1 Meas		7.4	2.5	0.54	3.9	5.0	0.7			0.3	1.9	0.2
GXR-1 Cert		18.0	2.70	0.690	4.20	4.30	0.830			0.430	1.90	0.280
GXR-1 Meas		6.6	2.3	0.50	3.7	4.3	0.7			0.3	2.0	0.3
GXR-1 Cert		18.0	2.70	0.690	4.20	4.30	0.830			0.430	1.90	0.280
GXR-1 Meas		7.6	2.7	0.66	4.3	4.7	0.8			0.3	2.1	0.3
GXR-1 Cert		18.0	2.70	0.690	4.20	4.30	0.830			0.430	1.90	0.280
DH-1a Meas												
DH-1a Cert												
DH-1a Meas												
DH-1a Cert												
GXR-4 Meas		39.3	6.1	1.36	4.4	3.0	0.5			0.2	0.9	0.1
GXR-4 Cert		45.0	6.60	1.63	5.25	2.60	0.360			0.210	1.60	0.170
GXR-4 Meas		38.7	6.1	1.36	4.3	2.6	0.5			0.2	1.1	0.1
GXR-4 Cert		45.0	6.60	1.63	5.25	2.60	0.360			0.210	1.60	0.170
GXR-4 Meas		37.3	5.6	1.40	4.2	2.7	0.5			0.2	1.0	0.1
GXR-4 Cert		45.0	6.60	1.63	5.25	2.60	0.360			0.210	1.60	0.170
SDC-1 Meas		38.2	7.4	1.38	6.2	6.0	1.0	1.2	3.0	0.5	2.9	
SDC-1 Cert		40.00	8.20	1.70	7.00	6.70	1.20	1.50	4.10	0.65	4.00	
SDC-1 Meas		38.3	7.5	1.45	6.3	5.6	0.9	1.2	3.5	0.5	3.2	
SDC-1 Cert		40.00	8.20	1.70	7.00	6.70	1.20	1.50	4.10	0.65	4.00	
SDC-1 Meas		40.5	7.8	1.76	7.5	6.4	1.1	1.3	3.6	0.5	3.3	
SDC-1 Cert		40.00	8.20	1.70	7.00	6.70	1.20	1.50	4.10	0.65	4.00	
SCO-1 Meas	5.2	20.1										
SCO-1 Cert	6.6	26.0										
SCO-1 Meas	4.2	16.1										
SCO-1 Cert	6.6	26.0										
SCO-1 Meas	6.7	24.4										
SCO-1 Cert	6.6	26.0										
GXR-6 Meas		12.4	2.6	0.59	2.1	2.0	0.3			0.2	1.6	0.2
GXR-6 Cert		13.0	2.67	0.760	2.97	2.80	0.415			0.0320	2.40	0.330
GXR-6 Meas		10.5	2.2	0.51	1.9	2.0	0.3			0.2	1.5	0.2
GXR-6 Cert		13.0	2.67	0.760	2.97	2.80	0.415			0.0320	2.40	0.330
GXR-6 Meas		12.4	2.6	0.71	2.5	2.4	0.4			0.2	1.8	0.3
GXR-6 Cert		13.0	2.67	0.760	2.97	2.80	0.415			0.0320	2.40	0.330
DNC-1a Meas		4.8		0.57							1.9	
DNC-1a Cert		5.20		0.59							2.0	
DNC-1a Meas		4.2		0.56							1.9	
DNC-1a Cert		5.20		0.59							2.0	
DNC-1a Meas		3.9		0.55							1.6	
DNC-1a Cert		5.20		0.59							2.0	
CH-C-1-45-946ft Orig	9.6	35.1	6.3	1.37	5.7	5.3	0.9	1.0	2.9	0.4	2.9	0.4
CH-C-1-45-946ft Dup	8.1	27.6	4.9	1.04	4.6	4.7	0.7	0.9	2.6	0.4	2.3	0.3
CH-C-1-45-1376ft Orig												
CH-C-1-45-1376ft Split												
Coal Box 4a Orig	2.7	9.6	1.9	0.43	1.8	1.7	0.3	0.3	0.9	0.1	0.8	0.1
Coal Box 4a Dup	2.3	8.8	1.8	0.45	1.9	1.6	0.3	0.3	0.8	0.1	0.8	0.1
CH-C-2-81-186ft Orig												
CH-C-2-81-186ft Split												
LE-OT-2-83 (Bobby Hall #1)-3960 - 3970ft Split												
LE-OT-1-98 (Simpson #1)-2070 - 2080ft Orig	8.7	32.1	6.4	1.44	5.5	4.4	0.8	0.9	2.6	0.4	2.7	0.4
LE-OT-1-98 (Simpson #1)-2070 - 2080ft Dup	8.1	28.9	5.5	1.28	5.3	4.5	0.8	0.9	2.5	0.4	2.3	0.4
VR Groce #1-2404 - 2114ft Orig	8.4	30.1	6.1	1.72	6.5	6.3	1.0	1.3	3.5	0.5	3.1	0.4
VR Groce #1-2404 - 2114ft Dup	8.9	33.7	7.0	1.94	7.0	6.1	1.1	1.2	3.6	0.5	3.5	0.5

Quality Control

Analyte Symbol	Pr	Nd	Sm	Eu	Gd	Dy	Tb	Ho	Er	Tm	Yb	Lu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Analysis Method	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
VR Groce #1-2426ft Split												
Method Blank												
Method Blank	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Method Blank												
Method Blank												
Method Blank												
Method Blank												
Method Blank	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Method Blank	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Method Blank												

Appendix 2. Deep River basin inorganic chemistry – Inorganic chemistry plots by drill hole.

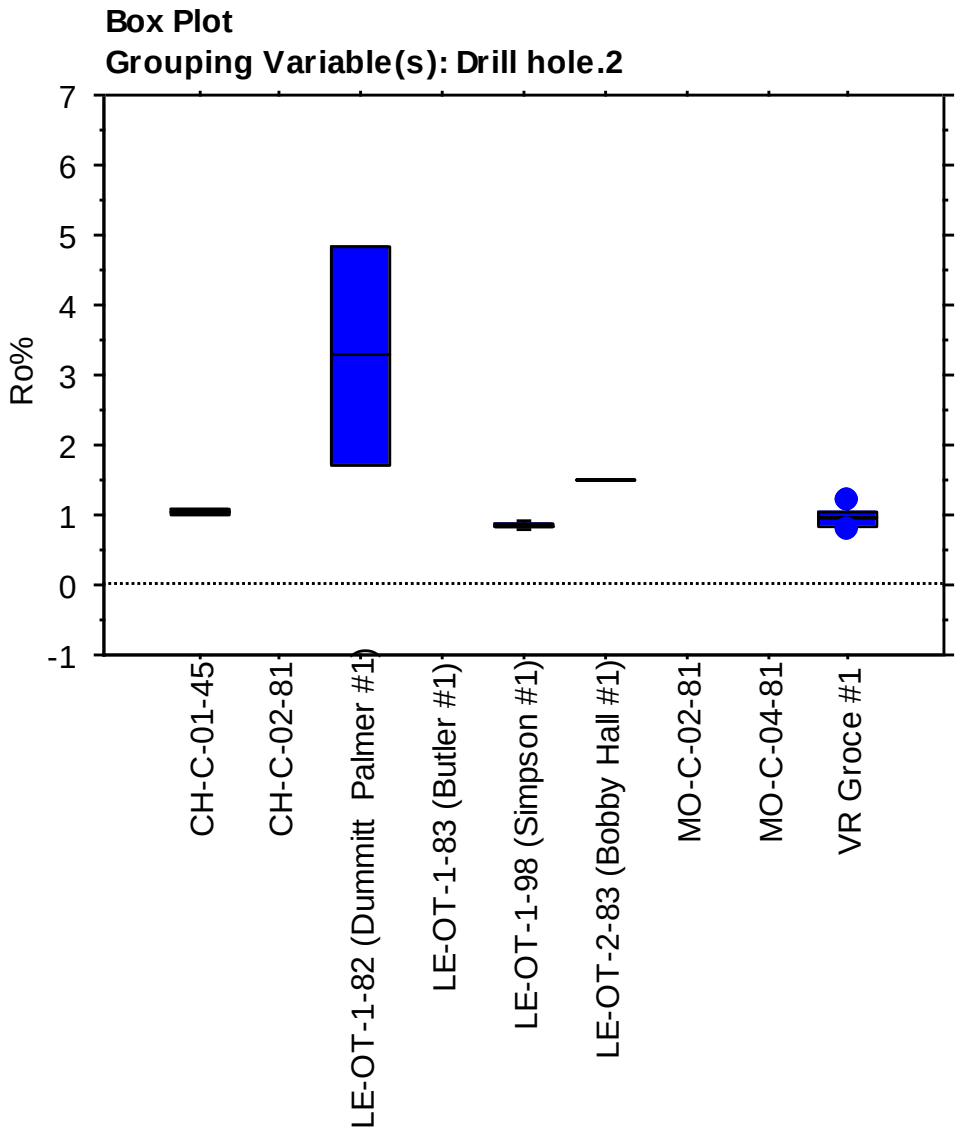
Appendix 2 - Deep River basin, Sanford sub-basin

Down hole inorganic chemistry plots

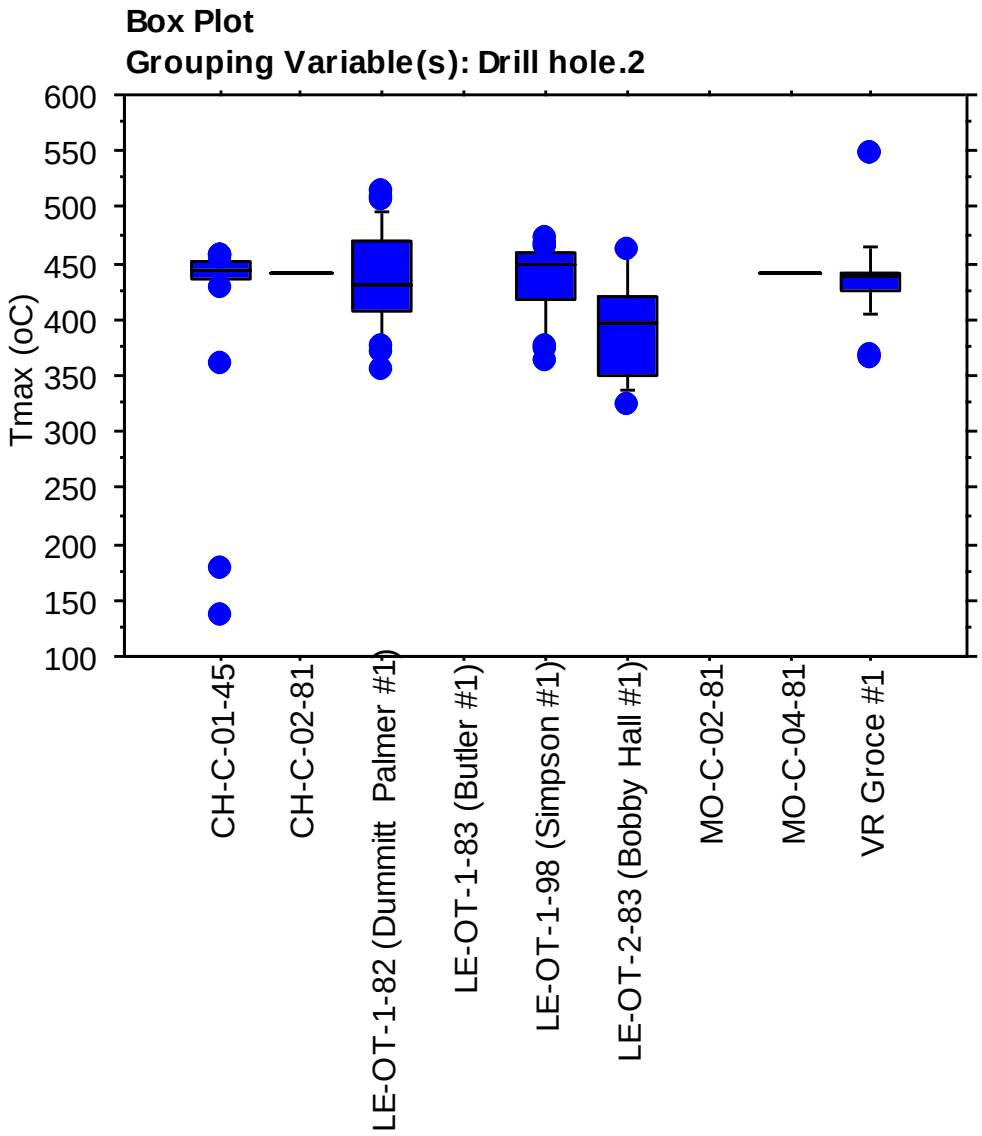
by

drill hole

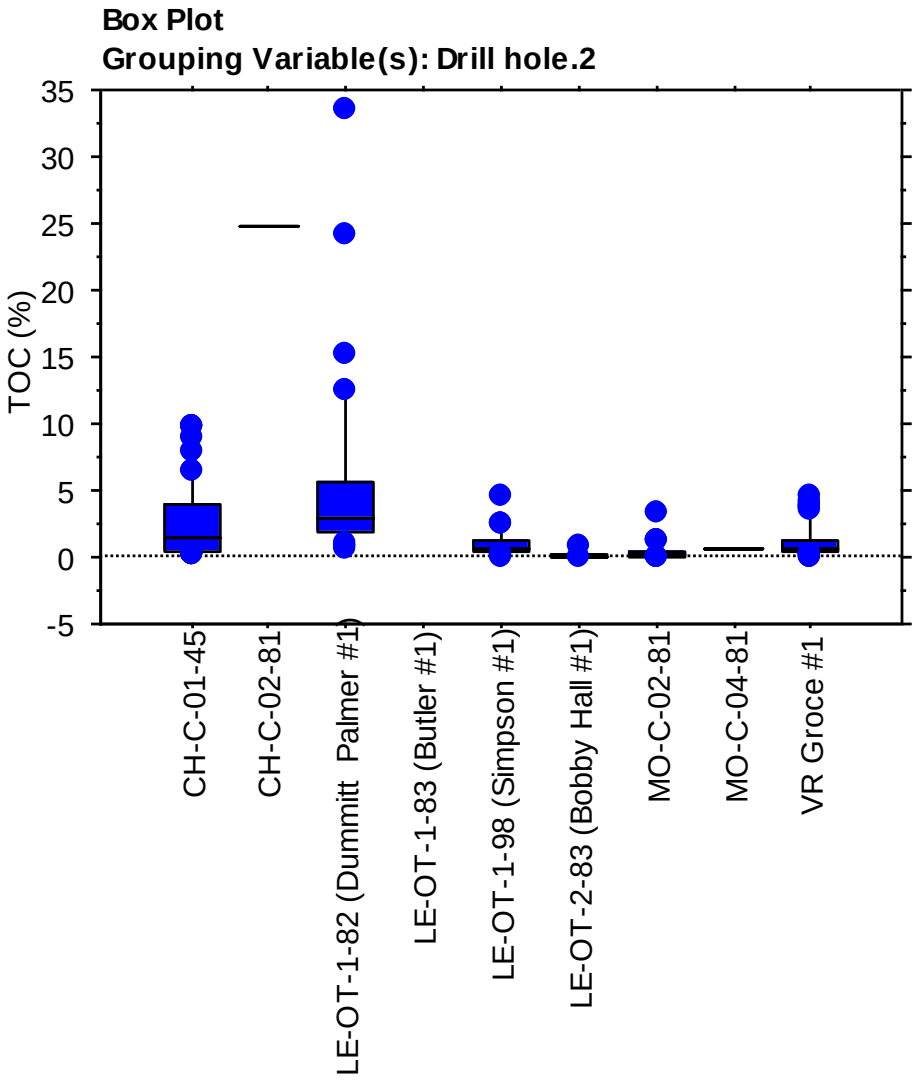
%Ro by drill hole



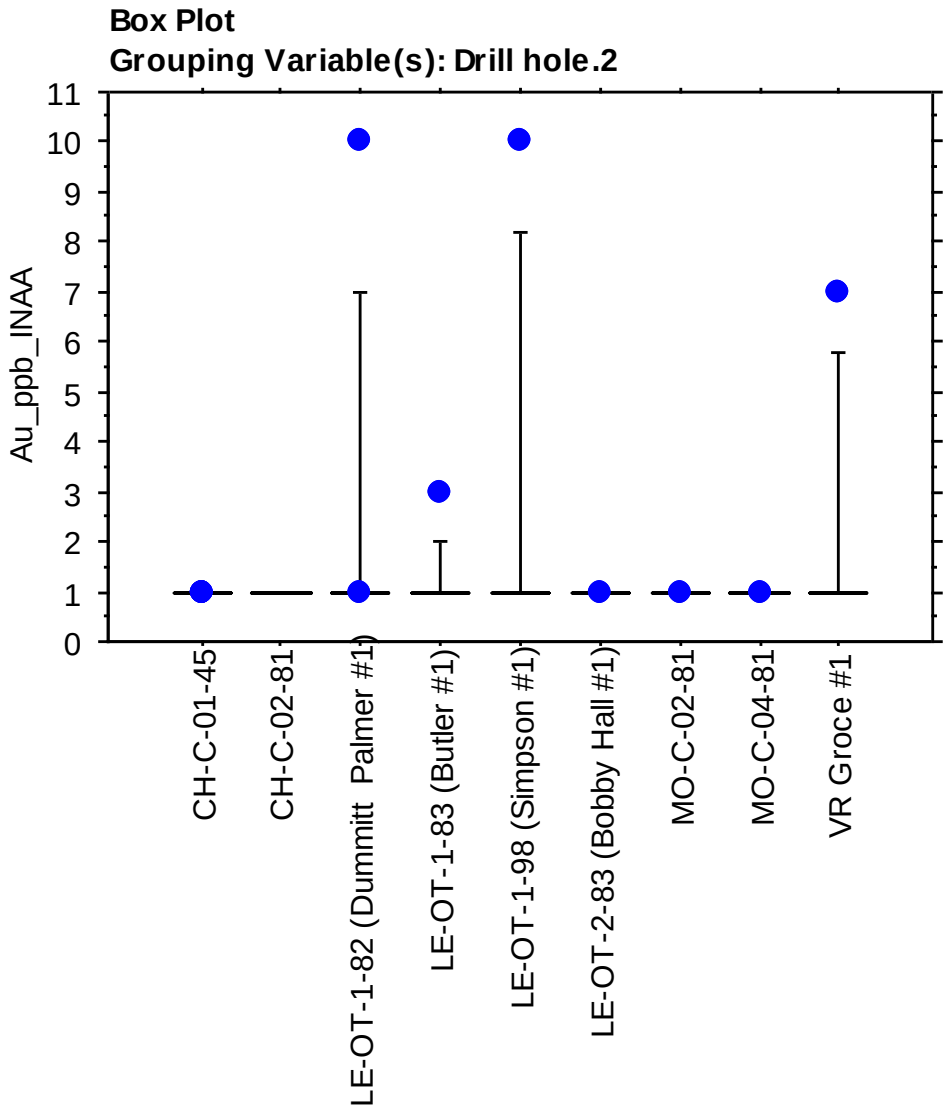
Tmax by drill hole



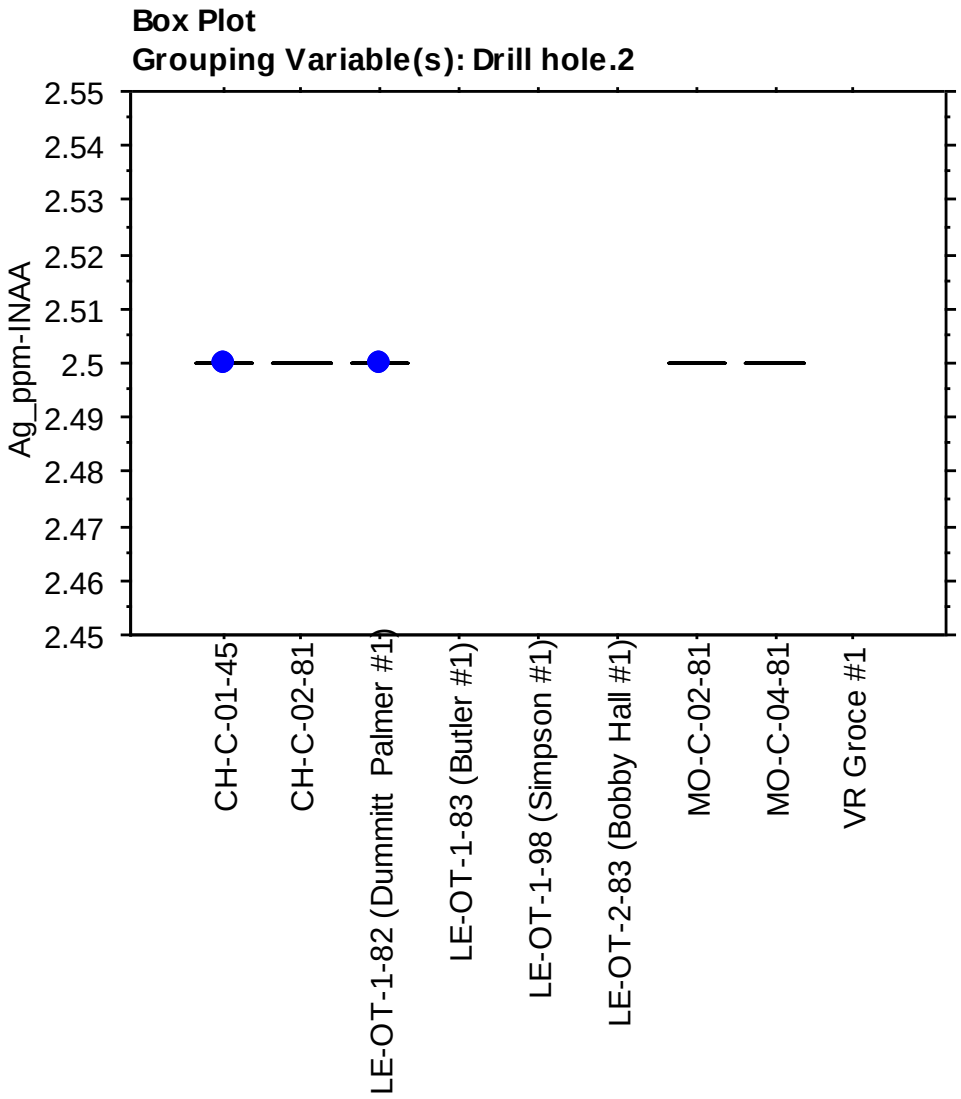
TOC% by hole


Box Plot
Grouping Variable(s): Drill hole.2
TOC (%)
35
30
25
20
15
10
5
0
-5
CH-C-01-45
CH-C-02-81
LE-OT-1-82 (Dummitt Palmer #1)
LE-OT-1-83 (Butler #1)
LE-OT-1-98 (Simpson #1)
LE-OT-2-83 (Bobby Hall #1)
MO-C-02-81
MO-C-04-81
VR Groce #1

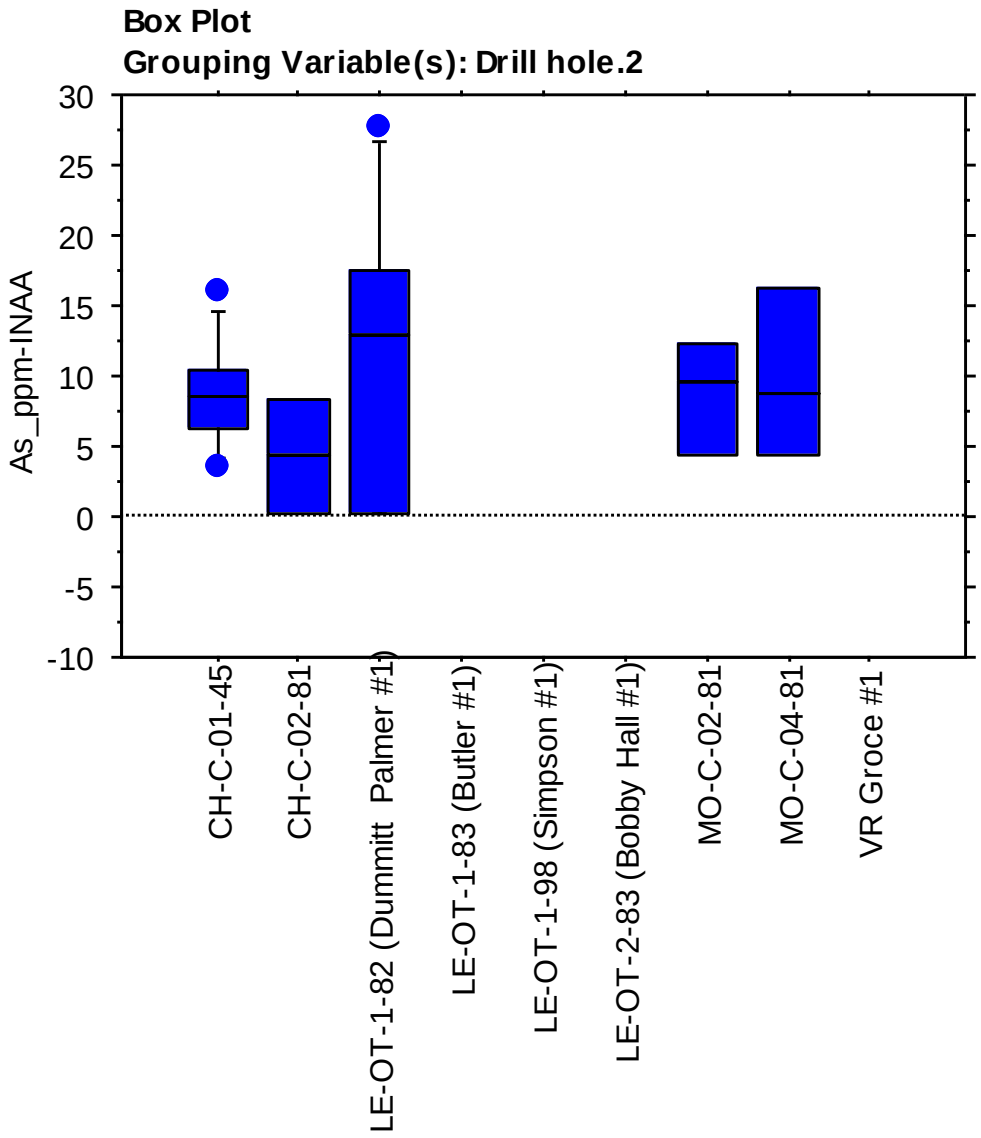
Au (ppb) by hole



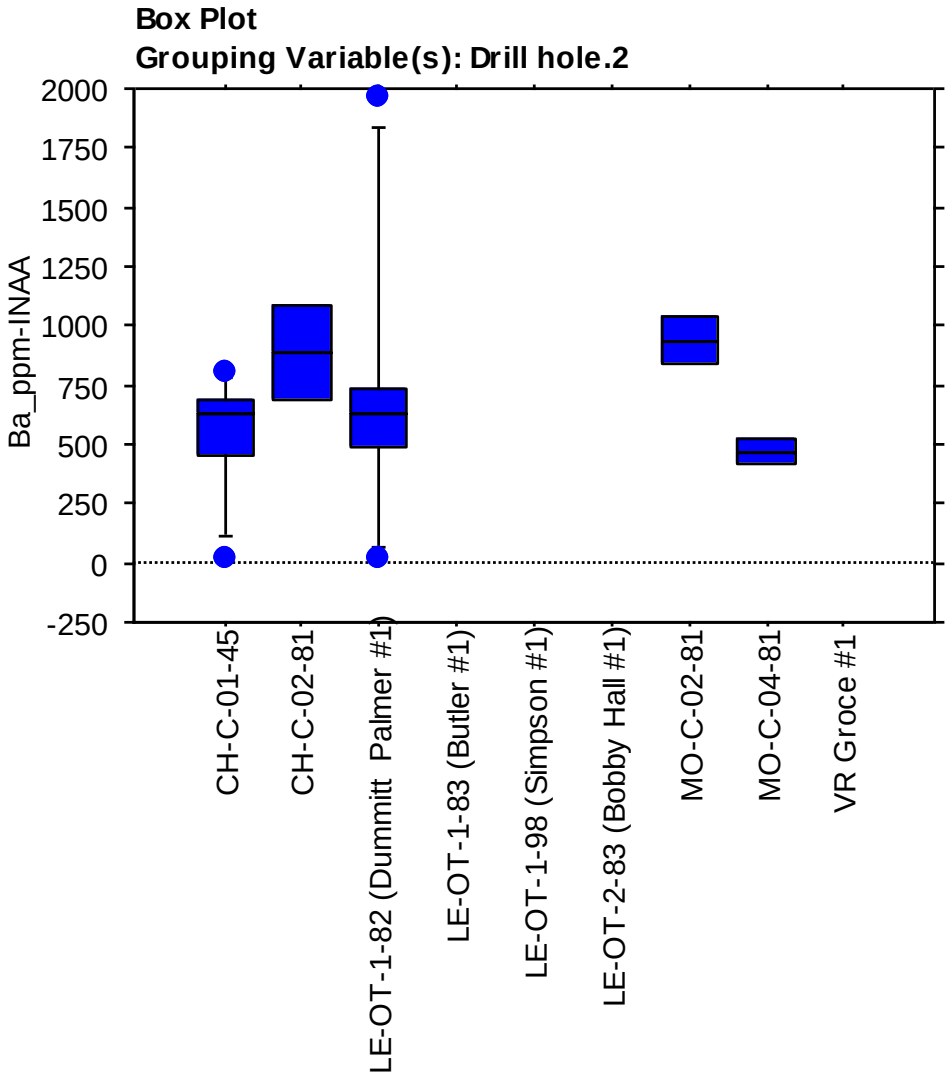
Ag (ppm) by hole



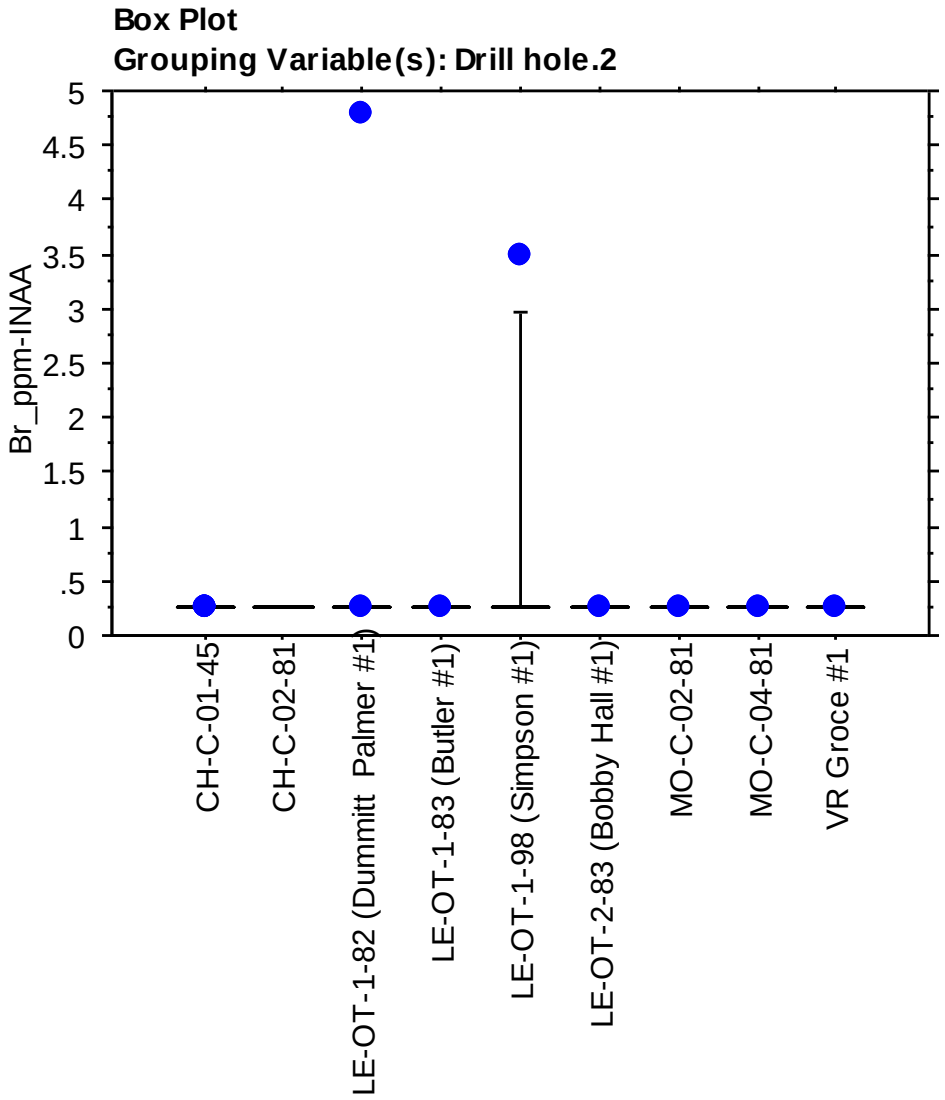
As (ppm) by hole



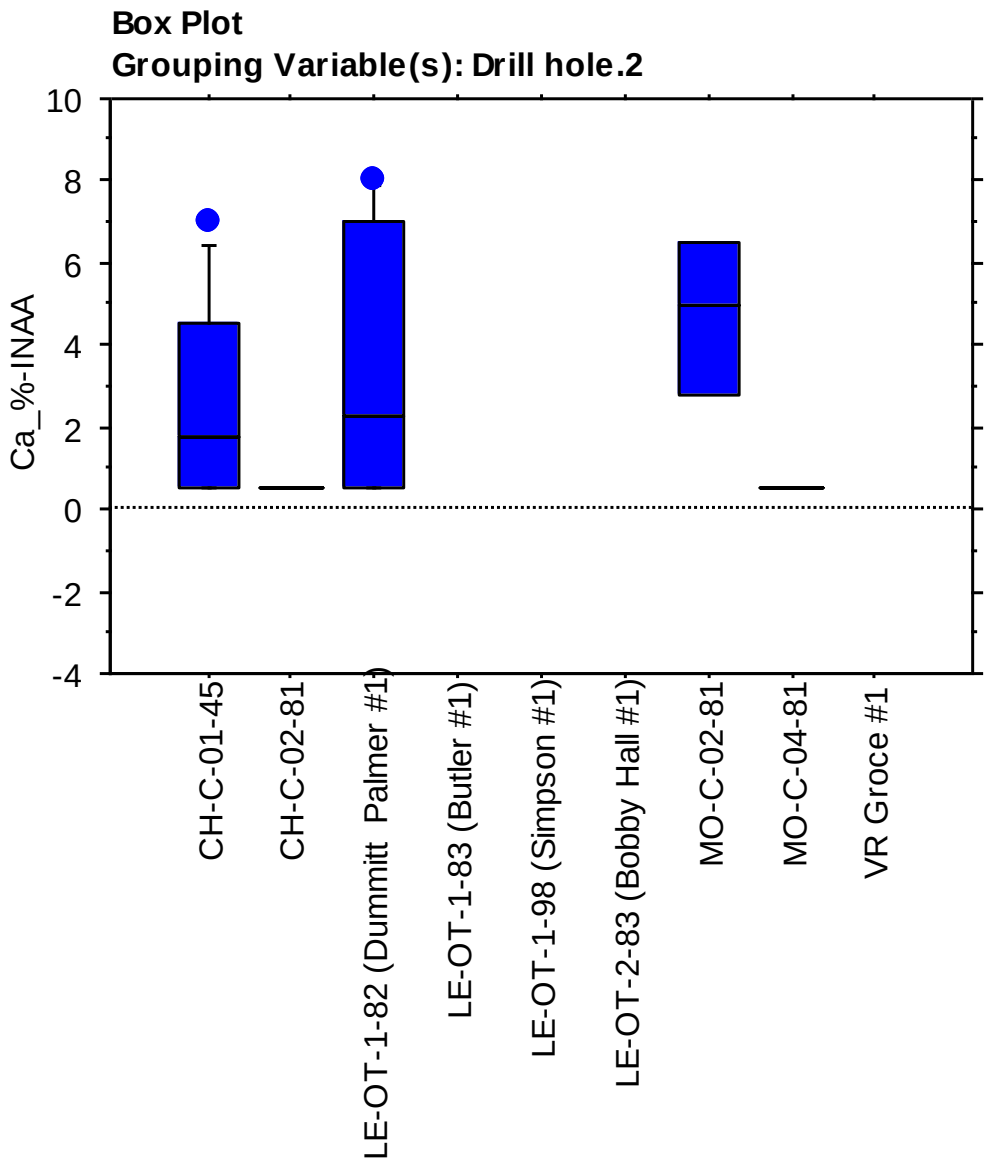
Ba (ppm) by hole



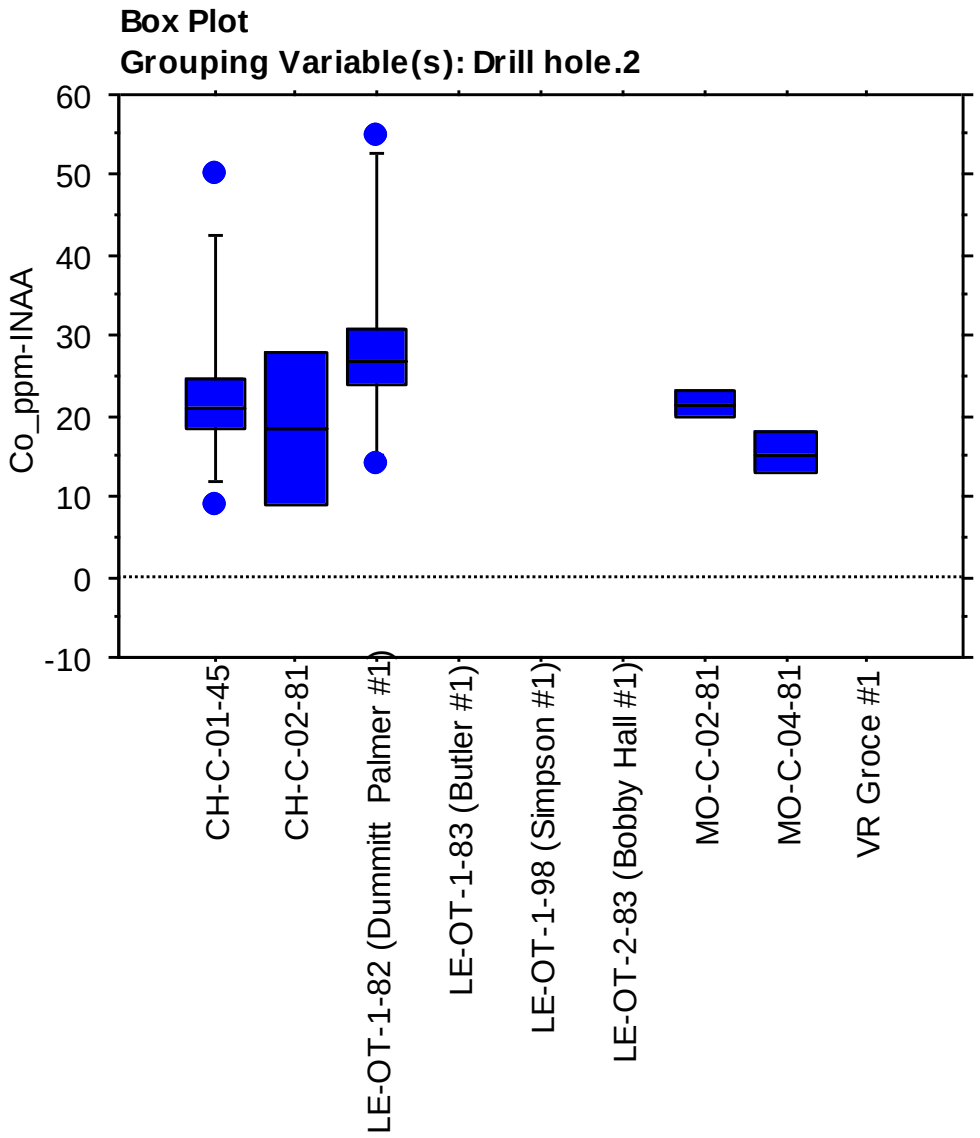
Br (ppm) by hole



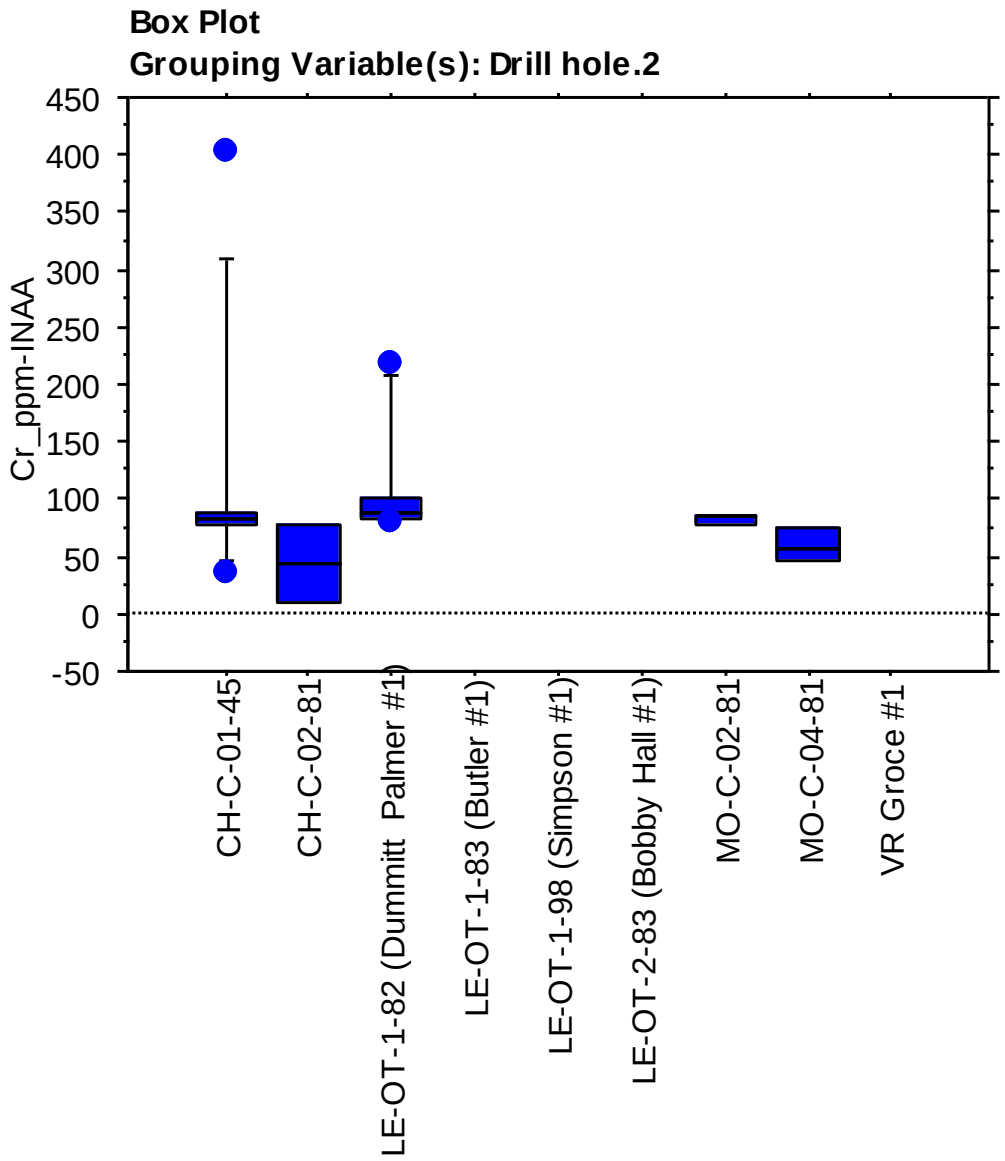
Ca% by hole


Box Plot
Grouping Variable(s): Drill hole.2
Ca_%-INAA
10
8
6
4
2
0
-2
-4
CH-C-01-45
CH-C-02-81
LE-OT-1-82 (Dummitt Palmer #1)
LE-OT-1-83 (Butler #1)
LE-OT-1-98 (Simpson #1)
LE-OT-2-83 (Bobby Hall #1)
MO-C-02-81
MO-C-04-81
VR Groce #1

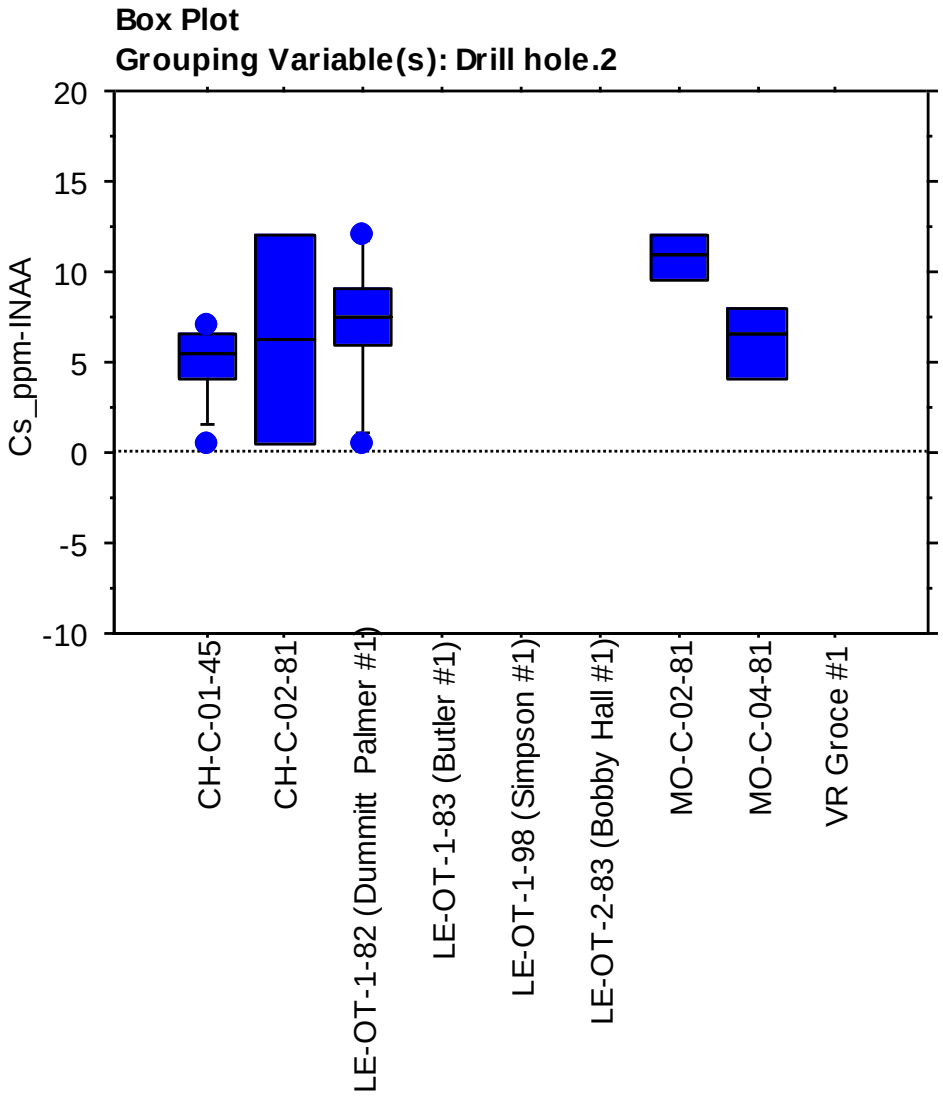
Co (ppm) by hole



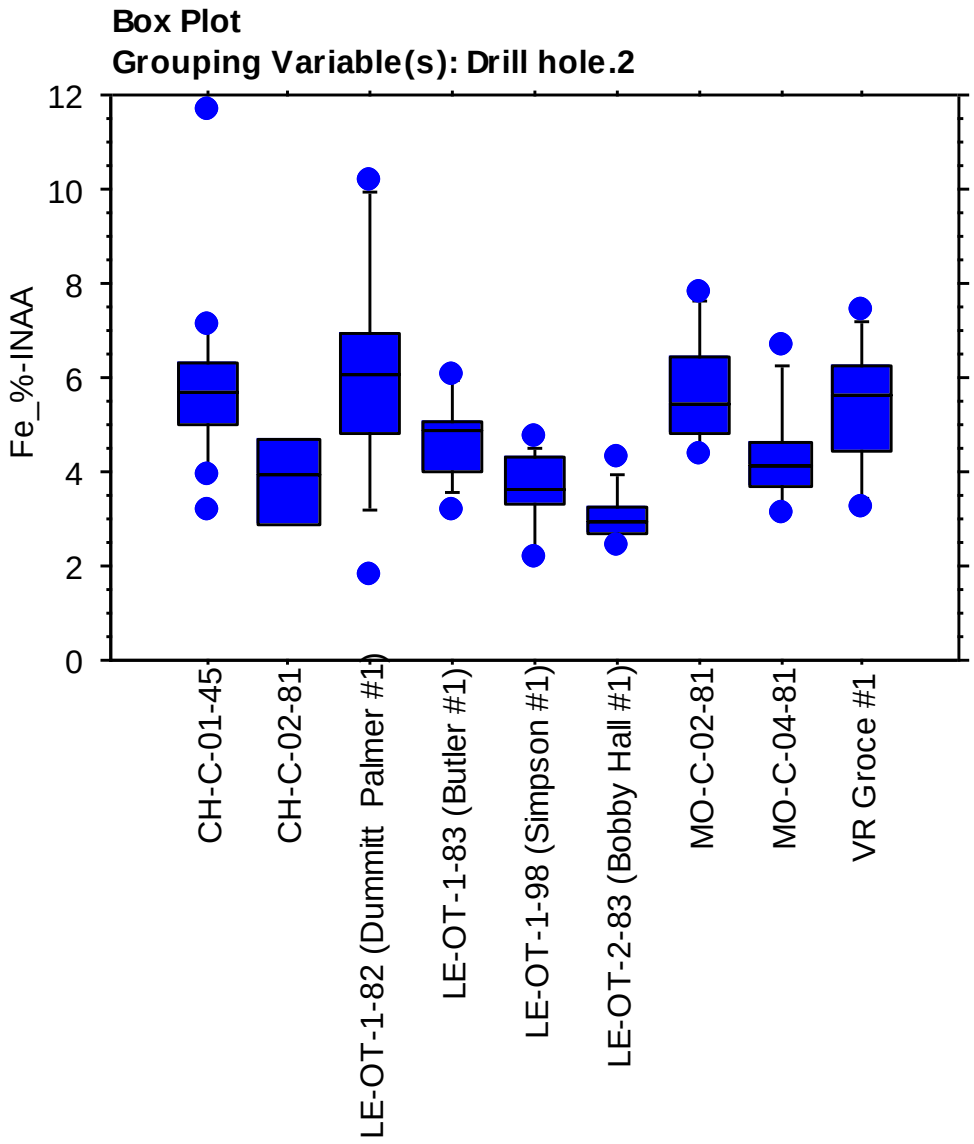
Cr (ppm) by hole



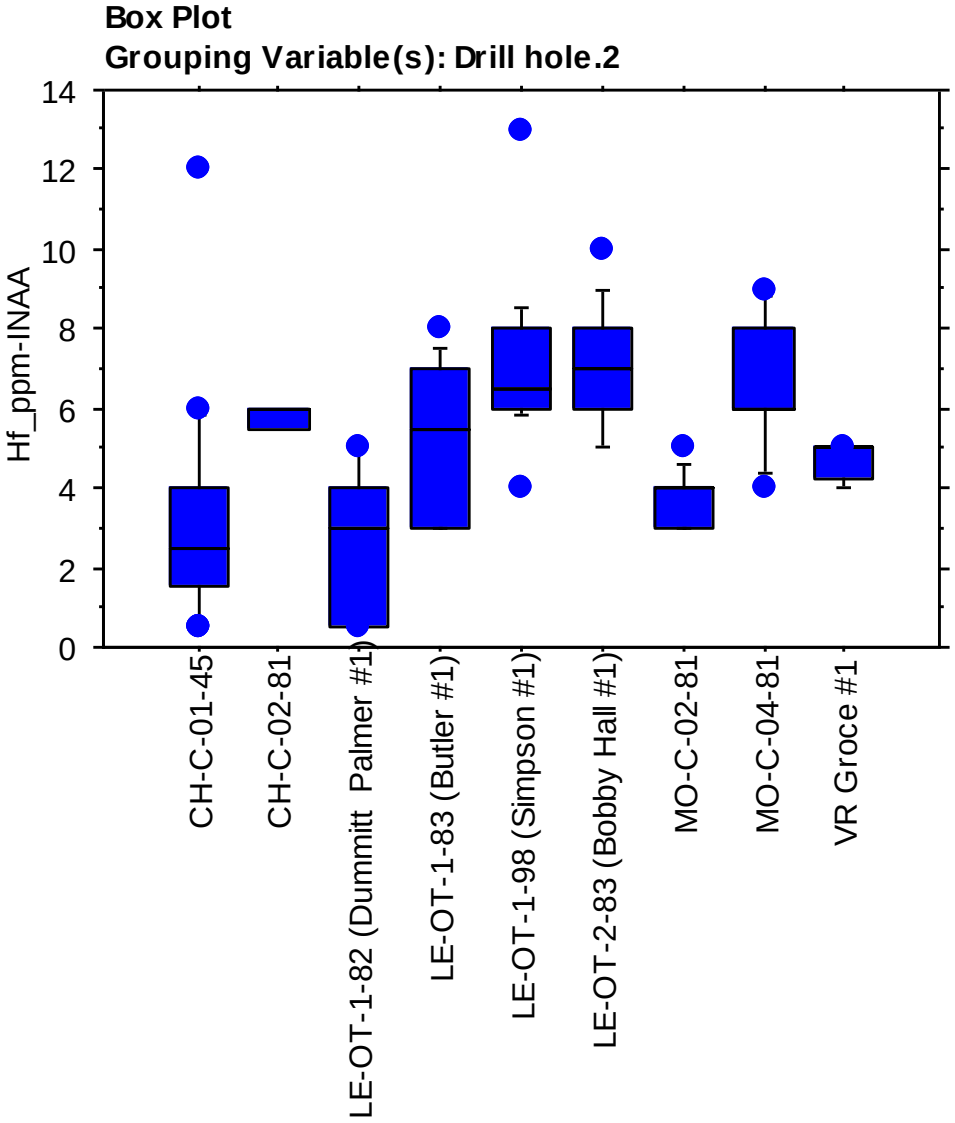
Cs (ppm) by hole



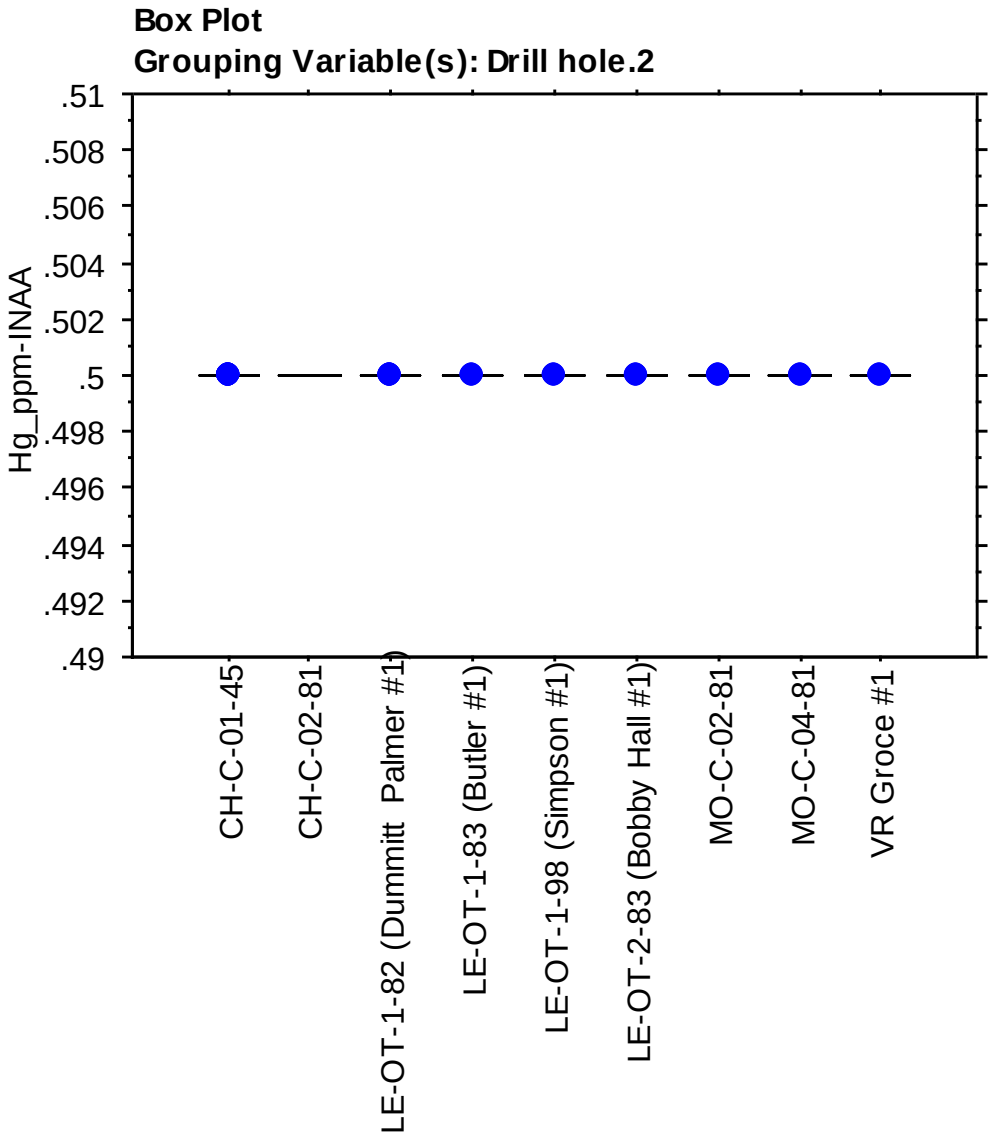
Fe% by hole


Box Plot
Grouping Variable(s): Drill hole.2
Fe_%-INAA
12
10
8
6
4
2
0
CH-C-01-45
CH-C-02-81
LE-OT-1-82 (Dummitt Palmer #1)
LE-OT-1-83 (Butler #1)
LE-OT-1-98 (Simpson #1)
LE-OT-2-83 (Bobby Hall #1)
MO-C-02-81
MO-C-04-81
VR Groce #1

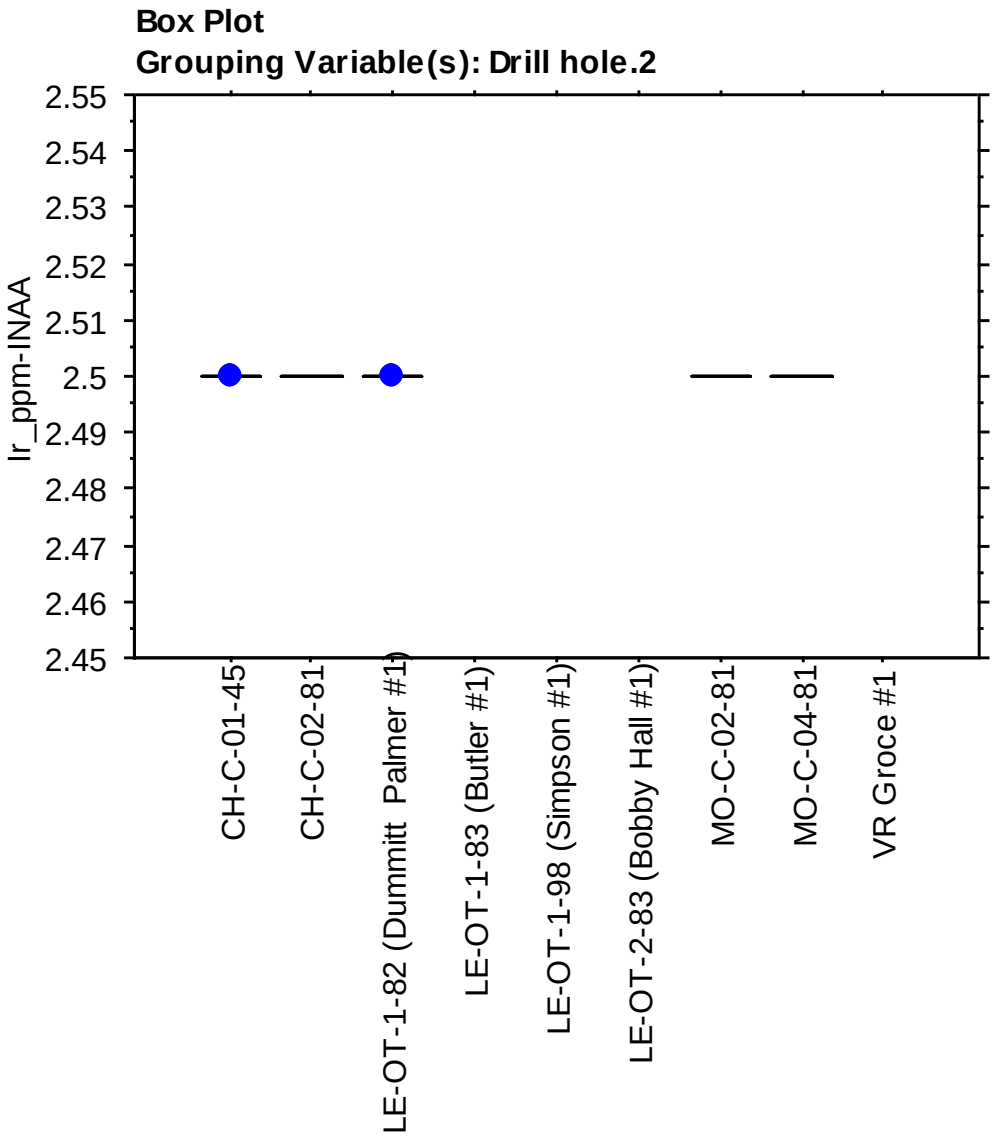
Hf (ppm) by hole



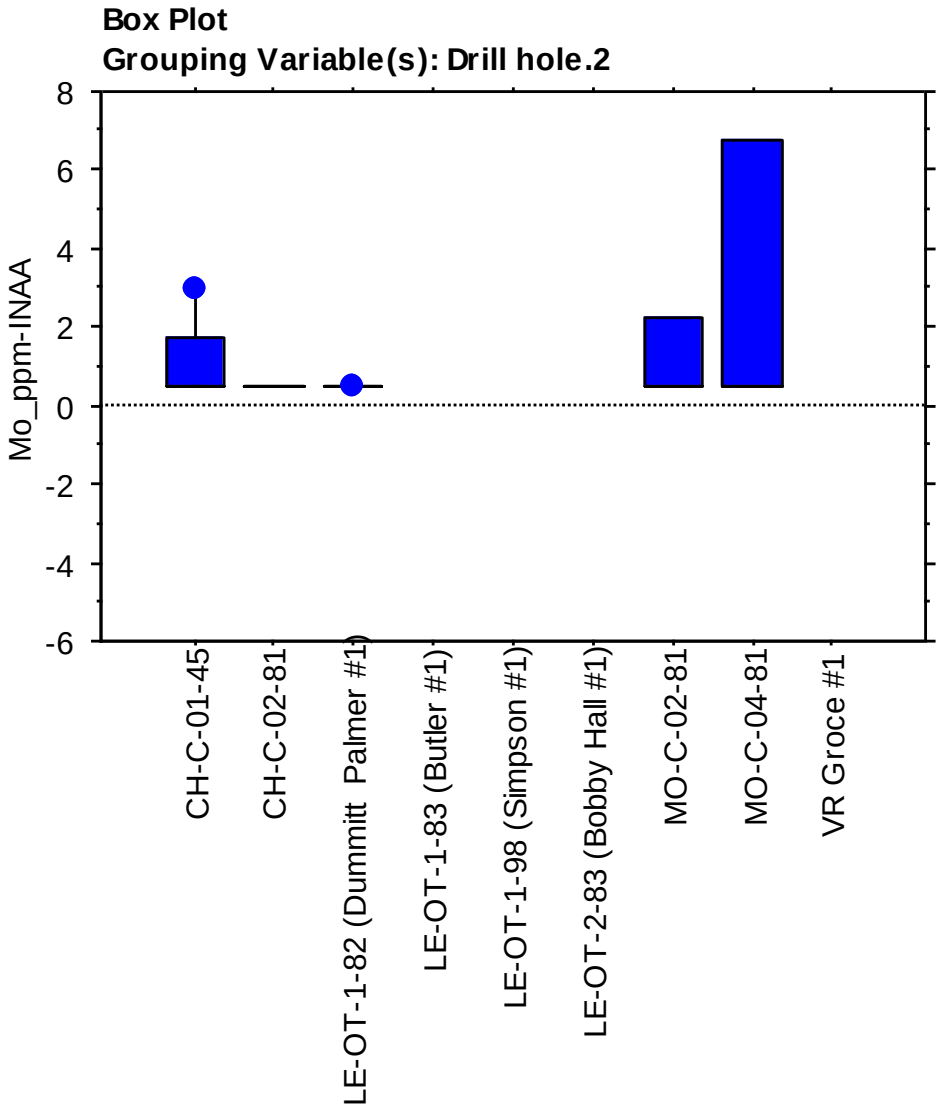
Hg (ppm) by hole



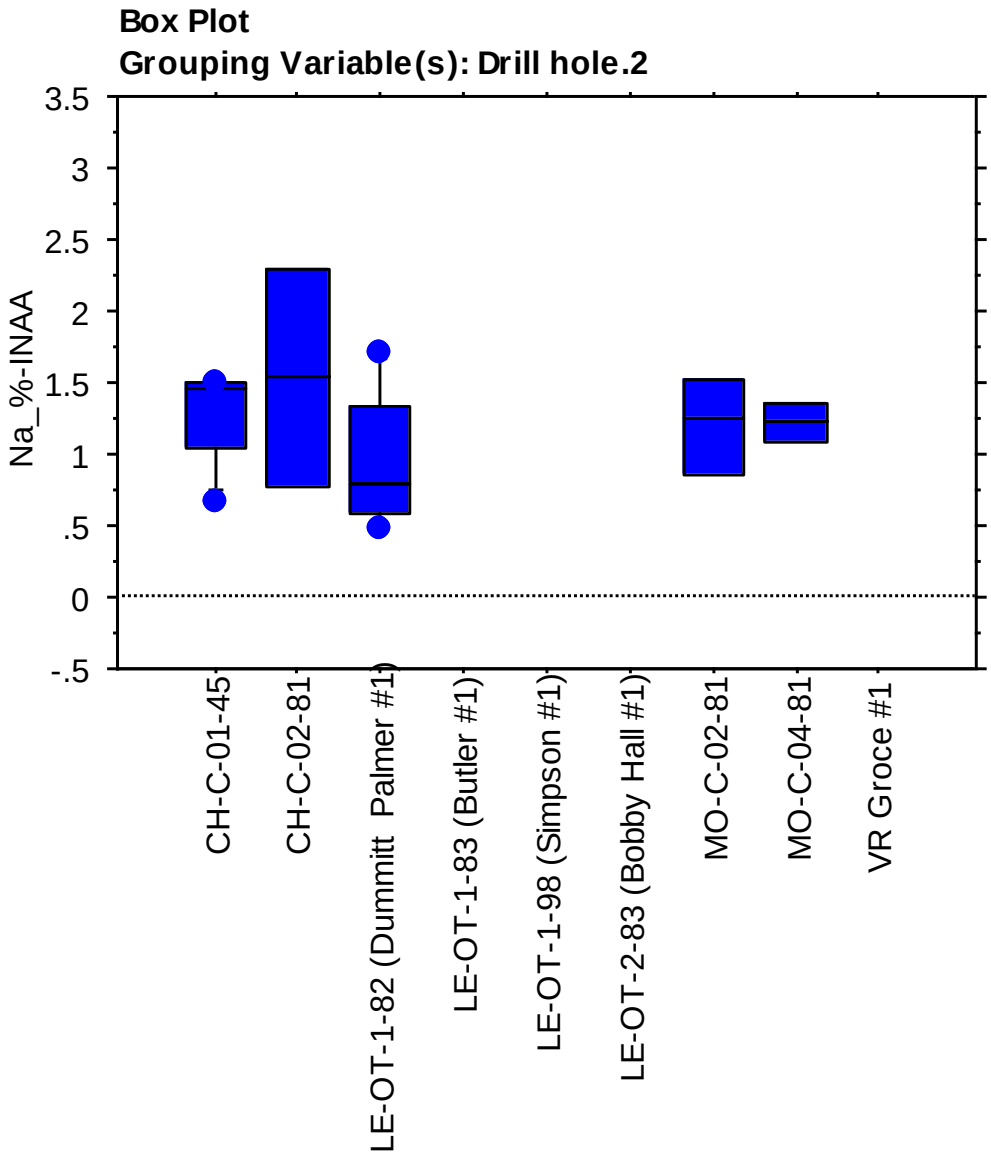
Ir (ppm) by hole



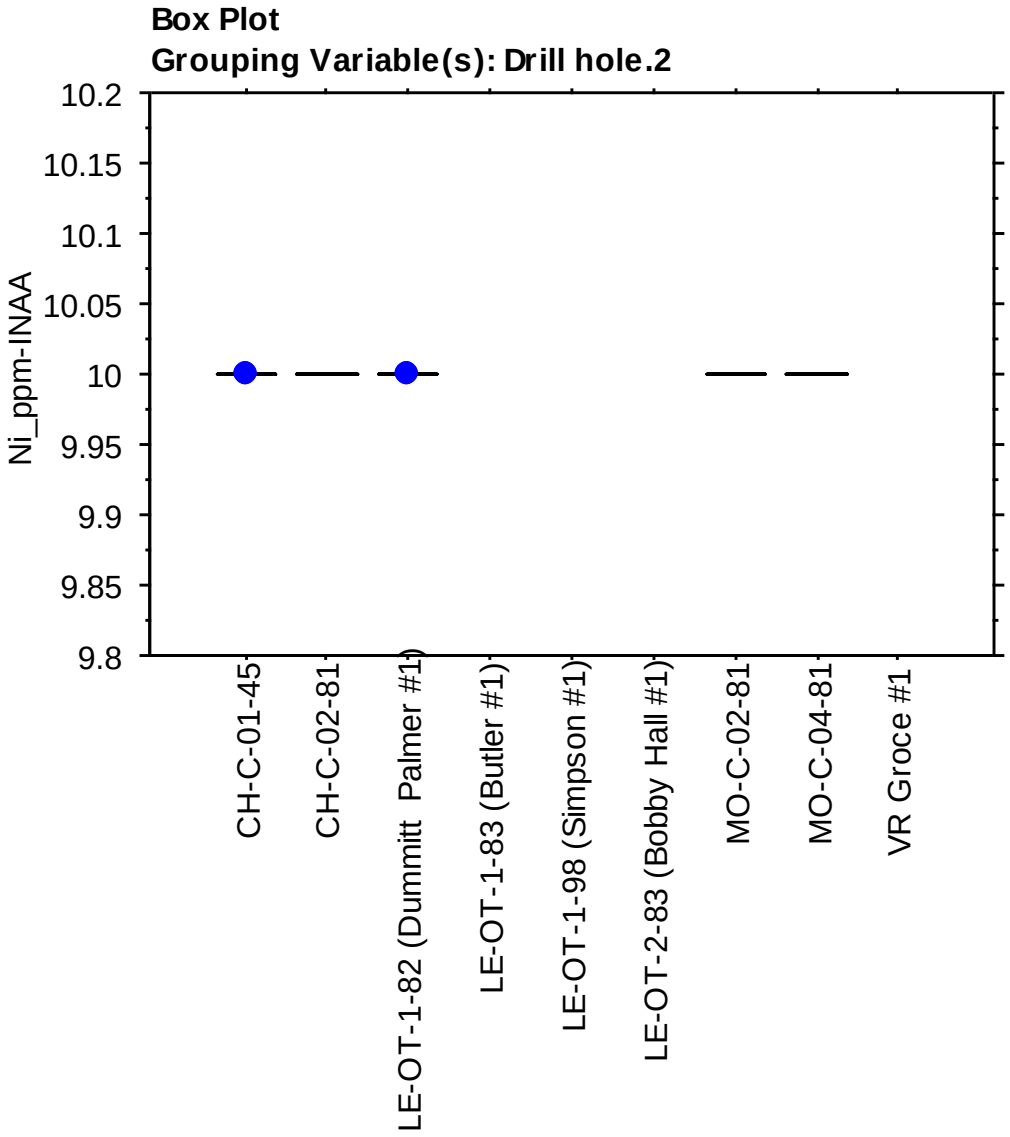
Mo (ppm) by hole



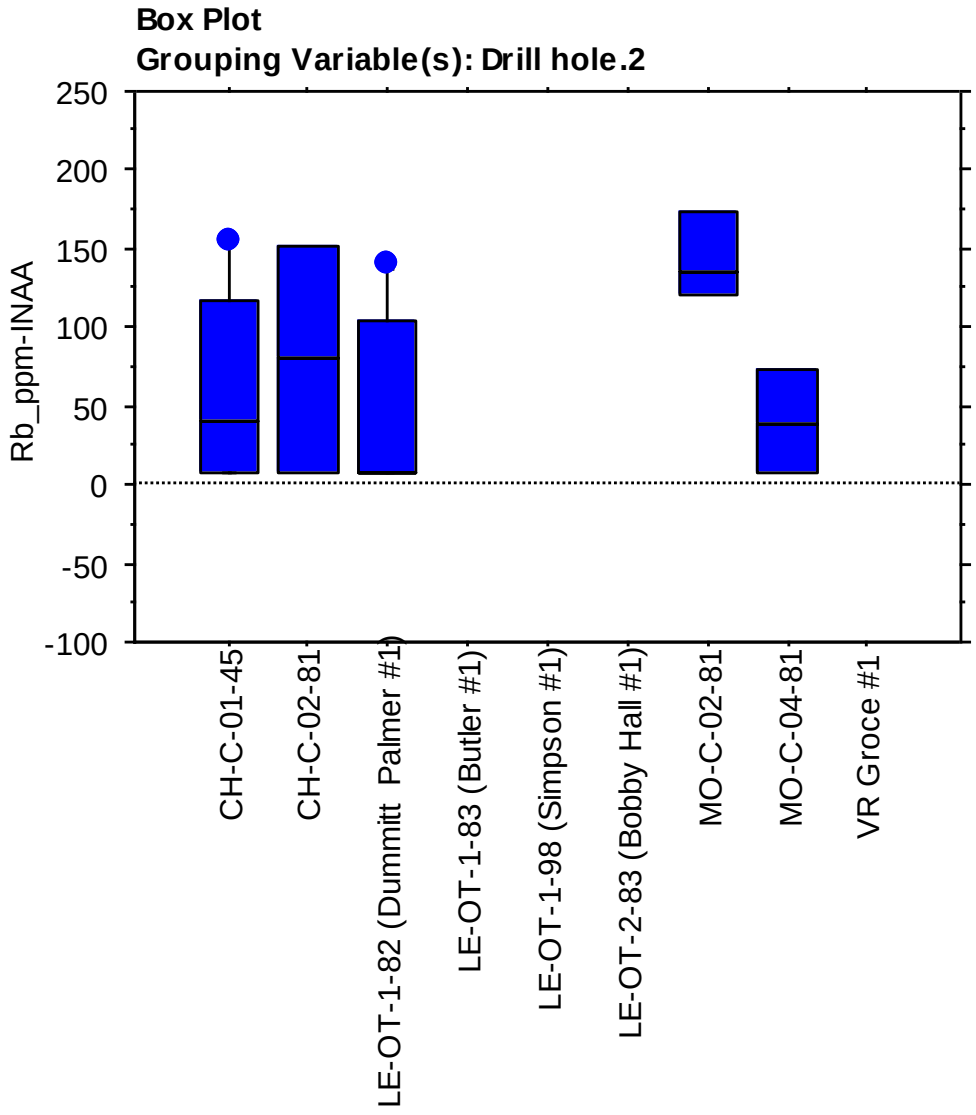
Na% by hole


Box Plot
Grouping Variable(s): Drill hole.2
Na_%-INAA
3.5
3
2.5
2
1.5
1
.5
0
-.5
CH-C-01-45
CH-C-02-81
LE-OT-1-82 (Dummitt Palmer #1)
LE-OT-1-83 (Butler #1)
LE-OT-1-98 (Simpson #1)
LE-OT-2-83 (Bobby Hall #1)
MO-C-02-81
MO-C-04-81
VR Groce #1

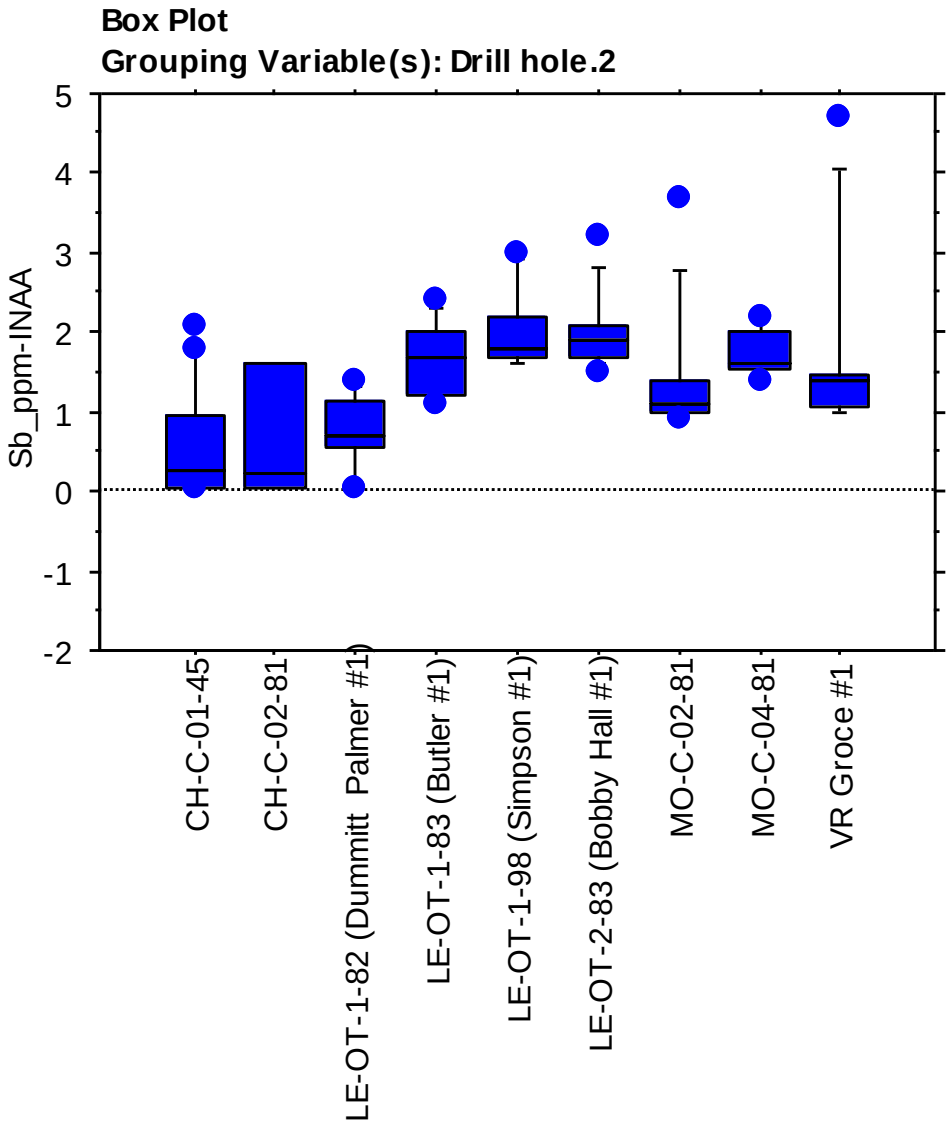
Ni (ppm) by hole



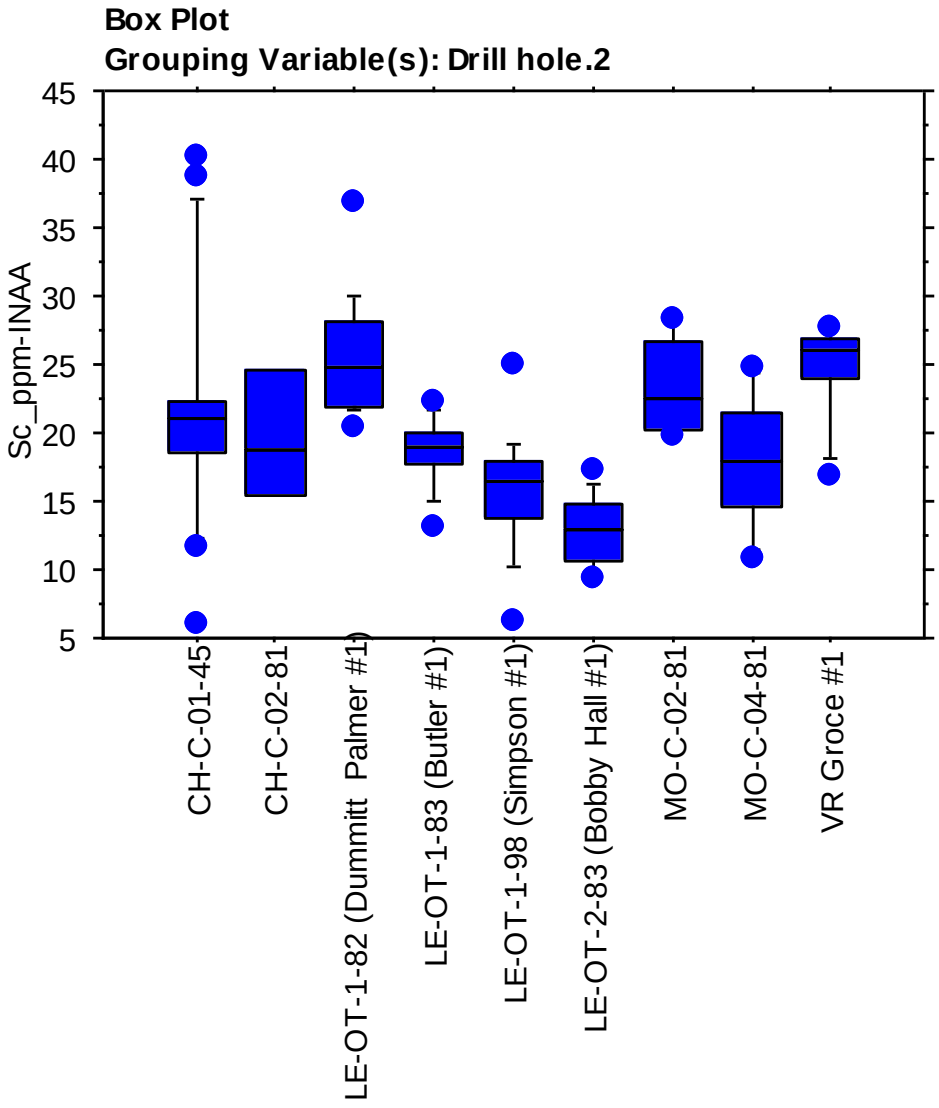
Rb (ppm) by hole



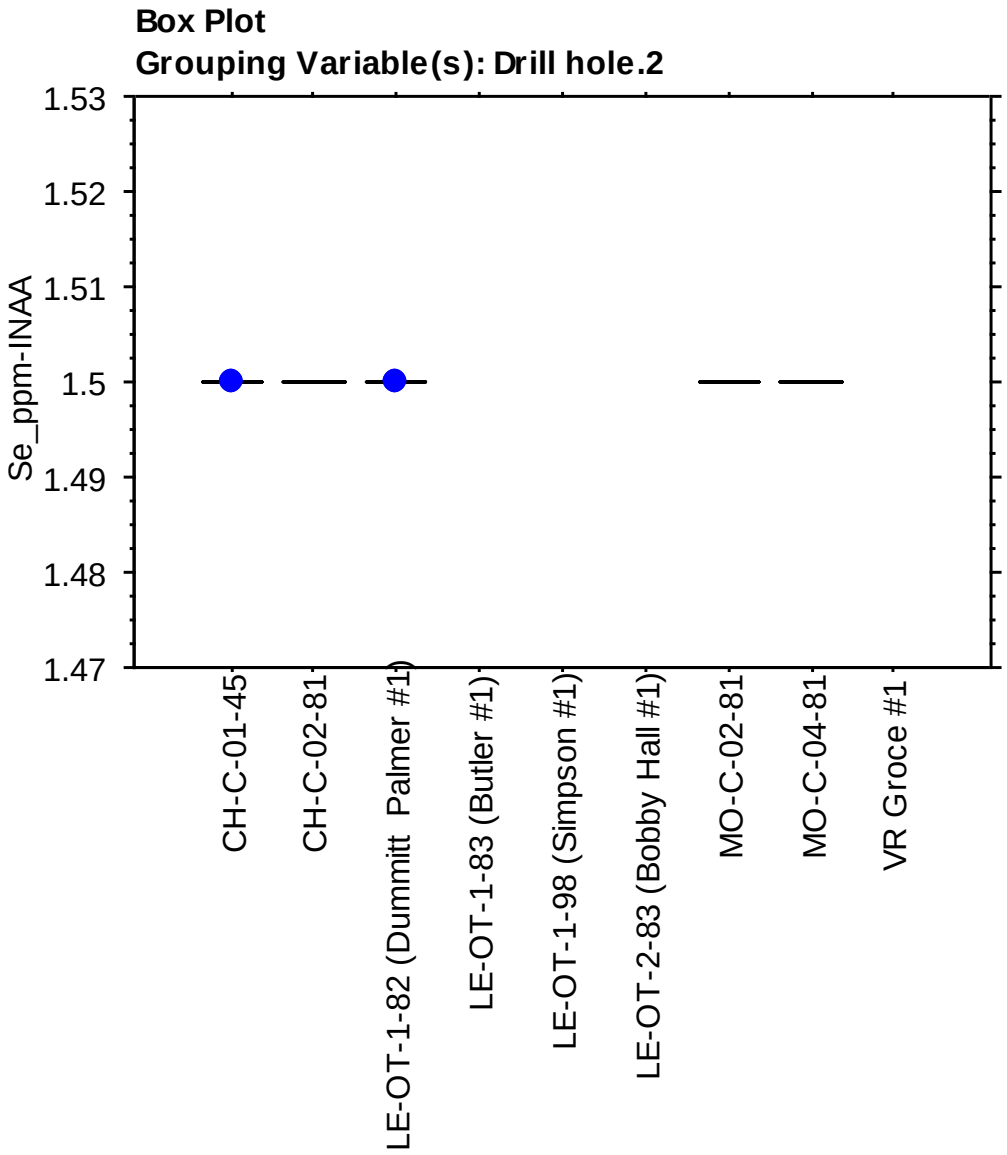
Sb (ppm) by hole



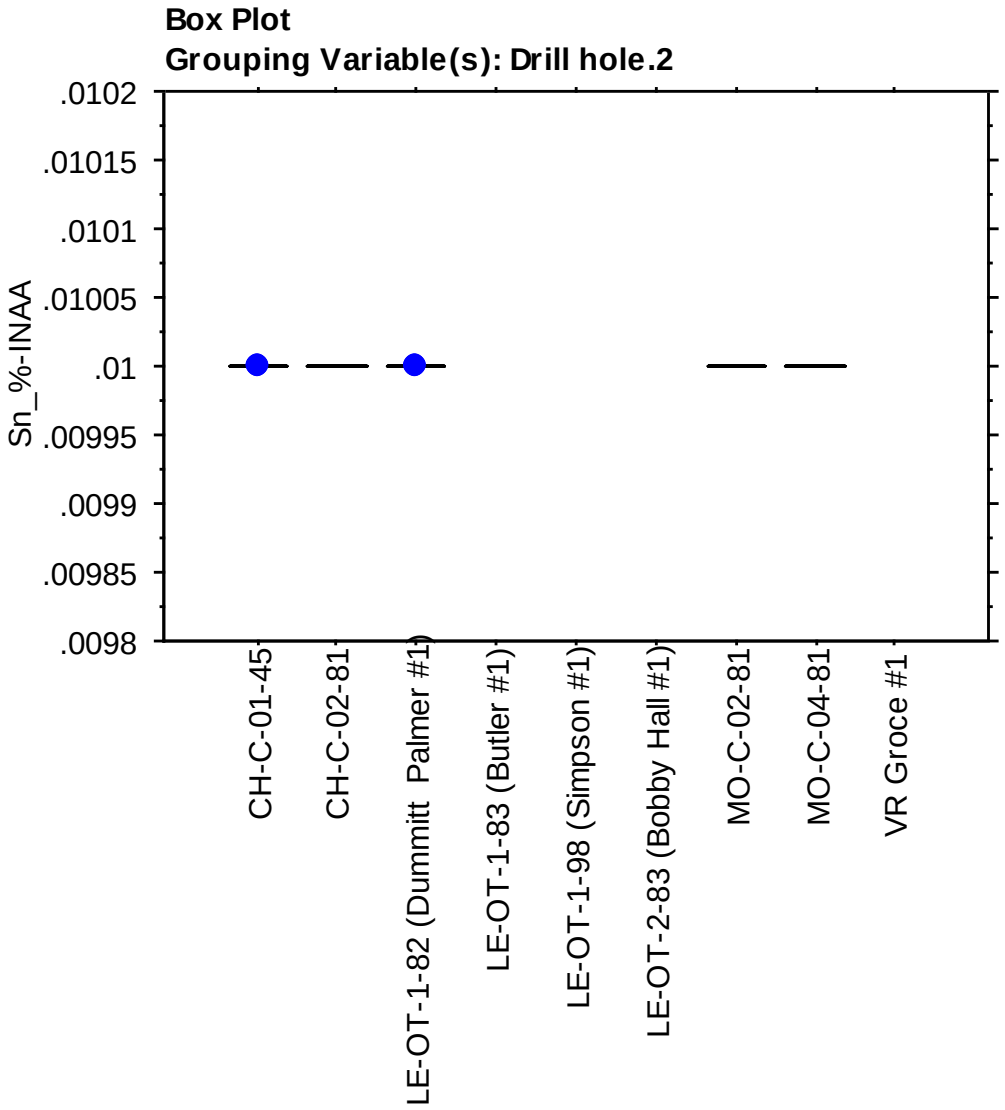
Sc (ppm) by hole



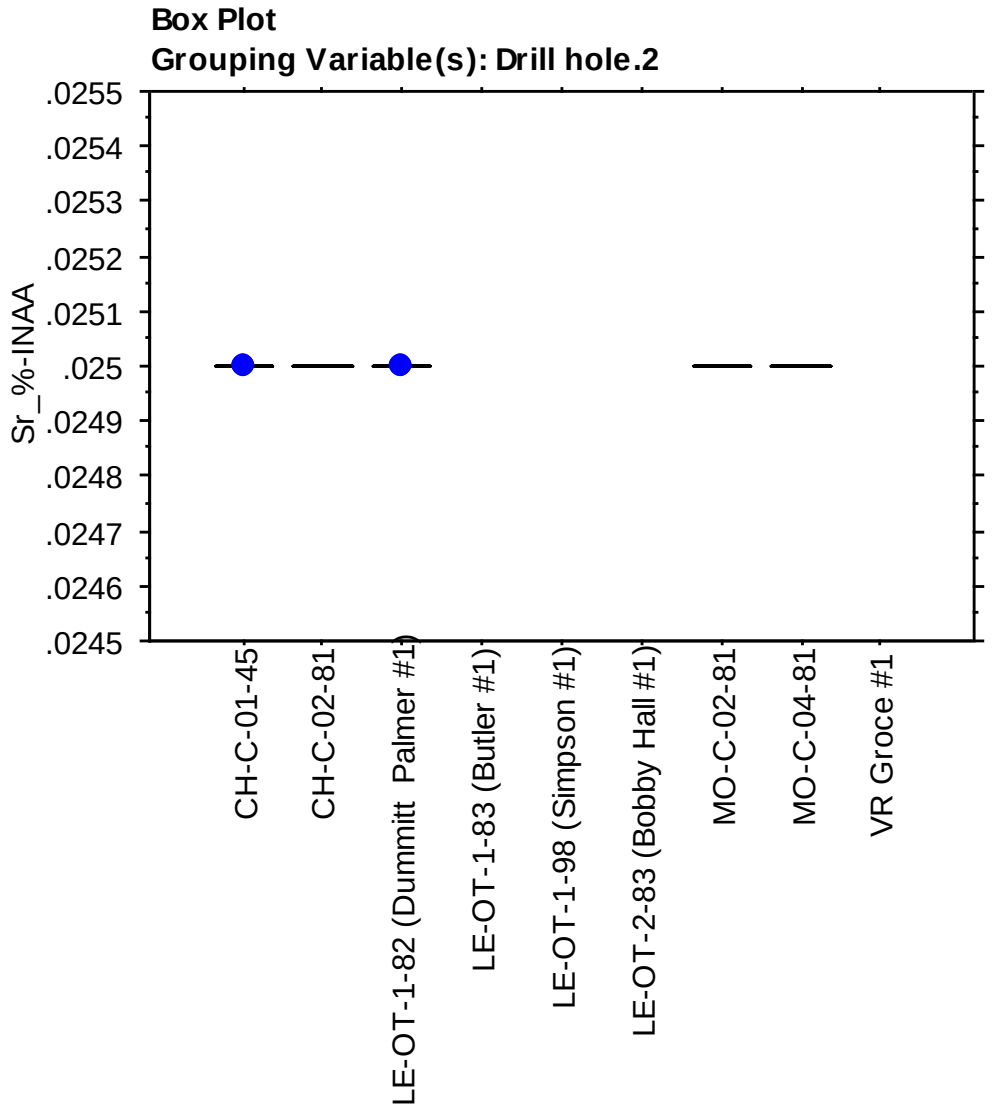
Se (ppm) by hole



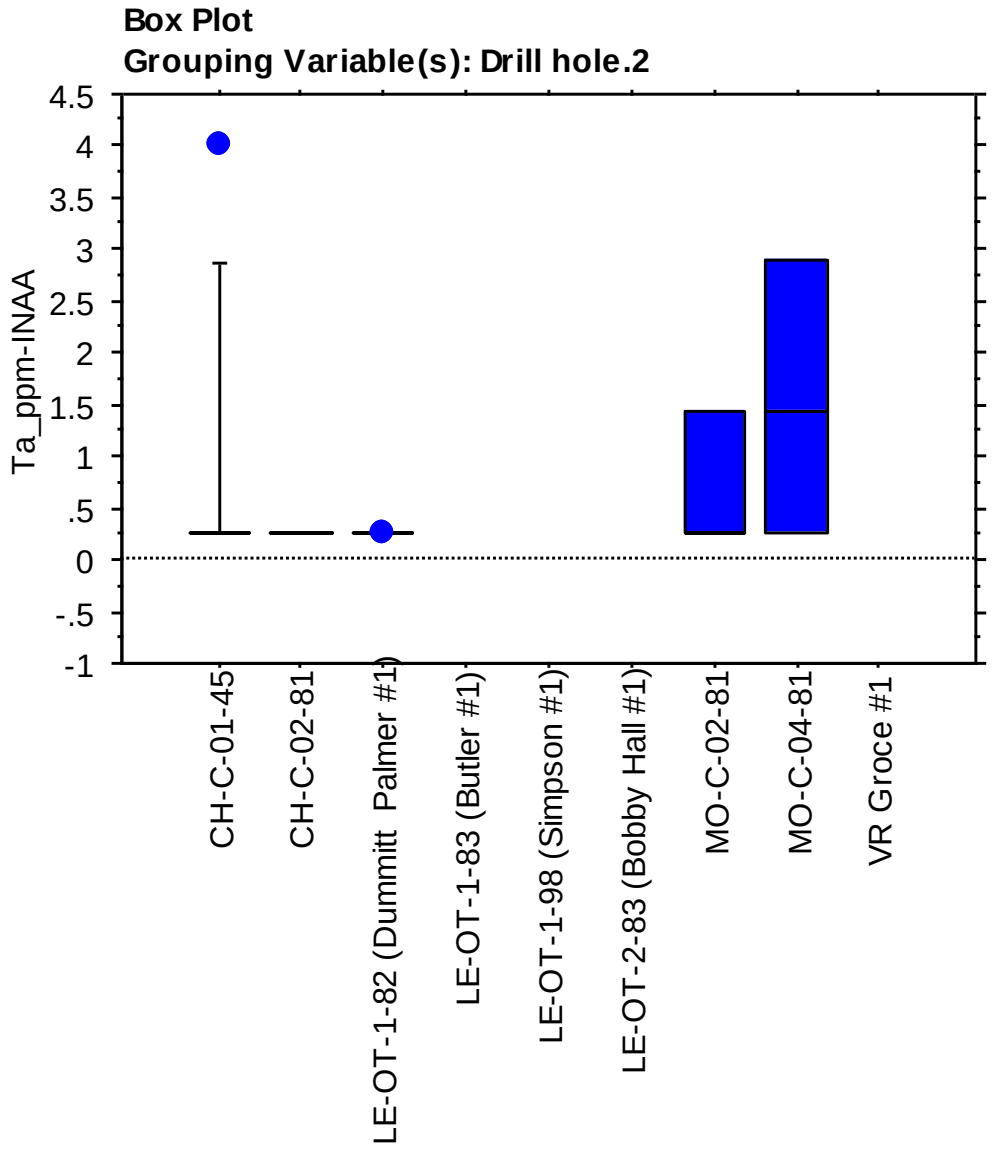
Sn % by hole


Box Plot
Grouping Variable(s): Drill hole.2
Sn_%-INAA
.0102
.01015
.0101
.01005
.01
.00995
.0099
.00985
.0098
CH-C-01-45
CH-C-02-81
LE-OT-1-82 (Dummitt Palmer #1)
LE-OT-1-83 (Butler #1)
LE-OT-1-98 (Simpson #1)
LE-OT-2-83 (Bobby Hall #1)
MO-C-02-81
MO-C-04-81
VR Groce #1

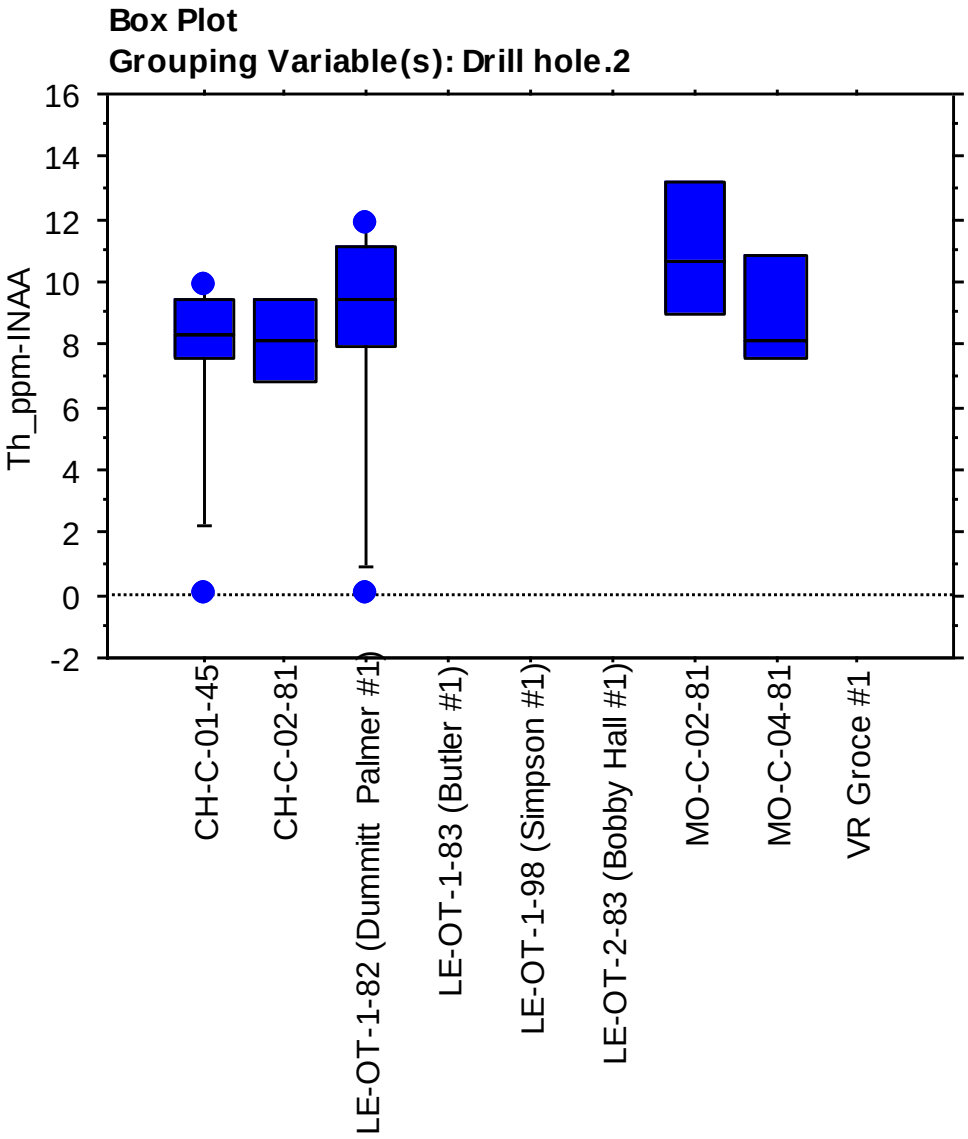
Sr % by hole


Box Plot
Grouping Variable(s): Drill hole.2
Sr_%-INAA
.0255
.0254
.0253
.0252
.0251
.025
.0249
.0248
.0247
.0246
.0245
CH-C-01-45
CH-C-02-81
LE-OT-1-82 (Dummitt Palmer #1)
LE-OT-1-83 (Butler #1)
LE-OT-1-98 (Simpson #1)
LE-OT-2-83 (Bobby Hall #1)
MO-C-02-81
MO-C-04-81
VR Groce #1

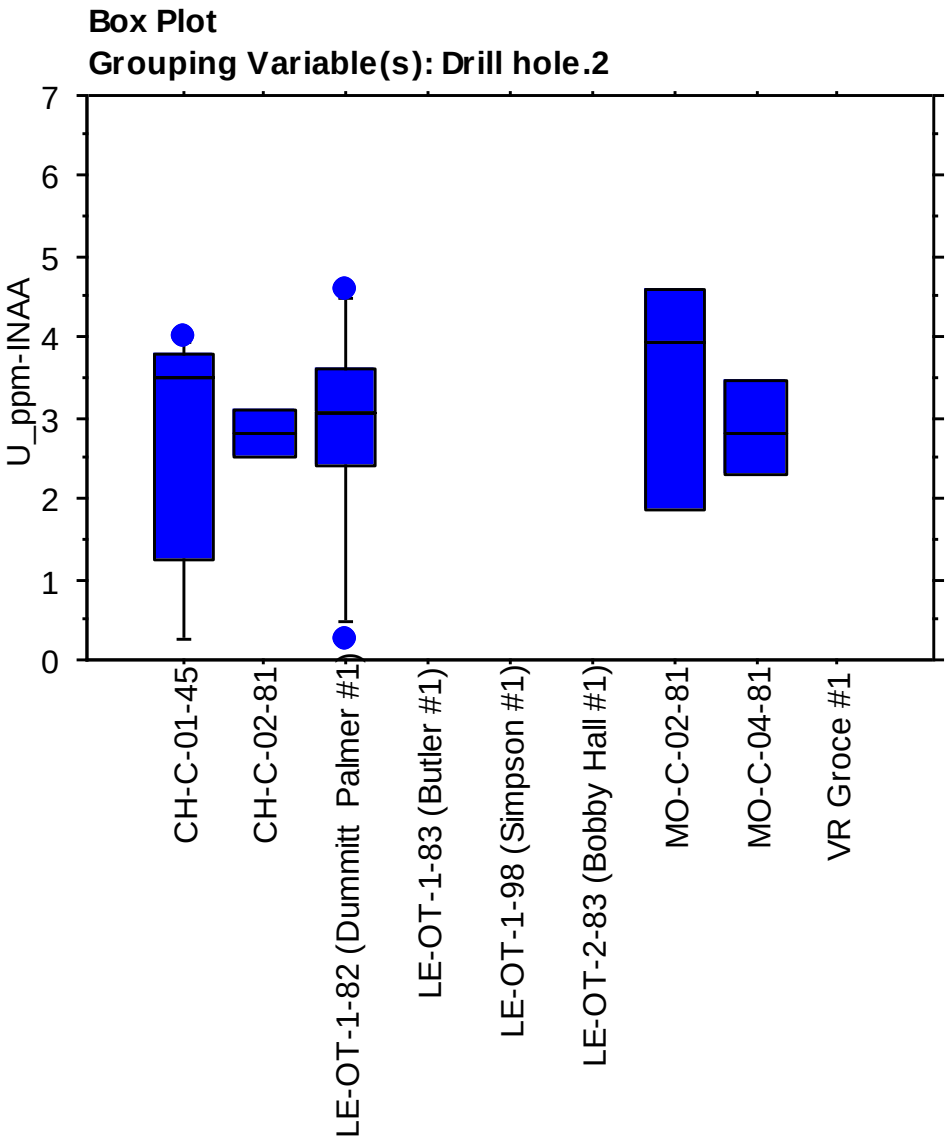
Ta (ppm) by hole



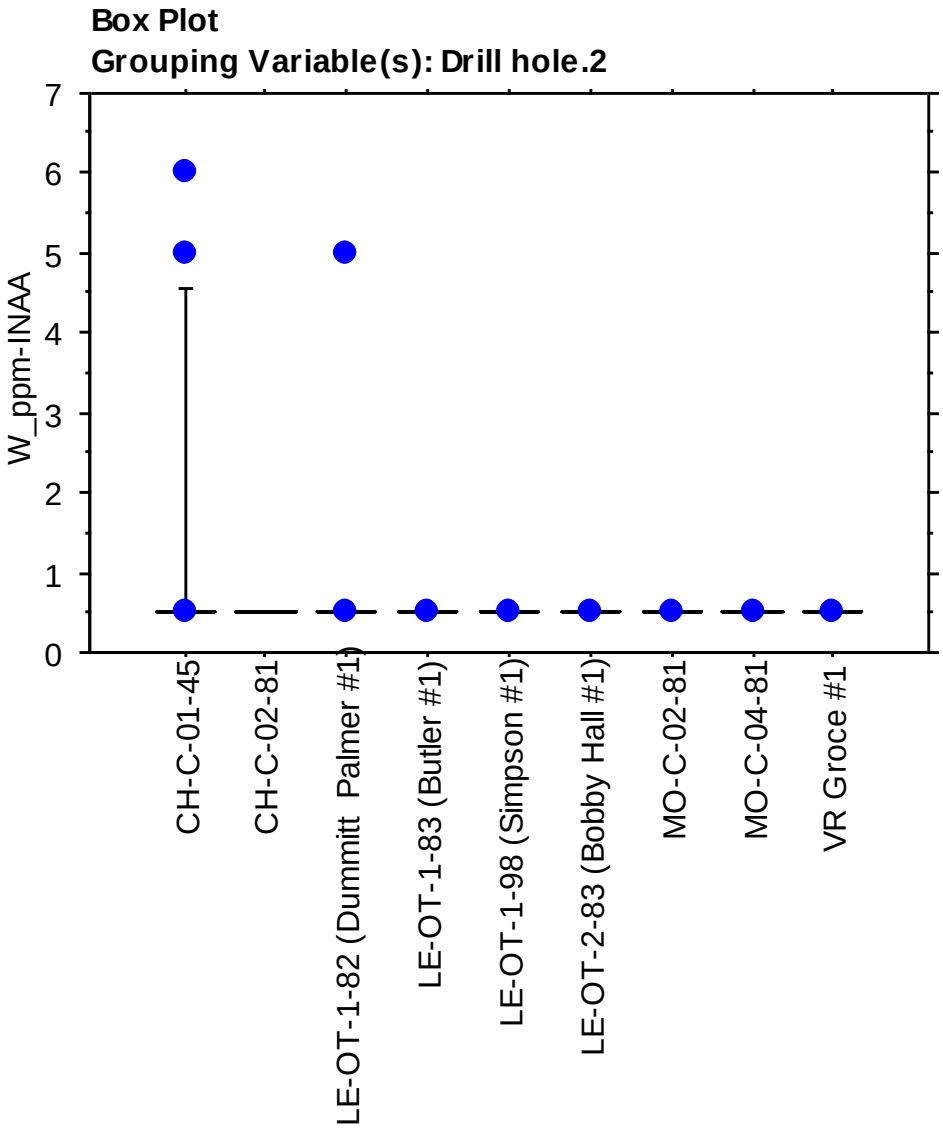
Th (ppm) by hole



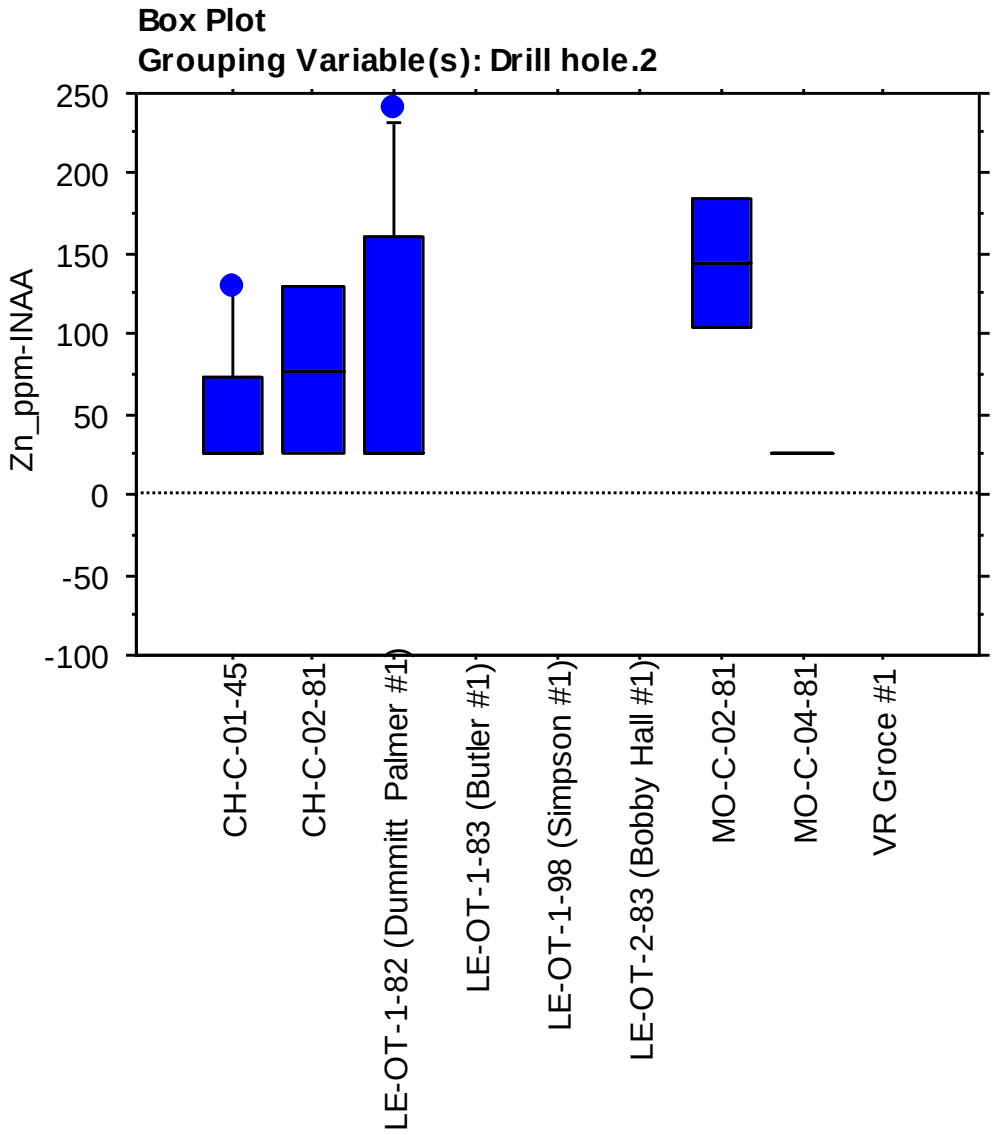
U (ppm) by hole


Box Plot
Grouping Variable(s): Drill hole.2
U_ppm-INAA
7
6
5
4
3
2
1
0
CH-C-01-45
CH-C-02-81
LE-OT-1-82 (Dummitt Palmer #1)
LE-OT-1-83 (Butler #1)
LE-OT-1-98 (Simpson #1)
LE-OT-2-83 (Bobby Hall #1)
MO-C-02-81
MO-C-04-81
VR Groce #1

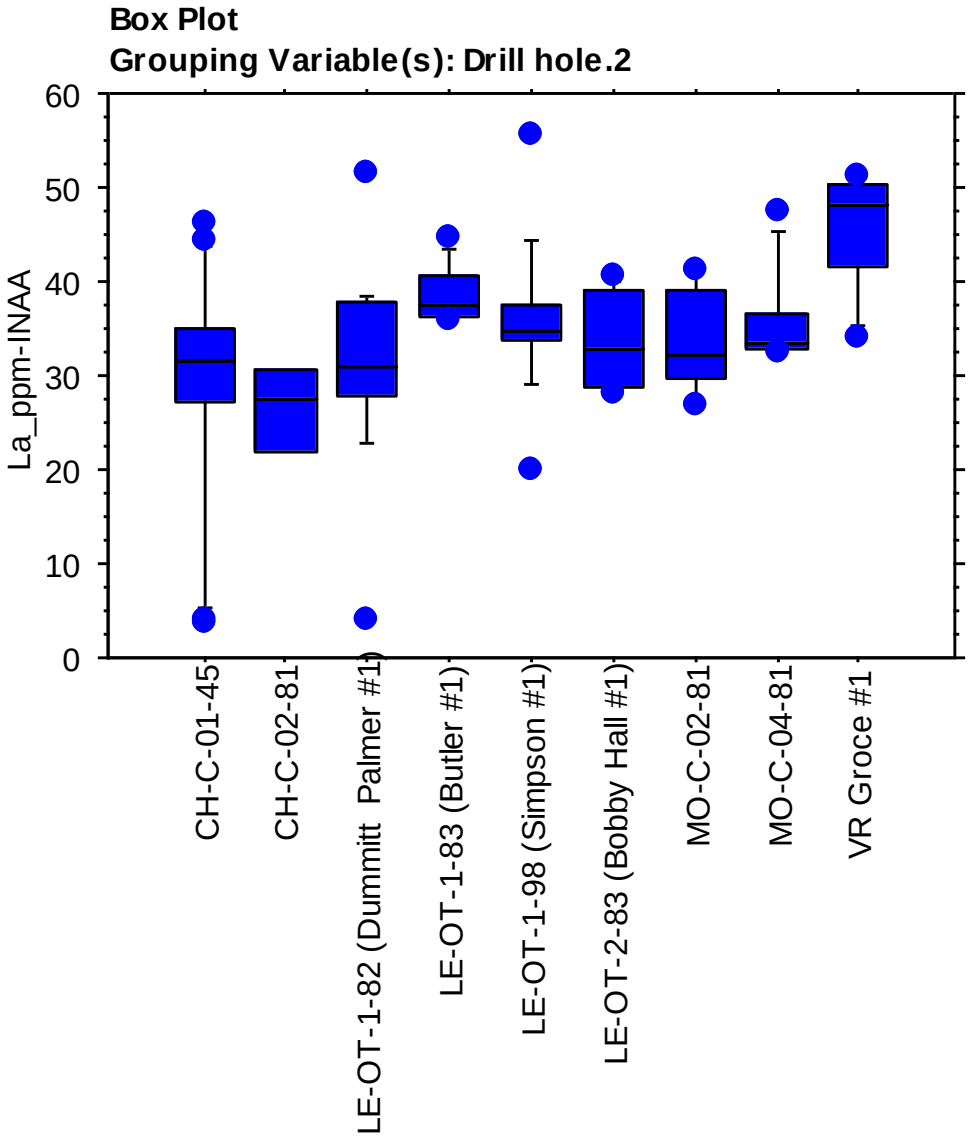
W (ppm) by hole


Box Plot
Grouping Variable(s): Drill hole.2
W_ppm-INAA
0
1
2
3
4
5
6
7
CH-C-01-45
CH-C-02-81
LE-OT-1-82 (Dummitt Palmer #1)
LE-OT-1-83 (Butler #1)
LE-OT-1-98 (Simpson #1)
LE-OT-2-83 (Bobby Hall #1)
MO-C-02-81
MO-C-04-81
VR Groce #1

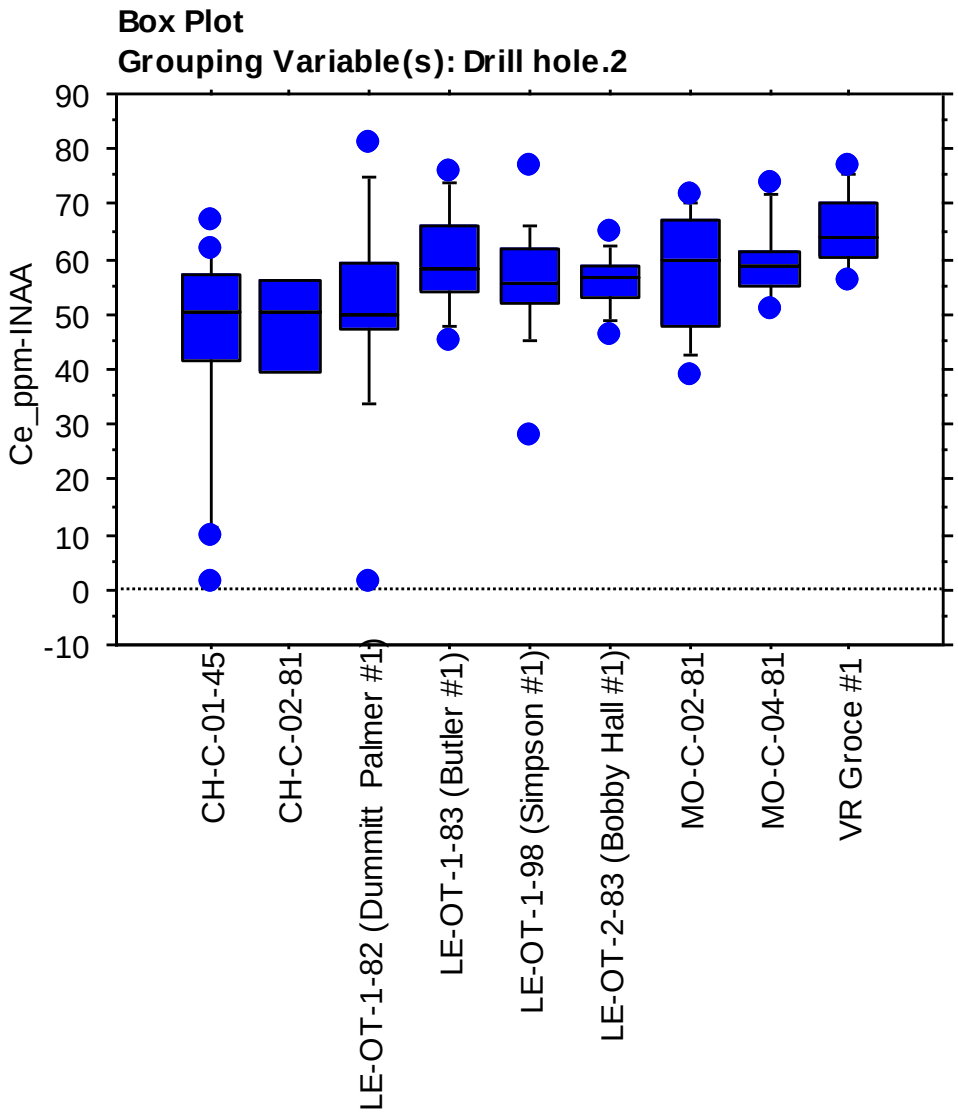
Zn (ppm) by hole



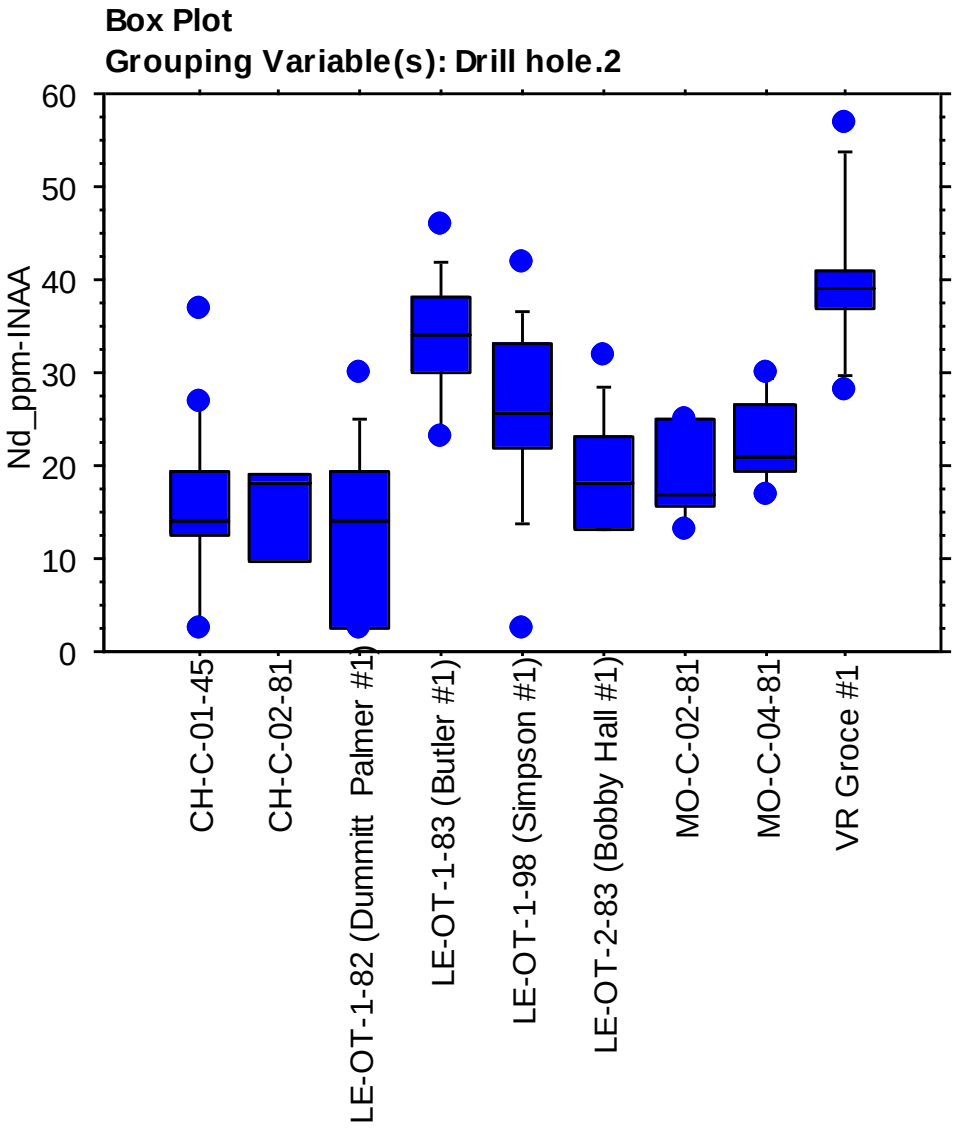
La (ppm) by hole



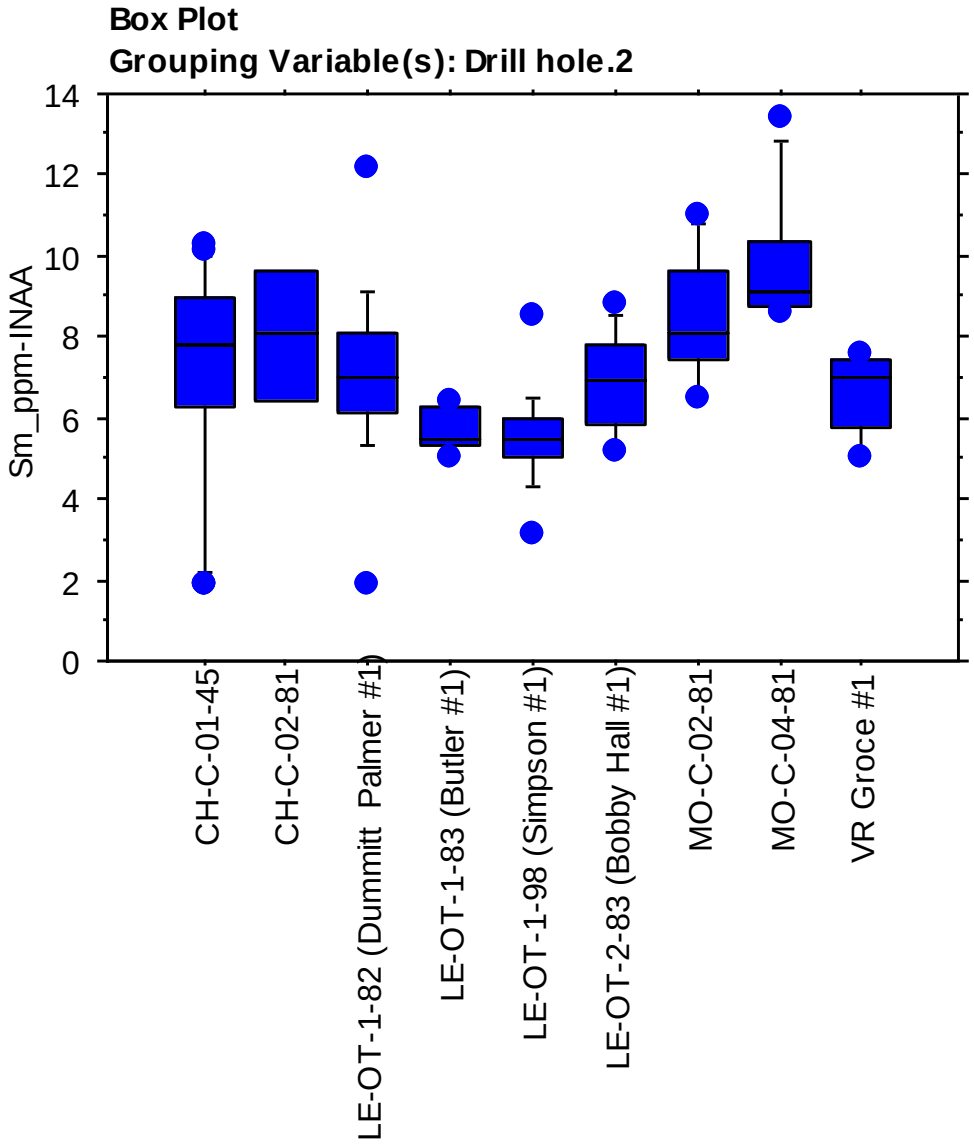
Ce (ppm) by hole



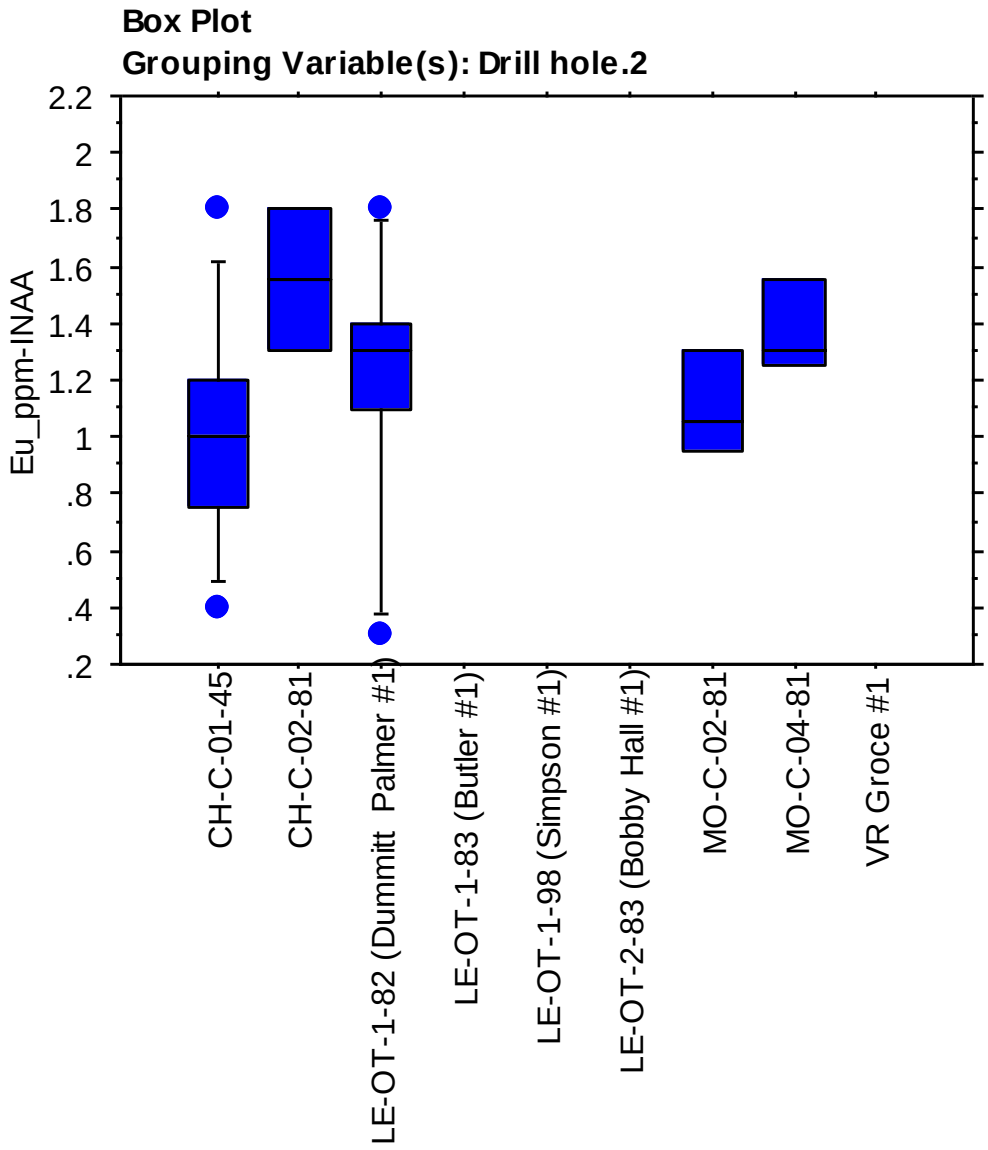
Nd (ppm) by hole



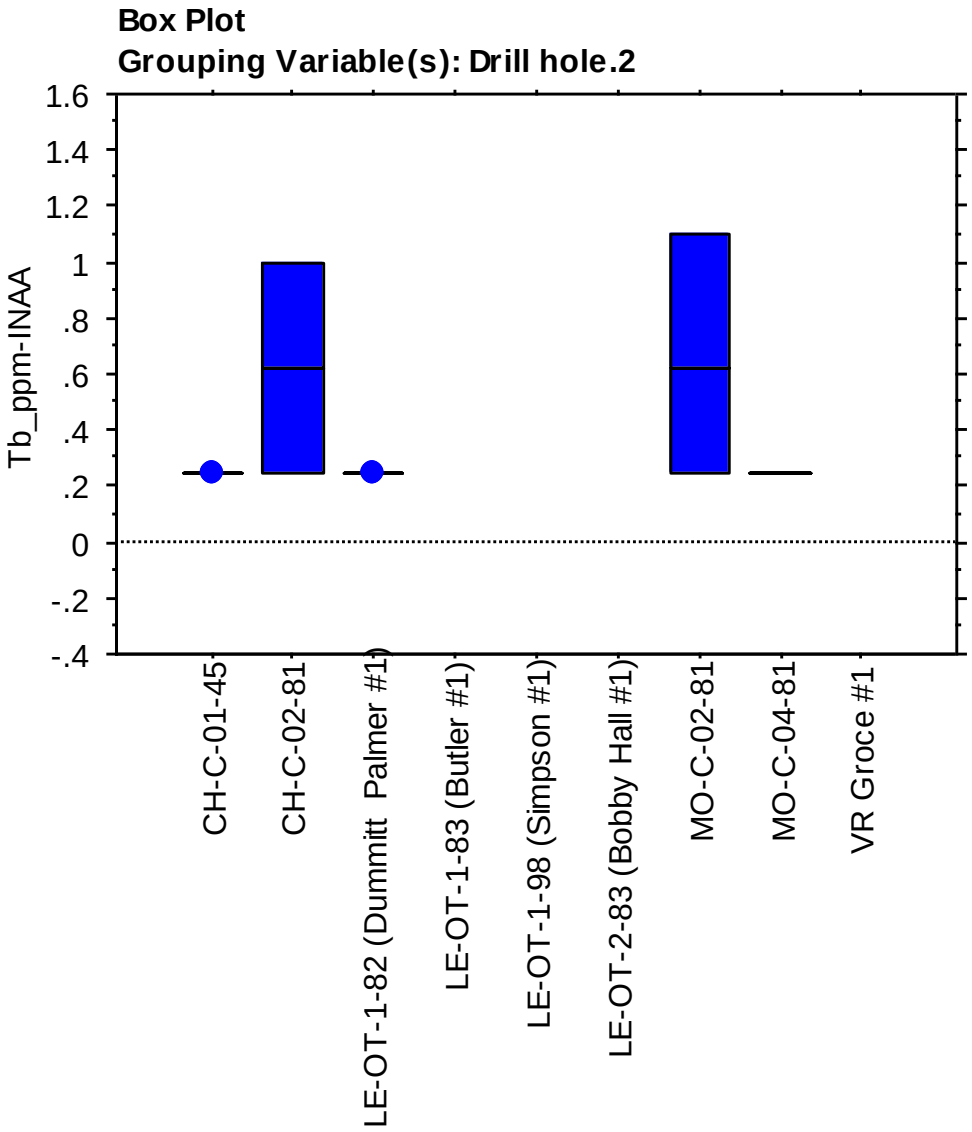
Sm (ppm) by hole



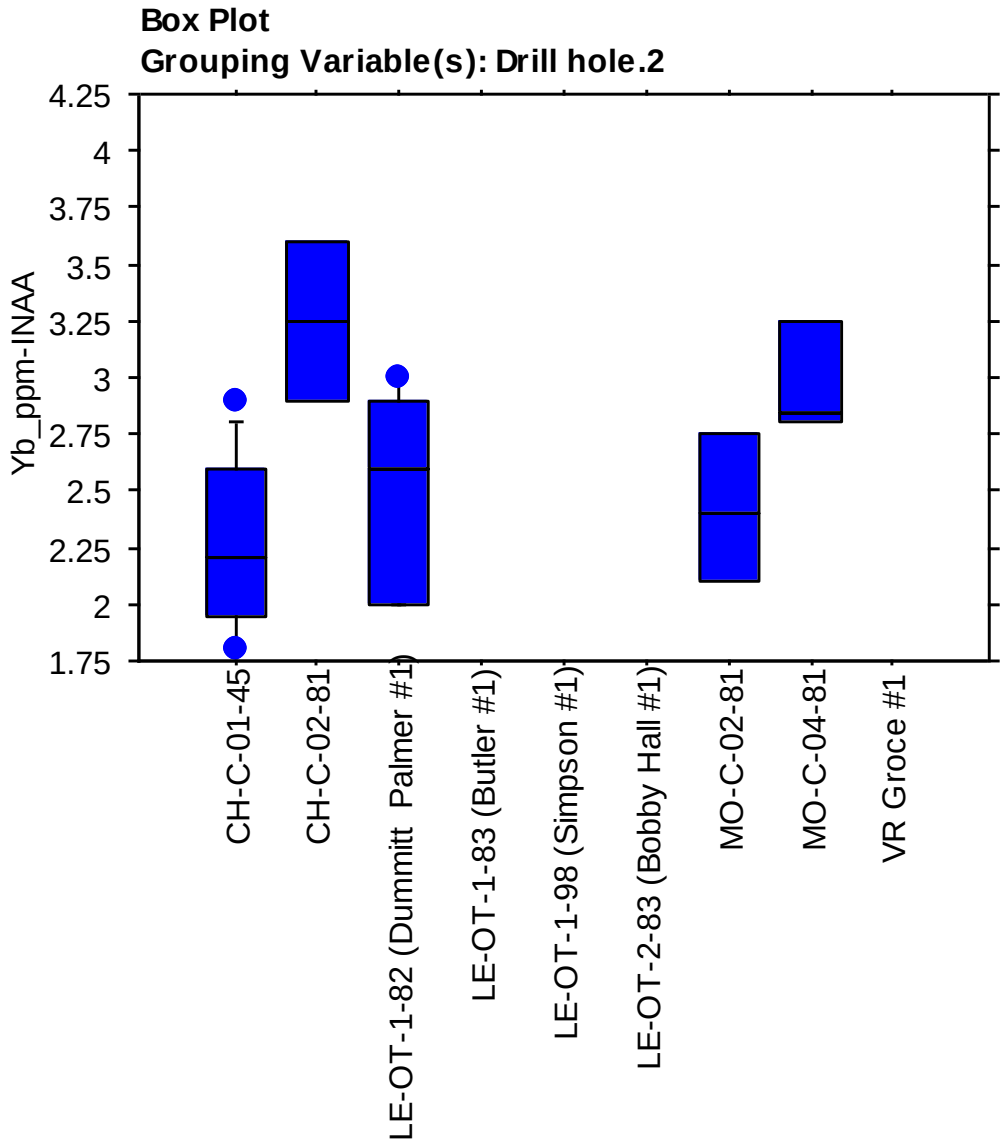
Eu (ppm) by hole



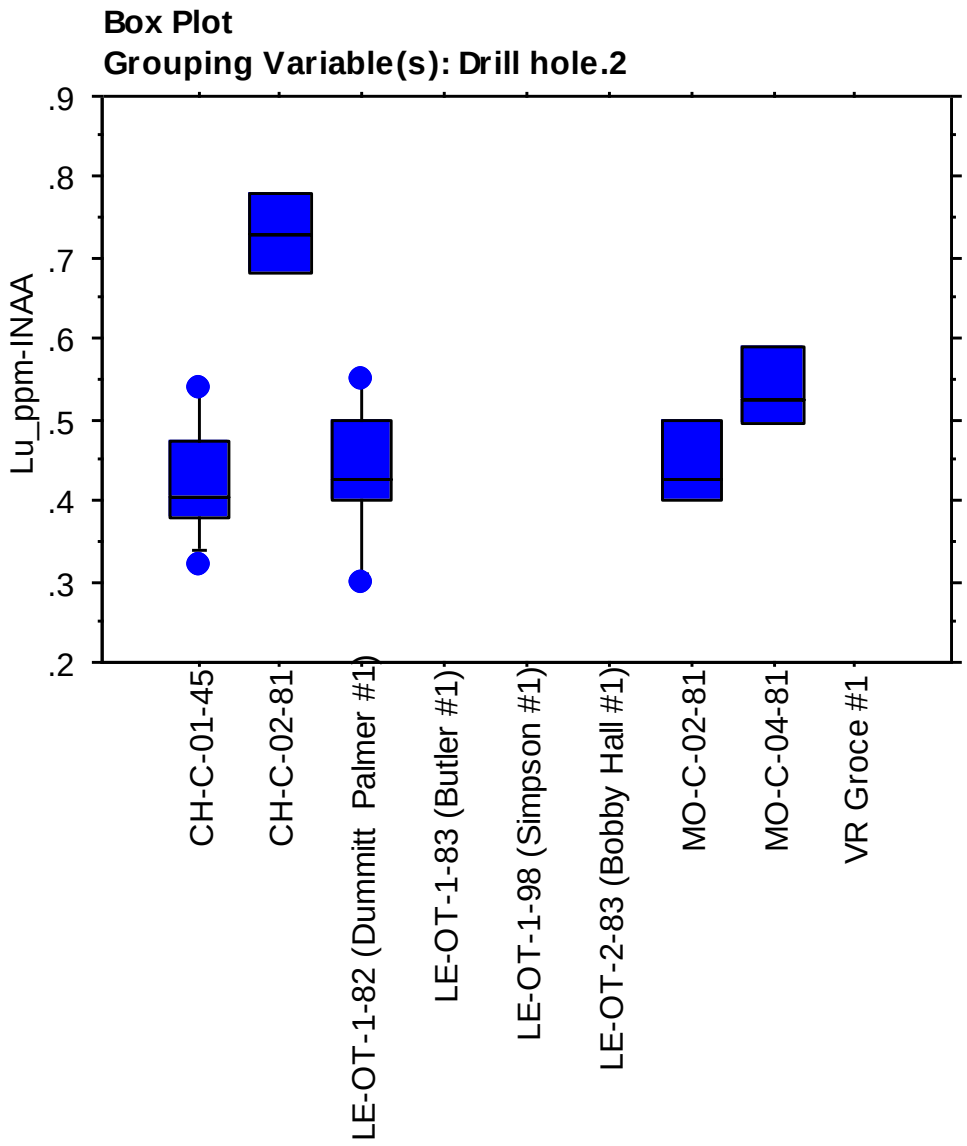
Tb (ppm) by hole



Yb (ppm) by hole

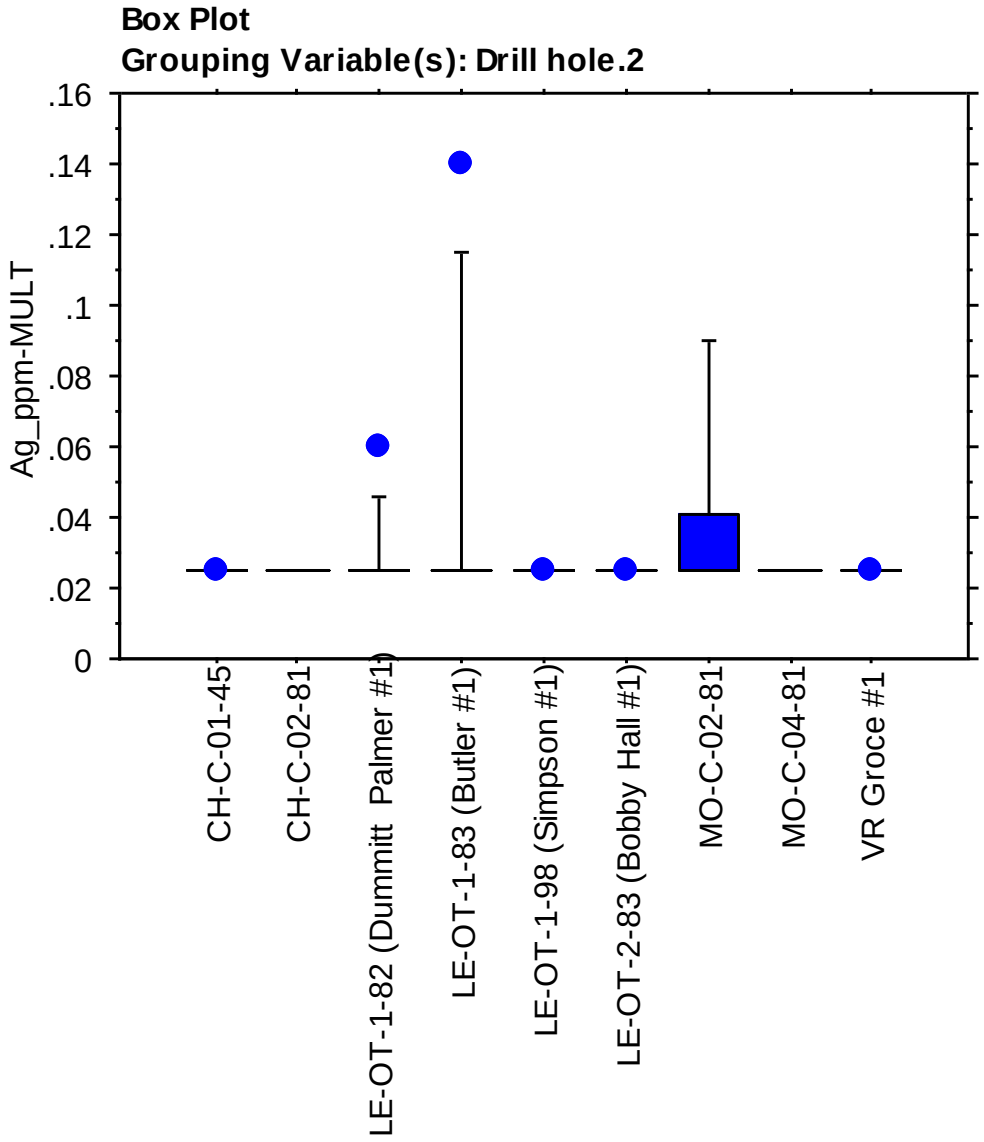


Lu (ppm) by hole

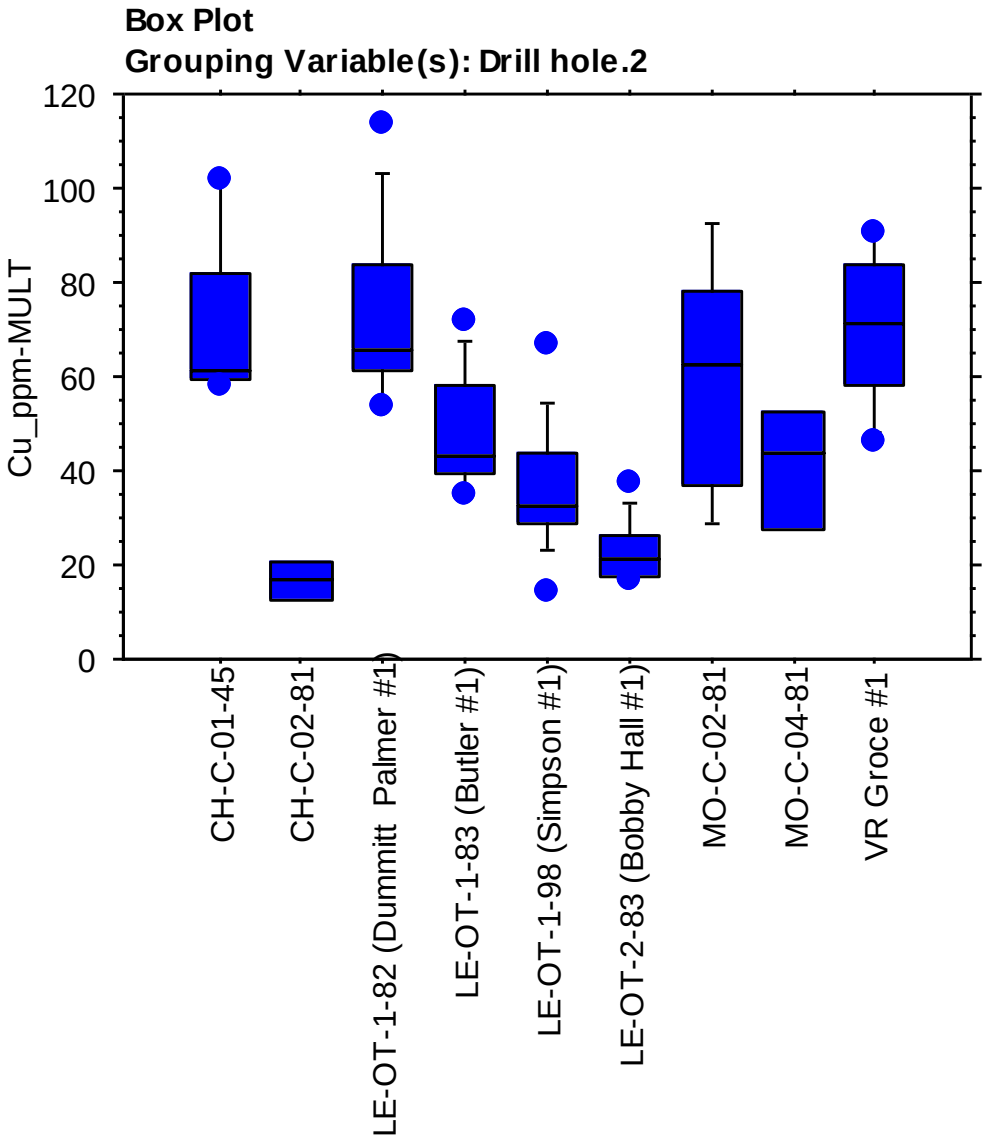


Other multi-element analyses

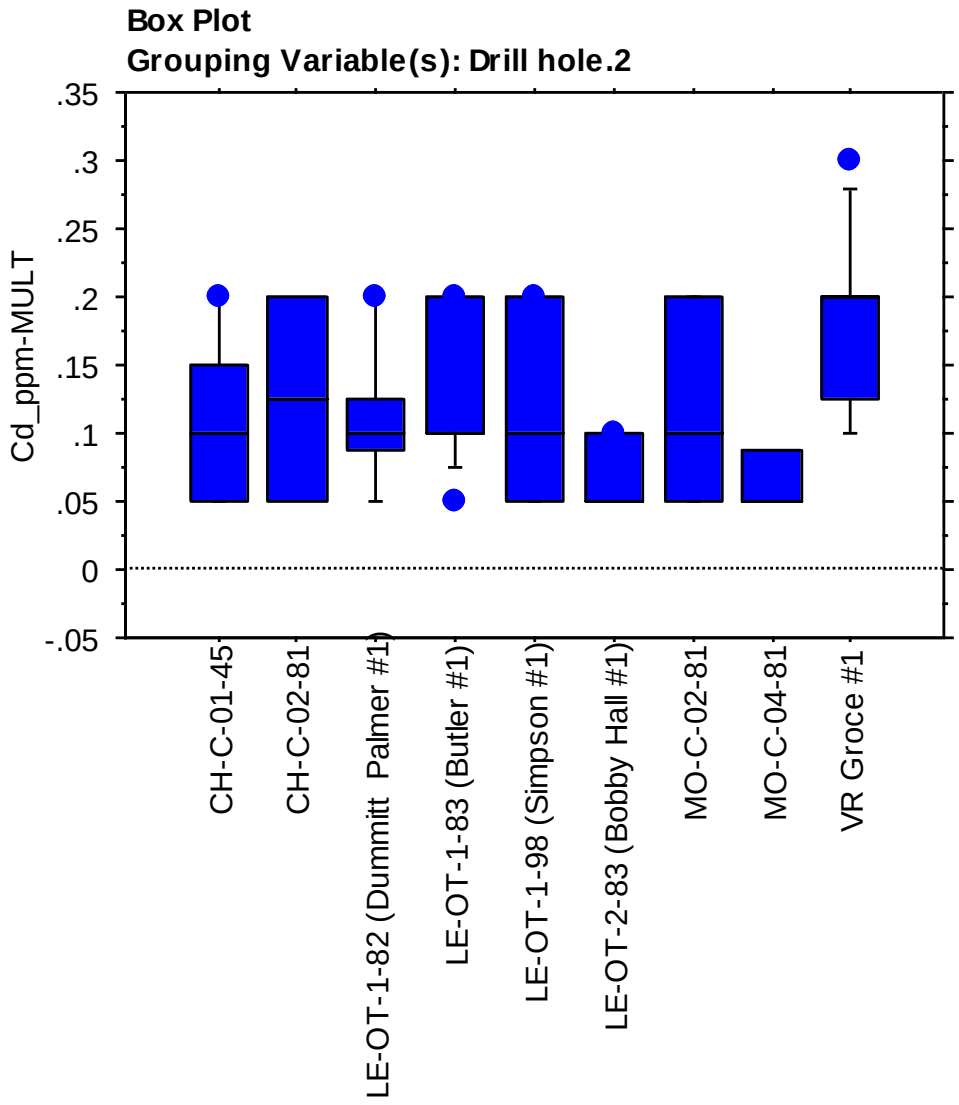
Ag (ppm) by hole



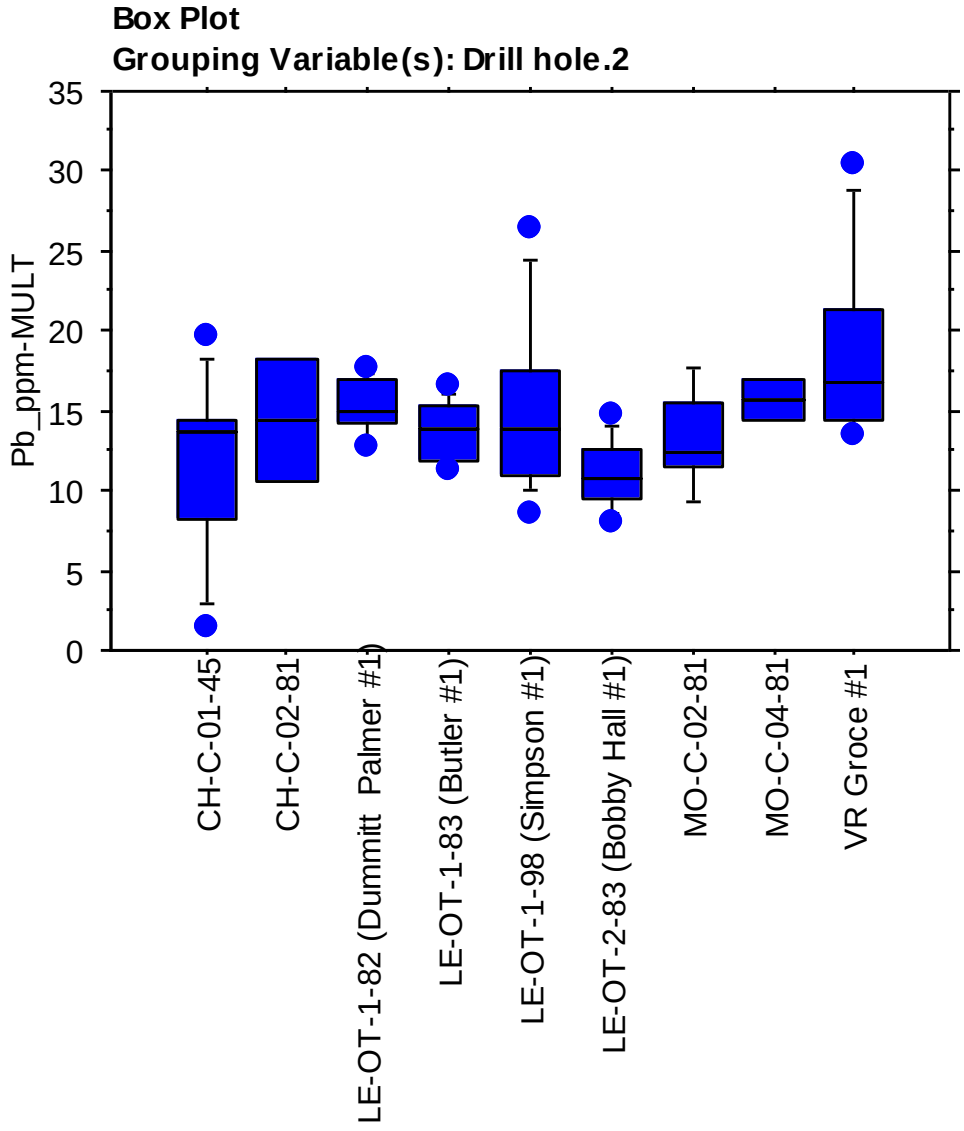
Cu (ppm) by hole



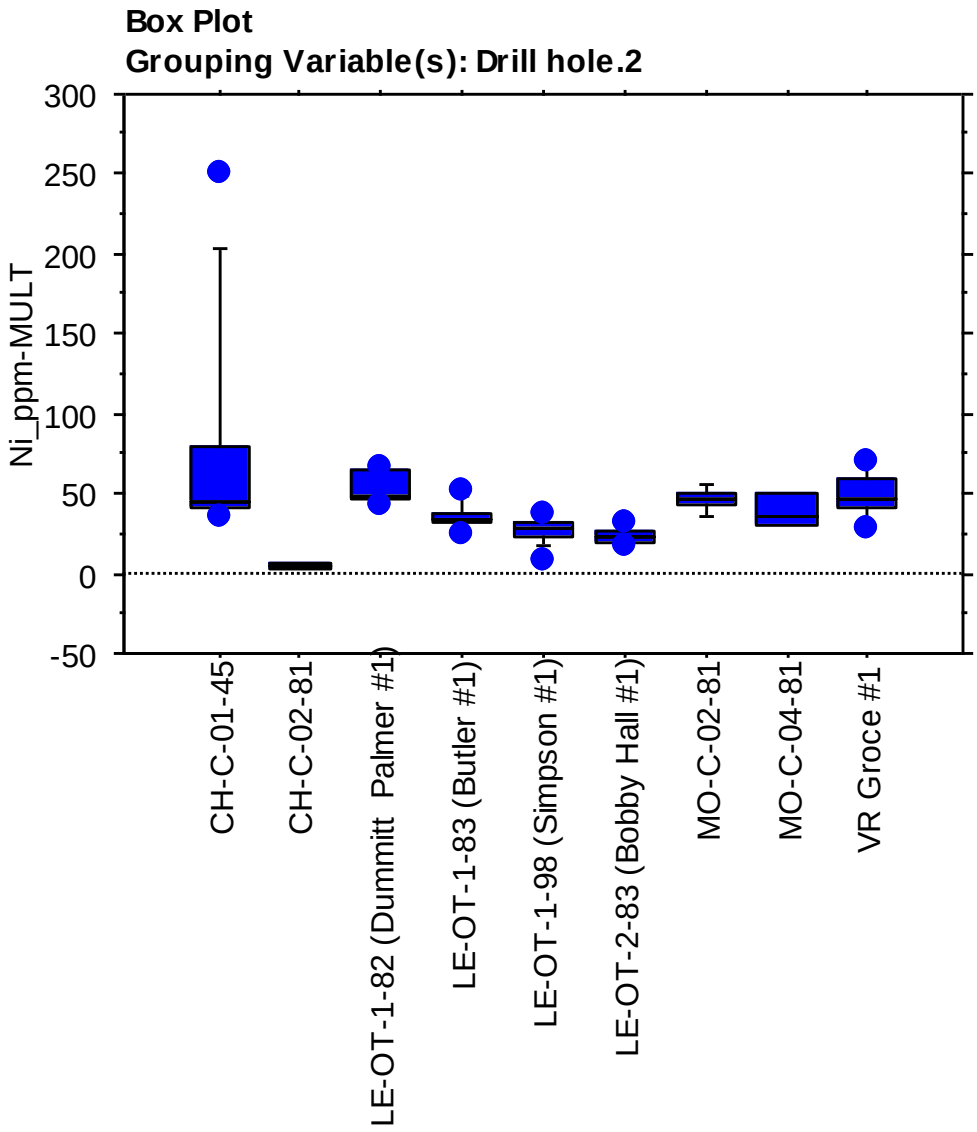
Cd (ppm) by hole



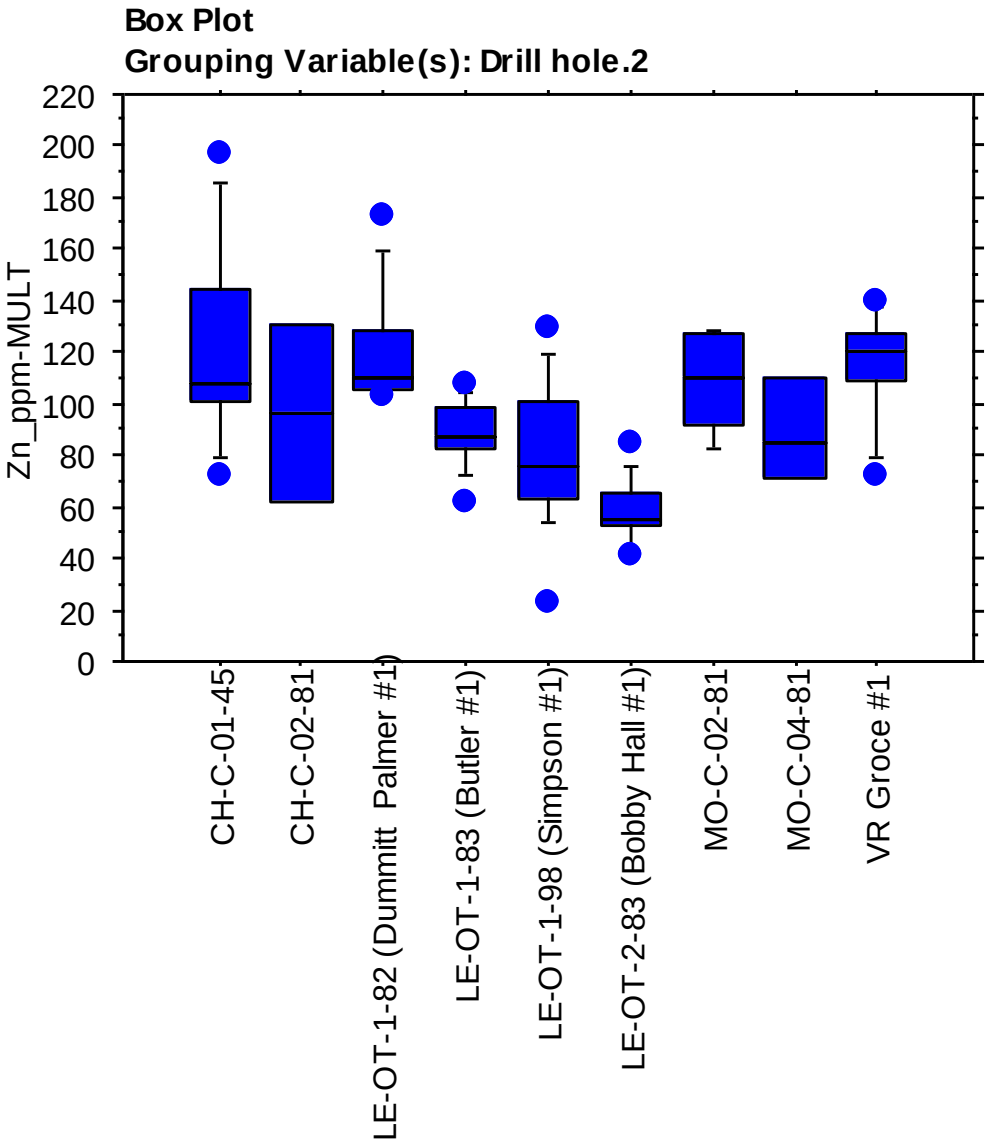
Pb (ppm) by hole



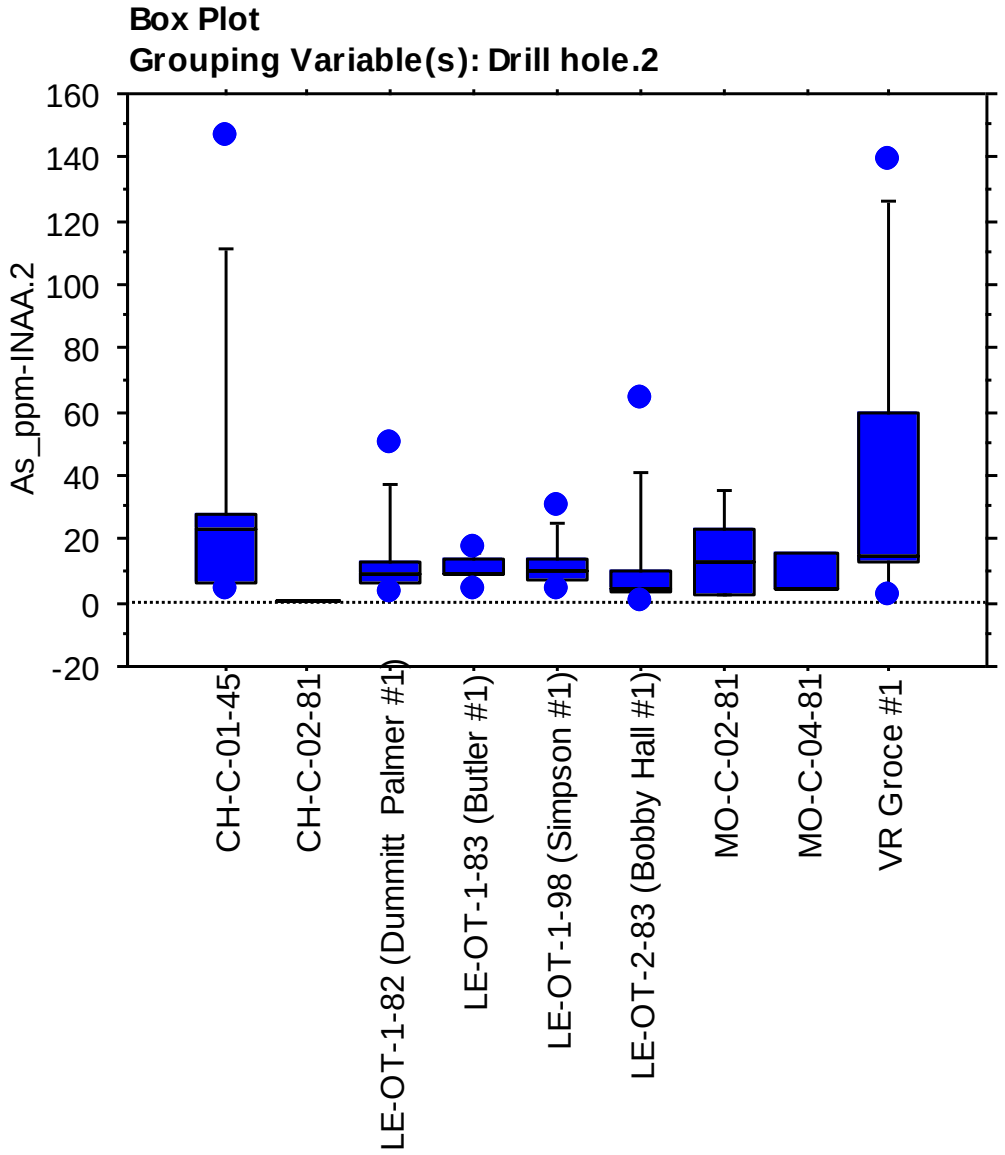
Ni (ppm) by hole



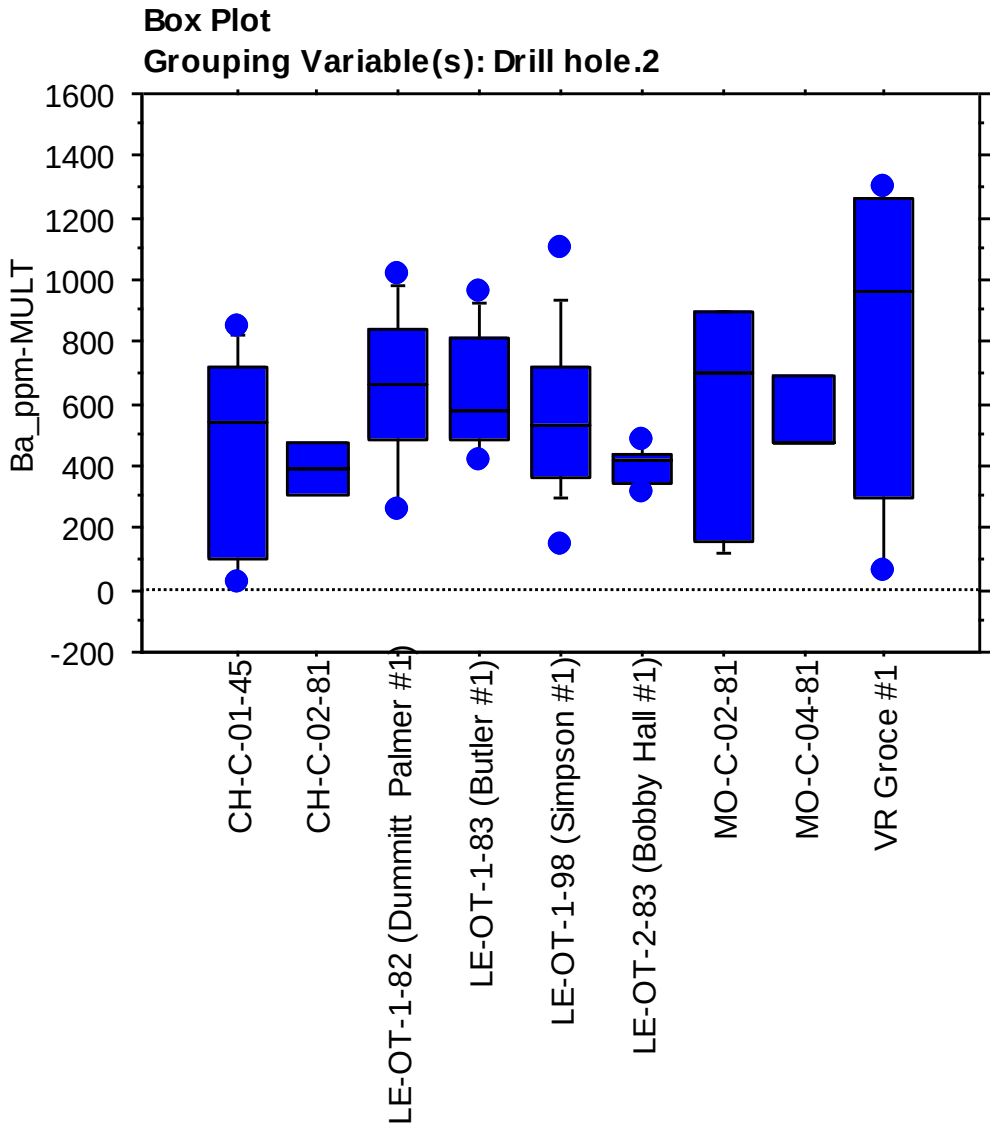
Zn (ppm) by hole



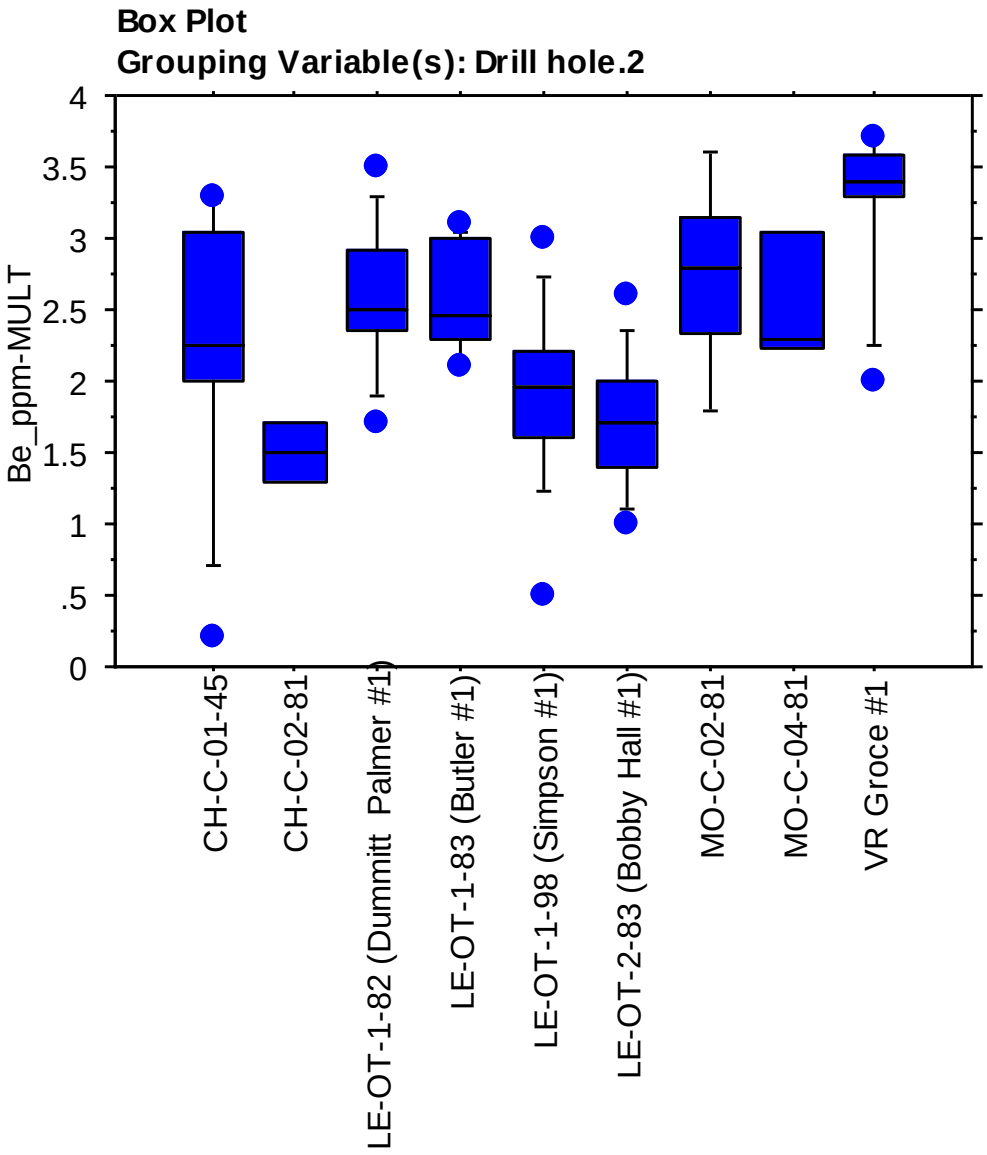
As (ppm) by hole



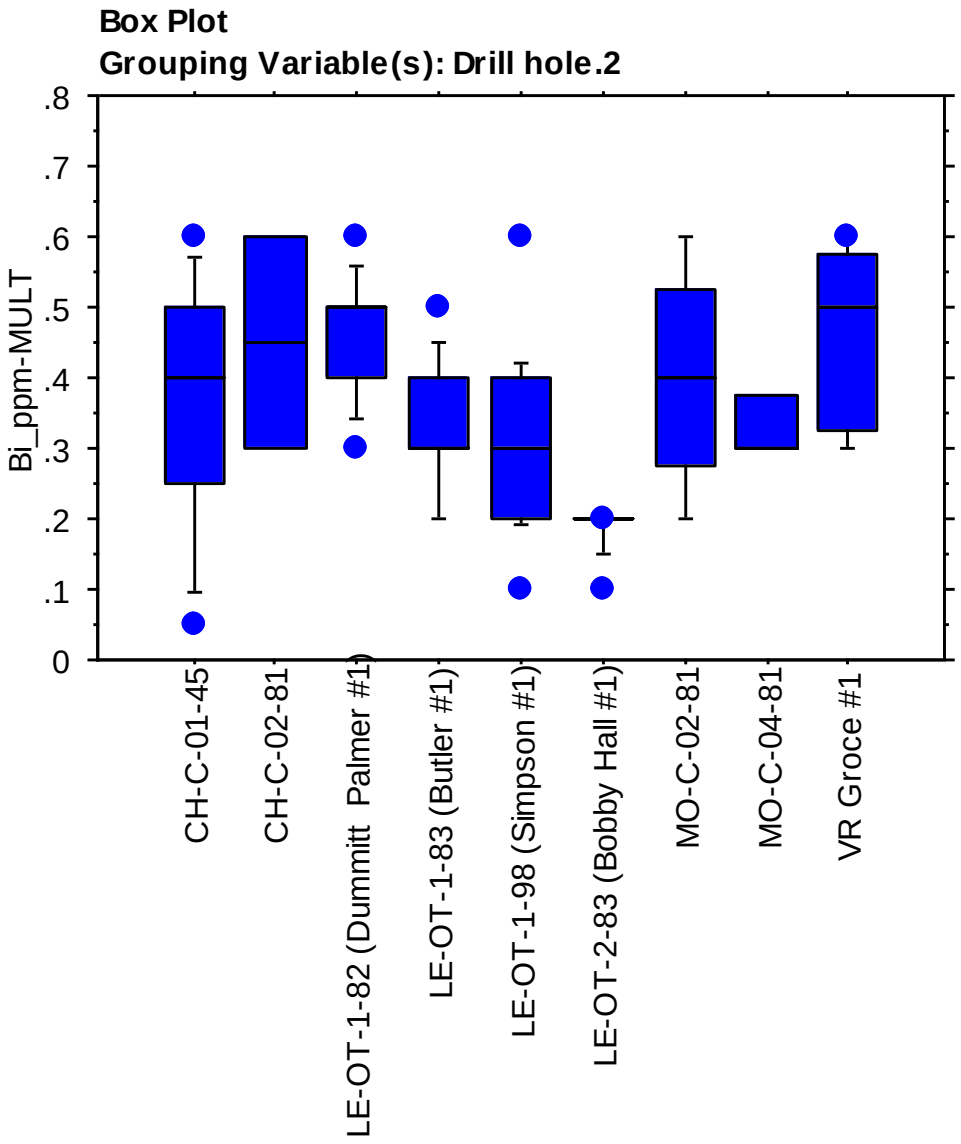
Ba (ppm) by hole



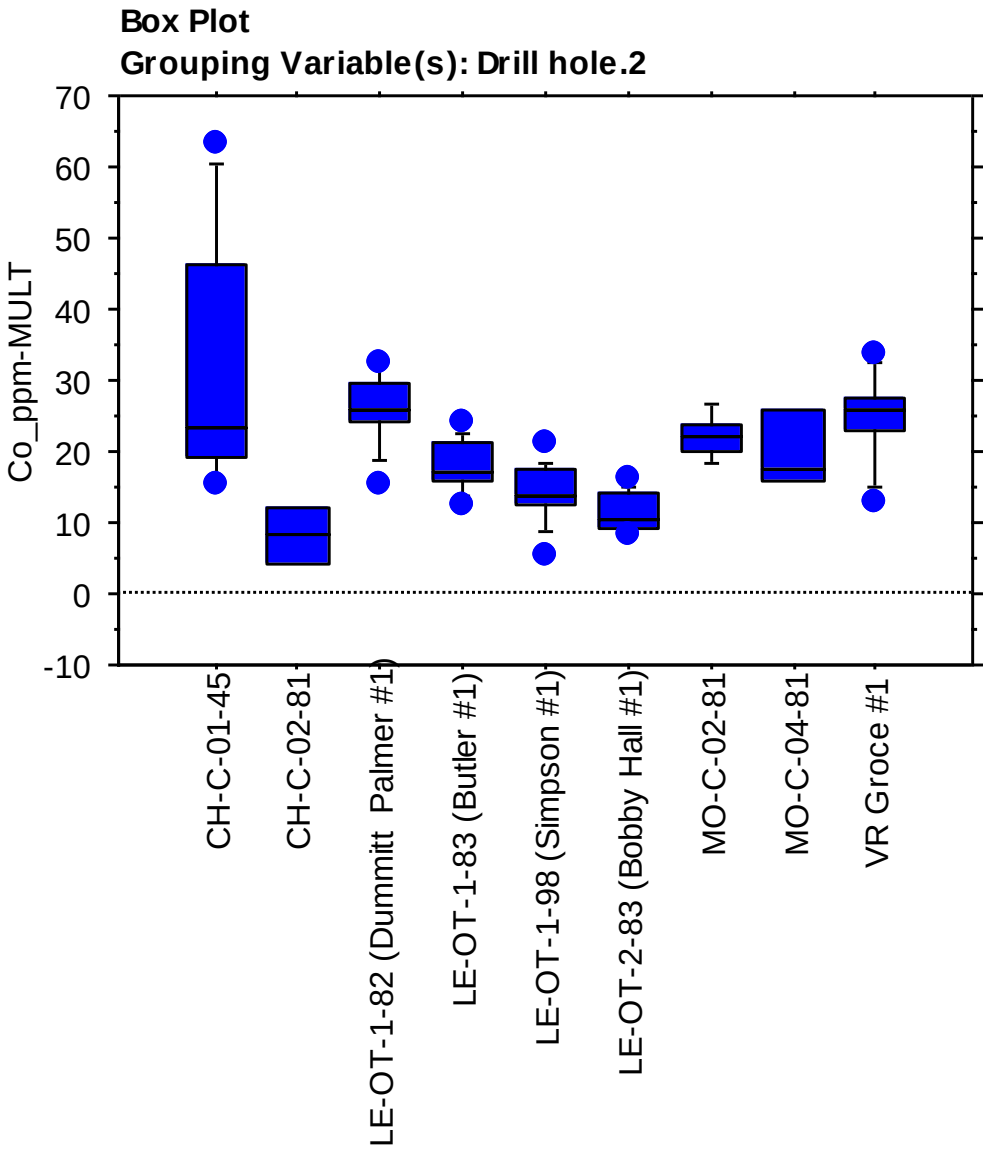
Be (ppm) by hole



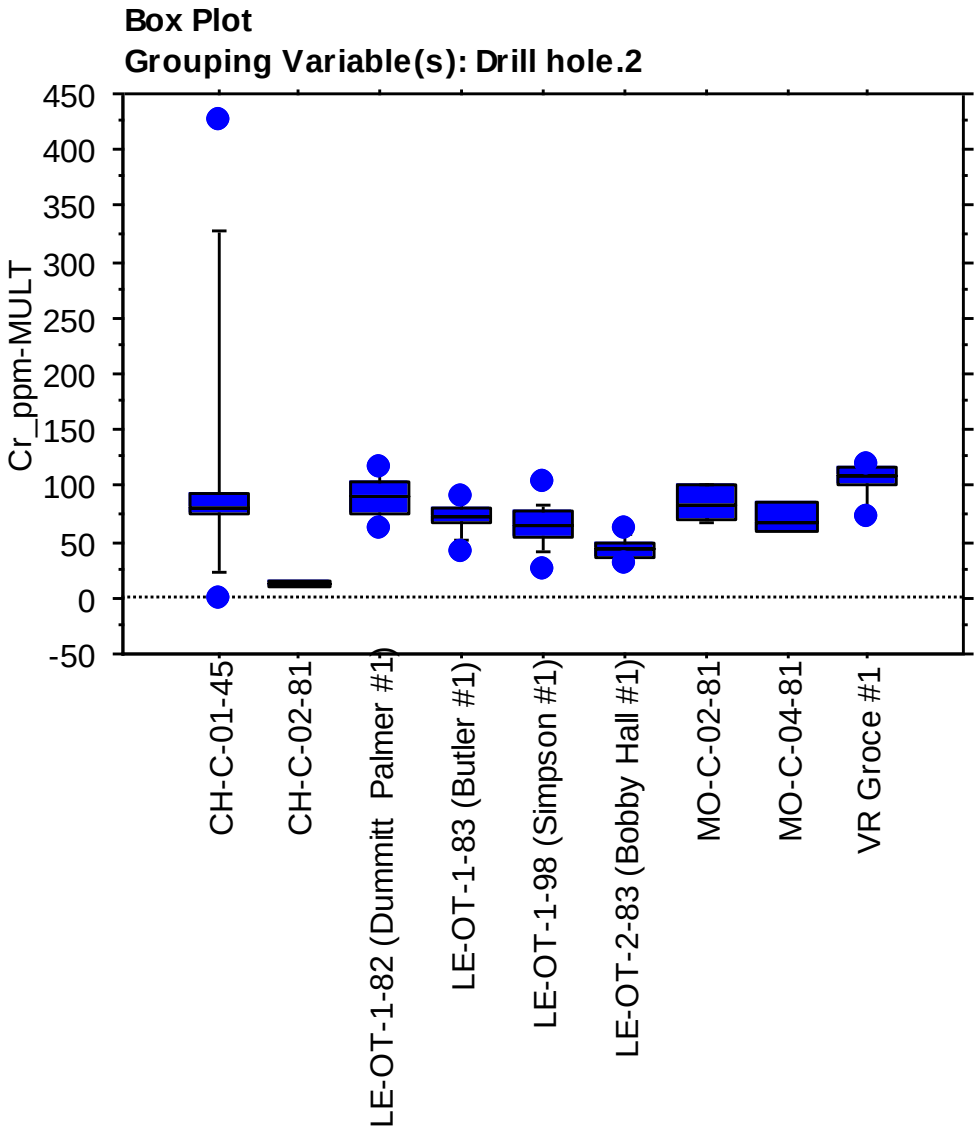
Bi (ppm) by hole



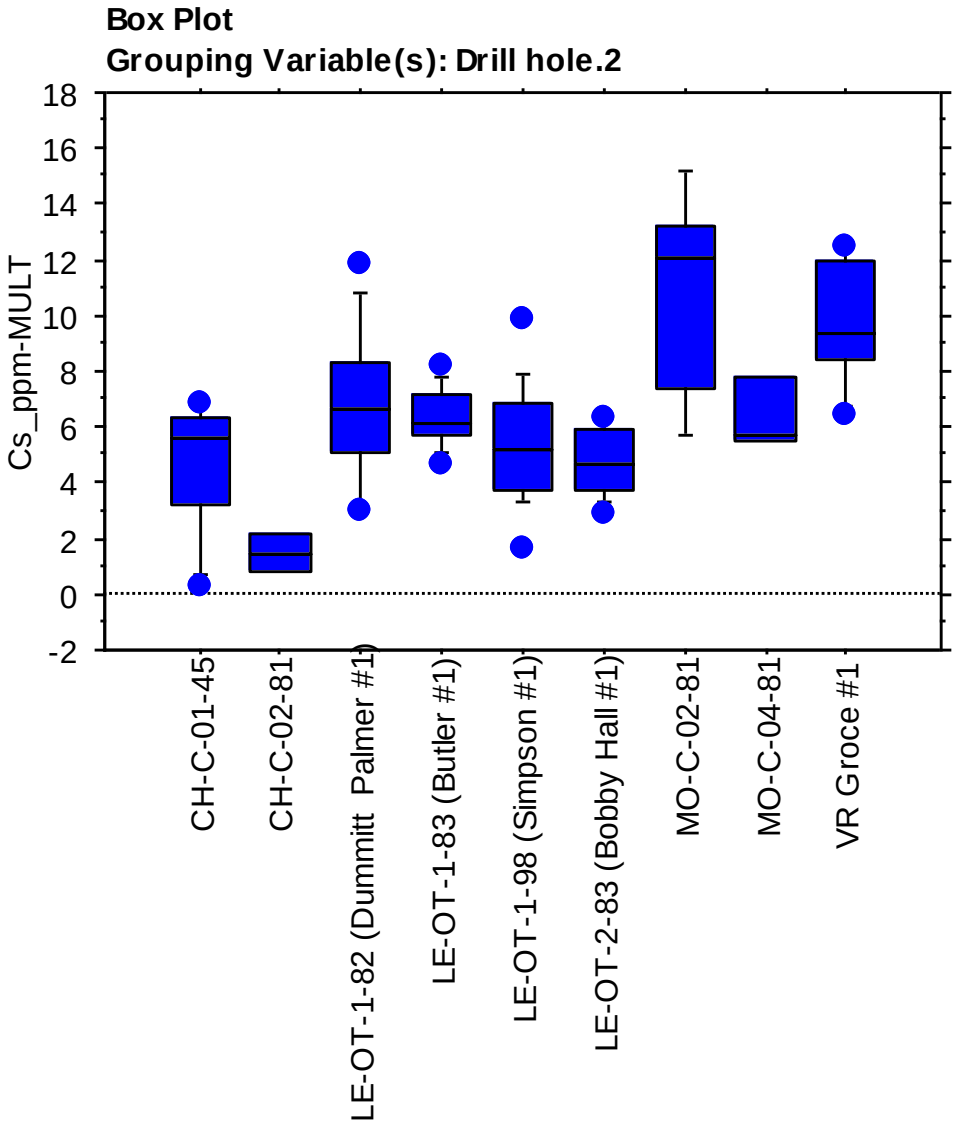
Co (ppm) by hole



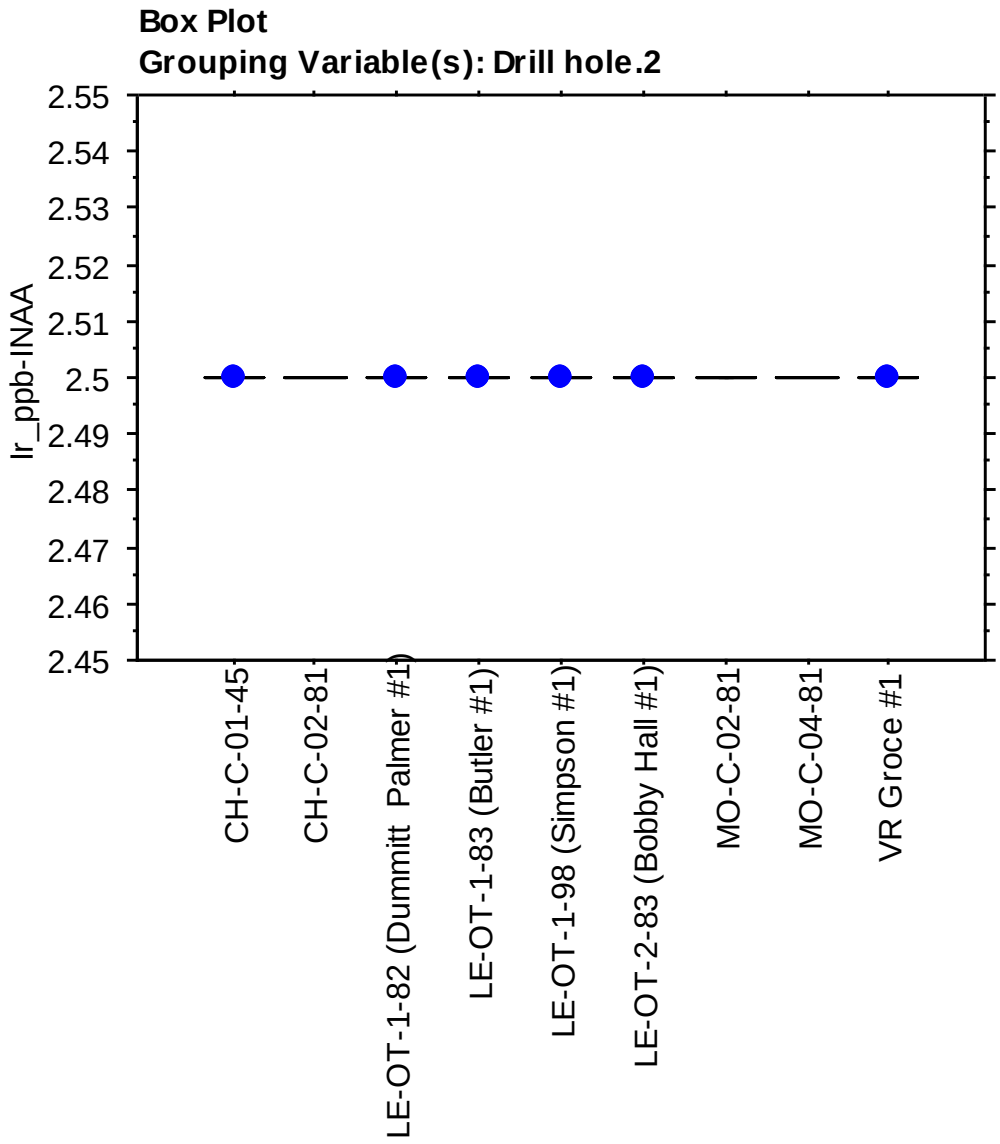
Cr (ppm) by hole



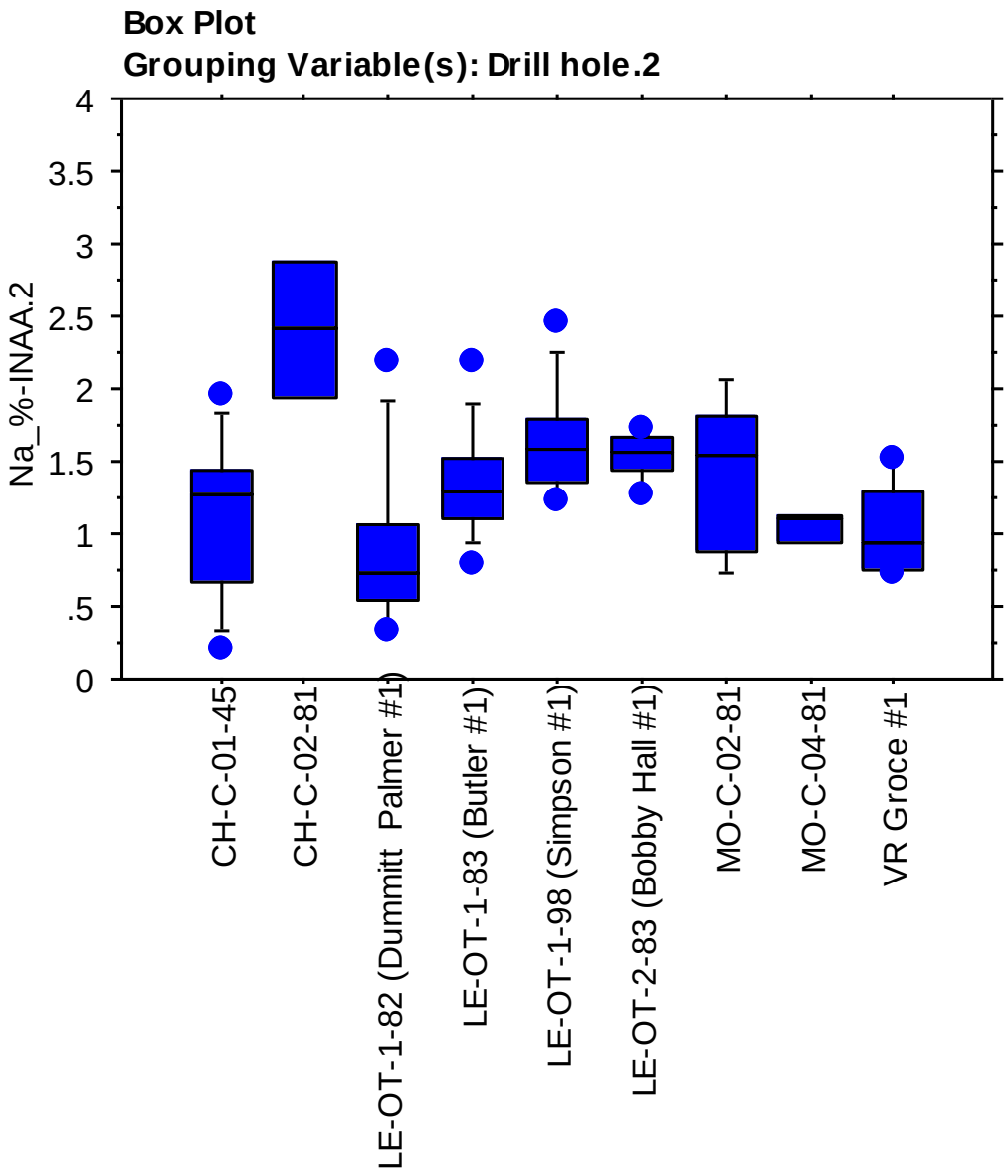
Cs (ppm) by hole



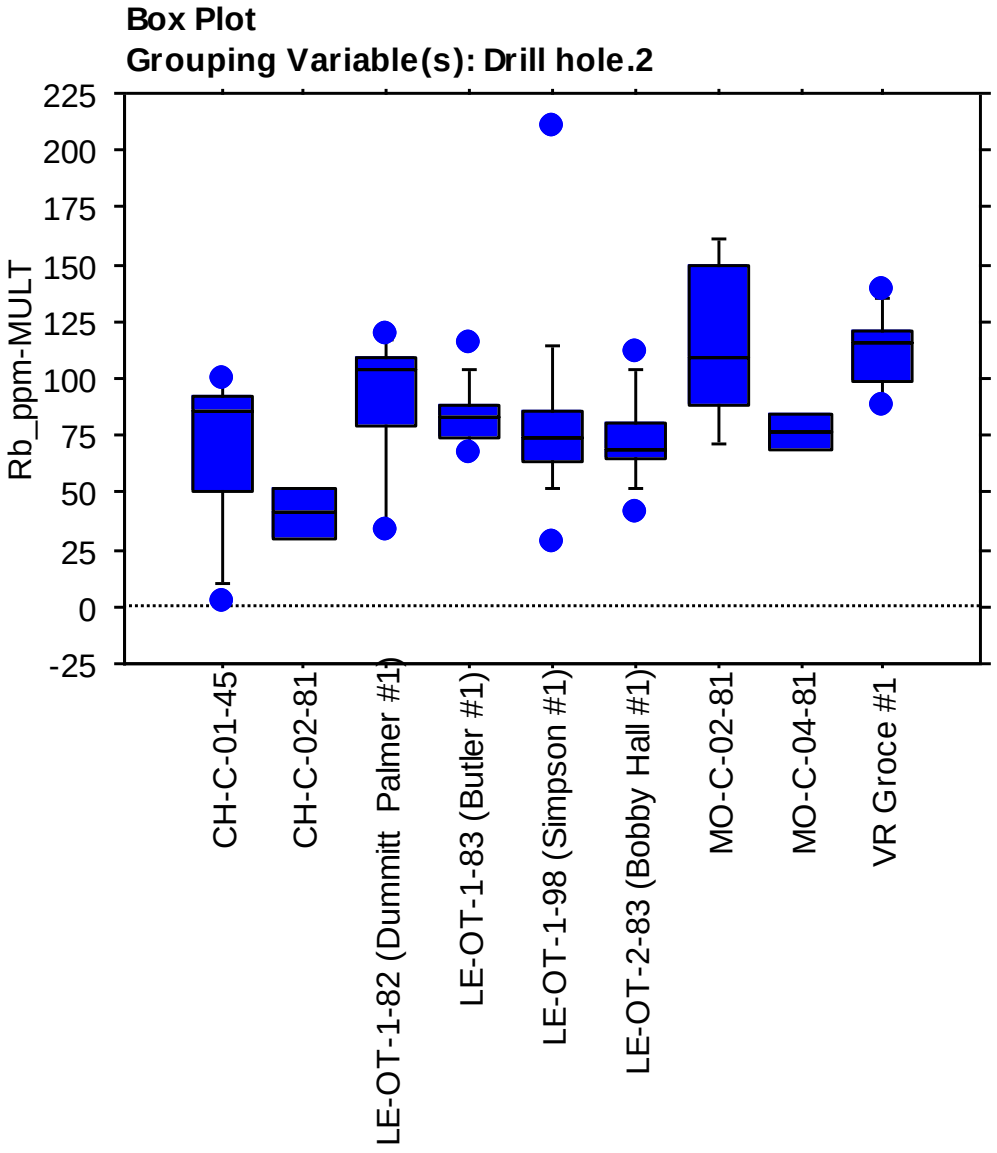
Ir (ppb) by hole



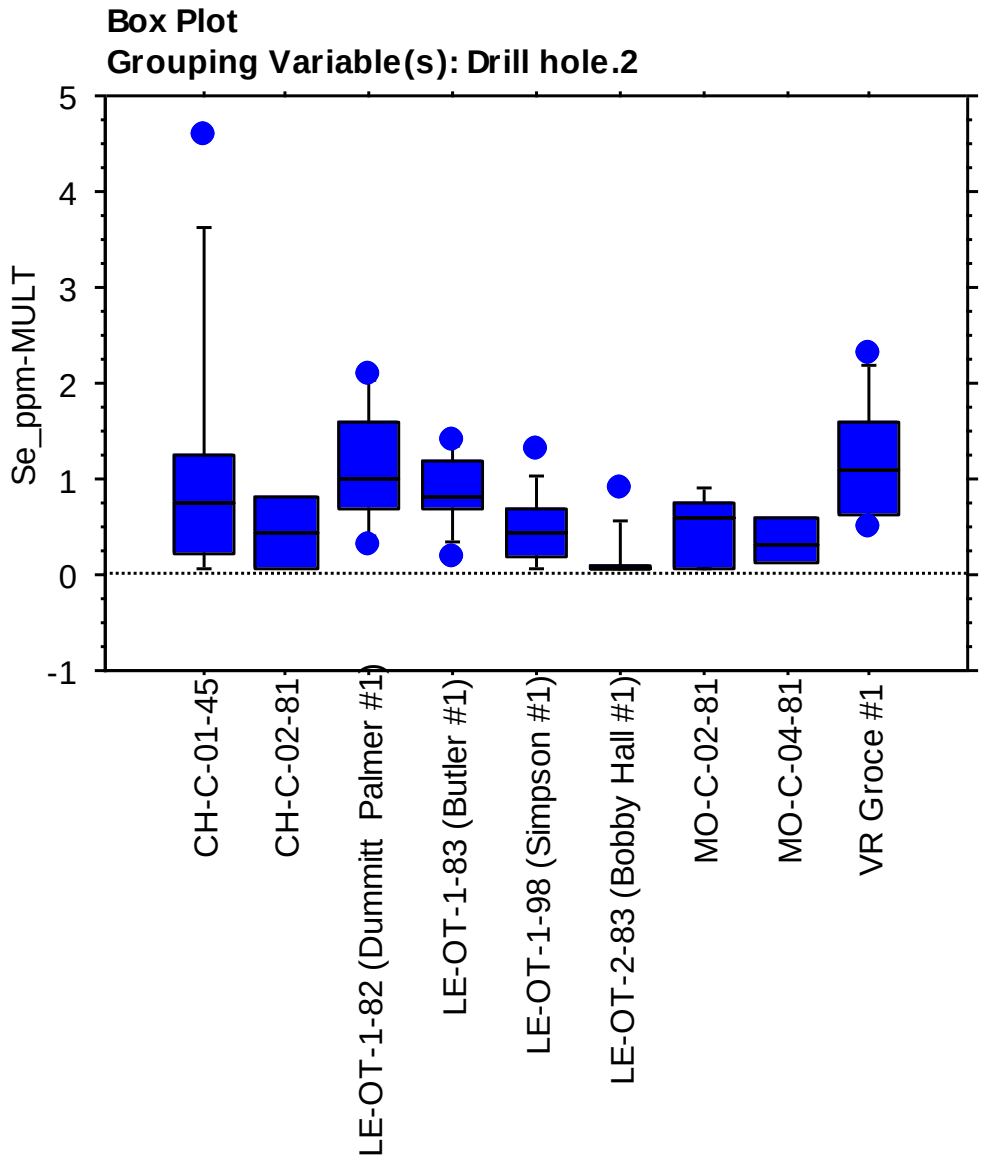
Na% by hole


Box Plot
Grouping Variable(s): Drill hole.2
Na_%-INAA.2
4
3.5
3
2.5
2
1.5
1
.5
0
CH-C-01-45
CH-C-02-81
LE-OT-1-82 (Dummitt Palmer #1)
LE-OT-1-83 (Butler #1)
LE-OT-1-98 (Simpson #1)
LE-OT-2-83 (Bobby Hall #1)
MO-C-02-81
MO-C-04-81
VR Groce #1

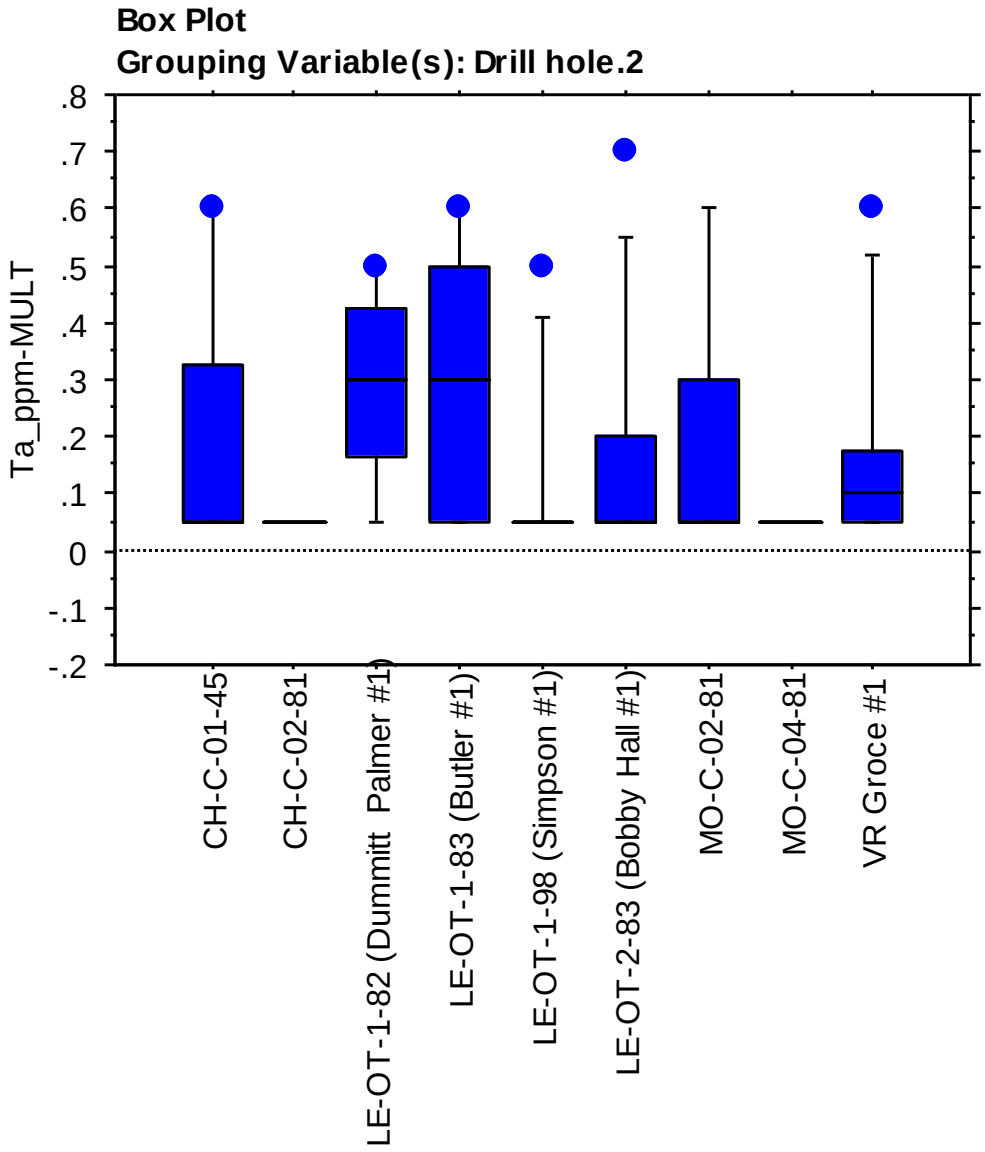
Rb (ppm) by hole



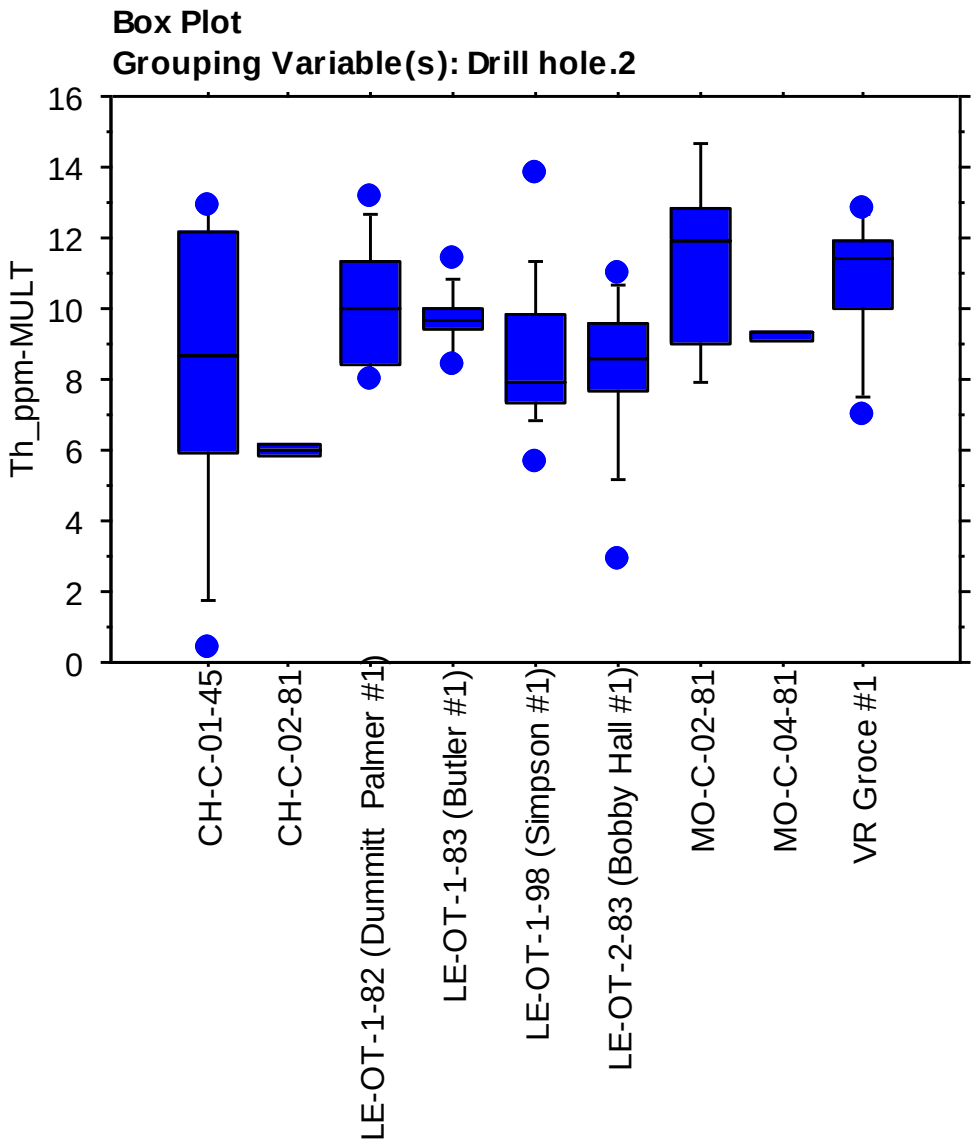
Se (ppm) by hole



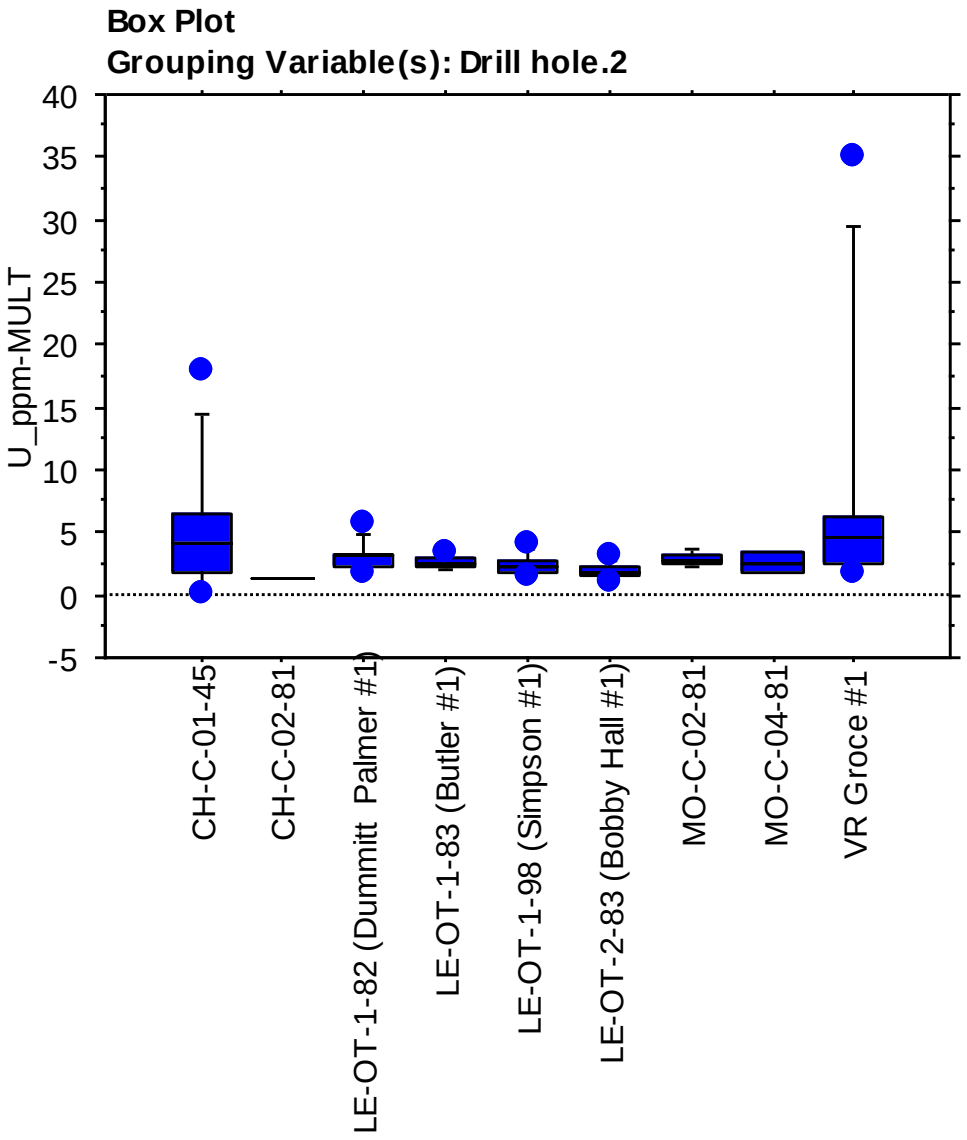
Ta (ppm) by hole



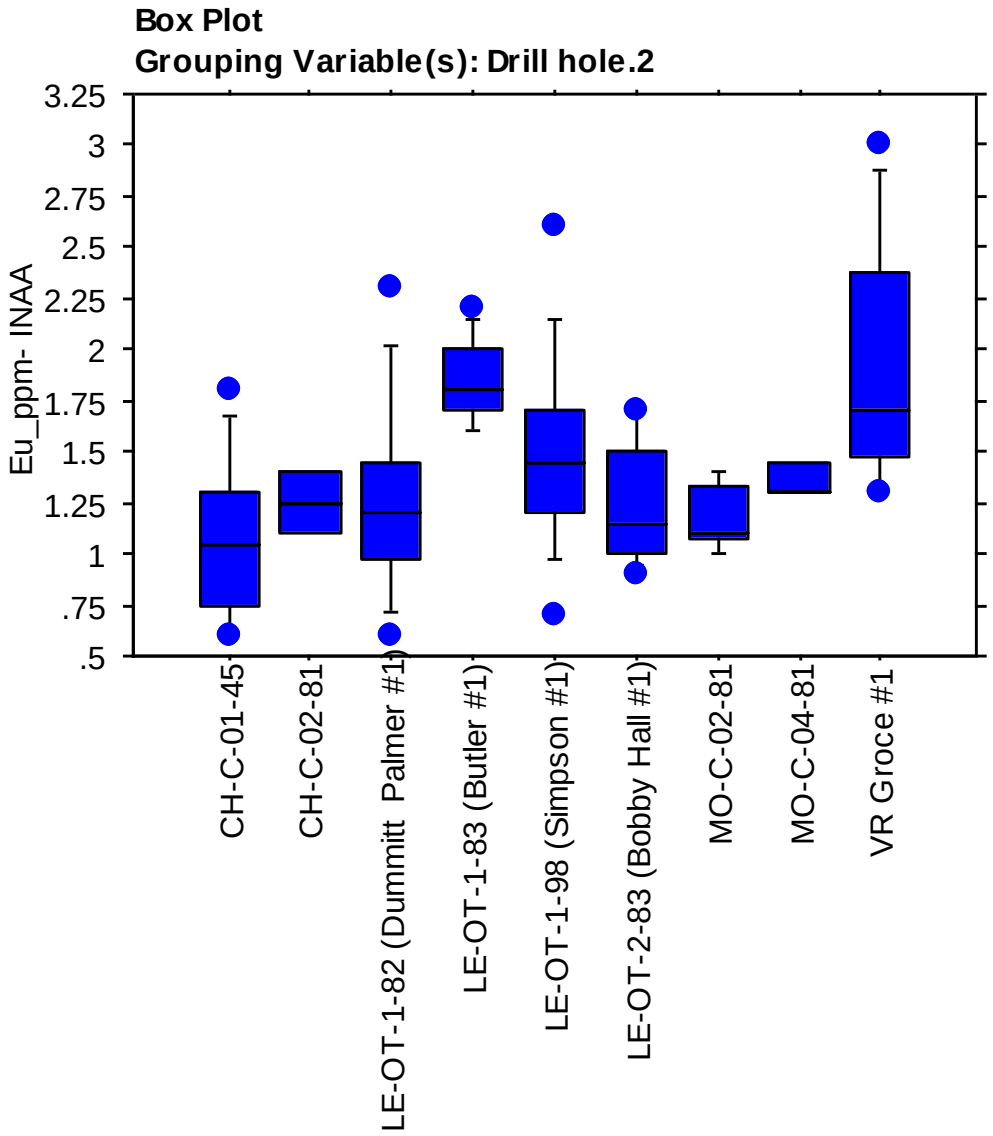
Th (ppm) by hole



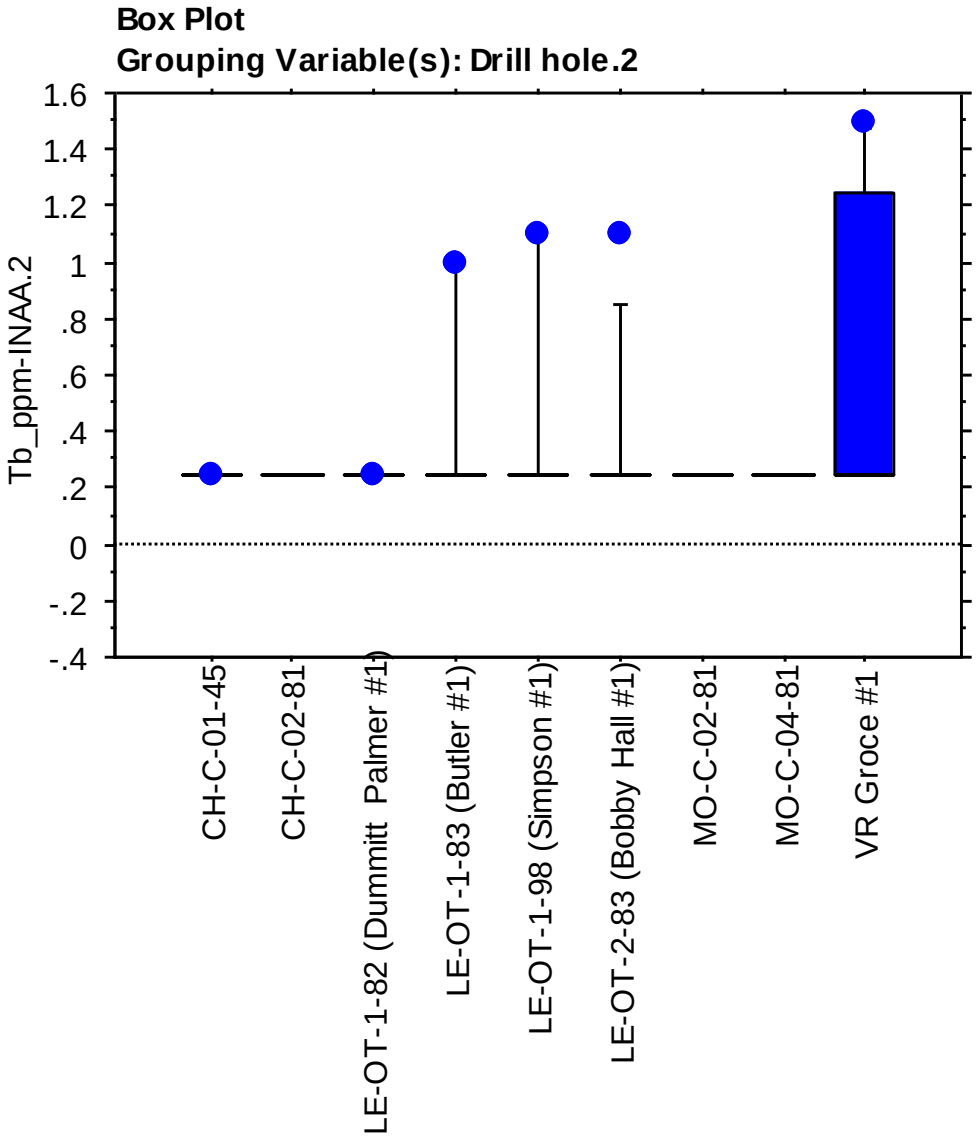
U (ppm) by hole


Box Plot
Grouping Variable(s): Drill hole.2
U_ppm-MULT
40
35
30
25
20
15
10
5
0
-5
CH-C-01-45
CH-C-02-81
LE-OT-1-82 (Dummitt Palmer #1)
LE-OT-1-83 (Butler #1)
LE-OT-1-98 (Simpson #1)
LE-OT-2-83 (Bobby Hall #1)
MO-C-02-81
MO-C-04-81
VR Groce #1

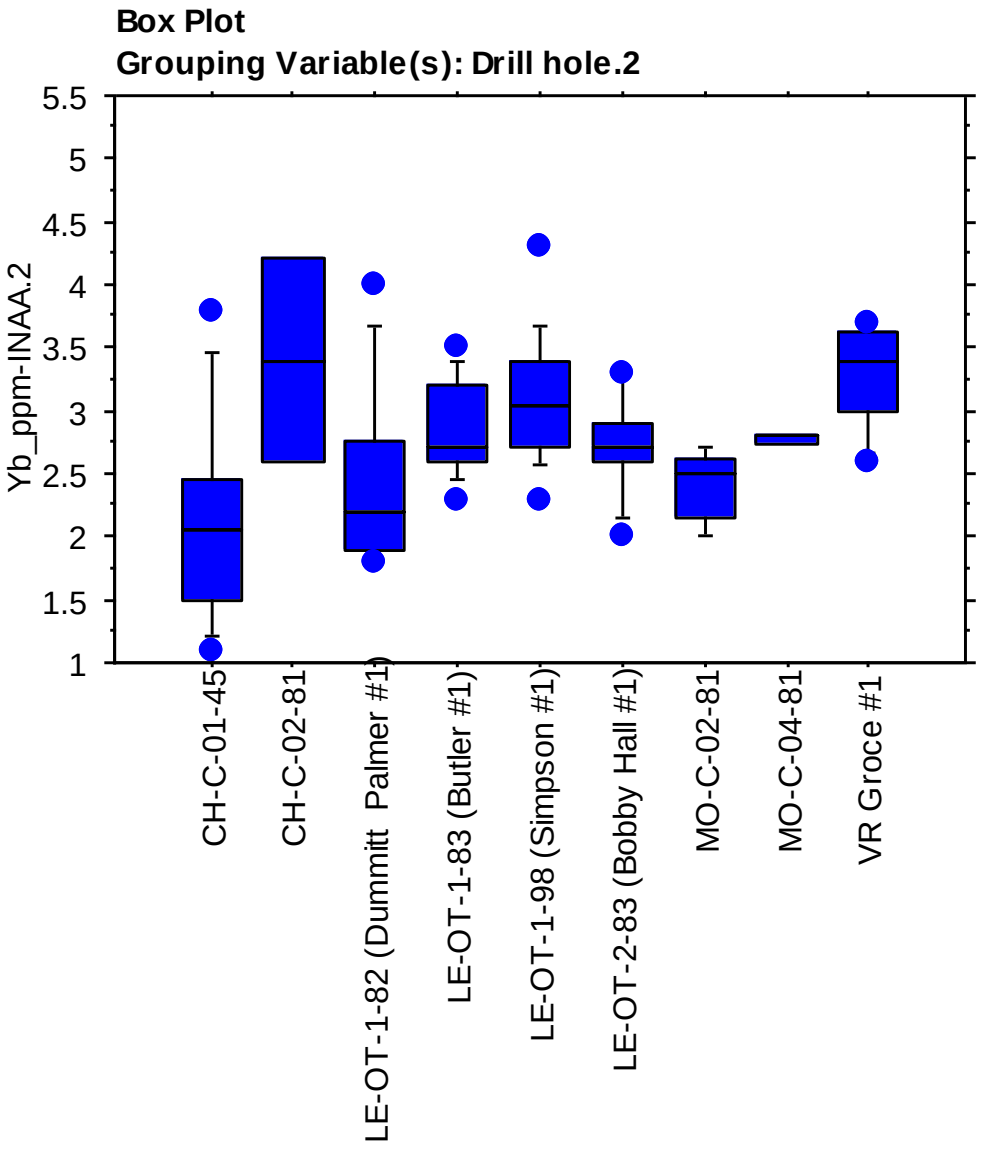
Eu (ppm) by hole



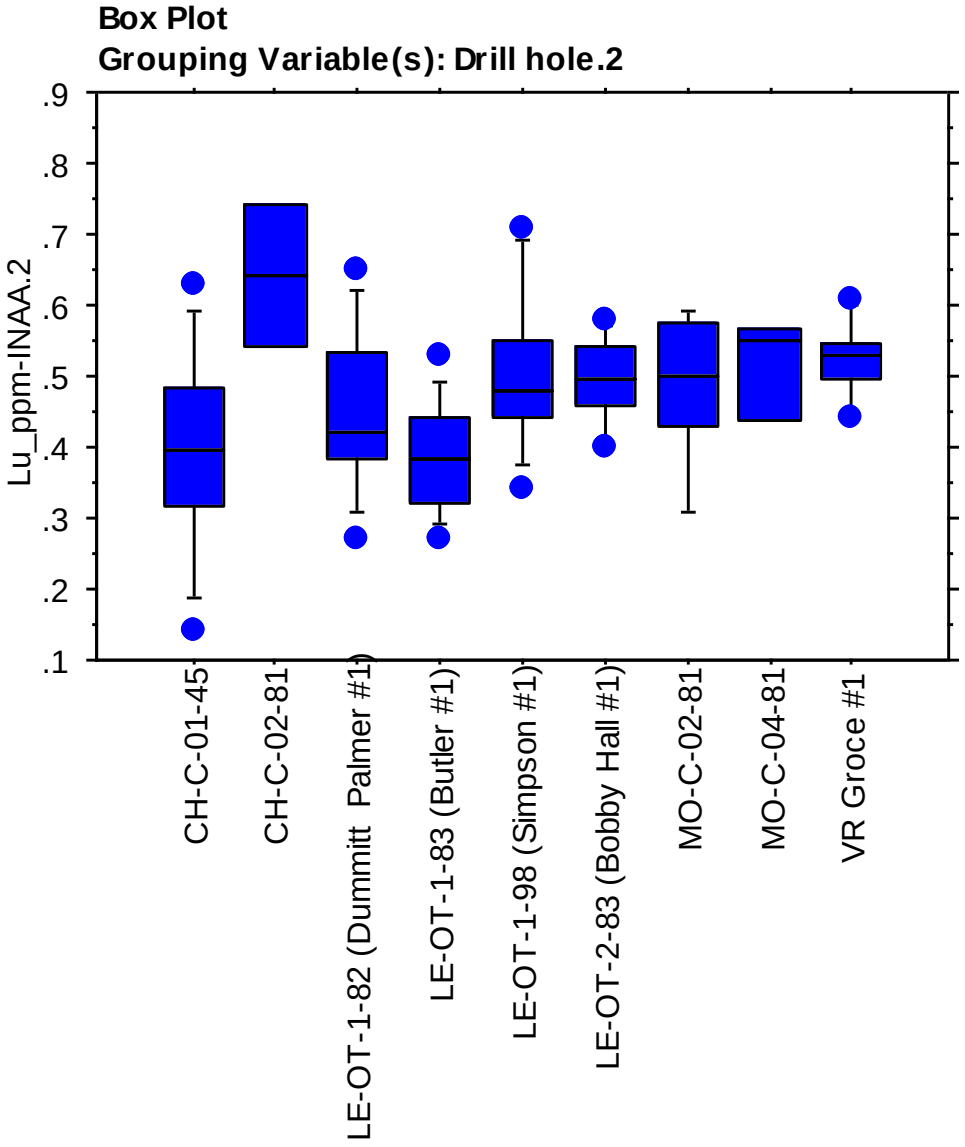
Tb (ppm) by hole



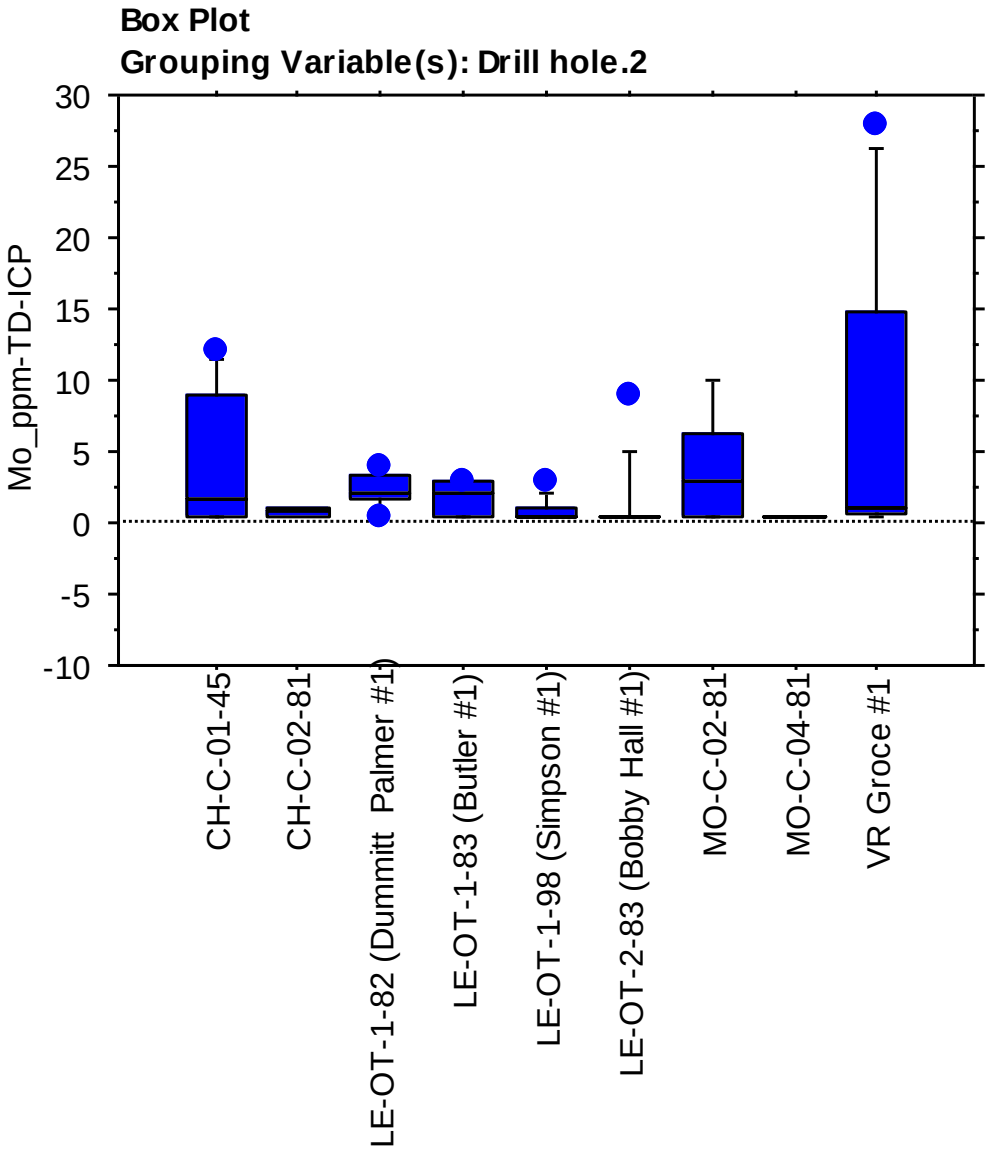
Yb (ppm) by hole



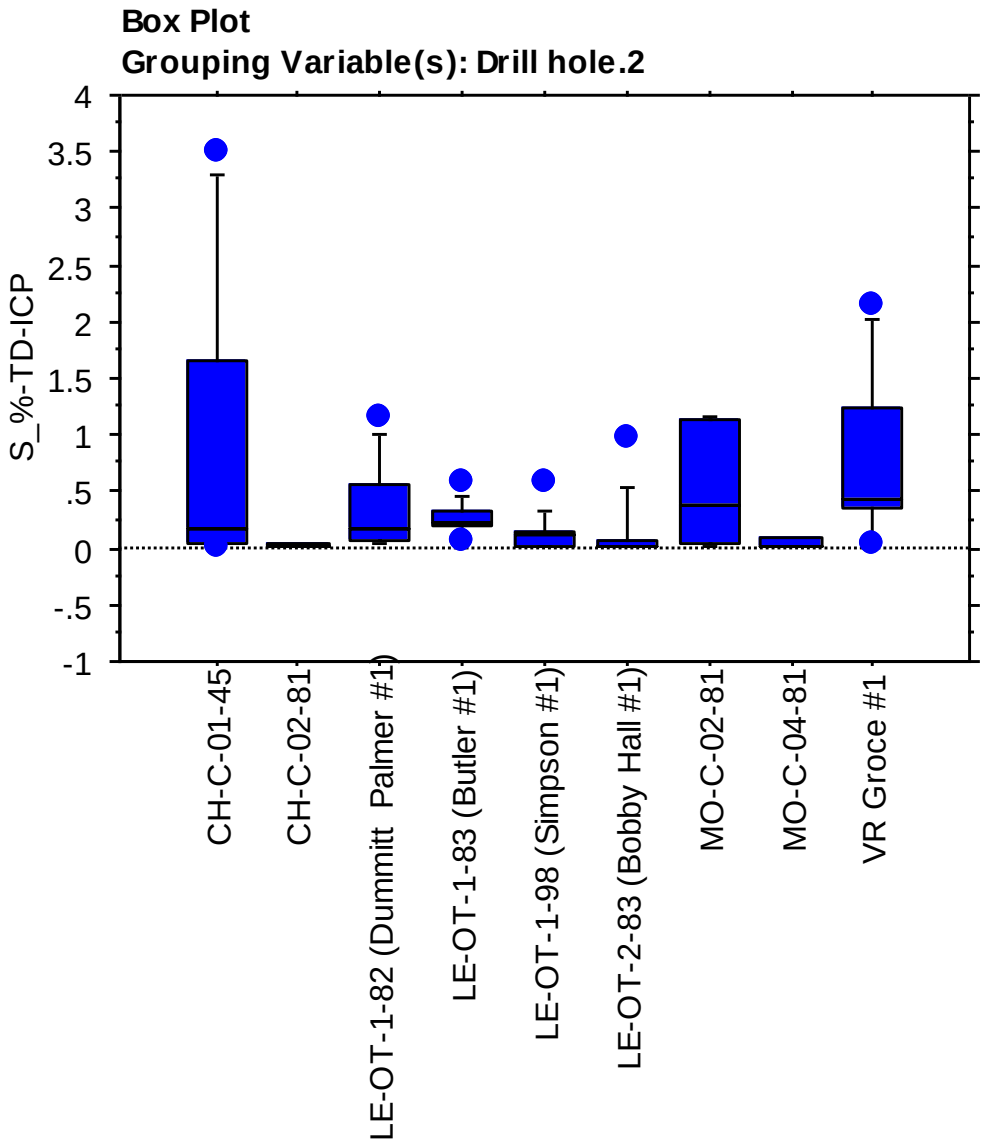
Lu (ppm) by hole



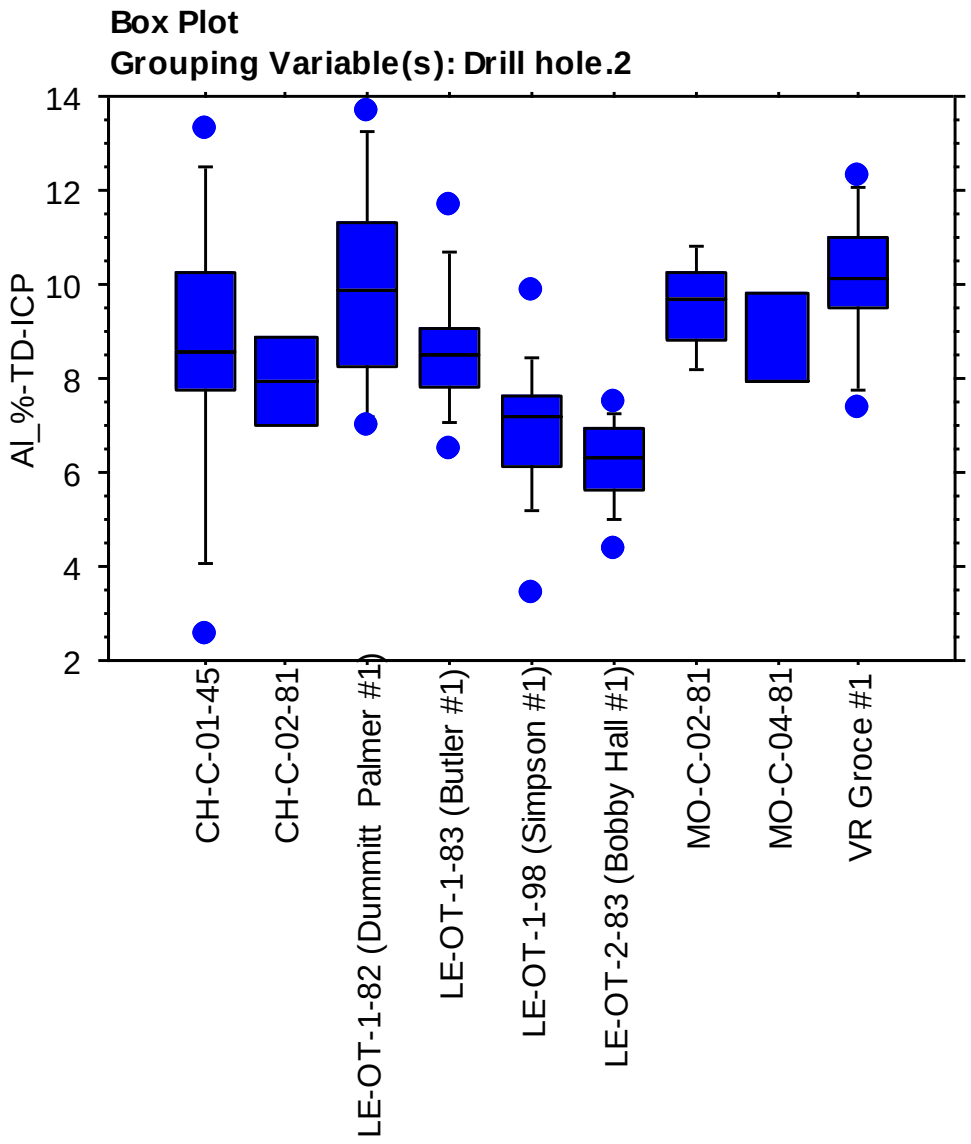
Mo (ppm) by hole



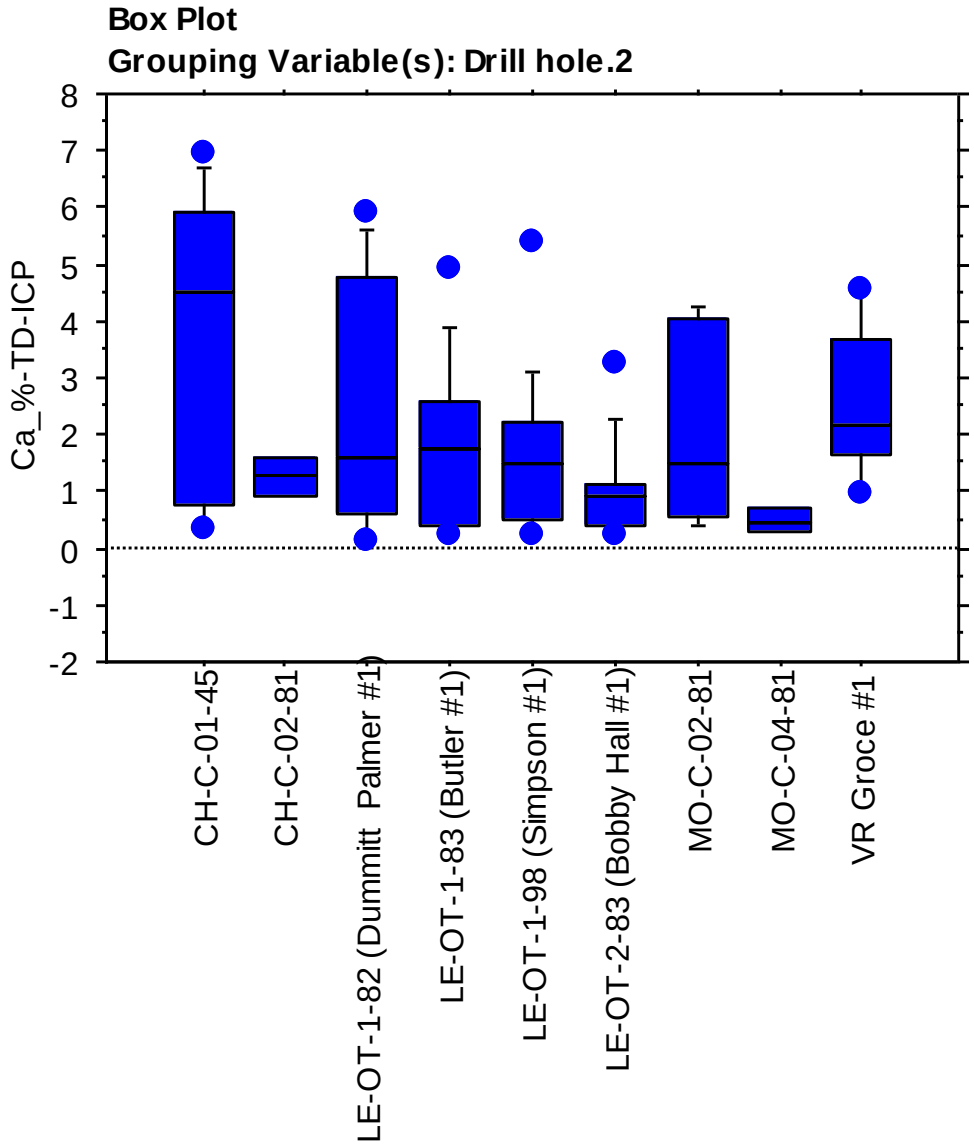
S% by hole


Box Plot
Grouping Variable(s): Drill hole.2
S_%-TD-ICP
4
3.5
3
2.5
2
1.5
1
.5
0
-.5
-1
CH-C-01-45
CH-C-02-81
LE-OT-1-82 (Dummitt Palmer #1)
LE-OT-1-83 (Butler #1)
LE-OT-1-98 (Simpson #1)
LE-OT-2-83 (Bobby Hall #1)
MO-C-02-81
MO-C-04-81
VR Groce #1

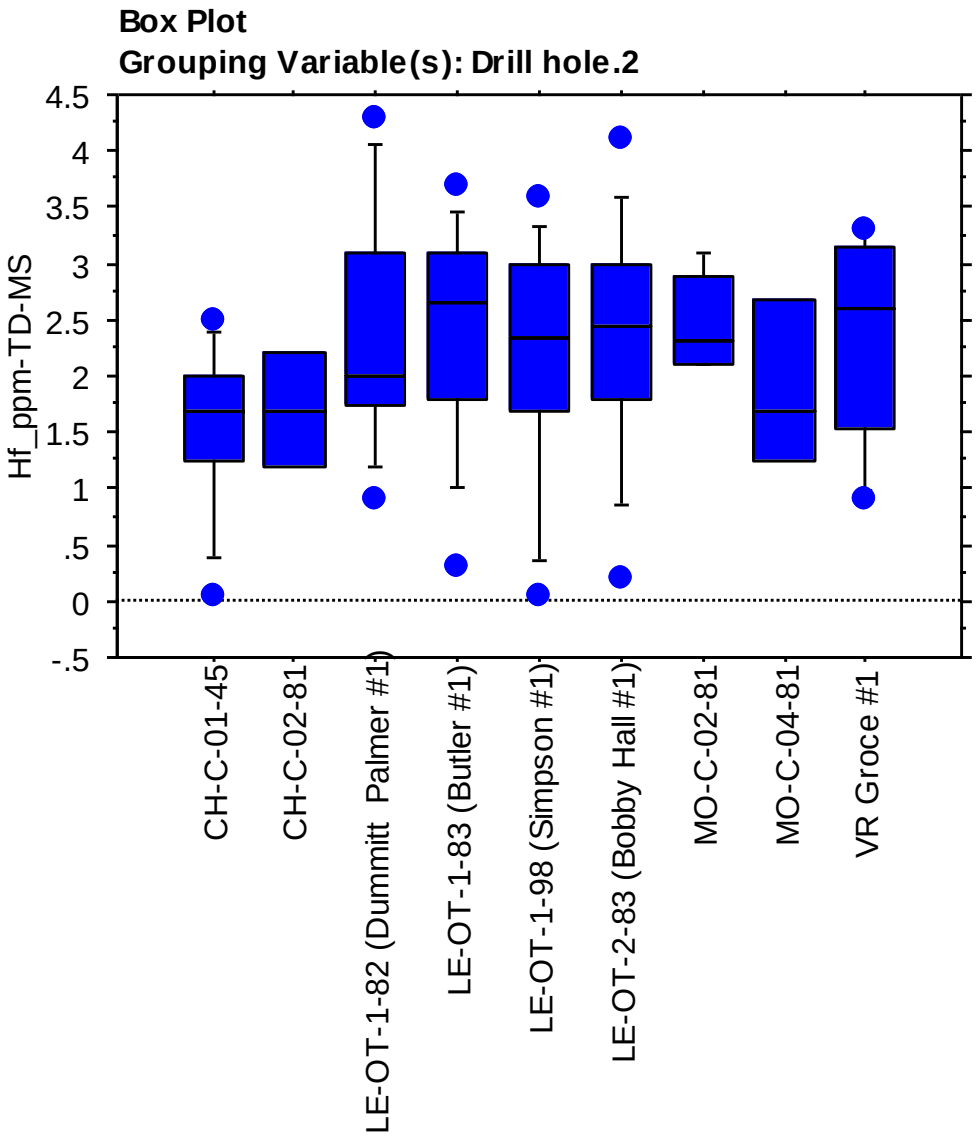
Al% by hole


Box Plot
Grouping Variable(s): Drill hole.2
Al_%-TD-ICP
14
12
10
8
6
4
2
CH-C-01-45
CH-C-02-81
LE-OT-1-82 (Dummitt Palmer #1)
LE-OT-1-83 (Butler #1)
LE-OT-1-98 (Simpson #1)
LE-OT-2-83 (Bobby Hall #1)
MO-C-02-81
MO-C-04-81
VR Groce #1

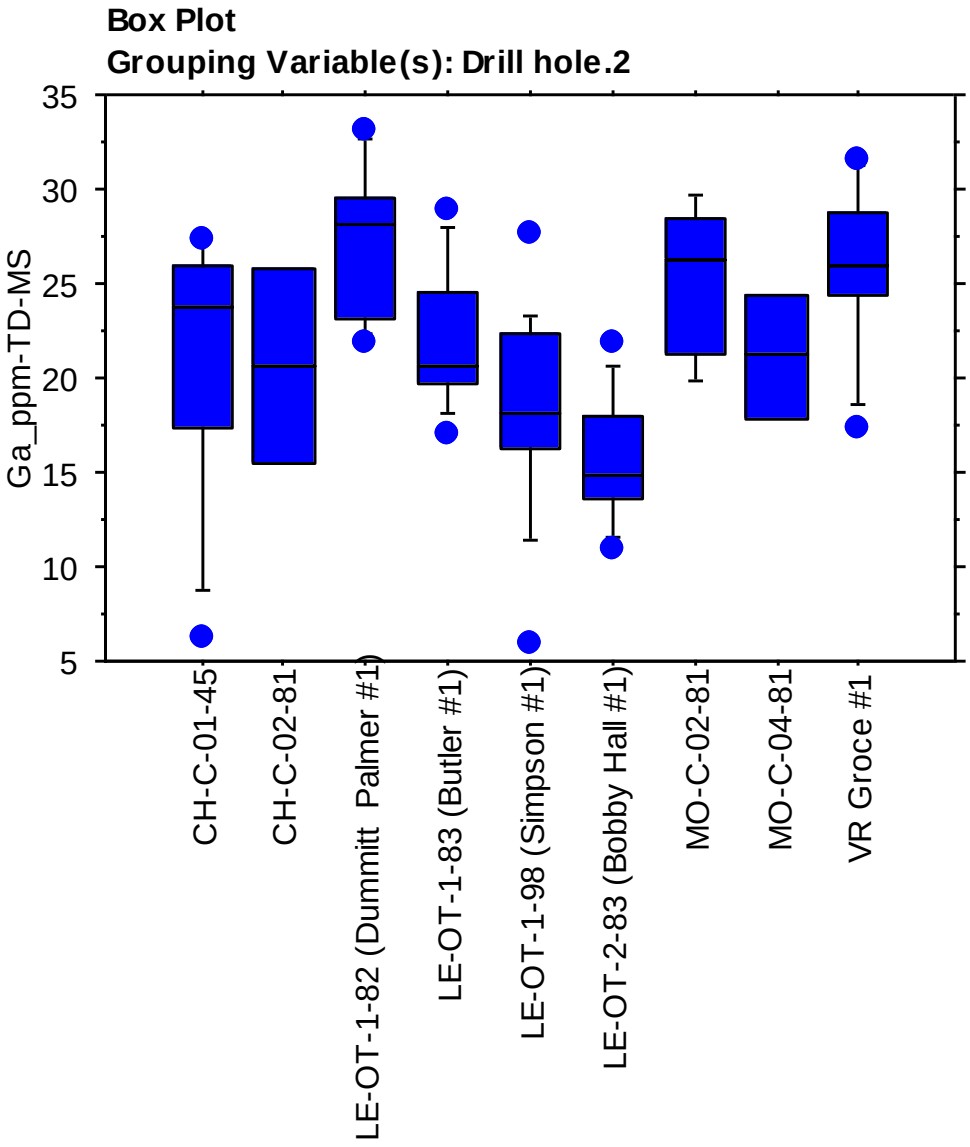
Ca% by hole


Box Plot
Grouping Variable(s): Drill hole.2
Ca_%-TD-ICP
8
7
6
5
4
3
2
1
0
-1
-2
CH-C-01-45
CH-C-02-81
LE-OT-1-82 (Dummitt Palmer #1)
LE-OT-1-83 (Butler #1)
LE-OT-1-98 (Simpson #1)
LE-OT-2-83 (Bobby Hall #1)
MO-C-02-81
MO-C-04-81
VR Groce #1

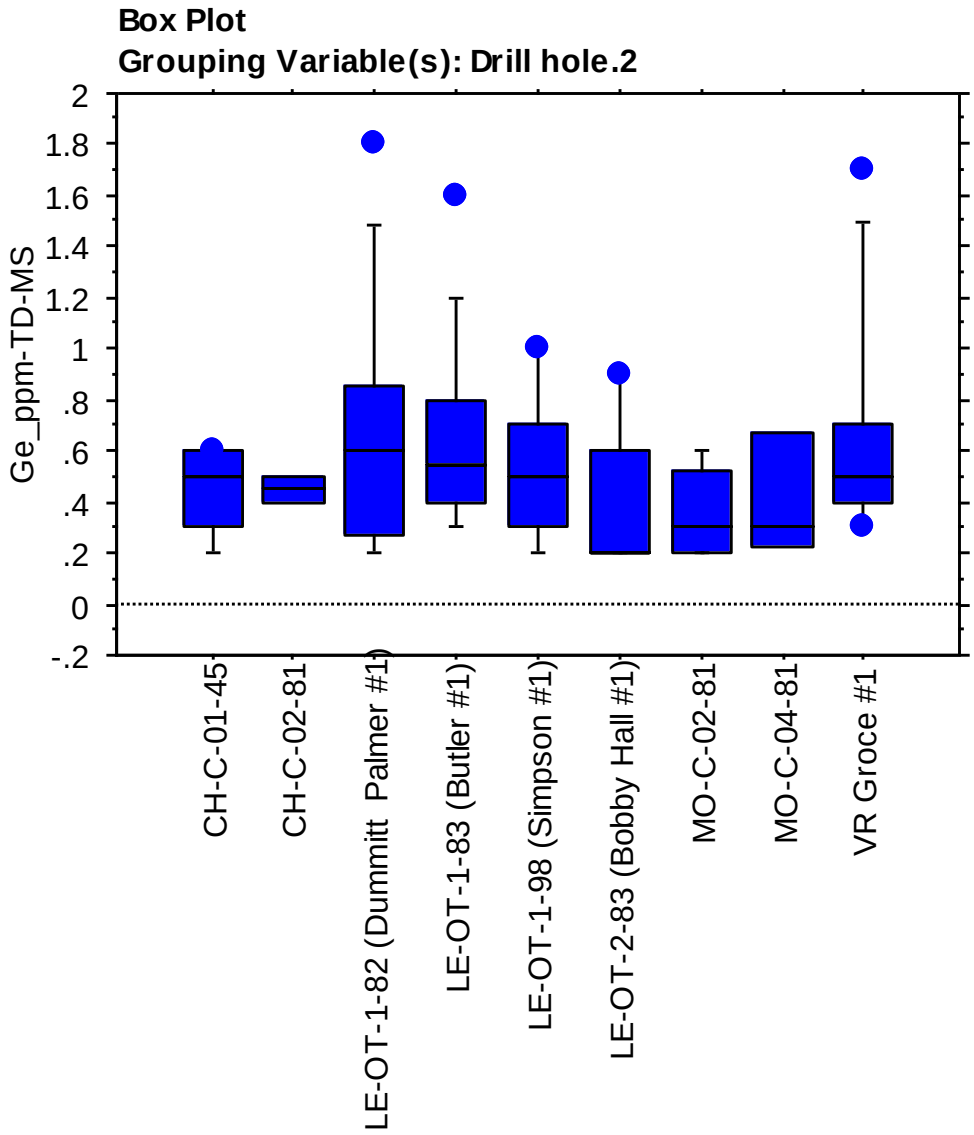
Hf (ppm) by hole



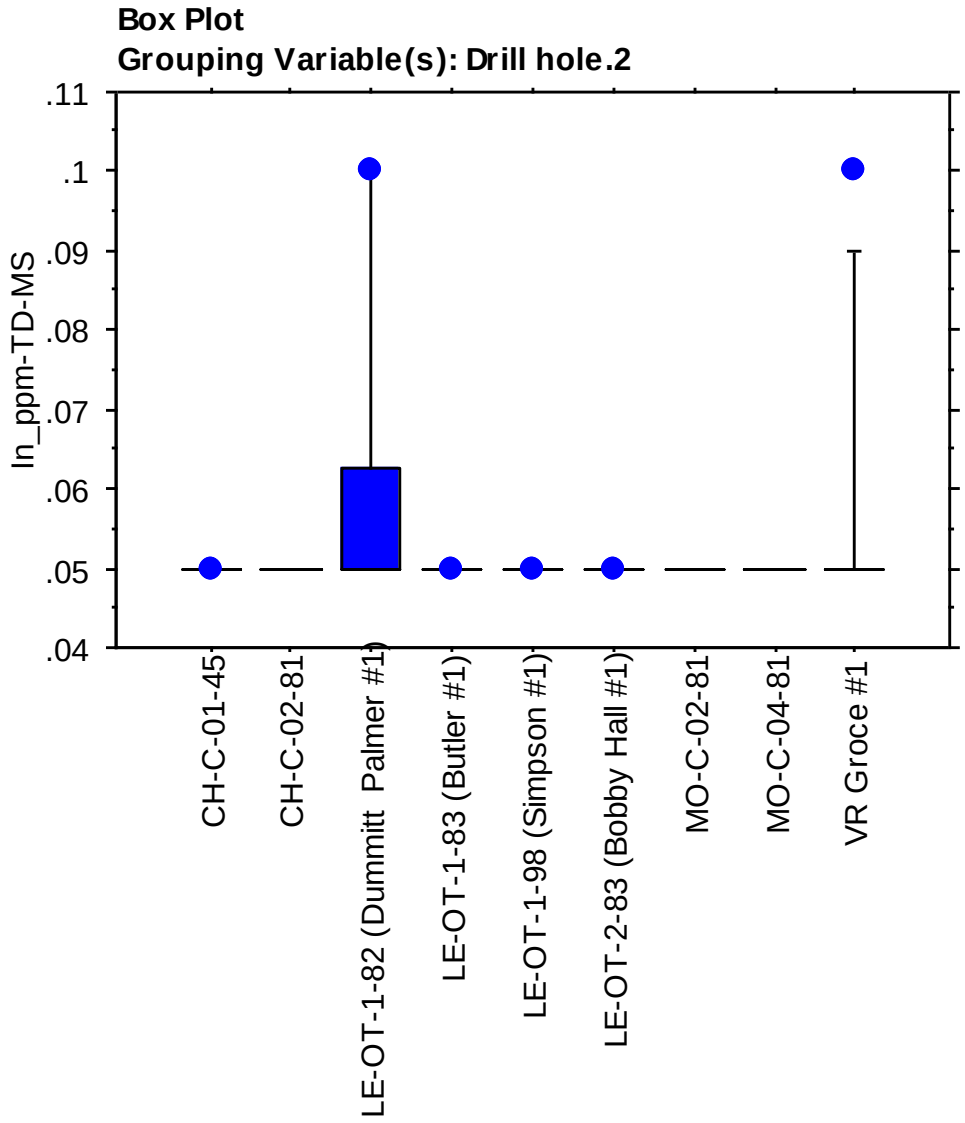
Ga (ppm) by hole



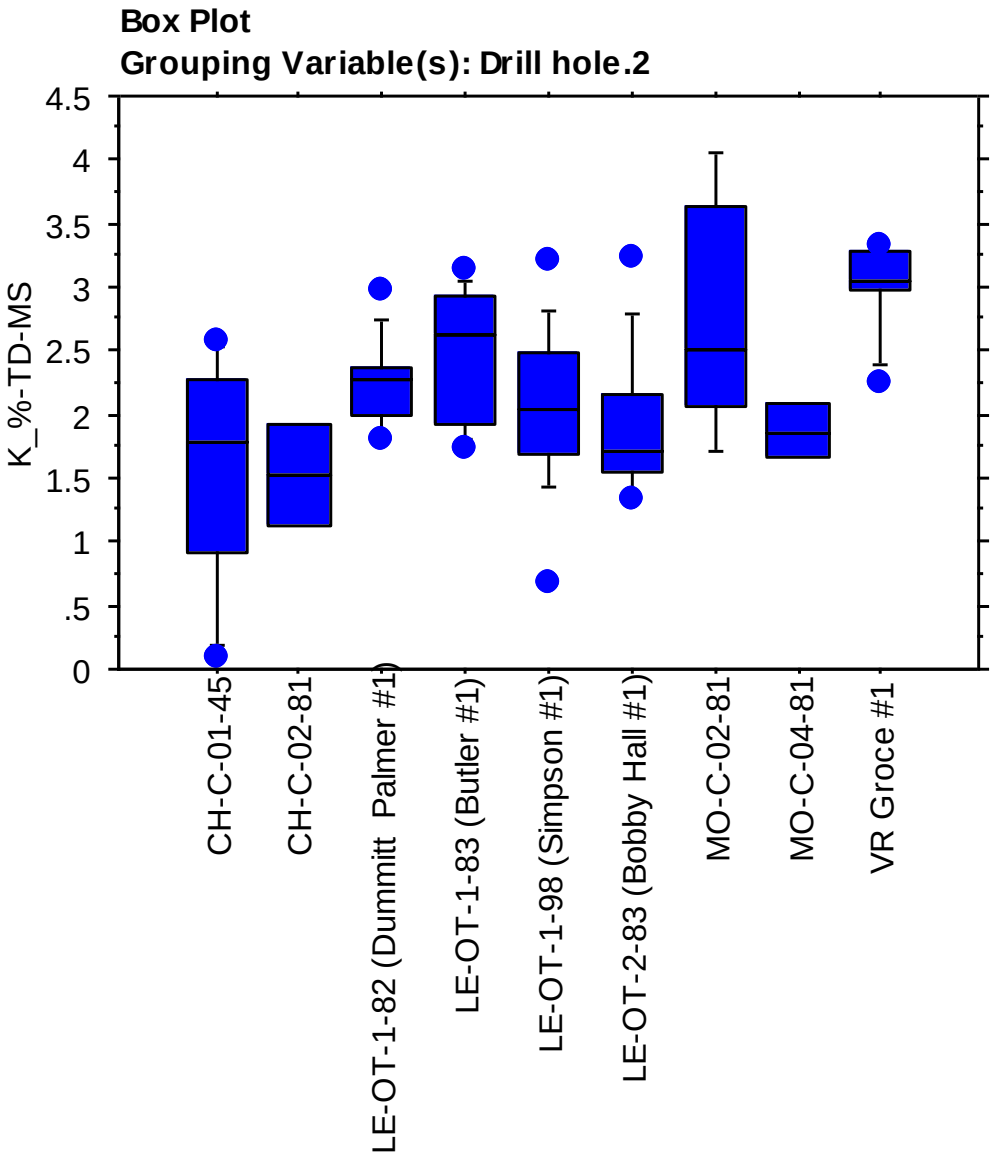
Ge (ppm) by hole



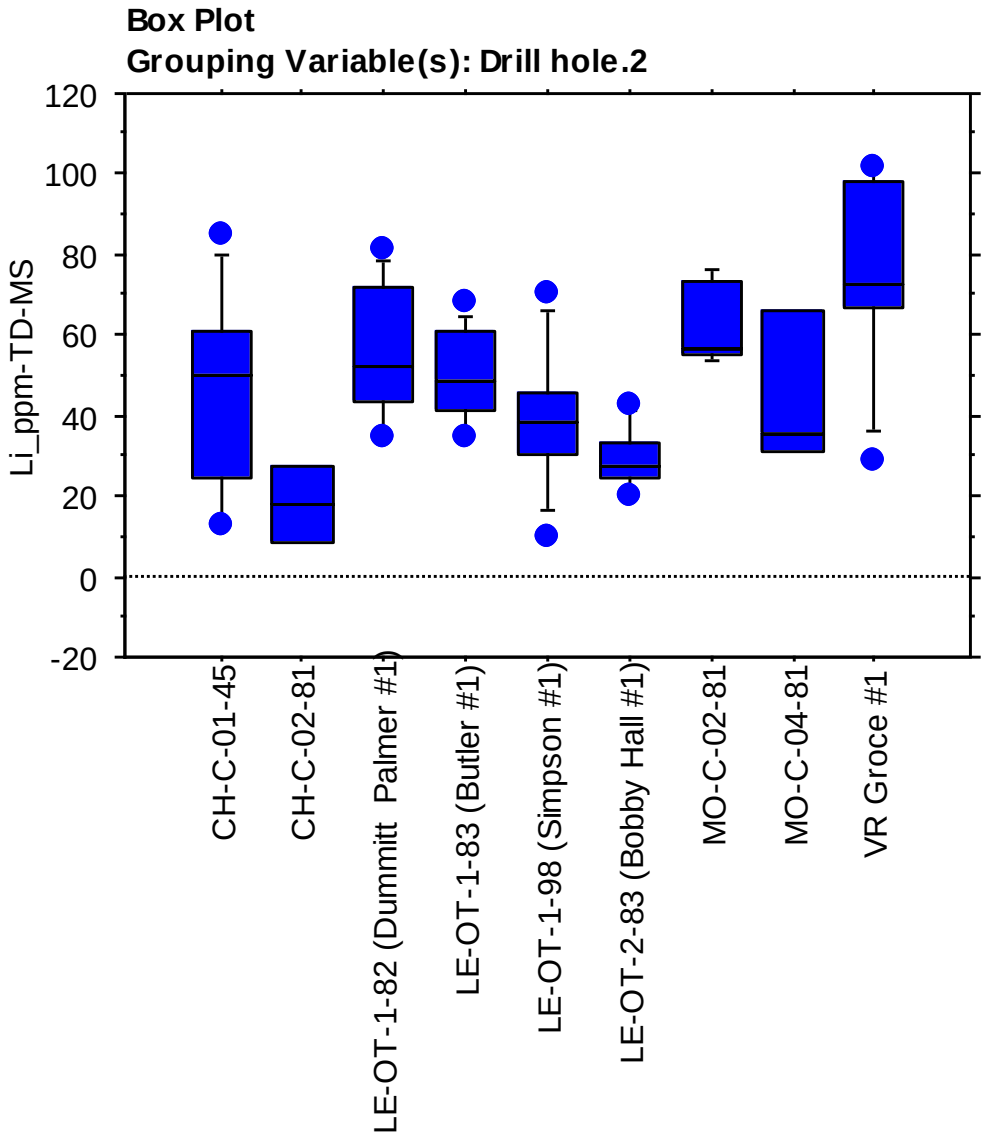
In (ppm) by hole



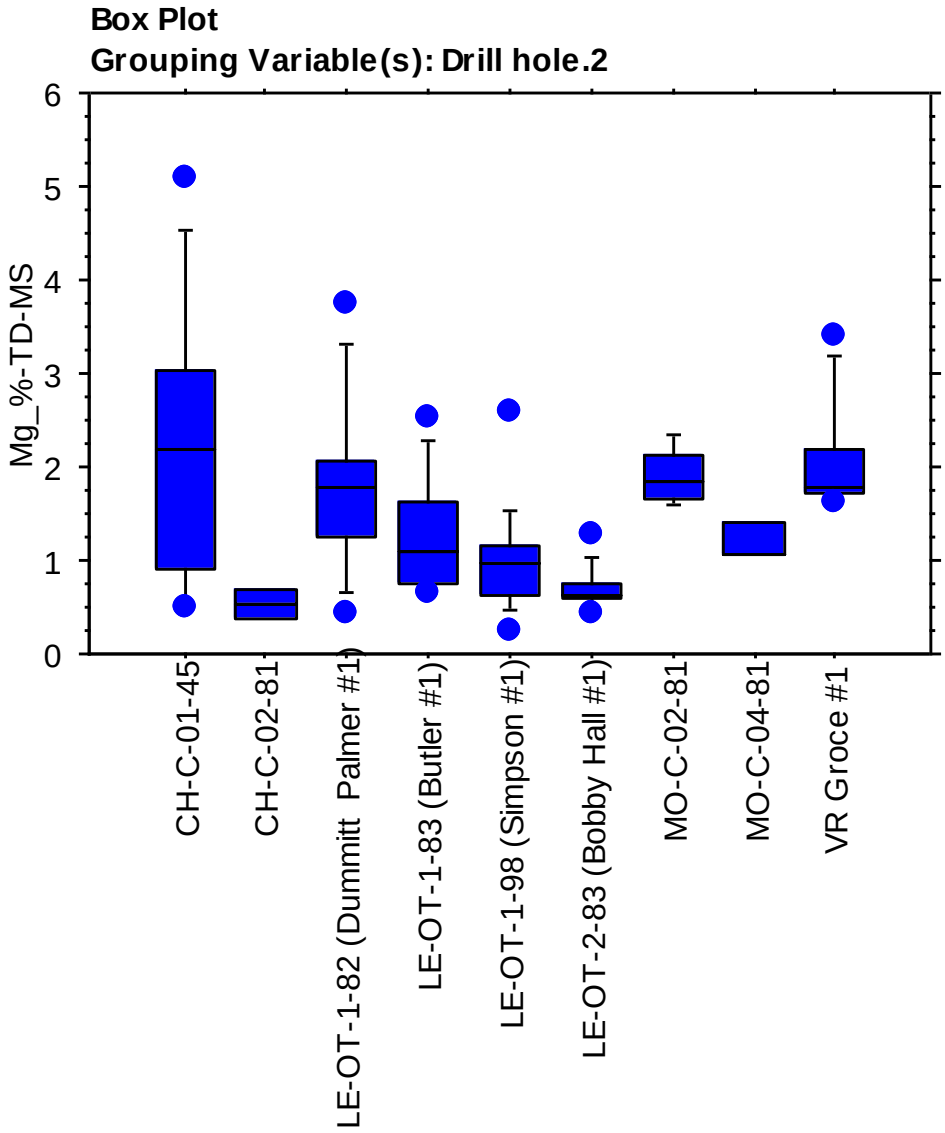
K% by hole


Box Plot
Grouping Variable(s): Drill hole.2
K_%-TD-MS
4.5
4
3.5
3
2.5
2
1.5
1
.5
0
CH-C-01-45
CH-C-02-81
LE-OT-1-82 (Dummitt Palmer #1)
LE-OT-1-83 (Butler #1)
LE-OT-1-98 (Simpson #1)
LE-OT-2-83 (Bobby Hall #1)
MO-C-02-81
MO-C-04-81
VR Groce #1

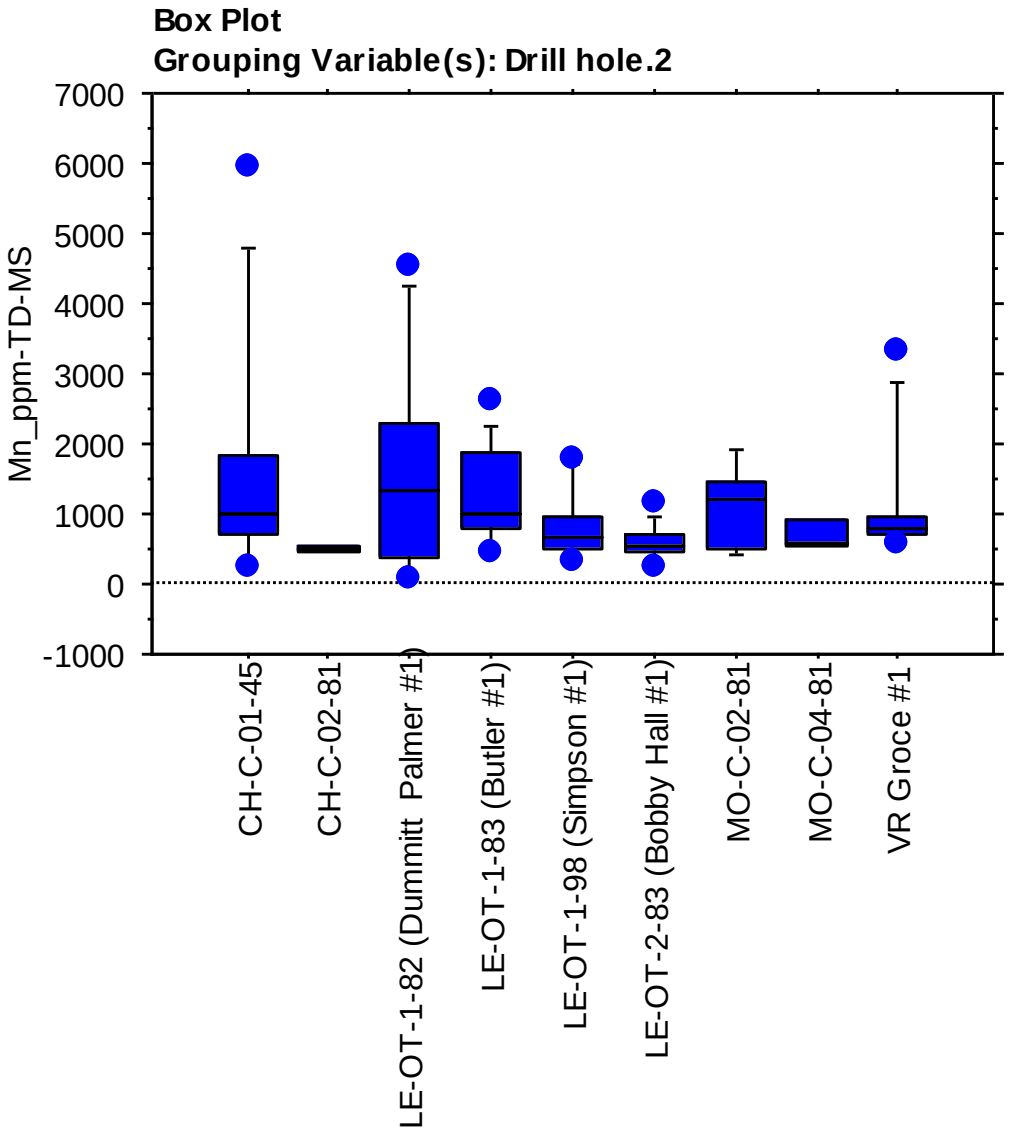
Li (ppm) by hole



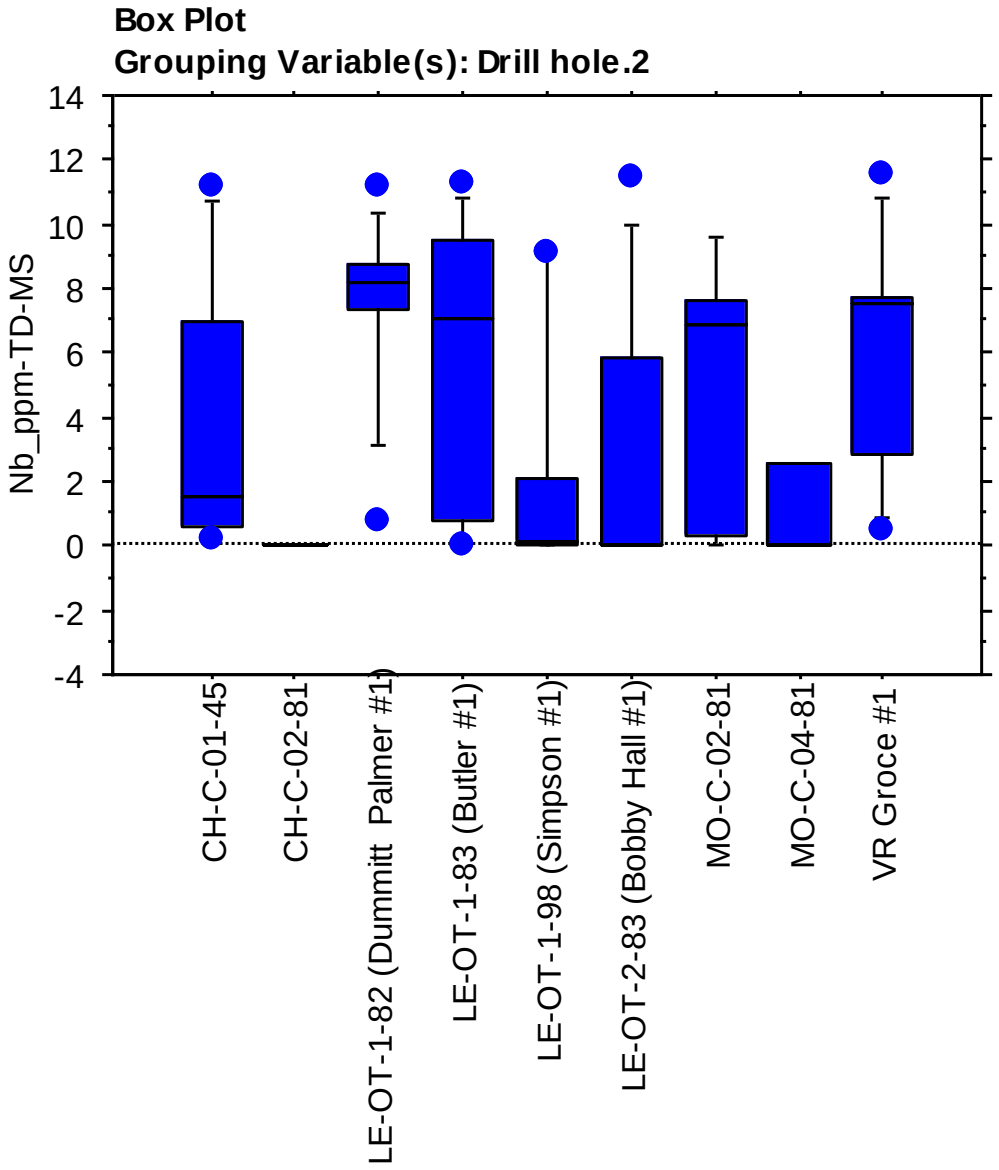
Mg% by hole


Box Plot
Grouping Variable(s): Drill hole.2
Mg_%-TD-MS
0
1
2
3
4
5
6
CH-C-01-45
CH-C-02-81
LE-OT-1-82 (Dummitt Palmer #1)
LE-OT-1-83 (Butler #1)
LE-OT-1-98 (Simpson #1)
LE-OT-2-83 (Bobby Hall #1)
MO-C-02-81
MO-C-04-81
VR Groce #1

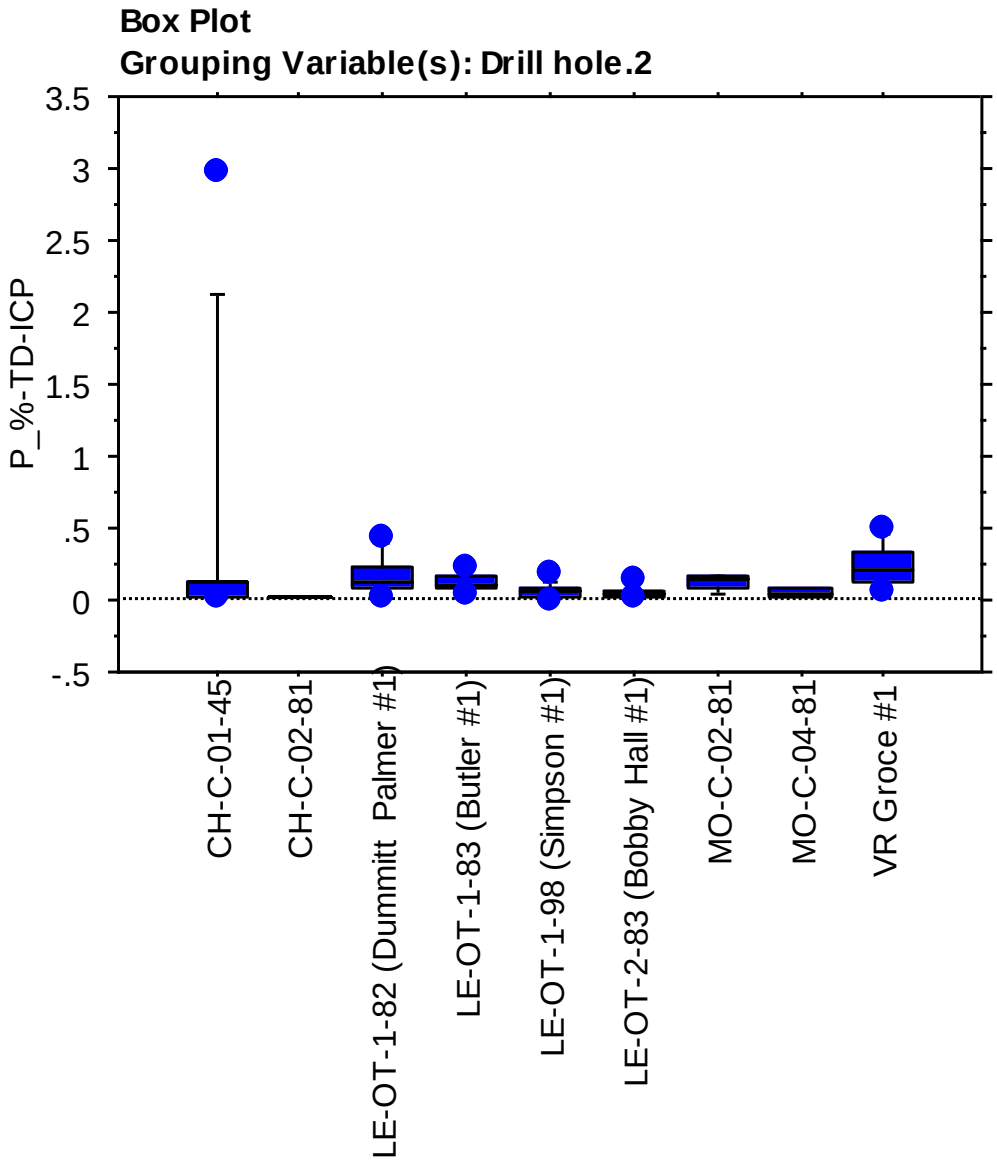
Mn (ppm) by hole



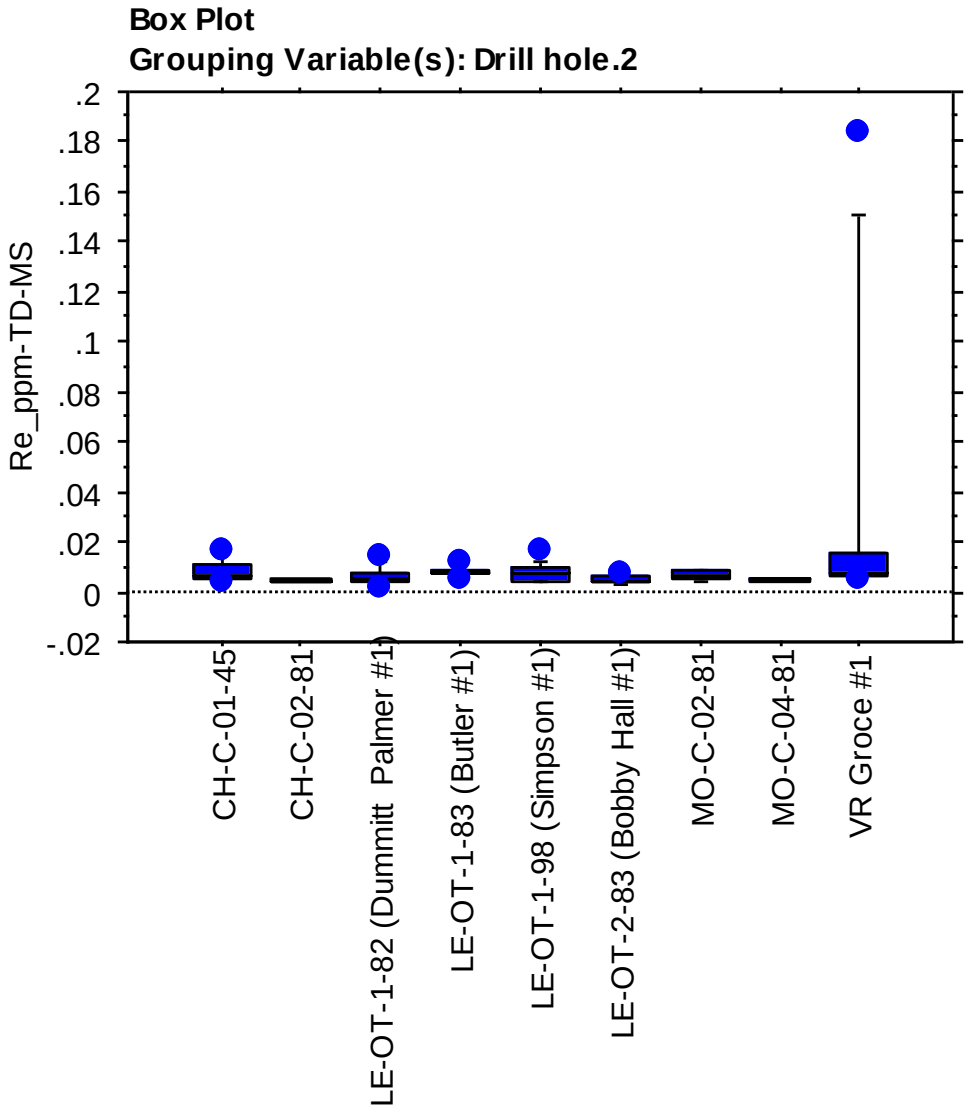
Nb (ppm) by hole



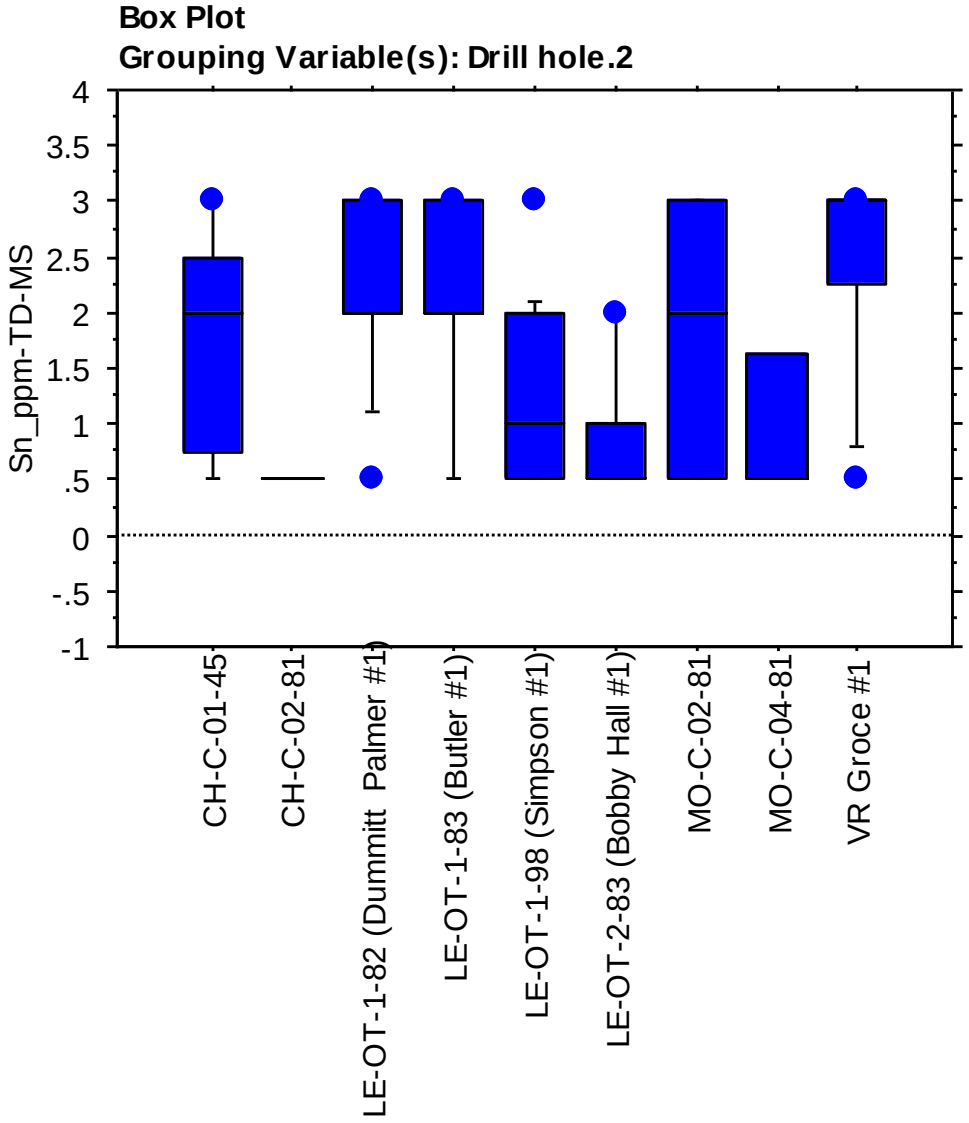
P% by hole


Box Plot
Grouping Variable(s): Drill hole.2
P_%-TD-ICP
3.5
3
2.5
2
1.5
1
.5
0
-.5
CH-C-01-45
CH-C-02-81
LE-OT-1-82 (Dummitt Palmer #1)
LE-OT-1-83 (Butler #1)
LE-OT-1-98 (Simpson #1)
LE-OT-2-83 (Bobby Hall #1)
MO-C-02-81
MO-C-04-81
VR Groce #1

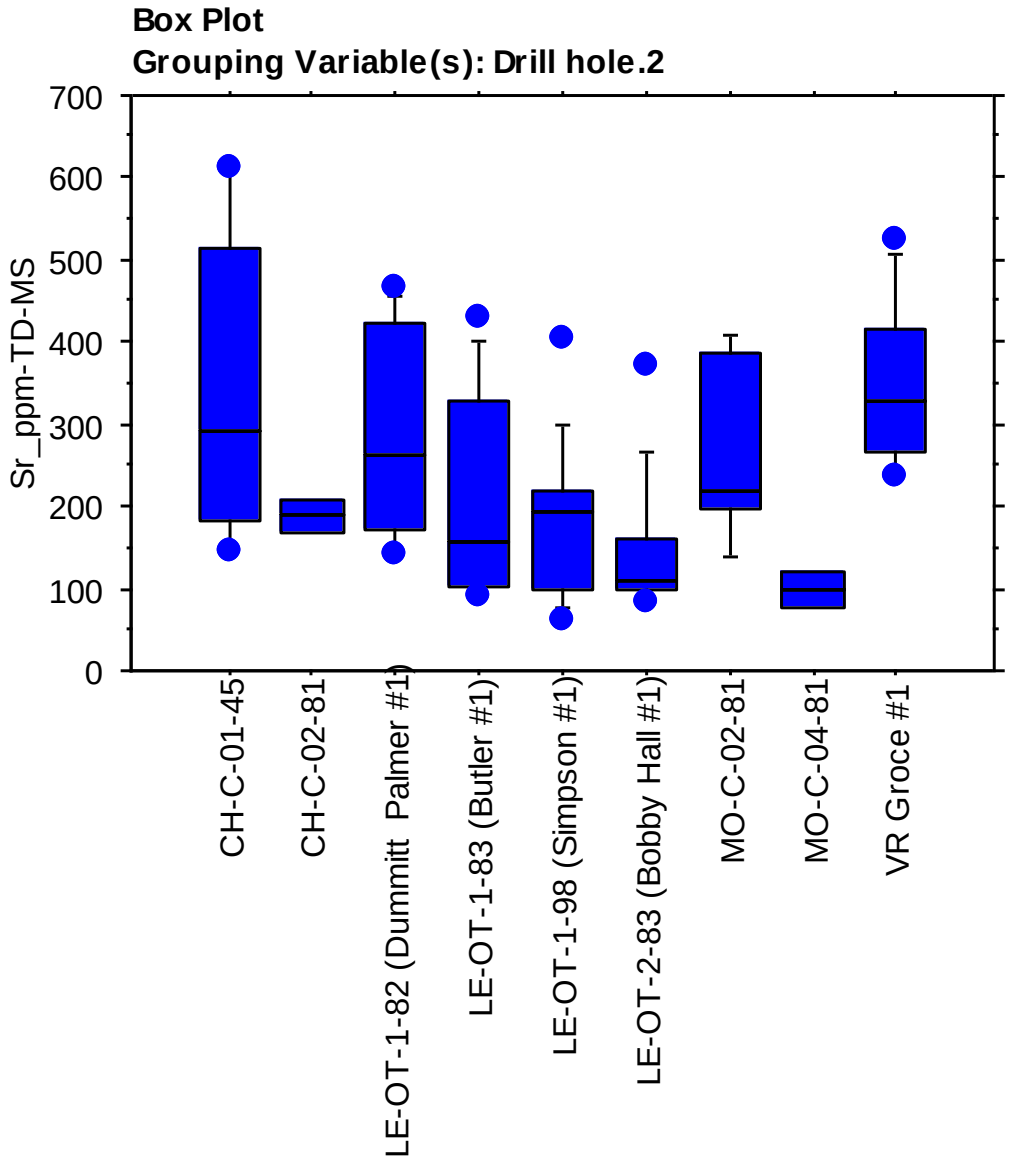
Re (ppm) by hole



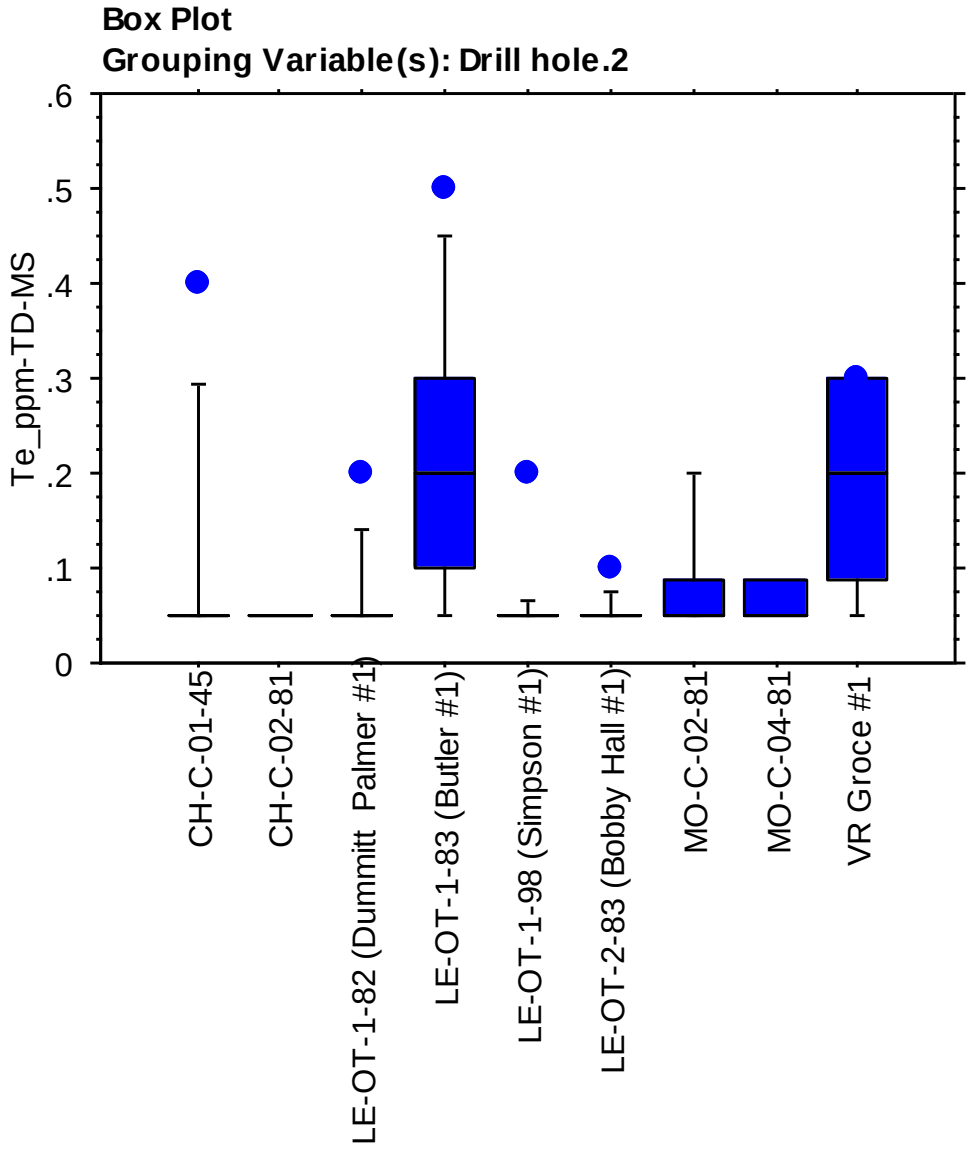
Sn (ppm) by hole



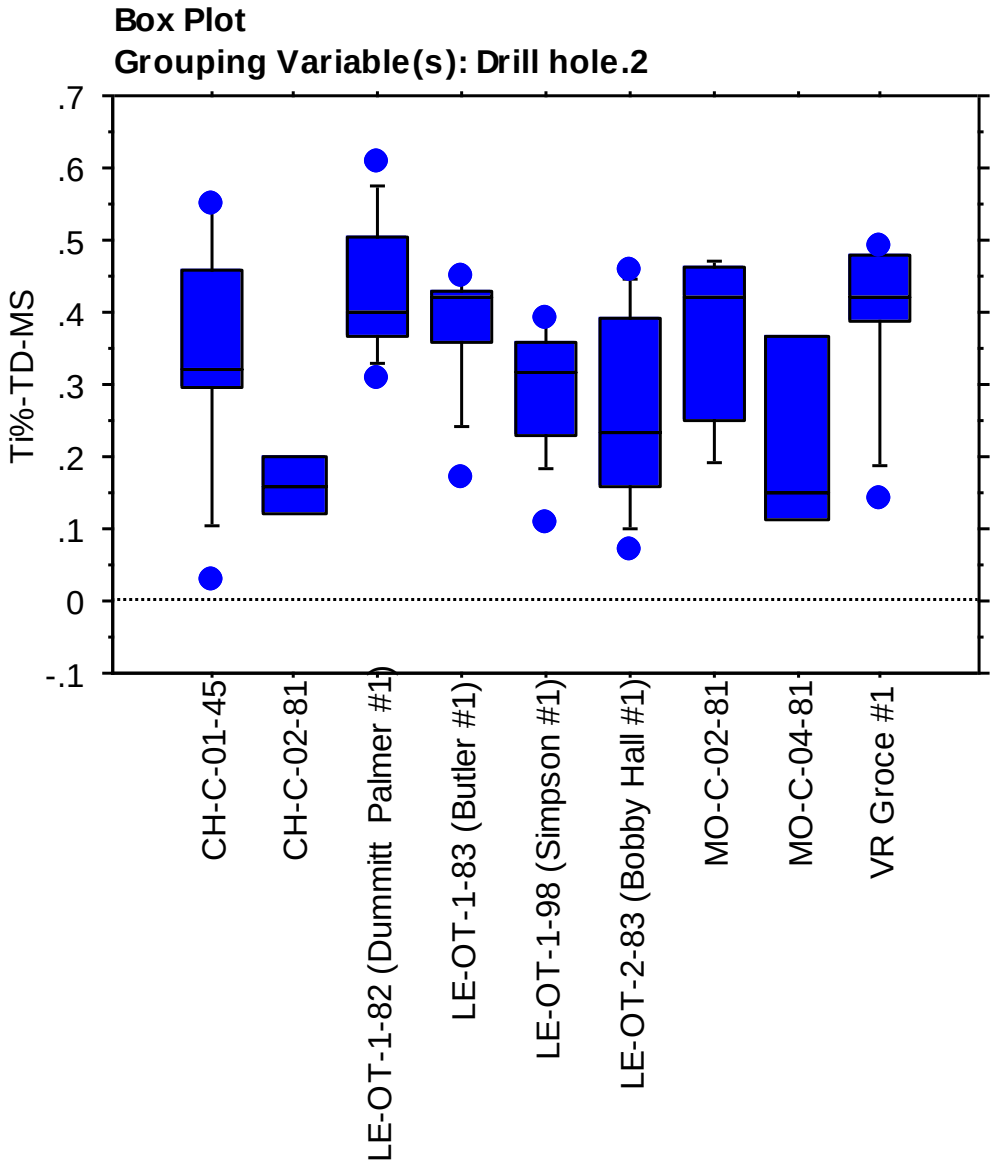
Sr (ppm) by hole



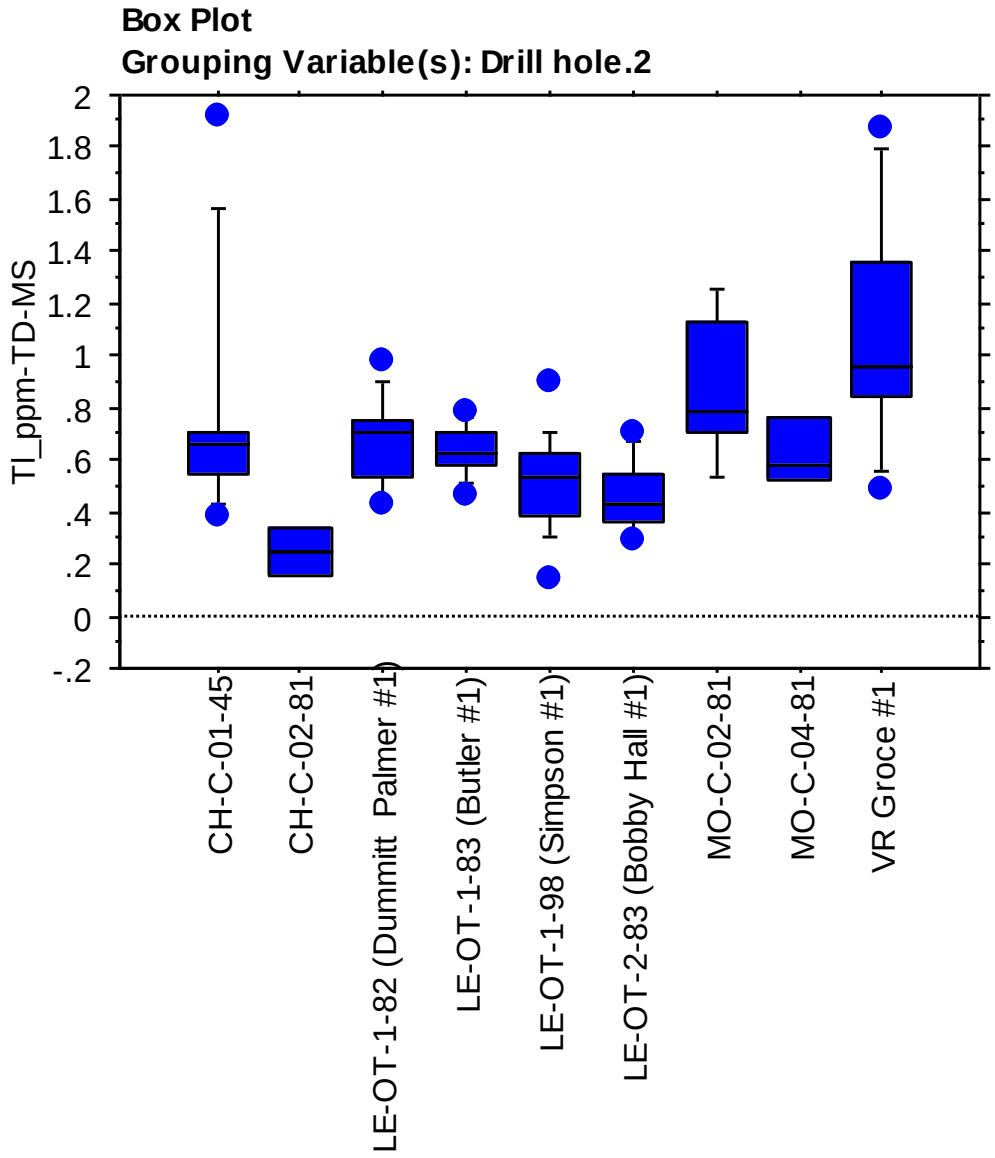
Te (ppm) by hole



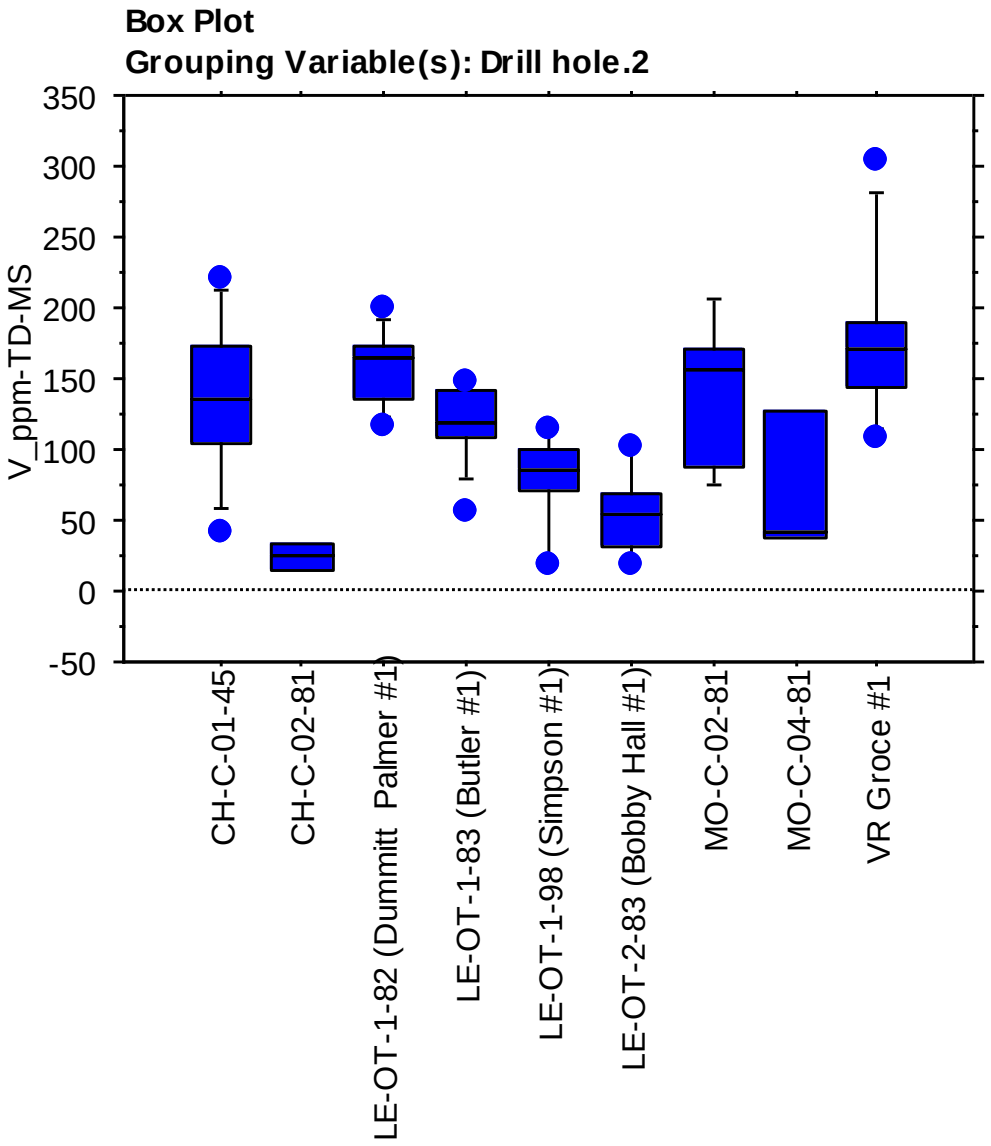
Ti% by hole


Box Plot
Grouping Variable(s): Drill hole.2
Ti%-TD-MS
.7
.6
.5
.4
.3
.2
.1
0
-.1
CH-C-01-45
CH-C-02-81
LE-OT-1-82 (Dummitt Palmer #1)
LE-OT-1-83 (Butler #1)
LE-OT-1-98 (Simpson #1)
LE-OT-2-83 (Bobby Hall #1)
MO-C-02-81
MO-C-04-81
VR Groce #1

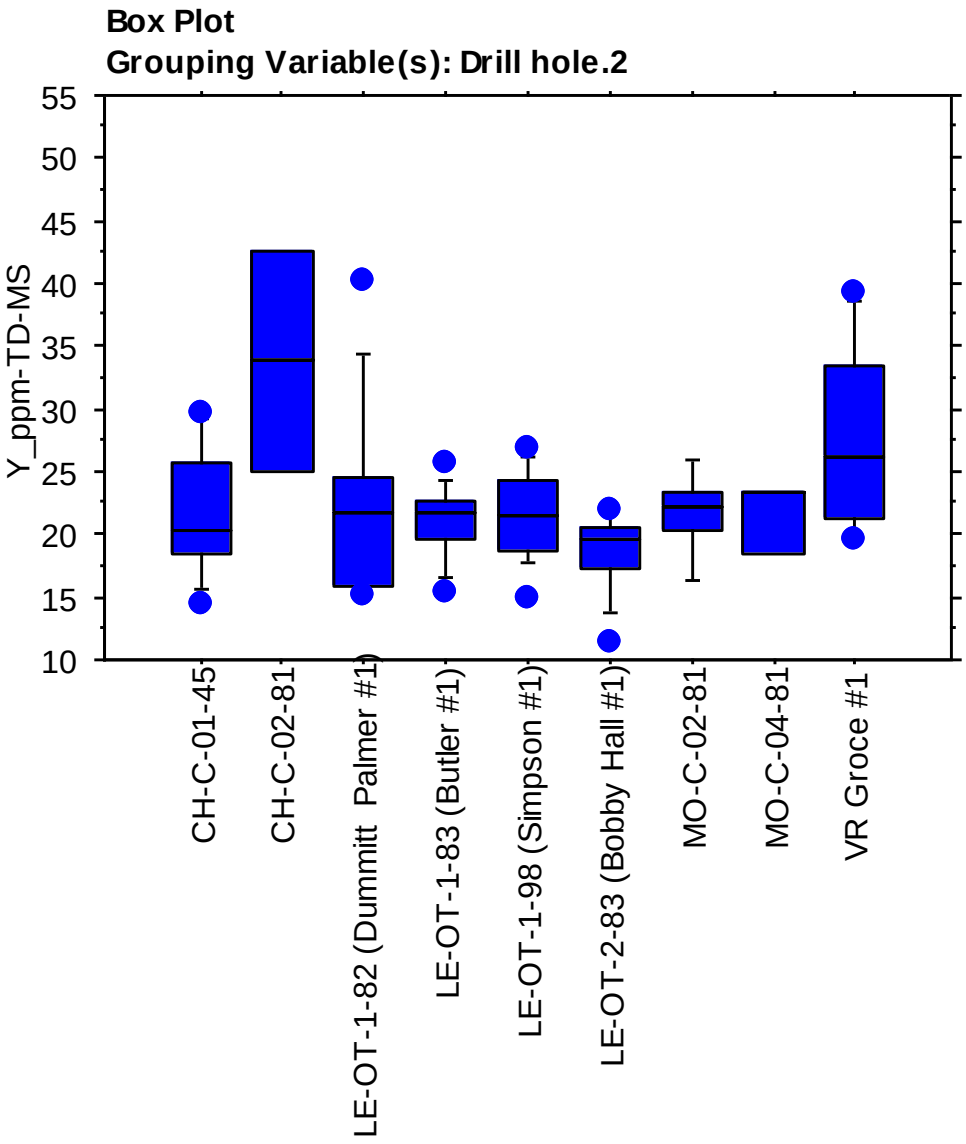
Tl (ppm) by hole



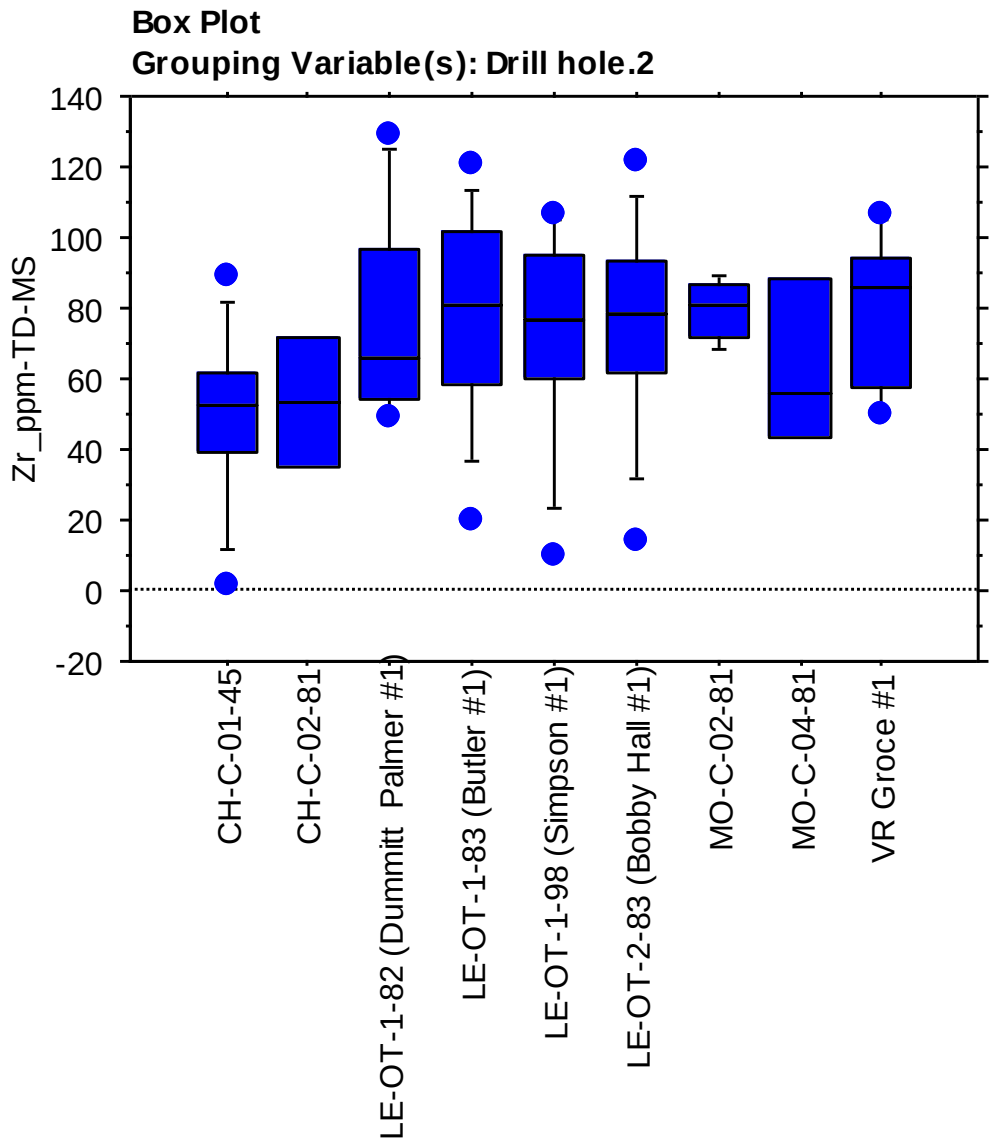
V (ppm) by hole


Box Plot
Grouping Variable(s): Drill hole.2
V_ppm-TD-MS
350
300
250
200
150
100
50
0
-50
CH-C-01-45
CH-C-02-81
LE-OT-1-82 (Dummitt Palmer #1)
LE-OT-1-83 (Butler #1)
LE-OT-1-98 (Simpson #1)
LE-OT-2-83 (Bobby Hall #1)
MO-C-02-81
MO-C-04-81
VR Groce #1

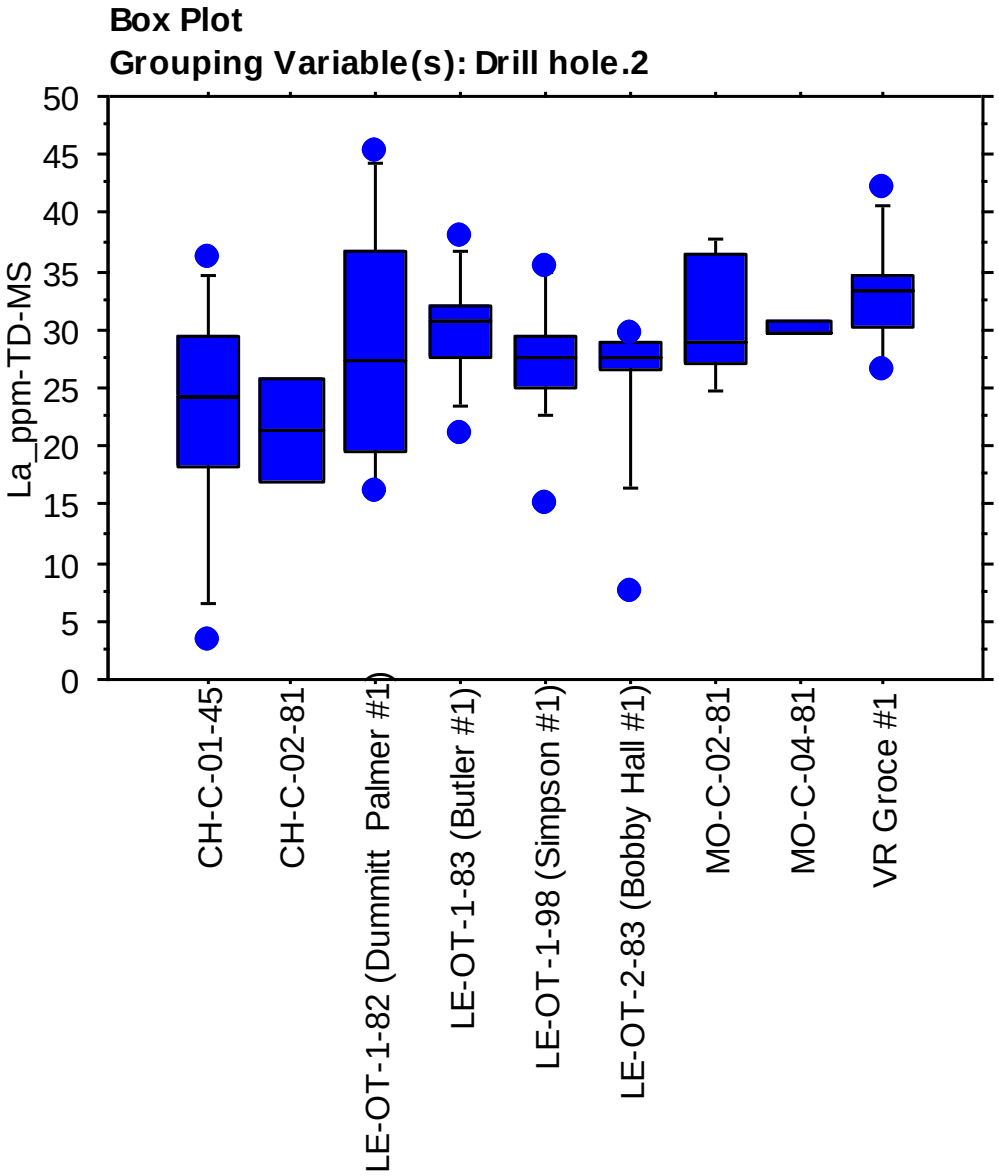
Y (ppm) by hole


Box Plot
Grouping Variable(s): Drill hole.2
Y_ppm-TD-MS
55
50
45
40
35
30
25
20
15
10
CH-C-01-45
CH-C-02-81
LE-OT-1-82 (Dummitt Palmer #1)
LE-OT-1-83 (Butler #1)
LE-OT-1-98 (Simpson #1)
LE-OT-2-83 (Bobby Hall #1)
MO-C-02-81
MO-C-04-81
VR Groce #1

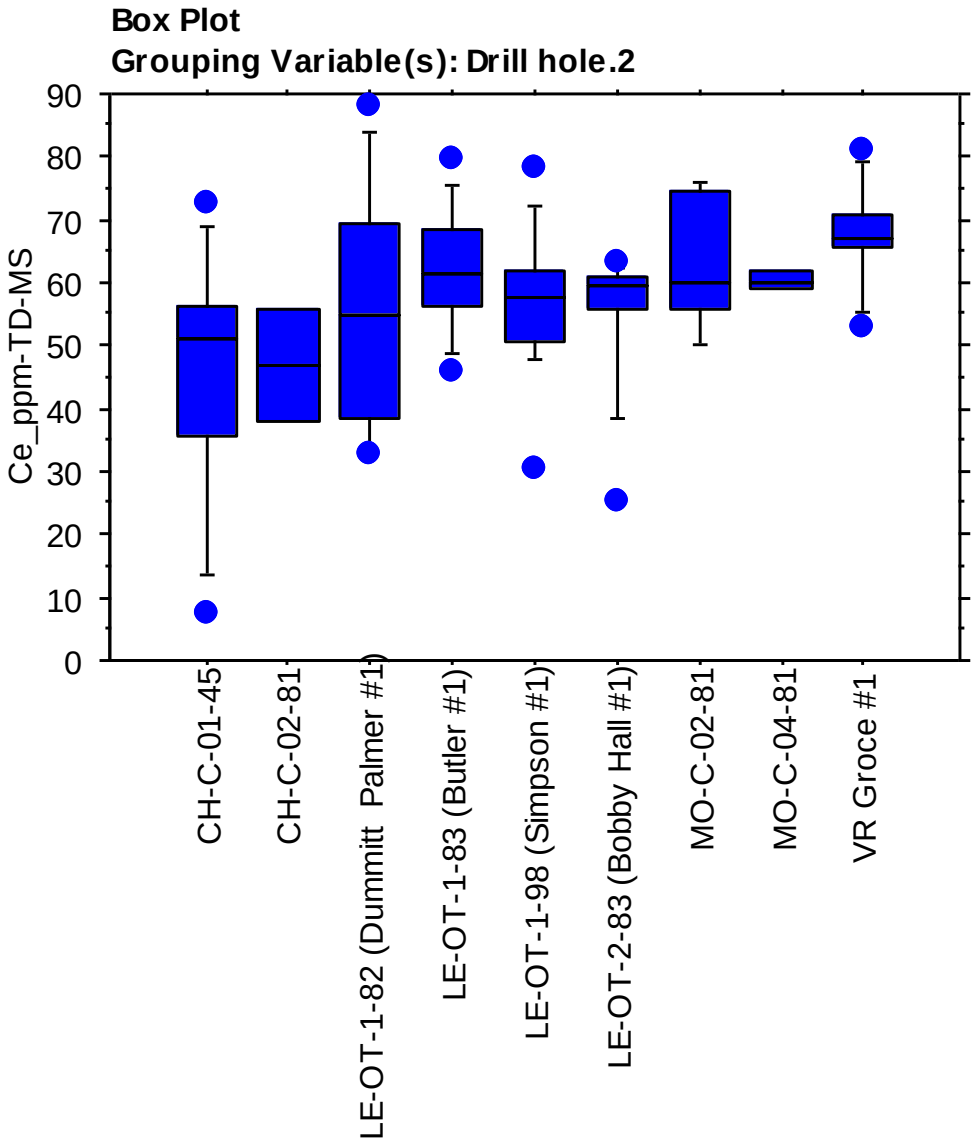
Zr (ppm) by hole



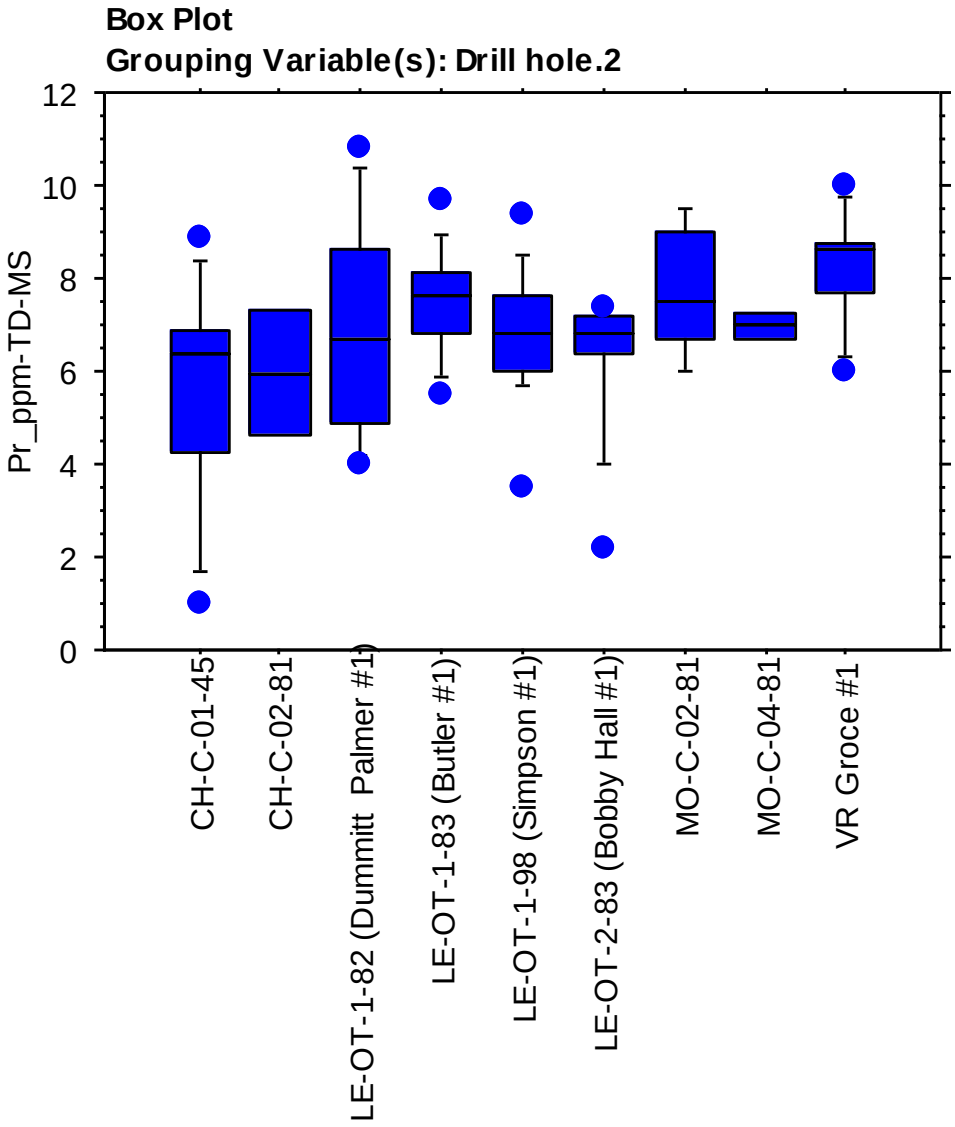
La (ppm) by hole



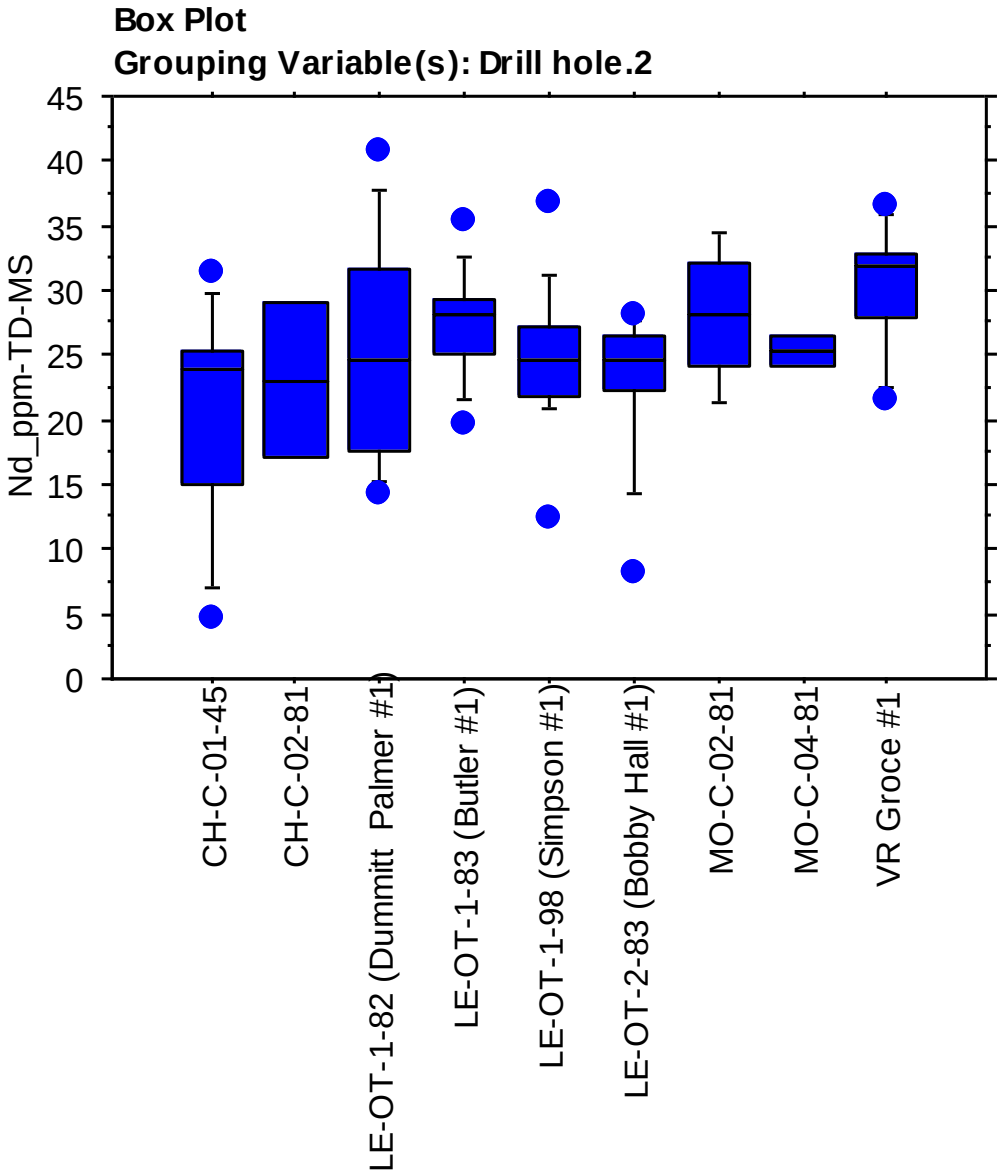
Ce (ppm) by hole



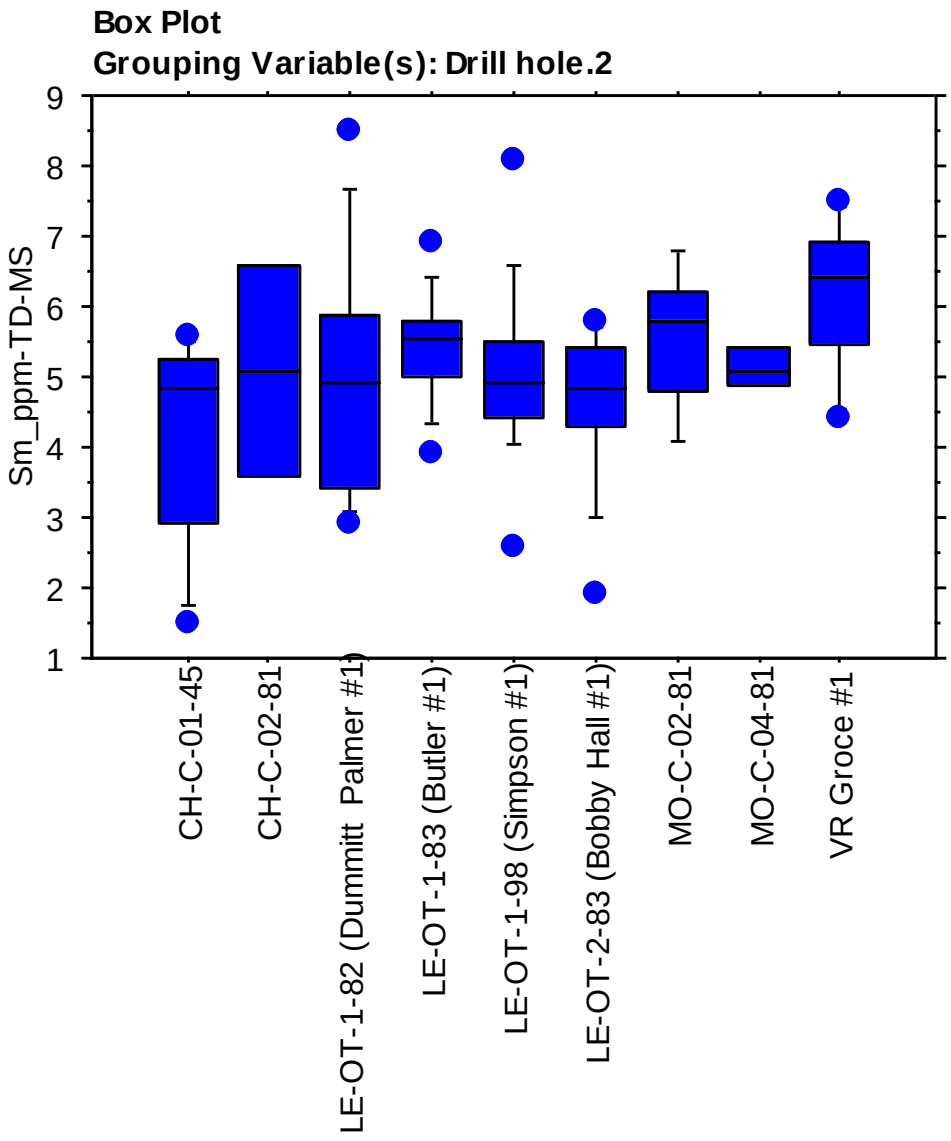
Pr (ppm) by hole



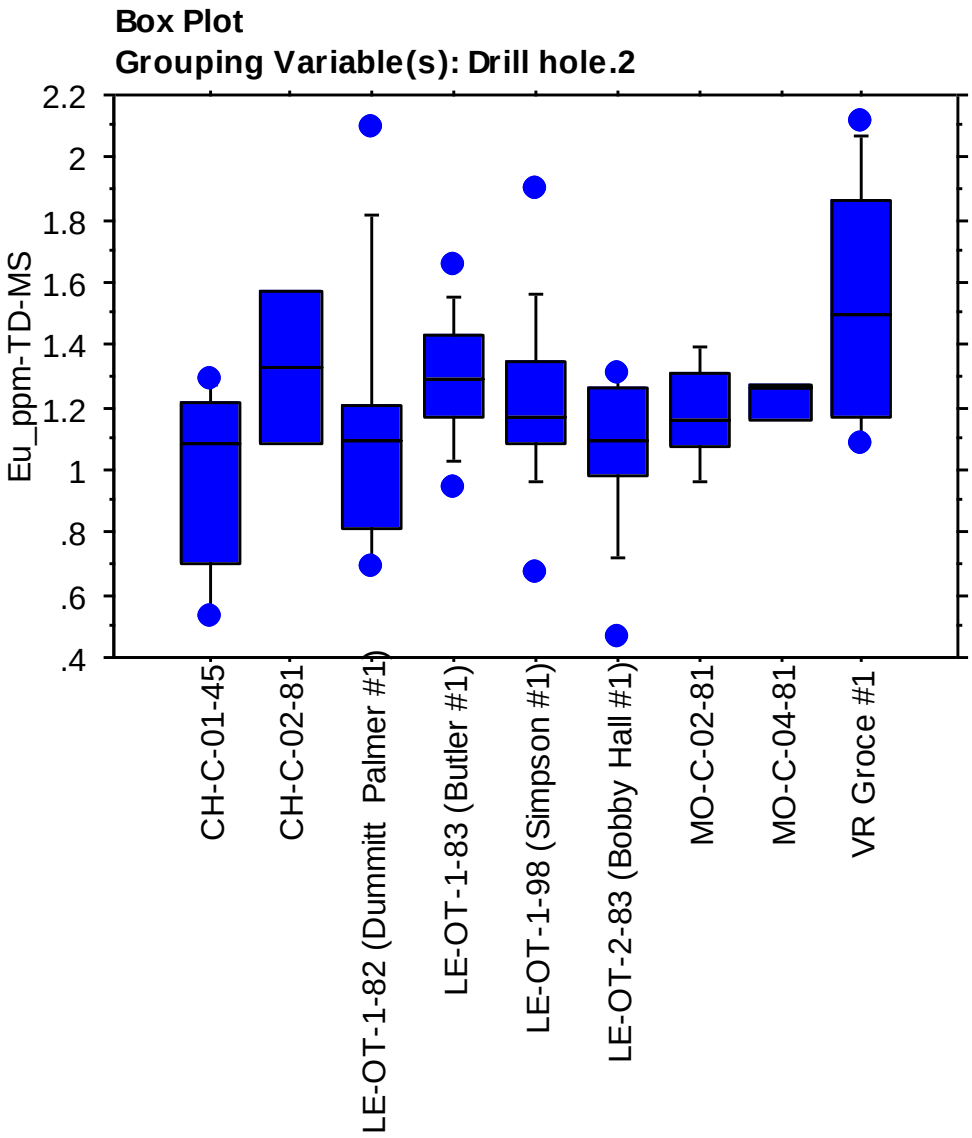
Nd (ppm) by hole



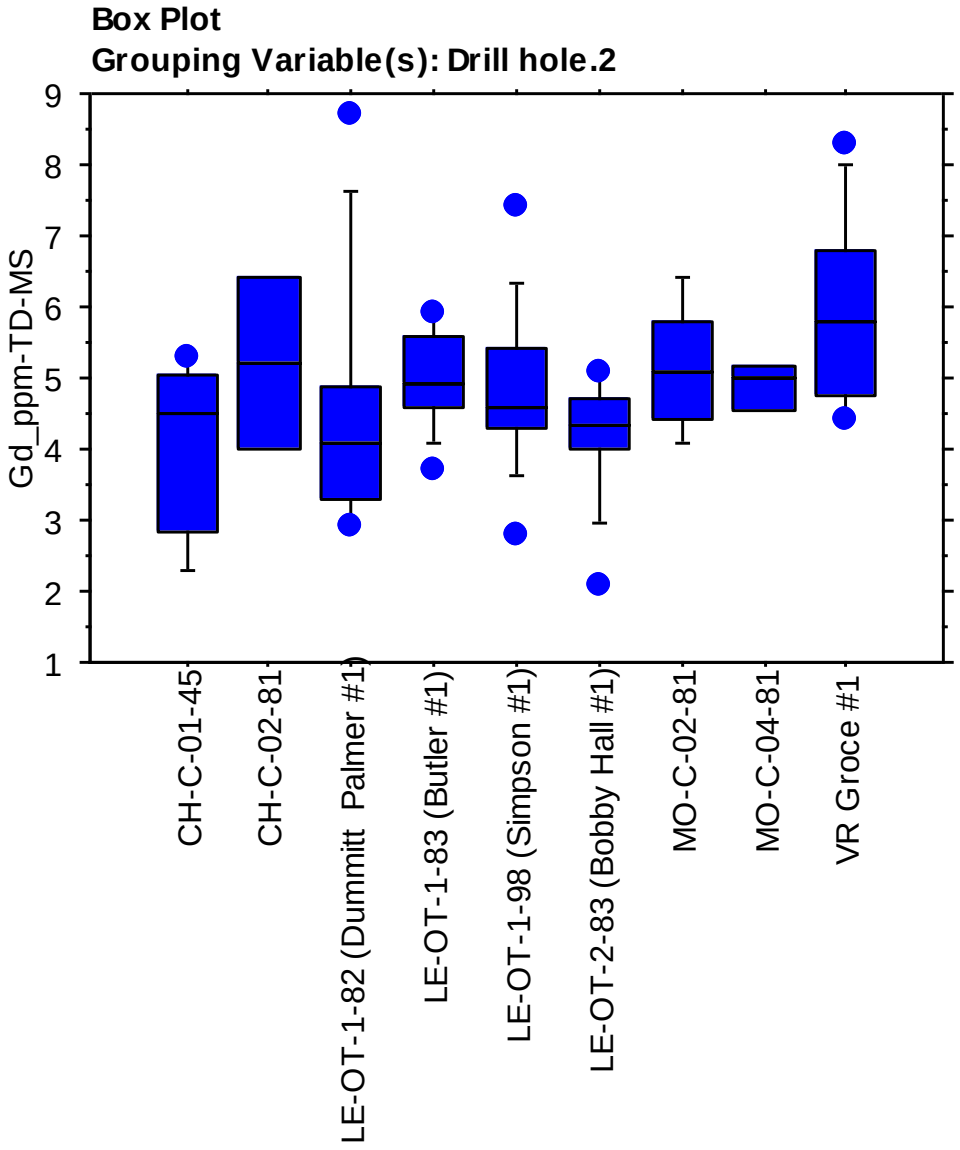
Sm (ppm) by hole



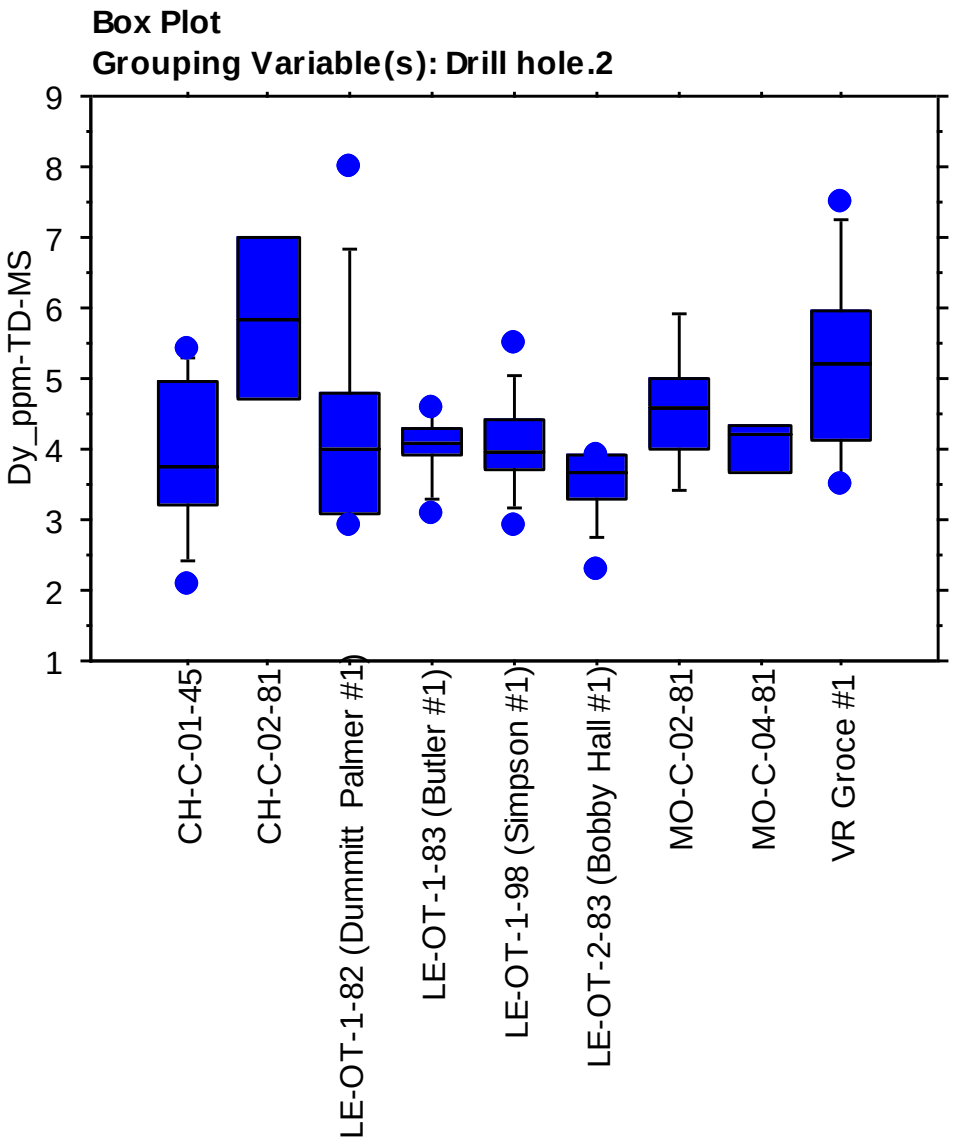
Eu (ppm) by hole



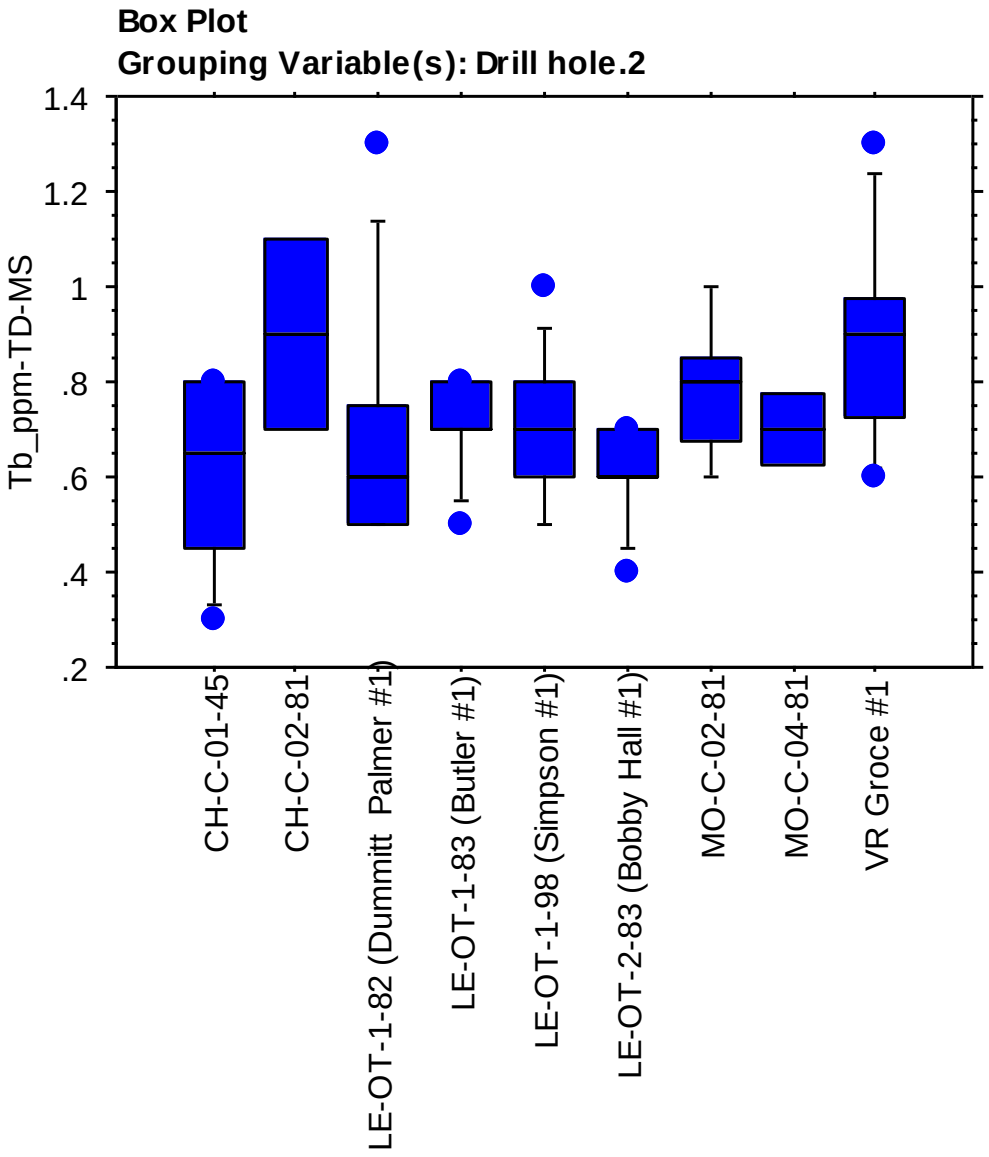
Gd (ppm) by hole



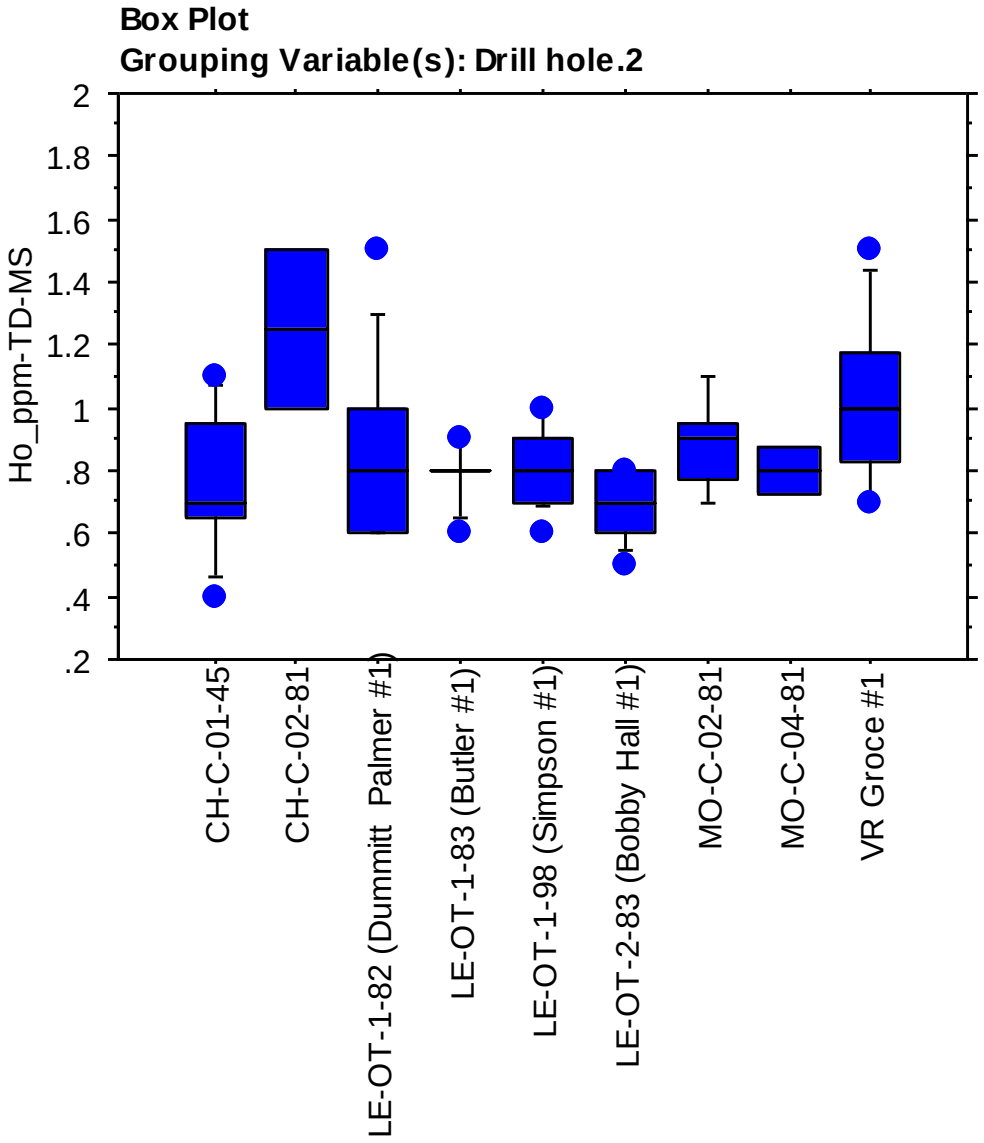
Dy (ppm) by hole



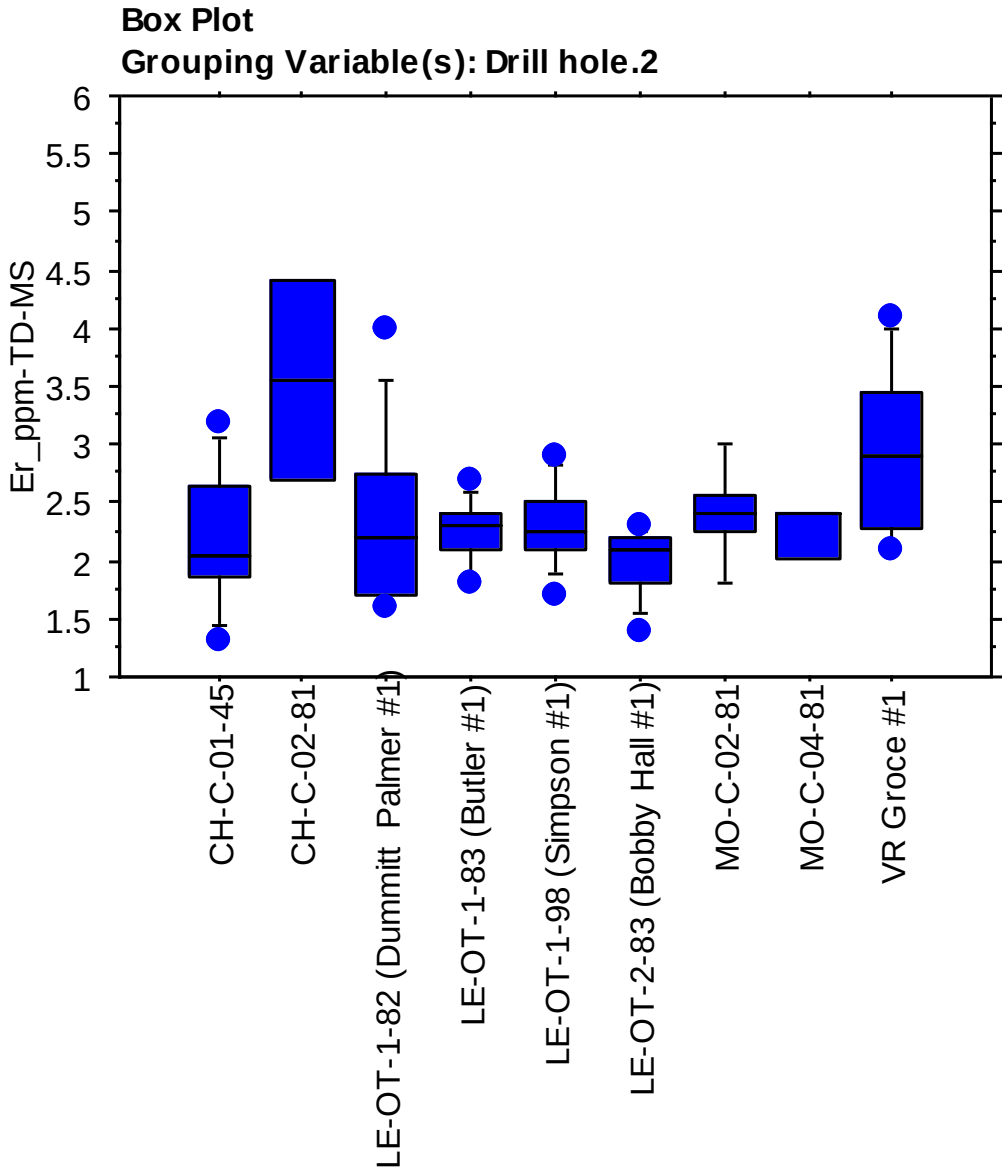
Tb (ppm) by hole



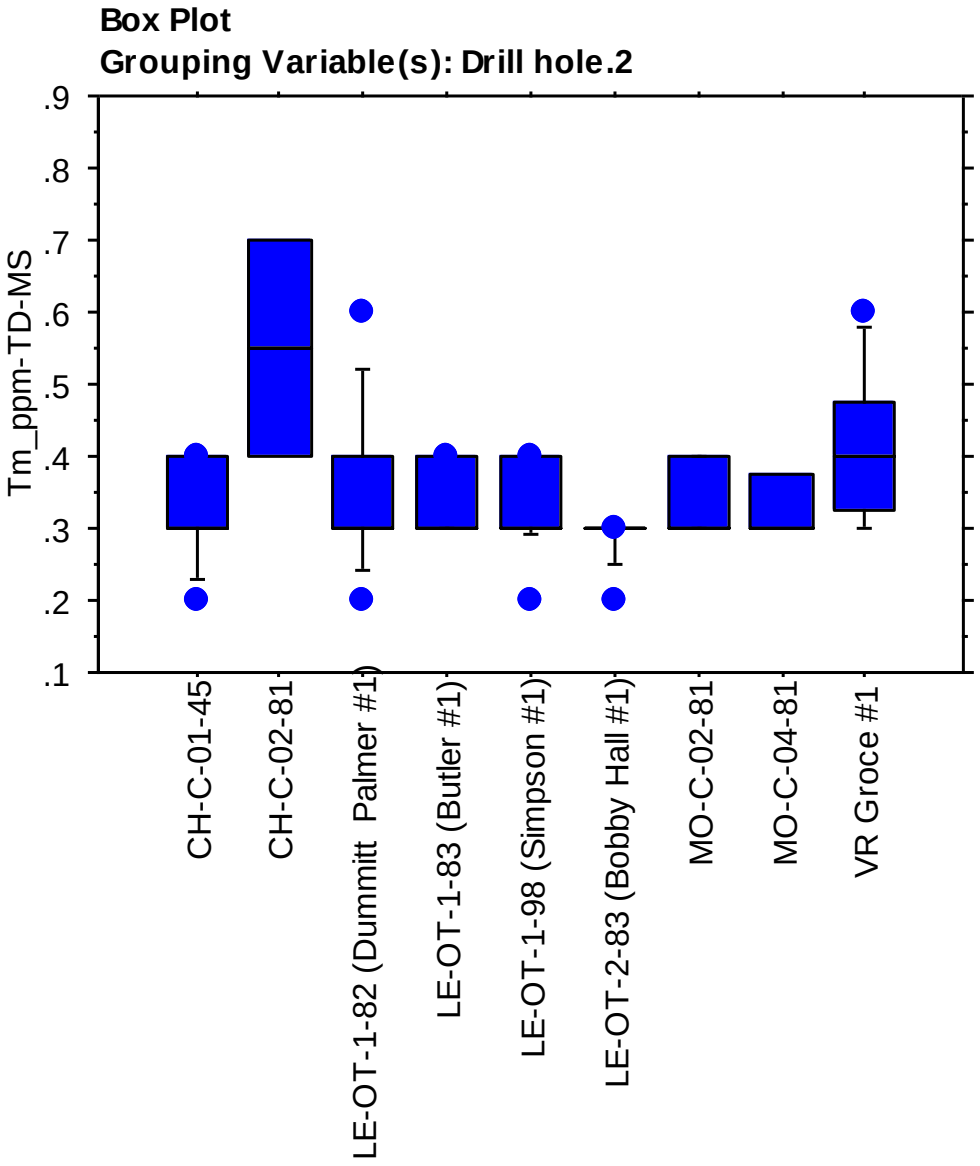
Ho (ppm) by hole



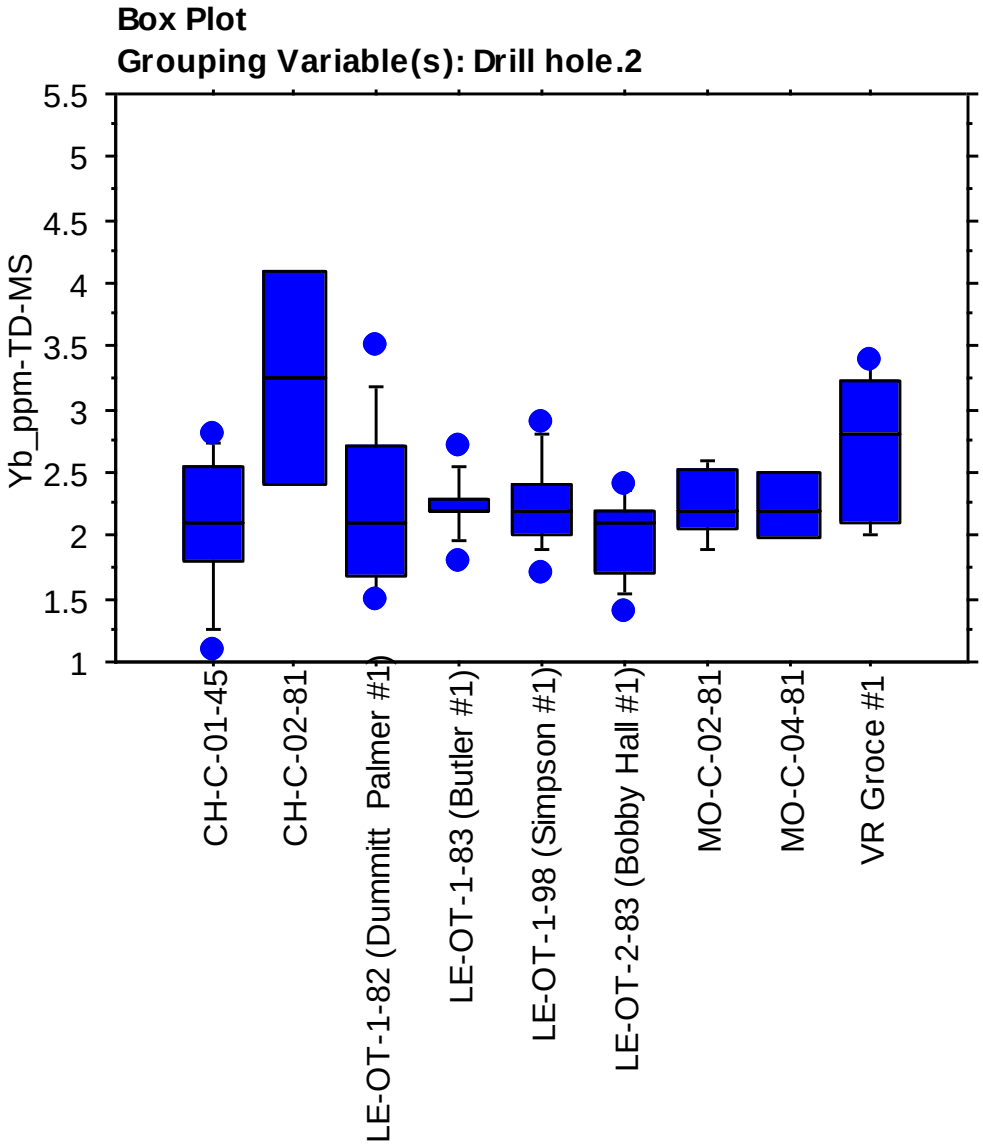
Er (ppm) by hole



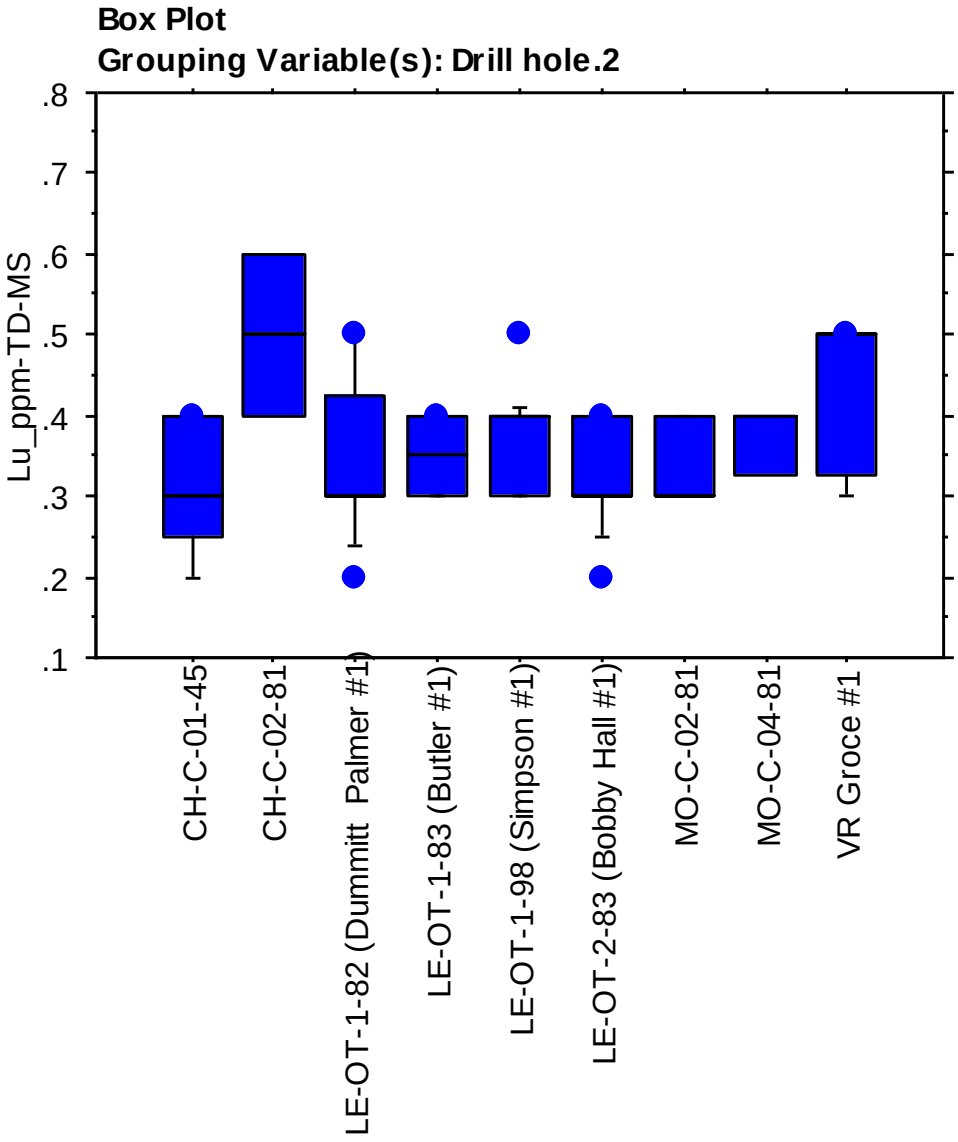
Tm (ppm) by hole



Yb (ppm) by hole



Lu (ppm) by hole



Appendix 3. Dan River basin inorganic chemistry – Certificate of analysis and data table.

Quality Analysis ... *Innovative Technologies*

Date Submitted: 11-Jun-12
Invoice No.: A12-06360
Invoice Date: 11-Jul-12
Your Reference:

North Carolina Geological Survey
1612 Mail Service Center
Raleigh NC 27699
United States

ATTN: Jeff Reid

CERTIFICATE OF ANALYSIS

148 Rock samples were submitted for analysis.

The following analytical package was requested: Code UT-3 INAA(INAAGEO)/Total digestion ICP(Total)Total Digestion ICP/MS

REPORT **A12-06360**

Notes:
Unaltered silicates and resistate minerals may not be dissolved. Values which exceed upper limit should be assayed.

CERTIFIED BY :

Emmanuel Eseme , Ph.D.
Quality Control

ISO/IEC 17025
SCC Accredited
LAB 266
LAB 266
Accrédité CCN

ACTIVATION LABORATORIES LTD.

1336 Sandhill Drive, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1.905.648.9611 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Fe	Hf	Hf	Ga	Ge
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
Detection Limit	2	0.05	0.2	0.1	1	0.5	0.5	0.5	0.01	0.01	0.5	1	0.1	0.1	0.5	0.01	0.1	1	0.05	0.01	0.1	1	0.1	0.1
Analysis Method	INAA	MULT INAA/TD-ICP/TD-MS	MULT TD-ICP/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	TD-ICP	MULT TD-ICP/TD-ICP-MS	MULT INAA/TD-ICP/TD-MS	MULT INAA/TD-ICP/TD-MS	TD-ICP	TD-ICP	INAA	MULT INAA/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	INAA	TD-ICP	MULT INAA/TD-ICP-MS	MULT INAA/TD-ICP-MS	MULT INAA/TD-ICP-MS	INAA	TD-MS	INAA	TD-MS	TD-MS
SO-C-2-81-198 FT	20	0.26	42.8	< 0.1	3	20.9	41.6	91.4	1.58	5.74	15.4	100	1.8	0.6	< 0.5	10.5	20.8	69	4.32	6.78	< 0.1	2	15.9	0.2
SO-C-2-81-206.2 FT	22	< 0.05	36.8	< 0.1	15	12.2	30.5	17.8	1.65	8.14	11.8	140	2.2	0.2	< 0.5	0.30	13.6	76	4.54	3.10	1.1	4	21.2	0.2
SO-C-2-81-219 FT	< 2	< 0.05	36.4	< 0.1	25	8.1	29.4	29.2	6.91	4.35	65.6	25	1.8	< 0.1	< 0.5	0.11	31.2	31	2.01	6.99	0.8	2	10.6	0.3
SO-C-2-81-227 FT	< 2	< 0.05	46.1	< 0.1	2	23.1	31.9	63.6	0.12	13.2	8.4	768	4.6	0.2	< 0.5	0.31	17.6	116	4.30	2.78	1.2	2	36.6	0.7
SO-C-2-81-237 FT	14	< 0.05	49.0	< 0.1	36	14.6	55.1	35.0	4.78	6.46	46.6	23	2.1	0.2	< 0.5	0.16	32.8	58	3.46	5.65	0.6	2	18.4	0.4
SO-C-2-81-248 FT	< 2	< 0.05	26.2	< 0.1	< 1	4.8	16.8	43.4	0.07	8.82	< 0.5	342	1.5	0.1	< 0.5	1.24	7.6	54	2.69	3.02	2.0	10	19.6	0.3
SO-C-2-81-254 FT	9	< 0.05	61.5	< 0.1	< 1	11.2	30.8	41.9	0.05	12.2	< 0.5	728	3.3	0.3	< 0.5	0.32	16.0	90	6.29	2.76	1.5	4	29.5	0.6
SO-C-2-81-270 FT	< 2	< 0.05	34.8	< 0.1	10	24.3	58.5	78.4	2.30	5.86	44.3	73	2.1	0.1	< 0.5	9.10	24.8	58	3.19	8.56	< 0.1	2	16.2	0.3
SO-C-2-81-280 FT	< 2	< 0.05	43.5	< 0.1	15	15.9	41.5	112	3.32	5.51	88.8	62	2.4	0.1	< 0.5	1.42	36.8	76	2.74	7.10	1.1	3	19.4	1.2
SO-C-2-81-290 FT	< 2	< 0.05	45.3	< 0.1	25	19.6	64.5	53.4	3.36	8.97	51.8	32	3.3	0.2	< 0.5	0.21	41.6	76	3.57	4.98	0.9	2	24.0	0.2
SO-C-2-81-293 FT	< 2	0.30	82.5	< 0.1	18	11.7	37.4	111	5.18	4.89	29.3	26	3.0	0.1	< 0.5	1.20	23.2	50	2.41	5.29	0.6	< 1	13.5	0.4
SO-C-2-81-310 FT	< 2	0.14	47.7	< 0.1	< 1	24.6	25.2	84.3	0.26	11.8	5.6	688	3.1	0.3	< 0.5	0.47	12.0	110	6.79	4.42	1.5	4	29.6	0.5
SO-C-2-81-319 FT	< 2	< 0.05	9.1	< 0.1	< 1	11.9	13.4	45.8	0.20	8.03	5.4	352	2.3	< 0.1	< 0.5	0.48	6.5	51	1.06	3.22	1.5	9	20.0	0.5
SO-C-2-81-340 FT	< 2	< 0.05	45.6	< 0.1	3	24.7	46.1	119	1.48	9.46	14.7	234	3.3	0.2	< 0.5	1.53	31.2	79	2.23	6.48	1.3	4	25.8	0.3
SO-C-2-81-346 FT	< 2	< 0.05	121	< 0.1	< 1	7.3	28.7	61.3	0.06	11.5	< 0.5	960	3.5	0.2	< 0.5	0.42	8.0	90	6.79	4.50	0.9	5	30.6	0.6
SO-C-2-81-358 FT	4	< 0.05	14.9	< 0.1	< 1	10.2	14.2	41.8	0.19	7.25	5.2	664	0.7	< 0.1	< 0.5	2.53	8.0	43	0.86	3.14	1.1	6	17.7	0.4
SO-C-2-81-366 FT	< 2	< 0.05	12.3	< 0.1	< 1	12.4	13.4	30.0	0.44	5.77	< 0.5	280	0.2	< 0.1	< 0.5	5.89	9.4	30	0.66	3.56	1.6	5	14.5	0.2
SO-C-2-81-374 FT	< 2	< 0.05	7.0	< 0.1	< 1	19.9	5.3	10.1	0.20	4.70	4.9	226	0.5	< 0.1	< 0.5	4.17	2.6	14	0.35	1.28	0.7	2	10.2	< 0.1
SO-C-2-81-384 FT	< 2	< 0.05	24.5	< 0.1	< 1	17.2	25.2	74.4	0.46	6.87	< 0.5	500	1.9	0.1	< 0.5	1.29	23.2	59	2.98	5.27	2.4	10	20.8	0.8
SO-C-1-81-48 FT	< 2	< 0.05	35.0	< 0.1	< 1	15.2	18.9	80.3	0.14	8.67	12.1	367	3.1	0.3	< 0.5	0.62	14.4	64	4.00	4.59	2.3	8	23.8	0.3
SO-C-1-81-59 FT	< 2	< 0.05	27.0	< 0.1	< 1	17.1	21.2	88.7	0.06	8.59	< 0.5	349	2.6	0.2	< 0.5	0.84	19.2	62	4.14	5.34	1.6	6	23.4	0.3
SO-C-1-81-69 FT	< 2	< 0.05	63.6	< 0.1	< 1	19.0	33.4	108	0.04	10.8	< 0.5	960	4.3	0.4	< 0.5	0.54	23.2	89	16.8	6.02	1.0	4	29.0	0.7
SO-C-1-81-78 FT	< 2	< 0.05	73.4	< 0.1	< 1	18.2	34.8	122	0.03	11.7	< 0.5	990	4.1	0.5	< 0.5	0.46	27.0	68	15.3	6.50	1.1	5	31.1	0.5
SO-C-1-81-88 FT	< 2	< 0.05	59.4	< 0.1	< 1	15.1	32.4	72.8	0.31	10.8	60.8	747	4.2	0.6	< 0.5	0.51	28.8	86	9.36	5.26	1.9	5	30.1	1.0
SO-C-1-81-98 FT	< 2	< 0.05	67.5	< 0.1	< 1	155	55.4	134	0.08	12.1	60.2	801	5.5	1.0	< 0.5	0.55	76.5	94	9.81	5.22	1.6	5	35.4	0.9
SO-C-1-81-109 FT	< 2	< 0.05	25.6	< 0.1	< 1	16.3	17.0	65.9	0.14	7.34	< 0.5	296	1.7	0.1	< 0.5	2.81	13.5	50	2.23	4.25	1.9	6	17.1	0.6
SO-C-1-81-117 FT	< 2	< 0.05	46.6	< 0.1	< 1	17.3	26.6	92.9	0.23	8.58	12.6	774	3.2	0.4	< 0.5	0.74	22.5	76	6.03	5.26	2.3	6	27.9	0.9
SO-C-1-81-125 FT	< 2	< 0.05	68.3	< 0.1	6	19.5	38.5	110	0.78	9.10	24.2	666	2.6	0.3	< 0.5	3.43	25.2	86	7.76	6.15	1.5	3	27.3	0.3
SO-C-1-81-136 FT	< 2	< 0.05	70.4	< 0.1	41	9.7	37.6	99.1	0.09	7.05	11.1	472	2.2	0.2	< 0.5	3.96	18.9	76	3.93	5.13	1.4	3	24.2	1.1
SO-C-1-81-144 FT	< 2	< 0.05	13.3	< 0.1	< 1	19.7	10.6	34.4	0.04	7.42	< 0.5	148	2.3	< 0.1	< 0.5	0.68	7.7	37	0.36	2.96	2.1	7	17.5	0.2
SO-C-1-81-163 FT	< 2	< 0.05	69.3	< 0.1	< 1	12.5	39.2	100	0.09	8.48	9.1	394	1.8	0.3	< 0.5	3.71	25.2	100	2.88	5.60	0.7	3	21.4	0.4
SO-C-1-81-175 FT	< 2	0.11	63.3	< 0.1	2	10.7	34.5	104	0.09	9.37	8.5	444	2.1	0.3	< 0.5	2.55	20.7	92	4.08	6.58	0.7	3	26.1	0.4
SO-C-1-81-182 FT	21	< 0.05	72.6	< 0.1	2	13.6	31.9	96.7	0.62	8.95	20.9	486	2.6	0.4	< 0.5	4.59	20.7	86	4.95	5.61	1.2	3	24.4	0.2
SO-C-1-81-191 FT	< 2	< 0.05	105	0.1	5	14.9	43.2	120	1.53	9.34	30.4	303	3.0	0.4	< 0.5	2.82	24.3	95	6.86	6.93	0.8	5	25.5	0.3
SO-C-1-81-201 FT	< 2	0.15	85.7	0.1	2	10.9	41.8	117	1.26	10.4	19.8	303	3.2	0.4	< 0.5	1.76	24.3	131	7.36	6.89	1.2	4	28.1	0.3
SO-C-1-81-211 FT	< 2	< 0.05	71.7	< 0.1	1	15.3	34.5	123	0.18	9.88	9.9	900	2.4	0.4	< 0.5	0.84	20.7	114	8.22	5.22	1.2	4	27.0	0.5
SO-C-1-81-221 FT	< 2	< 0.05	77.4	< 0.1	1	12.5	31.4	100	0.28	8.23	6.8	1260	2.4	0.3	2.3	2.49	23.4	102	6.18	5.19	1.2	3	23.5	1.1
SO-C-1-81-226 FT	< 2	< 0.05	107	0.2	2	16.0	56.4	134	1.26	8.63	38.1	269	2.3	0.3	< 0.5	2.30	33.3	104	6.34	8.73	0.5	5	24.9	0.3
SO-C-1-81-241 FT	< 2	< 0.05	67.5	< 0.1	2	14.3	38.5	107	1.48	6.95	33.7	227	2.5	0.2	< 0.5	5.77	26.1	93	5.01	6.41	0.8	4	22.0	0.2
SO-C-1-81-251 FT	< 2	< 0.05	48.0	< 0.1	2	8.1	36.9	121	1.99	6.30	30.9	93	1.9	0.1	< 0.5	12.0	19.8	59	3.02	4.97	< 0.1	3	17.8	0.3
SO-C-1-81-271 FT	< 2	< 0.05	85.6	< 0.1	2	16.1	45.4	123	1.14	10.1	27.7	369	3.0	0.4	3.9	1.73	25.2	131	7.34	6.55	1.2	3	28.2	0.3
SO-C-1-81-280 FT	< 2	< 0.05	84.1	0.2	< 1	20.1	46.5	131	0.18	9.73	10.8	1080	2.7	0.4	< 0.5	1.27	34.2	122	6.79	7.08	1.2	4	25.8	0.6
SO-C-1-81-290 FT	< 2	< 0.05	66.0	< 0.1	5	16.1	40.3	101	1.25	7.22	66.4	338	1.8	0.2	< 0.5	8.12	27.9	84	3.75	4.94	0.7	4	18.7	0.2
SO-C-1-81-291 FT	26	< 0.05	78.9	< 0.1	< 1	10.7	37.9	102	0.29	9.22	22.9	1260	2.9	0.4	< 0.5	2.88	23.4	113	5.79	5.83	0.8	4	24.8	0.3
SO-C-1-81-305.5 FT	276	0.26	68.4	< 0.1	2	5.7	31.0	78.1	0.07	9.25	24.2	820	2.5	0.2	< 0.5	3.74	16.0	116	6.27	6.40	1.2	6	23.7	0.7
SO-C-1-81-313 FT	290	< 0.05	77.8	< 0.1	24	14.1	41.1	127	0.62	9.54	51.7	1100	2.9	0.2	< 0.5	3.31	27.0	107	5.76	4.68	0.9	5	27.9	0.3
SO-C-1-81-328 FT	130	< 0.05	96.3	< 0.1	1	16.9	51.1	132	0.26	9.85	26.8	1000	3.5	0.3	< 0.5	1.43	26.0	118	6.58	8.46	0.7	5	27.3	0.2
SO-C-1-81-347 FT	26	< 0.05	74.3	< 0.1	1	16.0	30.5	100	0.81	8.80	38.5	486	3.1	0.5	< 0.5	1.82	27.0	96	5.98	6.63	1.0	3	24.5	0.8
SO-C-1-81-353 FT	14	0.05	70.5	< 0.1	2	46.8	45.5	106	3.50	6.90	93.9	64	1.6	0.5	3.5	7.28	37.0	79	4.26	7.98	< 0.1	4	19.1	0.4
SO-C-1-81-361 FT	< 2	< 0.05	60.0	< 0.1	6	26.3	52.4	106	2.00	6.10	39.9	142	1.8	0.2	< 0.5	6.01	52.0	88	3.17	11.7	< 0.1	4	15.9	0.3

Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Fe	Hf	Hf	Ga	Ge
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
Detection Limit	2	0.05	0.2	0.1	1	0.5	0.5	0.5	0.01	0.01	0.5	1	0.1	0.1	0.5	0.01	0.1	1	0.05	0.01	0.1	1	0.1	0.1
Analysis Method	INAA	MULT INAA/TD-ICP/TD-MS	MULT TD-ICP/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	TD-ICP	MULT TD-ICP/TD-ICP-MS	MULT INAA/TD-ICP/TD-MS	MULT INAA/TD-ICP/TD-MS	TD-ICP	TD-ICP	INAA	MULT INAA/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	INAA	TD-ICP	MULT INAA/TD-ICP-MS	MULT INAA/TD-ICP-MS	MULT INAA/TD-ICP-MS	INAA	TD-MS	INAA	TD-MS	TD-MS
SO-C-1-81-378 FT	10	< 0.05	64.4	< 0.1	< 1	10.9	39.7	105	0.05	9.90	3.8	1000	2.6	0.2	< 0.5	0.33	26.0	114	5.21	5.42	1.4	7	24.2	0.5
SO-C-1-81-382 FT	< 2	< 0.05	48.7	< 0.1	3	16.4	38.7	98.6	0.49	6.45	23.6	389	2.4	0.1	< 0.5	3.24	35.0	80	3.19	14.0	1.0	4	17.6	0.2
SO-C-1-81-397 FT	< 2	< 0.05	227	0.2	13	38.5	63.0	203	1.71	9.31	24.1	245	3.4	0.3	3.3	0.35	36.0	107	5.41	4.51	2.2	7	21.1	0.3
SO-C-1-81-406 FT	17	< 0.05	41.6	< 0.1	< 1	8.3	24.1	62.2	0.05	11.0	4.2	760	2.9	0.2	< 0.5	0.31	16.0	121	3.64	4.60	2.4	10	26.1	0.6
SO-C-1-81-433 FT	18	< 0.05	169	0.3	17	64.1	102	227	0.85	12.0	59.6	1200	3.5	0.4	< 0.5	0.36	90.0	163	6.48	3.15	2.6	5	29.9	0.8
SO-C-1-81-443 FT	4	< 0.05	67.5	< 0.1	< 1	30.9	39.8	80.1	0.07	12.6	4.0	1100	5.0	0.4	< 0.5	0.45	19.0	173	5.27	4.72	3.6	10	40.2	0.7
SO-C-1-81-455 FT	< 2	< 0.05	69.7	< 0.1	< 1	9.9	47.8	115	0.11	10.2	5.0	970	2.8	0.3	< 0.5	0.61	30.0	117	7.17	5.99	1.5	4	26.8	0.6
SO-C-1-81-458 FT	< 2	0.07	90.8	< 0.1	28	11.7	49.0	101	3.63	5.33	42.3	39	1.7	0.2	2.9	1.54	34.0	54	2.97	4.40	1.0	3	13.1	1.2
SO-C-1-81-469 FT	< 2	< 0.05	45.1	< 0.1	1	11.7	34.1	168	0.31	8.63	2.8	720	2.3	0.1	< 0.5	1.83	17.0	87	4.19	5.40	1.7	5	24.1	0.3
SO-C-1-81-476 FT	12	< 0.05	44.4	< 0.1	2	9.8	35.4	142	0.82	5.14	51.8	398	1.7	0.1	< 0.5	2.85	32.0	55	3.96	12.9	0.4	3	14.0	0.3
SO-C-1-81-481 FT	< 2	0.20	94.5	0.2	13	14.9	108	119	7.95	4.88	72.4	37	1.2	0.1	< 0.5	3.63	79.0	57	2.57	9.34	1.0	2	13.2	0.2
SO-C-1-81-494 FT	5	< 0.05	18.3	< 0.1	< 1	6.7	17.4	36.4	0.16	6.75	1.5	254	1.4	< 0.1	< 0.5	4.42	6.4	54	1.04	3.33	1.0	4	17.2	0.5
SO-C-1-81-497 FT	< 2	< 0.05	92.3	< 0.1	2	39.1	55.3	161	0.82	11.5	13.8	1200	5.9	0.3	< 0.5	0.23	41.0	101	6.22	4.00	2.1	5	30.3	0.6
RC-C-1-81-126 FT	< 2	< 0.05	5.4	< 0.1	< 1	17.8	7.3	33.8	0.08	5.54	4.0	244	1.3	< 0.1	< 0.5	0.99	5.0	44	0.29	1.58	0.7	7	13.1	0.3
RC-C-1-81-145.5 FT	< 2	< 0.05	7.7	< 0.1	< 1	13.5	12.3	42.4	0.04	6.13	< 0.5	310	0.9	< 0.1	< 0.5	1.31	7.0	39	0.28	2.04	0.5	6	14.3	0.2
RC-C-1-81-168 FT	< 2	< 0.05	6.2	< 0.1	< 1	13.2	10.7	26.1	0.18	6.65	12.6	266	1.4	< 0.1	< 0.5	2.11	5.9	35	0.36	1.80	0.9	8	13.7	0.4
RC-C-1-81-193 FT	< 2	< 0.05	39.6	< 0.1	4	13.8	26.0	70.0	0.27	7.32	12.6	990	3.2	0.1	< 0.5	5.12	14.4	53	2.57	3.49	1.2	8	23.9	0.5
RC-C-1-81-211 FT	< 2	< 0.05	3.7	< 0.1	< 1	10.9	6.6	11.8	0.08	4.86	4.9	151	0.3	< 0.1	2.4	1.91	3.6	13	0.08	0.80	0.3	4	7.0	< 0.1
RC-C-1-81-230 FT	< 2	< 0.05	42.4	< 0.1	< 1	19.6	40.6	105	0.25	8.75	29.4	990	6.2	0.1	< 0.5	3.60	19.8	72	2.74	4.97	1.1	5	32.4	0.5
RC-C-1-81-249 FT	< 2	< 0.05	9.7	< 0.1	< 1	11.8	14.5	43.1	0.12	5.98	< 0.5	864	2.8	< 0.1	< 0.5	4.99	7.2	41	0.37	2.80	0.7	6	15.9	0.2
RC-C-1-81-282 FT	< 2	0.17	7.4	< 0.1	4	16.2	13.5	26.4	0.08	6.53	3.9	253	1.3	< 0.1	< 0.5	1.28	5.8	32	0.23	1.74	0.8	6	14.9	0.3
RC-C-1-81-300 FT	< 2	< 0.05	15.6	< 0.1	< 1	17.3	32.0	84.2	0.35	8.71	8.3	990	3.5	< 0.1	4.4	1.73	18.9	64	0.99	4.94	1.2	11	28.4	0.5
RC-C-1-81-363 FT	< 2	< 0.05	19.0	< 0.1	< 1	10.7	25.6	62.7	0.05	7.87	< 0.5	417	2.3	< 0.1	< 0.5	1.64	13.5	41	0.97	3.73	0.8	6	22.6	0.4
RC-C-1-81-403 FT	< 2	< 0.05	9.4	< 0.1	< 1	9.4	21.7	57.5	0.13	7.44	5.0	445	2.1	< 0.1	< 0.5	1.41	12.6	40	0.61	3.53	1.1	12	20.7	0.5
RC-C-1-81-473 FT	11	< 0.05	3.8	< 0.1	< 1	12.1	9.4	41.0	0.03	8.02	< 0.5	675	3.3	< 0.1	< 0.5	1.38	5.0	44	0.79	2.12	0.8	7	21.5	0.3
US-220 Road Cut 3 FT	< 2	< 0.05	93.1	< 0.1	< 1	14.2	48.8	135	0.03	11.9	9.8	492	3.0	0.4	2.6	0.47	32.4	96	6.21	5.99	0.7	4	28.1	0.9
US-220 Road Cut 6 FT	< 2	< 0.05	57.0	< 0.1	1	14.8	36.8	117	< 0.01	9.73	20.3	621	3.3	0.3	< 0.5	0.57	23.4	98	6.50	5.22	< 0.1	3	30.0	0.4
US-220 Road Cut 8 FT	< 2	< 0.05	96.2	< 0.1	< 1	16.2	41.2	68.7	0.03	11.3	12.6	729	2.8	0.3	4.4	0.05	19.8	116	6.78	4.90	1.6	5	29.9	0.6
Cemex Pit (C-)-1 FT	< 2	< 0.05	43.0	< 0.1	< 1	12.3	31.8	105	0.12	7.54	8.0	702	2.3	0.2	< 0.5	4.71	22.5	83	5.30	6.04	0.8	5	22.0	0.3
Cemex Pit (C-)-2 FT	< 2	< 0.05	62.5	< 0.1	< 1	13.6	37.5	104	0.07	7.95	13.1	855	2.1	0.4	< 0.5	4.02	23.4	89	6.72	6.46	0.9	4	24.1	0.6
Cemex Pit (C-)-3 FT	< 2	0.26	84.7	< 0.1	< 1	20.9	39.7	112	0.07	8.34	8.9	486	2.5	0.6	< 0.5	3.36	25.2	94	7.11	6.51	0.9	4	24.0	0.5
Cemex Pit (C-)-4 FT	< 2	0.06	69.7	0.1	8	18.3	30.2	91.0	0.26	5.68	30.9	711	2.0	0.4	< 0.5	7.84	17.1	64	4.09	4.91	< 0.1	3	17.0	0.2
Cemex Pit (C-)-6 FT	< 2	< 0.05	70.9	< 0.1	< 1	13.9	39.8	127	0.06	8.98	< 0.5	675	2.8	0.4	< 0.5	2.18	32.4	98	9.44	7.42	1.0	< 1	27.5	1.0
Cemex Pit (C-)-7 FT	28	< 0.05	43.0	< 0.1	< 1	16.5	39.5	116	0.15	7.48	14.4	612	2.1	0.2	< 0.5	7.08	20.7	76	4.12	5.08	1.5	4	20.9	0.5
Cemex Pit (C-)-8 FT	< 2	< 0.05	94.0	< 0.1	24	24.5	38.9	100	0.14	7.34	58.7	738	2.8	0.8	< 0.5	3.88	26.1	82	6.38	6.48	1.3	4	22.4	0.6
Cemex Pit (C-)-9 FT	< 2	< 0.05	47.2	< 0.1	< 1	12.0	31.6	105	0.16	7.57	70.2	404	2.5	0.3	< 0.5	2.52	24.3	80	6.05	6.65	1.3	4	21.8	0.7
Cemex Pit (C-)-11 FT	6	< 0.05	99.8	< 0.1	< 1	21.9	38.6	113	0.04	8.76	57.4	485	2.5	1.0	< 0.5	1.63	32.4	98	7.23	7.41	1.4	3	26.5	0.2
Cemex Pit (C-)-12 FT	< 2	< 0.05	46.4	< 0.1	< 1	10.9	38.4	102	0.06	7.43	54.6	466	2.8	0.3	< 0.5	3.80	27.9	104	5.63	5.56	0.5	5	21.2	0.3
Cemex Pit (C-)-13 FT	< 2	0.22	60.9	< 0.1	24	14.9	41.4	113	0.08	8.31	7.5	788	2.6	0.4	< 0.5	3.08	26.3	82	6.14	5.91	1.0	3	26.0	0.6
Cemex Pit (C-)-14 FT	7	< 0.05	68.5	< 0.1	< 1	14.3	39.9	115	0.05	8.78	8.3	525	2.9	0.5	< 0.5	3.08	25.2	91	8.72	6.02	1.1	3	26.2	0.8
Cemex Pit (C-)-15 FT	< 2	< 0.05	77.0	< 0.1	1	17.6	37.2	113	0.09	9.00	7.6	475	2.7	0.6	< 0.5	2.53	23.1	79	12.6	6.08	0.9	4	26.1	0.6
Cemex Pit (C-)-17 FT	< 2	< 0.05	80.0	< 0.1	12	21.3	36.3	94.4	0.12	6.74	14.4	489	2.9	0.6	< 0.5	5.35	20.0	64	3.89	4.71	1.2	2	20.0	0.5
Cemex Pit (C-)-18 FT	39	< 0.05	36.4	< 0.1	< 1	13.2	31.9	96.2	0.07	7.83	3.6	651	2.2	0.2	< 0.5	5.88	21.0	60	4.64	4.11	1.3	< 1	20.0	0.5
Cemex Pit (C-)-19 FT	< 2	< 0.05	64.8	< 0.1	2	14.9	36.4	110	0.17	8.54	5.7	462	2.7	0.4	< 0.5	3.54	28.4	72	8.94	6.17	0.9	< 1	24.5	0.7
Cemex Pit (C-)-20 FT	32	< 0.05	63.6	< 0.1	14	18.1	34.9	87.9	0.24	6.51	18.1	536	1.8	0.5	< 0.5	5.12	18.9	64	3.12	4.61	1.0	< 1	17.1	0.8
Cemex Pit (C-)-22 FT	< 2	< 0.05	76.5	< 0.1	17	18.1	40.9	103	0.08	7.79	7.6	454	3.4	0.5	< 0.5	2.40	27.3	84	6.48	5.82	1.0	3	23.3	0.7
Cemex Pit (C-)-23 FT	< 2	< 0.05	56.2	< 0.1	< 1	13.3	30.7	110	0.05	7.83	5.5	489	2.1	0.3	< 0.5	3.74	22.0	77	5.04	5.57	1.3	3	21.7	0.7
Cemex Pit (C-)-24 FT	< 2	< 0.05	68.3	< 0.1	< 1	11.0	39.1	112	0.07	8.54	3.9	630	2.9	0.3	< 0.5	1.54	26.3	83	7.44	6.43	1.4	4	26.5	0.3
Cemex Pit (C-)-26 FT	< 2	< 0.05	67.1	< 0.1	< 1	11.0	41.5	101	0.06	8.55	4.6	396	2.9	0.3	< 0.5	1.70	25.2	90	7.96	6.55	1.5	2	26.5	0.8
Cemex Pit (C-)-27 FT	< 2	< 0.05	48.3	< 0.1	< 1	11.1	35.0	103	0.05	8.09	6.0	536	2.2	0.2	< 0.5	3.71	22.0	69	5.55	4.42	0.8	< 1	21.6	0.2

Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Fe	Hf	Hf	Ga	Ge
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
Detection Limit	2	0.05	0.2	0.1	1	0.5	0.5	0.5	0.01	0.01	0.5	1	0.1	0.1	0.5	0.01	0.1	1	0.05	0.01	0.1	1	0.1	0.1
Analysis Method	INAA	MULT INAA/TD-ICP/TD-MS	MULT TD-ICP/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	TD-ICP	MULT TD-ICP/TD-ICP-MS	MULT INAA/TD-ICP/TD-MS	MULT INAA/TD-ICP/TD-MS	TD-ICP	TD-ICP	INAA	MULT INAA/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	INAA	TD-ICP	MULT INAA/TD-ICP-MS	MULT INAA/TD-ICP-MS	MULT INAA/TD-ICP-MS	INAA	TD-MS	INAA	TD-MS	TD-MS
Cemex Pit (C-)-28 FT	25	< 0.05	73.3	< 0.1	< 1	16.0	41.2	121	0.05	8.28	< 0.5	491	2.7	0.4	< 0.5	2.00	26.3	83	6.88	6.18	0.6	3	27.4	0.4
Cemex Pit (C-)-30 FT	< 2	< 0.05	45.5	< 0.1	4	12.0	24.4	84.0	0.08	7.11	< 0.5	474	1.9	0.2	< 0.5	7.14	17.9	53	2.35	4.14	1.5	3	17.3	0.5
Cemex Pit (C-)-31 FT	< 2	< 0.05	58.8	< 0.1	< 1	13.6	35.6	102	0.10	8.37	7.1	504	2.5	0.3	< 0.5	3.60	23.1	79	4.87	5.54	1.2	3	23.9	0.6
Cemex Pit (C-)-32 FT	18	< 0.05	66.6	0.1	12	15.0	28.6	86.0	0.19	5.95	19.7	798	1.8	0.4	< 0.5	7.14	17.9	53	2.97	4.32	0.5	3	15.7	0.1
Cemex Pit (C-)-33 FT	< 2	< 0.05	63.0	< 0.1	12	15.4	27.4	84.6	0.16	5.98	23.4	693	1.6	0.4	< 0.5	7.08	17.9	55	2.93	4.60	0.1	< 1	15.3	0.2
Cemex Pit (C-)-35 FT	< 2	0.14	57.0	< 0.1	3	11.9	38.6	109	0.07	7.47	3.6	409	3.3	0.3	< 0.5	3.42	25.2	78	6.97	5.80	1.1	3	23.2	0.3
Cemex Pit (C-)-36 FT	< 2	0.09	68.5	< 0.1	< 1	18.8	30.6	90.3	0.07	6.56	23.5	497	2.1	0.4	< 0.5	5.04	17.9	74	5.28	5.06	0.6	2	18.9	0.5
Cemex Pit (C-)-37 FT	< 2	< 0.05	27.6	< 0.1	< 1	12.5	14.5	54.0	0.11	5.79	7.9	441	1.8	0.2	< 0.5	10.0	9.7	29	1.46	3.43	0.4	3	13.7	0.1
Cemex Pit (C-)-38 FT	< 2	0.07	82.3	< 0.1	< 1	18.7	40.5	102	0.12	8.13	12.5	777	2.9	0.4	< 0.5	2.84	25.2	78	6.26	6.09	1.0	3	22.3	0.6
Cemex Pit (C-)-40 FT	< 2	< 0.05	70.7	0.1	4	26.2	36.5	104	0.11	6.77	3.8	442	2.1	1.3	< 0.5	4.91	20.0	56	3.62	5.16	1.4	< 1	19.0	0.5
Cemex Pit (C-)-41 FT	< 2	< 0.05	49.4	< 0.1	< 1	16.7	24.6	109	0.06	8.27	4.9	767	2.0	0.4	< 0.5	4.33	21.0	62	4.66	4.55	1.3	3	19.1	0.6
Cemex Pit (C-)-42 FT	17	< 0.05	43.6	< 0.1	< 1	23.7	58.3	104	0.65	8.20	560	651	2.3	0.5	< 0.5	3.69	50.4	60	4.43	5.41	1.4	< 1	19.1	0.2
Cemex Pit (C-)-43 FT	20	< 0.05	71.5	< 0.1	< 1	31.1	43.1	101	0.70	8.45	57.6	433	2.2	0.7	< 0.5	3.50	25.2	78	8.63	6.37	1.3	3	22.4	0.3
Cemex Pit (C-)-44 FT	< 2	< 0.05	57.0	< 0.1	< 1	13.5	38.3	94.9	0.07	7.03	2.6	788	2.8	0.3	< 0.5	5.63	22.0	86	5.30	5.38	1.3	< 1	19.6	0.4
Cemex Pit (C-)-45 FT	< 2	< 0.05	46.4	< 0.1	2	12.9	29.6	86.9	0.17	6.64	8.8	443	2.6	0.2	< 0.5	5.28	17.9	70	4.13	5.89	1.0	2	18.3	1.2
Cemex Pit (C-)-47 FT	< 2	< 0.05	77.3	0.2	14	17.8	42.2	109	1.07	7.28	39.3	301	2.9	0.4	< 0.5	3.79	22.0	80	5.22	5.73	0.3	3	21.6	0.2
Cemex Pit (C-)-49 FT	< 2	< 0.05	59.8	< 0.1	17	13.5	30.5	82.2	0.83	5.99	25.3	377	2.1	0.3	3.4	7.40	14.7	67	4.72	5.24	0.8	2	13.6	0.1
Cemex Pit (C-)-51 FT	< 2	< 0.05	76.7	< 0.1	< 1	20.9	34.0	107	0.06	8.26	< 0.5	494	3.0	0.7	2.9	3.17	22.0	77	7.52	6.08	0.7	3	21.7	0.5
Cemex Pit (C-)-52 FT	< 2	< 0.05	61.1	< 0.1	< 1	13.3	36.5	106	0.08	7.84	8.7	452	3.0	0.4	< 0.5	4.40	21.0	92	8.57	6.59	1.4	3	22.5	0.4
Cemex Pit (C-)-53 FT	15	< 0.05	95.0	< 0.1	< 1	31.8	39.7	110	0.06	7.94	7.7	454	3.4	0.6	< 0.5	2.67	28.4	99	5.73	6.38	1.0	3	25.4	1.5
Cemex Pit (C-)-54 FT	152	< 0.05	46.9	< 0.1	< 1	14.1	36.8	104	0.08	8.39	7.3	630	3.1	0.3	< 0.5	3.44	22.0	79	4.52	5.05	0.7	4	21.3	0.4
Cemex Pit (C-)-56 FT	< 2	< 0.05	72.9	< 0.1	5	18.3	36.4	99.7	0.81	7.65	21.5	682	2.9	0.5	< 0.5	4.56	20.9	92	7.31	6.14	1.0	2	21.3	0.2
Cemex Pit (C-)-57 FT	< 2	< 0.05	60.8	< 0.1	18	21.7	33.1	95.6	0.31	6.78	9.9	456	1.5	0.6	< 0.5	5.90	23.1	65	3.69	5.15	0.6	3	17.6	0.1
Cemex Pit (C-)-58 FT	17	< 0.05	79.4	< 0.1	11	21.1	31.1	97.4	0.33	7.30	8.5	465	2.0	0.6	< 0.5	3.77	24.2	67	3.45	5.27	1.0	2	19.5	0.4
Cemex Pit (C-)-59 FT	< 2	< 0.05	66.2	< 0.1	129	16.0	32.9	91.7	0.28	7.38	21.6	425	2.0	0.5	< 0.5	4.35	23.1	83	3.83	6.34	1.4	2	19.3	0.9
Cemex Pit (C-)-60 FT	< 2	< 0.05	71.4	< 0.1	24	17.4	42.4	116	0.90	8.15	11.6	414	2.6	0.4	< 0.5	2.52	29.7	81	6.46	6.38	1.1	2	23.1	0.2
Cemex Pit (C-)-61 FT	< 2	< 0.05	48.9	< 0.1	23	15.8	29.1	88.0	0.75	6.83	21.0	491	1.7	0.4	< 0.5	5.41	23.1	62	3.20	5.03	0.7	2	17.2	0.2
Cemex Pit (C-)-62 FT	< 2	< 0.05	59.3	< 0.1	5	16.6	30.9	103	0.40	7.05	23.6	902	2.3	0.5	< 0.5	4.44	27.5	74	4.92	5.69	0.9	< 1	19.1	0.2
Cemex Pit (C-)-64 FT	11	< 0.05	60.8	< 0.1	88	22.1	36.1	106	0.10	7.12	19.9	396	2.3	0.5	< 0.5	4.38	26.4	80	4.06	5.34	0.1	< 1	21.2	0.2
Cemex Pit (C-)-65 FT	< 2	< 0.05	74.0	< 0.1	32	17.5	34.2	106	0.50	7.39	15.9	470	2.4	0.5	3.8	4.10	27.5	68	4.64	5.26	1.0	2	19.6	0.2
Cemex Pit (C-)-66 FT	< 2	< 0.05	96.0	< 0.1	71	23.1	34.6	104	0.64	7.46	41.6	415	1.4	0.7	< 0.5	4.12	23.1	67	5.50	5.31	0.1	< 1	18.3	0.2
Cemex Pit (C-)-67 FT	< 2	0.10	77.2	0.1	13	19.5	37.3	114	0.98	6.21	60.6	440	2.2	0.5	3.8	4.34	25.3	70	6.92	5.39	1.0	2	22.5	0.3
Cemex Pit (C-)-68 FT	15	< 0.05	58.7	< 0.1	14	17.2	31.4	87.4	1.19	6.95	30.1	259	2.8	0.4	< 0.5	4.46	20.9	56	6.48	5.37	1.1	< 1	18.3	0.1
Cemex Pit (C-)-69 FT	< 2	< 0.05	69.0	< 0.1	10	17.2	32.0	112	0.50	7.07	23.1	458	2.6	0.4	< 0.5	5.19	23.1	73	4.74	4.99	0.7	2	20.0	0.3

Analyte Symbol	Hg	In	Ir	K	Li	Mg	Mn	Na	Nb	P	Rb	Re	Sb	Sc	Se	Sn	Sr	Ta	Te	Ti	Th	Tl	U	V
Unit Symbol	ppm	ppm	ppb	%	ppm	%	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
Detection Limit	1	0.1	5	0.01	0.5	0.01	1	0.01	0.1	0.001	0.2	0.001	0.1	0.1	0.1	1	0.2	0.1	0.1	0.01	0.1	0.05	0.1	2
Analysis Method	INAA	TD-MS	INAA	TD-ICP	TD-MS	TD-ICP	TD-ICP	INAA	TD-MS	TD-ICP	MULT INAA/TD-ICP-MS	TD-MS	INAA	INAA	MULT INAA/TD-ICP-MS	TD-MS	TD-MS	MULT INAA/TD-ICP-MS	TD-MS	TD-ICP	MULT INAA/TD-ICP-MS	TD-MS	MULT INAA/TD-ICP-MS	TD-ICP
SO-C-2-81-198 FT	< 1	< 0.1	< 5	1.42	27.6	1.14	3480	0.38	0.3	0.848	80.7	< 0.001	< 0.1	13.6	1.0	2	803	< 0.1	< 0.1	0.19	9.2	0.52	1.7	80
SO-C-2-81-206.2 FT	< 1	< 0.1	< 5	0.93	69.9	0.50	123	0.32	13.8	0.026	50.8	0.006	0.8	14.4	1.6	3	144	0.9	< 0.1	0.58	12.9	0.42	3.1	131
SO-C-2-81-219 FT	< 1	< 0.1	< 5	0.44	39.9	0.26	138	0.30	5.2	0.019	25.6	0.017	0.6	10.6	1.5	1	56.8	0.3	< 0.1	0.26	5.7	1.47	3.2	85
SO-C-2-81-227 FT	< 1	0.1	< 5	1.83	94.0	0.69	112	0.34	10.6	0.029	80.3	< 0.001	0.7	23.8	1.2	4	255	0.1	< 0.1	0.61	19.5	0.70	3.3	140
SO-C-2-81-237 FT	< 1	< 0.1	< 5	0.68	70.9	0.35	56	0.14	10.5	0.032	44.9	0.014	0.7	16.5	2.5	2	161	0.6	< 0.1	0.41	10.3	1.04	5.4	158
SO-C-2-81-248 FT	< 1	< 0.1	< 5	1.07	32.3	0.54	223	1.42	0.7	0.021	47.5	< 0.001	< 0.1	21.2	< 0.1	< 1	291	< 0.1	< 0.1	0.16	9.9	0.38	2.3	65
SO-C-2-81-254 FT	< 1	< 0.1	< 5	2.24	66.1	0.75	102	0.53	0.3	0.026	110	< 0.001	< 0.1	25.9	0.2	1	440	< 0.1	< 0.1	0.30	15.5	0.69	2.3	123
SO-C-2-81-270 FT	< 1	< 0.1	< 5	1.05	27.2	0.80	2680	0.33	0.3	1.38	61.4	< 0.001	1.4	13.3	1.3	2	833	< 0.1	< 0.1	0.12	8.6	0.60	1.9	86
SO-C-2-81-280 FT	< 1	< 0.1	< 5	0.84	40.5	0.74	216	0.31	14.2	0.465	31.0	< 0.001	1.2	13.6	2.0	3	249	0.8	< 0.1	0.51	12.0	1.85	1.9	109
SO-C-2-81-290 FT	< 1	< 0.1	< 5	0.84	97.6	0.39	82	0.24	15.3	0.035	46.4	< 0.001	1.2	19.1	2.9	3	246	0.8	< 0.1	0.59	14.9	0.87	6.0	233
SO-C-2-81-293 FT	< 1	< 0.1	< 5	0.44	54.3	0.22	100	0.15	7.2	0.026	29.1	0.002	< 0.1	11.4	2.1	2	188	0.4	< 0.1	0.29	8.4	1.35	4.2	156
SO-C-2-81-310 FT	< 1	< 0.1	< 5	2.43	53.8	0.73	199	0.24	1.3	0.037	122	< 0.001	0.6	25.3	0.4	3	458	< 0.1	< 0.1	0.50	17.7	0.75	4.6	150
SO-C-2-81-319 FT	< 1	< 0.1	< 5	1.25	24.1	0.55	121	1.30	0.4	0.061	44.7	< 0.001	< 0.1	11.4	< 0.1	1	158	< 0.1	< 0.1	0.26	7.8	0.33	5.3	43
SO-C-2-81-340 FT	< 1	< 0.1	< 5	1.33	63.6	1.05	560	0.38	13.4	0.275	61.6	< 0.001	0.7	17.3	1.4	3	291	0.6	< 0.1	0.63	12.7	0.66	3.0	128
SO-C-2-81-346 FT	< 1	< 0.1	< 5	2.90	43.2	0.84	311	0.30	0.8	0.028	151	< 0.001	< 0.1	24.7	0.3	1	418	< 0.1	< 0.1	0.31	17.6	0.97	3.9	208
SO-C-2-81-358 FT	< 1	< 0.1	< 5	2.01	13.4	0.55	806	0.53	0.3	0.030	62.6	< 0.001	0.7	11.0	< 0.1	1	223	< 0.1	< 0.1	0.21	7.0	0.40	1.6	53
SO-C-2-81-366 FT	< 1	< 0.1	< 5	1.24	15.7	0.81	1850	0.90	4.2	0.027	39.6	< 0.001	0.5	10.5	< 0.1	1	295	< 0.1	< 0.1	0.30	10.2	0.24	1.5	71
SO-C-2-81-374 FT	< 1	< 0.1	< 5	1.05	4.4	0.25	1060	1.42	2.7	0.022	27.5	< 0.001	0.6	3.6	< 0.1	< 1	289	0.1	< 0.1	0.10	2.9	0.16	0.9	28
SO-C-2-81-384 FT	< 1	< 0.1	< 5	1.76	22.6	0.93	730	1.38	10.9	0.057	73.7	< 0.001	1.1	17.4	0.1	2	268	0.6	< 0.1	0.49	9.3	0.47	1.9	106
SO-C-1-81-48 FT	< 1	< 0.1	< 5	1.78	63.0	1.36	348	2.62	0.5	0.058	82.5	< 0.001	1.0	21.2	0.2	1	175	< 0.1	< 0.1	0.28	15.0	0.57	3.5	93
SO-C-1-81-59 FT	< 1	< 0.1	< 5	1.69	66.2	1.47	461	2.60	0.3	0.078	79.6	< 0.001	< 0.1	20.2	0.4	< 1	182	< 0.1	< 0.1	0.17	12.4	0.53	4.7	62
SO-C-1-81-69 FT	< 1	< 0.1	< 5	3.82	60.8	1.69	524	1.21	0.2	0.060	206	< 0.001	< 0.1	23.7	0.7	2	128	< 0.1	< 0.1	0.20	17.3	1.27	2.2	95
SO-C-1-81-78 FT	< 1	< 0.1	< 5	4.01	76.8	1.89	592	1.00	0.6	0.047	206	< 0.001	< 0.1	25.4	0.4	1	113	< 0.1	< 0.1	0.18	14.0	1.46	2.5	90
SO-C-1-81-88 FT	< 1	< 0.1	< 5	3.46	70.3	1.67	451	1.56	1.9	0.045	177	< 0.001	2.5	25.0	< 0.1	4	146	< 0.1	< 0.1	0.42	12.6	1.16	4.1	114
SO-C-1-81-98 FT	< 1	< 0.1	< 5	4.12	83.5	1.89	438	1.22	2.0	0.053	200	< 0.001	1.4	24.5	0.3	3	136	< 0.1	< 0.1	0.43	11.0	1.39	2.2	136
SO-C-1-81-109 FT	< 1	< 0.1	< 5	0.94	66.5	1.07	1310	3.08	0.2	0.051	47.6	< 0.001	< 0.1	13.9	0.4	1	318	< 0.1	< 0.1	0.24	8.3	0.29	2.7	66
SO-C-1-81-117 FT	< 1	< 0.1	< 5	2.37	83.6	1.54	443	2.32	4.3	0.049	104	< 0.001	1.4	23.1	0.2	3	195	< 0.1	< 0.1	0.49	10.4	0.82	3.4	129
SO-C-1-81-125 FT	< 1	< 0.1	< 5	3.06	84.5	2.19	940	1.44	11.1	0.162	149	< 0.001	1.4	21.9	0.6	3	321	0.5	< 0.1	0.52	10.8	1.00	4.2	172
SO-C-1-81-136 FT	< 1	< 0.1	< 5	1.59	94.8	2.63	687	3.34	9.2	0.082	51.9	< 0.001	1.1	19.0	0.4	3	691	0.5	< 0.1	0.42	8.9	0.61	5.5	150
SO-C-1-81-144 FT	< 1	< 0.1	< 5	0.29	34.3	0.76	153	5.02	0.9	0.054	10.6	< 0.001	< 0.1	13.0	< 0.1	2	171	< 0.1	< 0.1	0.32	7.0	0.07	2.0	63
SO-C-1-81-163 FT	< 1	< 0.1	< 5	1.37	66.8	2.75	838	4.04	0.1	0.075	64.6	< 0.001	< 0.1	19.9	0.2	1	530	< 0.1	< 0.1	0.23	7.7	0.38	5.8	123
SO-C-1-81-175 FT	< 1	< 0.1	< 5	1.80	86.6	2.68	687	3.57	0.2	0.060	92.2	< 0.001	< 0.1	20.3	0.4	1	440	< 0.1	< 0.1	0.20	7.4	0.58	3.9	86
SO-C-1-81-182 FT	< 1	< 0.1	< 5	2.11	68.6	2.57	1040	2.58	6.3	0.205	97.4	< 0.001	1.3	22.2	0.5	3	579	0.2	< 0.1	0.46	10.5	0.59	4.4	159
SO-C-1-81-191 FT	< 1	< 0.1	< 5	2.56	61.6	1.67	1250	1.58	2.9	0.555	127	< 0.001	0.5	21.6	1.9	3	457	< 0.1	< 0.1	0.37	17.1	0.82	4.5	152
SO-C-1-81-201 FT	< 1	< 0.1	< 5	2.65	71.4	1.57	900	1.13	11.6	0.196	132	< 0.001	< 0.1	23.6	1.3	3	365	0.7	< 0.1	0.54	15.5	0.93	3.3	188
SO-C-1-81-211 FT	< 1	< 0.1	< 5	3.05	59.6	1.78	212	1.05	4.9	0.088	141	< 0.001	< 0.1	21.9	0.3	3	318	< 0.1	< 0.1	0.52	12.2	0.80	2.4	166
SO-C-1-81-221 FT	< 1	< 0.1	< 5	2.99	56.8	1.57	367	1.05	12.2	0.128	80.1	< 0.001	< 0.1	20.9	0.7	3	398	0.7	< 0.1	0.51	13.7	0.73	2.4	148
SO-C-1-81-226 FT	< 1	< 0.1	< 5	2.25	54.7	1.64	2040	1.30	1.6	0.536	116	< 0.001	0.7	27.6	2.3	2	478	< 0.1	< 0.1	0.31	13.2	0.79	6.9	162
SO-C-1-81-241 FT	< 1	< 0.1	< 5	2.06	44.0	1.58	1250	1.37	5.1	0.280	85.6	< 0.001	< 0.1	18.5	1.4	2	487	< 0.1	< 0.1	0.43	10.7	0.62	1.7	151
SO-C-1-81-251 FT	< 1	< 0.1	< 5	1.26	34.3	1.27	1840	1.80	0.5	0.622	65.1	< 0.001	< 0.1	14.5	2.0	2	796	< 0.1	< 0.1	0.23	10.3	0.55	2.1	109
SO-C-1-81-271 FT	< 1	< 0.1	< 5	2.53	58.7	1.69	424	1.00	11.4	0.186	134	< 0.001	1.3	22.2	1.4	3	399	0.7	< 0.1	0.54	14.4	0.88	2.6	173
SO-C-1-81-280 FT	< 1	< 0.1	< 5	2.31	70.6	1.73	1470	1.05	0.5	0.137	116	< 0.001	< 0.1	24.5	0.9	2	390	< 0.1	< 0.1	0.39	14.5	0.74	3.0	131
SO-C-1-81-290 FT	< 1	< 0.1	< 5	1.64	35.4	1.48	646	1.51	3.0	0.363	82.0	< 0.001	1.3	18.2	2.0	2	644	0.1	0.2	0.37	11.4	0.58	3.2	137
SO-C-1-81-291 FT	< 1	< 0.1	< 5	2.20	46.7	2.00	1000	1.20	2.6	0.200	120	< 0.001	< 0.1	21.7	1.0	1	454	< 0.1	0.1	0.42	15.2	0.71	2.5	143
SO-C-1-81-305.5 FT	< 1	< 0.1	< 5	2.38	51.8	2.51	791	1.11	1.3	0.084	110	< 0.001	0.9	24.0	< 0.1	2	499	< 0.1	< 0.1	0.35	12.7	0.62	7.5	150
SO-C-1-81-313 FT	< 1	< 0.1	< 5	2.49	34.9	2.22	705	1.14	7.5	0.220	123	< 0.001	0.7	21.0	1.1	2	498	< 0.1	< 0.1	0.45	16.0	0.73	4.8	177
SO-C-1-81-328 FT	< 1	< 0.1	< 5	2.07	52.4	1.73	2390	1.13	2.7	0.311	124	< 0.001	0.4	24.3	1.3	< 1	406	< 0.1	< 0.1	0.42	21.1	0.75	4.0	137
SO-C-1-81-347 FT	< 1	< 0.1	< 5	1.80	38.0	1.31	2510	1.17	5.0	0.235	111	< 0.001	1.2	20.8	1.1	2	320	0.2	< 0.1	0.40	20.9	0.67	2.9	132
SO-C-1-81-353 FT	< 1	< 0.1	< 5	1.24	42.9	1.03	1940	0.94	0.8	0.832	74.6	< 0.001	1.5	16.9	2.6	3	529	< 0.1	< 0.1	0.25	17.4	0.52	2.0	94
SO-C-1-81-361 FT	< 1	< 0.1	< 5	0.94	46.3	1.22	3160	0.51	0.3	1.13	54.8	< 0.001	0.9	18.5	1.7	2	447	< 0.1	< 0.1	0.12	12.9	0.53	2.7	104
SO-C-1-81-378 FT	< 1	< 0.1	< 5	1.75	67.9	1.16	611	1.32	< 0.1	0.064	97.8	< 0.001	< 0.1	24.2	0.3	< 1	226	< 0.1	< 0.1	0.20	13.1	0.56	2.5	104

Analyte Symbol	Hg	In	Ir	K	Li	Mg	Mn	Na	Nb	P	Rb	Re	Sb	Sc	Se	Sn	Sr	Ta	Te	Ti	Th	Tl	U	V
Unit Symbol	ppm	ppm	ppb	%	ppm	%	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
Detection Limit	1	0.1	5	0.01	0.5	0.01	1	0.01	0.1	0.001	0.2	0.001	0.1	0.1	0.1	1	0.2	0.1	0.1	0.01	0.1	0.05	0.1	2
Analysis Method	INAA	TD-MS	INAA	TD-ICP	TD-MS	TD-ICP	TD-ICP	INAA	TD-MS	TD-ICP	MULT INAA/TD-ICP-MS	TD-MS	INAA	INAA	MULT INAA/TD-ICP-MS	TD-MS	TD-MS	MULT INAA/TD-ICP-MS	TD-MS	TD-ICP	MULT INAA/TD-ICP-MS	TD-MS	MULT INAA/TD-ICP-MS	TD-ICP
SO-C-1-81-382 FT	< 1	< 0.1	< 5	1.10	32.7	1.26	5560	0.50	10.0	0.361	69.3	< 0.001	0.7	13.6	1.2	2	286	0.6	< 0.1	0.37	11.4	0.41	1.6	95
SO-C-1-81-397 FT	< 1	< 0.1	< 5	1.57	78.3	0.53	249	0.90	13.4	0.053	85.2	< 0.001	1.6	19.5	1.8	2	268	0.8	0.1	0.59	16.1	0.84	4.7	191
SO-C-1-81-406 FT	< 1	< 0.1	< 5	1.94	43.4	1.02	305	1.76	1.0	0.066	85.7	< 0.001	0.4	23.9	< 0.1	1	237	< 0.1	< 0.1	0.38	14.5	0.52	2.9	139
SO-C-1-81-433 FT	< 1	0.1	< 5	1.99	114	0.57	140	1.38	14.1	0.054	99.8	< 0.001	5.7	31.7	5.2	3	353	0.8	< 0.1	0.74	22.8	0.87	22.9	373
SO-C-1-81-443 FT	< 1	0.1	< 5	2.65	54.1	1.54	258	1.34	7.0	0.114	125	< 0.001	0.7	27.8	0.3	3	284	< 0.1	< 0.1	0.64	13.3	0.80	4.7	192
SO-C-1-81-455 FT	< 1	< 0.1	< 5	2.31	64.7	1.16	1870	0.81	0.3	0.121	141	< 0.001	< 0.1	20.8	< 0.1	2	313	< 0.1	< 0.1	0.38	11.2	0.78	3.1	134
SO-C-1-81-458 FT	< 1	< 0.1	< 5	0.77	34.1	0.36	448	0.41	6.3	0.093	48.4	0.010	0.8	10.2	2.5	2	218	0.3	< 0.1	0.32	8.7	0.63	4.1	188
SO-C-1-81-469 FT	< 1	< 0.1	< 5	1.48	57.3	0.78	704	0.82	1.1	0.038	81.1	< 0.001	< 0.1	17.5	0.3	2	306	< 0.1	< 0.1	0.35	13.1	0.62	2.5	116
SO-C-1-81-476 FT	< 1	< 0.1	< 5	0.96	27.2	0.90	9080	0.31	6.0	0.689	64.9	< 0.001	0.6	10.4	1.5	2	325	0.2	< 0.1	0.28	7.4	0.55	1.8	75
SO-C-1-81-481 FT	< 1	< 0.1	< 5	0.67	28.8	0.48	1270	0.41	7.1	0.028	43.0	0.014	1.6	11.3	2.2	1	188	0.3	< 0.1	0.28	7.5	2.19	3.7	131
SO-C-1-81-494 FT	< 1	< 0.1	< 5	0.87	16.4	0.66	863	1.36	1.3	0.031	37.4	< 0.001	< 0.1	10.7	0.2	1	271	< 0.1	< 0.1	0.22	4.7	0.53	2.1	64
SO-C-1-81-497 FT	< 1	< 0.1	< 5	2.07	56.8	1.04	201	1.02	15.4	0.041	123	< 0.001	1.4	21.3	1.0	3	351	0.8	< 0.1	0.70	16.4	0.92	4.9	211
RC-C-1-81-126 FT	< 1	< 0.1	< 5	0.83	12.9	0.30	358	2.26	0.5	0.016	31.4	< 0.001	< 0.1	6.6	< 0.1	< 1	222	< 0.1	< 0.1	0.19	6.5	0.18	2.3	41
RC-C-1-81-145.5 FT	< 1	< 0.1	< 5	1.05	23.2	0.58	470	2.30	0.2	0.018	33.9	< 0.001	< 0.1	7.1	0.2	< 1	312	< 0.1	< 0.1	0.12	6.5	0.18	1.2	21
RC-C-1-81-168 FT	< 1	< 0.1	< 5	0.90	21.5	0.58	388	2.52	0.6	0.043	28.9	< 0.001	< 0.1	6.8	< 0.1	1	396	< 0.1	< 0.1	0.27	6.8	0.20	1.6	44
RC-C-1-81-193 FT	< 1	< 0.1	< 5	2.76	28.5	1.02	680	1.34	5.5	0.101	93.5	< 0.001	< 0.1	16.1	0.4	1	235	0.2	< 0.1	0.43	10.0	0.78	3.3	102
RC-C-1-81-211 FT	< 1	< 0.1	< 5	0.42	6.6	0.16	129	2.74	1.8	0.042	10.6	< 0.001	< 0.1	2.7	< 0.1	< 1	285	< 0.1	< 0.1	0.07	1.4	0.07	0.5	15
RC-C-1-81-230 FT	< 1	< 0.1	< 5	3.24	55.6	1.68	851	1.18	1.7	0.082	124	< 0.001	< 0.1	18.5	0.3	1	259	< 0.1	< 0.1	0.37	8.0	0.86	5.4	134
RC-C-1-81-249 FT	< 1	< 0.1	< 5	1.18	29.1	0.59	387	1.86	0.1	0.026	44.0	0.011	< 0.1	8.6	0.4	< 1	464	< 0.1	< 0.1	0.26	5.9	0.29	2.0	46
RC-C-1-81-282 FT	< 1	< 0.1	< 5	0.97	16.2	0.40	267	2.98	0.4	0.027	36.2	< 0.001	< 0.1	7.6	0.5	< 1	331	< 0.1	< 0.1	0.21	4.9	0.25	1.5	43
RC-C-1-81-300 FT	< 1	< 0.1	< 5	2.25	52.5	1.59	744	1.85	1.6	0.056	78.6	< 0.001	0.7	16.3	1.5	2	285	< 0.1	< 0.1	0.31	9.2	0.48	1.9	58
RC-C-1-81-363 FT	< 1	< 0.1	< 5	1.41	41.0	0.93	441	1.96	1.2	0.018	54.2	< 0.001	< 0.1	11.7	1.0	< 1	299	< 0.1	< 0.1	0.20	7.9	0.38	2.1	34
RC-C-1-81-403 FT	< 1	< 0.1	< 5	1.47	33.2	0.78	533	2.18	0.8	0.040	53.5	< 0.001	< 0.1	11.6	1.0	< 1	296	< 0.1	< 0.1	0.27	9.3	0.34	2.1	52
RC-C-1-81-473 FT	< 1	< 0.1	< 5	2.12	15.0	0.38	473	1.88	0.2	0.032	66.9	< 0.001	< 0.1	12.1	0.8	< 1	270	< 0.1	< 0.1	0.12	9.6	0.40	1.8	57
US-220 Road Cut 3 FT	< 1	< 0.1	< 5	3.07	56.3	1.08	677	0.16	0.6	0.227	65.1	< 0.001	< 0.1	27.3	1.4	< 1	50.0	< 0.1	0.1	0.49	15.7	0.69	2.2	173
US-220 Road Cut 6 FT	< 1	< 0.1	< 5	2.50	31.9	1.14	177	0.17	< 0.1	0.064	125	< 0.001	1.0	23.9	0.7	< 1	66.1	< 0.1	< 0.1	0.16	13.3	0.71	2.4	178
US-220 Road Cut 8 FT	< 1	< 0.1	< 5	2.97	39.2	1.09	303	0.11	0.1	0.074	133	< 0.001	0.8	29.2	1.0	1	51.7	< 0.1	< 0.1	0.30	14.8	0.75	3.4	116
Cemex Pit (C-)-1 FT	< 1	< 0.1	< 5	2.43	89.4	2.56	933	4.14	0.2	0.095	105	< 0.001	0.7	20.9	1.0	< 1	515	< 0.1	< 0.1	0.22	15.7	0.61	4.2	84
Cemex Pit (C-)-2 FT	< 1	< 0.1	< 5	2.97	116	2.55	961	3.71	0.8	0.098	131	< 0.001	0.9	19.2	0.8	2	439	< 0.1	< 0.1	0.30	12.9	0.75	4.7	106
Cemex Pit (C-)-3 FT	< 1	< 0.1	< 5	3.13	131	2.86	977	3.82	< 0.1	0.083	136	< 0.001	< 0.1	20.1	1.0	1	379	< 0.1	< 0.1	0.24	10.3	0.79	5.1	112
Cemex Pit (C-)-4 FT	< 1	< 0.1	< 5	2.67	81.6	3.86	989	3.13	0.1	0.563	99.2	< 0.001	2.5	20.5	1.1	< 1	> 1000	< 0.1	0.2	0.11	11.1	0.58	77.7	142
Cemex Pit (C-)-6 FT	< 1	< 0.1	< 5	3.96	150	2.92	650	3.61	2.7	0.114	186	< 0.001	0.8	16.4	0.7	3	314	< 0.1	< 0.1	0.39	11.1	1.07	21.5	122
Cemex Pit (C-)-7 FT	< 1	< 0.1	< 5	2.22	105	2.90	1040	3.99	8.1	0.106	88.0	< 0.001	1.3	18.5	0.7	2	805	0.3	< 0.1	0.42	12.1	0.53	5.3	108
Cemex Pit (C-)-8 FT	< 1	< 0.1	< 5	3.35	131	3.45	867	3.51	9.9	0.089	128	0.002	0.8	18.9	0.8	3	520	0.6	< 0.1	0.42	10.5	0.74	15.6	290
Cemex Pit (C-)-9 FT	< 1	< 0.1	< 5	3.22	127	2.70	1270	4.63	13.0	0.083	86.6	< 0.001	1.1	19.8	0.5	3	293	0.9	< 0.1	0.48	10.8	0.76	2.4	116
Cemex Pit (C-)-11 FT	< 1	< 0.1	< 5	2.68	140	2.40	817	4.15	6.9	0.108	125	< 0.001	0.6	17.0	0.4	3	234	0.3	< 0.1	0.47	11.7	0.92	8.9	125
Cemex Pit (C-)-12 FT	< 1	< 0.1	< 5	3.21	115	2.90	845	4.05	0.3	0.081	120	< 0.001	0.7	19.5	0.4	< 1	419	< 0.1	< 0.1	0.18	14.2	0.69	9.5	72
Cemex Pit (C-)-13 FT	< 1	< 0.1	< 5	3.25	136	2.99	793	3.48	0.9	0.058	131	< 0.001	0.8	15.8	0.5	2	364	< 0.1	< 0.1	0.32	7.8	0.81	15.5	127
Cemex Pit (C-)-14 FT	< 1	< 0.1	< 5	3.21	147	2.92	927	3.70	2.7	0.095	160	< 0.001	< 0.1	16.3	0.7	2	334	< 0.1	< 0.1	0.40	13.4	0.93	3.3	124
Cemex Pit (C-)-15 FT	< 1	< 0.1	< 5	2.87	129	2.49	842	4.22	0.4	0.105	151	< 0.001	0.9	14.6	0.5	2	318	< 0.1	< 0.1	0.30	19.6	0.96	8.8	117
Cemex Pit (C-)-17 FT	< 1	< 0.1	< 5	2.67	116	3.64	890	3.41	7.7	0.146	111	< 0.001	0.8	15.0	1.0	2	651	0.2	< 0.1	0.38	13.7	0.62	19.5	180
Cemex Pit (C-)-18 FT	< 1	< 0.1	< 5	1.64	84.7	2.00	1440	4.48	4.1	0.099	91.3	< 0.001	< 0.1	19.6	0.8	2	687	0.2	< 0.1	0.36	11.0	0.53	6.7	86
Cemex Pit (C-)-19 FT	< 1	< 0.1	< 5	2.65	125	2.46	1090	3.93	0.6	0.115	138	< 0.001	0.6	14.9	< 0.1	2	401	< 0.1	< 0.1	0.31	10.6	0.90	16.1	125
Cemex Pit (C-)-20 FT	< 1	< 0.1	< 5	2.65	73.4	3.24	909	3.64	2.3	0.111	90.2	0.001	2.2	15.3	1.3	2	675	< 0.1	0.3	0.32	43.0	0.53	27.2	130
Cemex Pit (C-)-22 FT	< 1	< 0.1	< 5	2.85	164	3.18	899	3.55	0.3	0.064	132	< 0.001	1.0	17.6	0.7	2	367	< 0.1	< 0.1	0.26	8.7	0.76	7.4	171
Cemex Pit (C-)-23 FT	< 1	< 0.1	< 5	2.78	94.1	2.45	1170	4.01	7.5	0.087	89.3	< 0.001	< 0.1	18.7	0.7	2	435	0.4	< 0.1	0.40	13.2	0.63	3.6	109
Cemex Pit (C-)-24 FT	< 1	< 0.1	< 5	3.14	102	2.59	776	3.70	8.1	0.091	131	< 0.001	< 0.1	15.0	0.4	3	239	0.4	< 0.1	0.46	9.6	0.78	5.5	143
Cemex Pit (C-)-26 FT	< 1	< 0.1	< 5	3.42	160	2.90	690	3.93	0.9	0.102	157	< 0.001	< 0.1	15.9	0.6	2	245	< 0.1	< 0.1	0.34	12.8	0.80	6.0	144
Cemex Pit (C-)-27 FT	< 1	< 0.1	< 5	2.33	91.3	2.40	797	4.09	0.1	0.061	98.7	< 0.001	< 0.1	14.9	0.4	< 1	396	< 0.1	< 0.1	0.13	10.4	0.56	6.4	48
Cemex Pit (C-)-28 FT	< 1	< 0.1	< 5	3.44	129	2.78	811	3.63	0.2	0.063	148	0.004	< 0.1	15.0	0.2	< 1	252	< 0.1	< 0.1	0.17	7.2	0.96	5.8	80
Cemex Pit (C-)-30 FT	< 1	< 0.1	< 5	1.66	53.2	2.42	1090	4.11	4.1	0.153	52.0	< 0.001	< 0.1	20.1	0.7	2	785	< 0.1	< 0.1	0.40	17.0	0.33	6.3	100

Analyte Symbol	Hg	In	Ir	K	Li	Mg	Mn	Na	Nb	P	Rb	Re	Sb	Sc	Se	Sn	Sr	Ta	Te	Ti	Th	Tl	U	V
Unit Symbol	ppm	ppm	ppb	%	ppm	%	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
Detection Limit	1	0.1	5	0.01	0.5	0.01	1	0.01	0.1	0.001	0.2	0.001	0.1	0.1	0.1	1	0.2	0.1	0.1	0.01	0.1	0.05	0.1	2
Analysis Method	INAA	TD-MS	INAA	TD-ICP	TD-MS	TD-ICP	TD-ICP	INAA	TD-MS	TD-ICP	MULT INAA/TD-ICP-MS	TD-MS	INAA	INAA	MULT INAA/TD-ICP-MS	TD-MS	TD-MS	MULT INAA/TD-ICP-MS	TD-MS	TD-ICP	MULT INAA/TD-ICP-MS	TD-MS	MULT INAA/TD-ICP-MS	TD-ICP
Cemex Pit (C-)-31 FT	< 1	< 0.1	< 5	3.14	133	2.75	931	3.51	1.8	0.122	114	< 0.001	< 0.1	16.5	0.9	2	403	< 0.1	< 0.1	0.38	10.8	0.66	5.1	108
Cemex Pit (C-)-32 FT	< 1	< 0.1	< 5	2.50	57.7	3.33	1050	3.07	0.8	0.272	75.3	< 0.001	1.6	16.7	1.4	< 1	699	< 0.1	< 0.1	0.25	14.3	0.42	22.1	132
Cemex Pit (C-)-33 FT	< 1	< 0.1	< 5	2.47	55.3	3.30	1050	3.14	0.2	0.238	71.2	< 0.001	1.6	17.2	0.9	< 1	662	< 0.1	0.2	0.18	14.1	0.44	24.4	130
Cemex Pit (C-)-35 FT	< 1	< 0.1	< 5	3.01	135	3.21	846	3.40	0.6	0.096	137	< 0.001	< 0.1	16.5	0.6	1	377	< 0.1	< 0.1	0.34	8.2	0.91	8.9	150
Cemex Pit (C-)-36 FT	< 1	< 0.1	< 5	3.20	108	3.79	819	2.89	< 0.1	0.060	123	< 0.001	0.6	15.5	0.7	< 1	559	0.9	0.1	0.19	5.9	0.68	5.7	103
Cemex Pit (C-)-37 FT	< 1	< 0.1	< 5	0.88	27.7	2.15	1150	4.07	0.4	0.139	32.8	< 0.001	< 0.1	18.8	0.7	< 1	> 1000	< 0.1	0.1	0.28	15.0	0.23	8.5	68
Cemex Pit (C-)-38 FT	< 1	< 0.1	< 5	3.42	91.3	2.96	870	3.38	0.1	0.071	133	< 0.001	0.7	14.5	0.5	2	290	< 0.1	< 0.1	0.27	10.0	0.81	2.6	118
Cemex Pit (C-)-40 FT	< 1	< 0.1	< 5	2.26	83.7	3.52	971	3.72	8.8	0.129	106	0.004	< 0.1	17.1	1.9	2	757	0.4	0.1	0.37	27.6	0.63	26.5	190
Cemex Pit (C-)-41 FT	< 1	< 0.1	< 5	1.87	69.9	1.89	1160	5.30	1.3	0.123	83.9	< 0.001	< 0.1	17.7	0.7	2	514	< 0.1	< 0.1	0.34	12.9	0.50	2.2	86
Cemex Pit (C-)-42 FT	< 1	< 0.1	< 5	2.25	88.0	2.11	1270	5.09	10.2	0.086	95.9	< 0.001	9.4	16.3	0.3	2	407	0.6	0.2	0.42	10.8	0.90	1.3	100
Cemex Pit (C-)-43 FT	< 1	< 0.1	< 5	2.46	84.7	2.22	1140	4.57	9.9	0.094	112	< 0.001	2.3	14.0	0.9	3	370	0.6	< 0.1	0.43	9.5	0.82	3.7	131
Cemex Pit (C-)-44 FT	< 1	< 0.1	< 5	2.97	104	3.26	1010	3.56	4.7	0.103	108	< 0.001	< 0.1	15.4	0.7	2	540	< 0.1	0.1	0.35	8.4	0.60	15.4	134
Cemex Pit (C-)-45 FT	< 1	< 0.1	< 5	2.63	116	3.84	976	3.31	8.2	0.203	97.5	< 0.001	0.7	16.4	0.5	2	570	0.5	0.2	0.31	7.8	0.69	5.7	134
Cemex Pit (C-)-47 FT	< 1	< 0.1	< 5	1.97	74.2	1.82	1540	4.79	1.5	0.389	91.2	< 0.001	2.1	13.2	1.2	1	451	< 0.1	< 0.1	0.25	10.8	0.69	29.9	180
Cemex Pit (C-)-49 FT	< 1	< 0.1	< 5	1.26	61.9	3.32	2300	3.81	4.3	0.227	62.7	< 0.001	3.2	17.1	0.8	2	664	0.2	< 0.1	0.29	9.3	0.52	13.7	173
Cemex Pit (C-)-51 FT	< 1	< 0.1	< 5	2.58	110	2.77	952	4.26	0.2	0.081	123	< 0.001	< 0.1	15.8	0.7	1	344	< 0.1	< 0.1	0.24	10.9	0.75	6.7	115
Cemex Pit (C-)-52 FT	< 1	< 0.1	< 5	2.52	128	2.97	1180	4.21	7.2	0.149	136	< 0.001	< 0.1	19.2	0.8	3	518	0.4	< 0.1	0.43	12.4	0.77	21.7	153
Cemex Pit (C-)-53 FT	< 1	< 0.1	< 5	3.53	159	3.69	595	3.69	0.8	0.097	160	< 0.001	0.4	14.6	0.9	2	385	< 0.1	< 0.1	0.32	8.6	0.99	9.3	212
Cemex Pit (C-)-54 FT	< 1	< 0.1	< 5	2.48	107	2.58	1190	5.04	< 0.1	0.076	115	< 0.001	0.7	17.3	0.5	< 1	406	< 0.1	< 0.1	0.19	12.5	0.67	1.5	63
Cemex Pit (C-)-56 FT	< 1	< 0.1	< 5	2.38	115	2.94	1310	4.77	5.8	0.347	104	< 0.001	1.3	16.3	1.0	3	527	< 0.1	< 0.1	0.34	10.8	0.69	21.7	198
Cemex Pit (C-)-57 FT	< 1	< 0.1	< 5	1.97	69.3	3.34	998	5.01	1.2	0.292	85.9	< 0.001	< 0.1	18.5	0.9	< 1	725	< 0.1	< 0.1	0.23	15.3	0.49	62.1	149
Cemex Pit (C-)-58 FT	< 1	< 0.1	< 5	2.66	89.7	3.25	759	5.03	3.1	0.057	97.8	< 0.001	< 0.1	15.3	0.2	2	451	< 0.1	< 0.1	0.35	2.8	0.52	3.9	139
Cemex Pit (C-)-59 FT	< 1	< 0.1	< 5	2.67	101	3.61	1030	4.26	9.5	0.076	85.5	< 0.001	1.2	19.3	0.6	3	505	0.6	< 0.1	0.39	9.7	0.60	7.9	208
Cemex Pit (C-)-60 FT	< 1	< 0.1	< 5	2.81	113	2.55	914	4.86	10.3	0.094	114	< 0.001	0.6	18.8	0.3	3	324	1.6	< 0.1	0.50	10.4	0.86	6.2	185
Cemex Pit (C-)-61 FT	< 1	< 0.1	< 5	2.73	83.3	3.50	790	4.22	3.5	0.255	81.3	< 0.001	0.4	16.5	0.9	2	645	< 0.1	< 0.1	0.30	14.7	0.58	65.8	125
Cemex Pit (C-)-62 FT	< 1	< 0.1	< 5	3.03	107	3.39	869	4.22	5.6	0.128	111	< 0.001	1.0	17.8	0.5	2	453	0.3	< 0.1	0.37	11.5	0.68	22.5	151
Cemex Pit (C-)-64 FT	< 1	< 0.1	< 5	2.61	98.7	3.42	753	4.81	1.1	0.209	117	< 0.001	< 0.1	16.8	0.6	< 1	553	< 0.1	< 0.1	0.33	17.2	0.66	76.8	165
Cemex Pit (C-)-65 FT	< 1	< 0.1	< 5	2.46	99.2	3.15	739	4.99	5.5	0.183	103	< 0.001	0.8	16.4	1.0	2	530	0.2	0.1	0.36	17.8	0.59	32.0	168
Cemex Pit (C-)-66 FT	< 1	< 0.1	< 5	1.45	72.0	2.23	717	5.98	0.8	0.483	59.0	< 0.001	1.2	20.0	1.7	2	660	< 0.1	0.3	0.23	33.9	0.45	65.3	185
Cemex Pit (C-)-67 FT	< 1	< 0.1	< 5	2.01	86.6	2.05	1350	5.45	3.2	0.354	67.9	< 0.001	0.7	17.0	1.3	1	493	< 0.1	0.3	0.24	11.8	0.58	18.6	184
Cemex Pit (C-)-68 FT	< 1	< 0.1	< 5	2.16	109	3.26	855	4.68	8.0	0.077	95.4	< 0.001	0.9	17.2	0.9	2	445	0.5	0.1	0.36	7.1	0.57	3.8	151
Cemex Pit (C-)-69 FT	< 1	< 0.1	< 5	2.44	110	2.89	865	4.37	5.5	0.151	110	< 0.001	0.8	15.4	1.1	2	511	0.3	0.1	0.36	12.0	0.76	17.1	162

Analyte Symbol	W	Y	Zr	La	La	Ce	Ce	Pr	Nd	Nd	Sm	Sm	Eu	Eu	Gd	Dy	Tb	Tb	Ho	Er	Tm	Yb	Yb	Lu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	0.1	1	0.1	0.5	0.1	3	0.1	0.1	5	0.1	0.1	0.05	0.2	0.1	0.1	0.1	0.5	0.1	0.1	0.1	0.1	0.2	0.1
Analysis Method	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-MS
SO-C-2-81-198 FT	< 1	18.5	4	31.3	36.2	63.1	61	7.6	27.9	30	5.3	5.8	1.19	1.4	4.9	3.9	0.7	< 0.5	0.8	2.1	0.3	1.7	2.4	0.3
SO-C-2-81-206.2 FT	< 1	19.4	37	39.1	50.0	83.7	86	10.5	37.8	38	7.0	7.4	1.19	1.2	5.6	4.4	0.8	< 0.5	0.8	2.3	0.3	1.9	2.6	0.3
SO-C-2-81-219 FT	< 1	20.4	27	15.7	21.3	34.9	35	4.4	16.7	21	3.4	3.7	0.79	< 0.2	3.4	3.6	0.5	< 0.5	0.8	2.2	0.3	1.8	2.2	0.3
SO-C-2-81-227 FT	< 1	20.8	35	58.7	71.7	118	111	15.0	53.9	64	9.6	9.3	1.26	1.4	7.3	5.7	1.0	2.0	1.0	2.7	0.4	2.3	3.3	0.3
SO-C-2-81-237 FT	< 1	33.8	22	38.6	50.2	88.8	96	11.3	43.0	42	8.7	8.9	1.74	1.8	8.2	7.4	1.2	< 0.5	1.5	4.0	0.6	3.4	4.9	0.5
SO-C-2-81-248 FT	< 1	17.7	73	28.0	38.6	55.3	69	6.9	26.7	34	5.5	6.2	1.25	1.7	4.8	3.8	0.7	< 0.5	0.8	2.1	0.3	1.9	3.3	0.3
SO-C-2-81-254 FT	< 1	19.1	53	42.6	53.8	78.2	71	9.6	34.9	37	6.6	7.1	1.55	1.9	5.1	4.0	0.7	< 0.5	0.8	2.3	0.3	2.0	3.7	0.3
SO-C-2-81-270 FT	< 1	22.4	3	31.0	40.2	63.7	65	7.8	29.6	< 5	5.6	5.9	1.31	1.8	5.2	4.5	0.7	< 0.5	0.9	2.5	0.4	2.0	2.6	0.3
SO-C-2-81-280 FT	< 1	15.5	33	19.9	44.7	49.4	73	6.5	25.1	29	5.3	7.7	1.04	1.5	4.6	3.9	0.7	< 0.5	0.7	1.9	0.3	1.5	3.0	0.2
SO-C-2-81-290 FT	< 1	51.2	31	57.7	73.3	126	126	16.0	61.3	62	12.2	12.1	2.37	2.6	11.1	10.0	1.7	1.8	2.0	5.7	0.8	4.5	6.0	0.7
SO-C-2-81-293 FT	< 1	42.3	19	40.5	52.5	89.3	91	11.2	44.8	38	9.0	8.6	1.86	2.1	8.8	7.8	1.2	< 0.5	1.6	4.6	0.6	3.7	4.7	0.5
SO-C-2-81-310 FT	< 1	12.8	55	41.3	50.5	73.3	75	8.9	29.9	44	5.5	6.5	1.28	1.3	4.2	3.0	0.5	< 0.5	0.6	1.6	0.2	1.6	2.5	0.3
SO-C-2-81-319 FT	< 1	14.9	48	23.8	30.4	50.9	55	6.4	24.3	26	5.0	5.4	1.05	1.4	4.5	3.4	0.6	0.9	0.6	1.7	0.2	1.4	3.7	0.2
SO-C-2-81-340 FT	< 1	24.0	51	40.3	52.6	83.2	93	10.3	38.7	50	7.6	8.2	1.82	2.4	6.9	5.4	0.9	< 0.5	1.0	2.7	0.4	2.1	2.6	0.3
SO-C-2-81-346 FT	< 1	24.7	37	46.2	58.0	89.8	98	11.5	41.8	50	8.0	8.4	1.54	1.9	6.8	5.7	1.0	< 0.5	1.1	3.0	0.4	2.5	3.9	0.4
SO-C-2-81-358 FT	< 1	10.4	37	23.2	31.5	51.5	54	6.2	23.7	16	4.4	5.0	1.13	1.3	3.6	2.5	0.4	< 0.5	0.4	1.2	0.2	1.0	2.2	0.2
SO-C-2-81-366 FT	< 1	16.7	56	19.9	25.4	43.4	46	5.5	21.6	26	4.5	4.6	1.41	1.5	3.9	3.3	0.6	< 0.5	0.7	1.9	0.3	1.6	2.2	0.2
SO-C-2-81-374 FT	< 1	10.3	25	11.2	15.3	22.5	25	2.8	10.6	< 5	2.1	2.4	0.80	0.8	2.1	1.8	0.3	< 0.5	0.3	0.9	0.1	0.7	0.8	< 0.1
SO-C-2-81-384 FT	< 1	17.1	83	19.5	42.7	52.7	79	5.6	22.0	40	4.8	7.6	1.13	2.0	4.4	3.8	0.6	< 0.5	0.7	2.0	0.3	1.8	4.1	0.3
SO-C-1-81-48 FT	< 1	16.2	80	37.8	49.0	78.7	89	9.5	34.8	30	6.4	7.0	1.19	1.2	5.1	3.9	0.7	< 0.5	0.7	1.9	0.3	1.7	3.2	0.3
SO-C-1-81-59 FT	< 1	21.2	58	32.9	44.4	69.1	74	8.6	32.6	41	6.3	7.3	1.39	1.7	5.5	4.3	0.8	< 0.5	0.8	2.3	0.3	2.1	3.4	0.3
SO-C-1-81-69 FT	< 1	20.4	39	40.7	53.0	83.0	82	9.9	35.6	46	6.6	7.3	1.38	1.8	5.7	4.6	0.8	< 0.5	0.9	2.4	0.4	2.1	3.1	0.3
SO-C-1-81-78 FT	< 1	20.3	39	38.9	51.3	79.2	82	9.8	35.5	38	6.7	7.5	1.45	2.0	5.6	4.5	0.8	< 0.5	0.9	2.5	0.4	2.3	3.0	0.3
SO-C-1-81-88 FT	< 1	17.5	60	42.0	57.3	83.9	94	9.9	35.8	21	6.5	7.4	1.28	1.5	5.4	4.0	0.7	< 0.5	0.7	2.1	0.3	1.9	2.9	0.3
SO-C-1-81-98 FT	< 1	18.1	68	38.5	50.8	72.3	77	9.5	33.9	47	6.0	6.6	1.17	1.5	4.8	3.9	0.7	< 0.5	0.8	2.3	0.3	2.1	3.0	0.3
SO-C-1-81-109 FT	< 1	17.8	64	29.9	39.2	64.9	68	7.9	29.6	25	5.9	6.1	1.28	1.4	5.0	3.8	0.7	< 0.5	0.7	2.0	0.3	1.6	2.7	0.3
SO-C-1-81-117 FT	< 1	18.2	76	35.7	52.4	76.0	95	9.5	35.1	30	6.7	8.0	1.40	2.2	5.6	4.2	0.7	< 0.5	0.8	2.2	0.3	1.9	3.6	0.3
SO-C-1-81-125 FT	< 1	21.8	55	35.1	47.2	71.5	77	8.8	32.6	44	6.4	7.3	1.37	1.8	5.7	4.6	0.8	< 0.5	0.9	2.4	0.3	2.1	2.5	0.3
SO-C-1-81-136 FT	< 1	14.5	49	19.9	44.5	42.7	77	5.8	22.5	25	4.6	6.7	0.92	1.2	4.1	3.7	0.6	< 0.5	0.7	1.9	0.3	1.5	2.5	0.2
SO-C-1-81-144 FT	< 1	13.0	67	24.9	33.8	53.9	60	6.5	24.4	10	4.7	5.6	1.05	1.5	3.8	2.8	0.5	< 0.5	0.5	1.5	0.2	1.2	2.0	0.2
SO-C-1-81-163 FT	< 1	15.8	25	26.6	35.5	52.5	59	6.5	23.8	16	4.6	5.0	0.96	1.4	4.1	3.4	0.6	< 0.5	0.7	1.9	0.3	1.7	1.8	0.3
SO-C-1-81-175 FT	< 1	15.7	26	32.8	41.1	65.0	75	8.1	29.0	38	5.5	5.9	1.11	1.2	4.4	3.5	0.6	< 0.5	0.6	1.8	0.2	1.4	2.3	0.2
SO-C-1-81-182 FT	< 1	22.4	43	36.8	46.0	73.1	81	9.0	34.1	31	6.6	7.0	1.54	1.8	5.8	4.8	0.8	< 0.5	0.9	2.6	0.4	2.2	2.8	0.3
SO-C-1-81-191 FT	< 1	26.2	38	42.3	61.9	86.6	120	10.6	39.1	36	7.9	8.2	1.80	2.4	6.7	5.9	1.0	< 0.5	1.1	3.1	0.4	2.5	3.7	0.4
SO-C-1-81-201 FT	< 1	20.1	40	36.6	52.7	74.2	107	9.2	33.9	27	6.4	6.7	1.19	1.6	5.4	4.5	0.8	< 0.5	0.9	2.4	0.3	2.1	2.6	0.3
SO-C-1-81-211 FT	< 1	14.8	42	35.2	49.9	68.7	103	8.6	30.8	33	5.5	5.8	0.94	1.4	4.4	3.5	0.6	< 0.5	0.7	1.8	0.2	1.5	2.4	0.2
SO-C-1-81-221 FT	< 1	14.8	38	20.5	55.6	43.7	117	5.7	22.4	36	4.9	6.8	0.95	1.8	4.3	3.7	0.6	1.6	0.7	1.9	0.3	1.6	2.9	0.2
SO-C-1-81-226 FT	< 1	28.2	35	33.7	50.1	65.7	99	8.2	30.9	18	6.1	6.3	1.71	2.0	5.7	5.2	0.8	< 0.5	1.1	3.3	0.5	3.0	4.2	0.5
SO-C-1-81-241 FT	< 1	15.4	31	25.1	46.3	51.7	97	6.6	24.8	37	4.9	6.2	0.83	1.7	4.3	3.6	0.6	< 0.5	0.7	1.9	0.3	1.6	2.8	0.2
SO-C-1-81-251 FT	< 1	20.0	7	33.7	48.0	66.5	99	8.1	29.6	< 5	5.6	6.1	1.32	1.7	5.0	4.2	0.7	< 0.5	0.8	2.2	0.3	1.7	2.6	0.2
SO-C-1-81-271 FT	< 1	16.5	40	34.2	50.3	70.5	101	8.8	32.2	40	6.2	6.4	0.90	1.4	5.0	4.1	0.7	< 0.5	0.8	2.1	0.3	1.8	2.8	0.3
SO-C-1-81-280 FT	< 1	18.4	40	35.8	53.3	68.5	105	8.7	32.4	31	6.1	6.5	1.04	1.4	5.2	4.3	0.7	< 0.5	0.8	2.3	0.3	2.2	3.7	0.3
SO-C-1-81-290 FT	< 1	20.9	30	34.8	50.2	67.4	91	8.3	30.5	32	5.7	6.2	1.31	1.4	5.1	4.3	0.7	< 0.5	0.9	2.4	0.3	2.0	3.3	0.3
SO-C-1-81-291 FT	< 1	18.2	36	38.1	53.7	76.2	108	9.2	33.1	41	6.3	6.6	0.98	1.6	5.1	4.2	0.7	< 0.5	0.8	2.3	0.3	1.9	3.2	0.3
SO-C-1-81-305.5 FT	18	18.0	41	33.7	47.9	63.5	89	8.2	30.6	36	6.0	5.9	1.24	1.5	5.2	4.1	0.7	< 0.5	0.8	2.2	0.3	1.9	2.7	0.3
SO-C-1-81-313 FT	17	19.7	38	38.7	53.1	79.3	97	9.9	36.4	< 5	7.0	7.0	1.18	1.5	5.8	4.6	0.8	< 0.5	0.9	2.4	0.3	1.8	2.9	0.3
SO-C-1-81-328 FT	< 1	27.2	34	42.6	58.0	81.2	113	10.2	37.2	41	7.2	6.8	1.89	2.2	6.4	5.3	0.9	< 0.5	1.0	3.0	0.4	2.6	3.4	0.4
SO-C-1-81-347 FT	< 1	14.5	42	34.2	48.7	71.9	98	8.4	30.5	27	5.8	6.6	1.22	2.0	4.7	3.6	0.6	< 0.5	0.7	1.8	0.3	1.6	2.2	0.2
SO-C-1-81-353 FT	< 1	20.4	10	31.9	46.1	69.9	104	8.6	32.2	31	6.4	6.5	1.34	1.6	5.5	4.6	0.8	< 0.5	0.9	2.4	0.3	2.0	2.8	0.3
SO-C-1-81-361 FT	< 1	47.9	2	55.5	75.6	117	155	14.0	55.3	43	11.1	10.6	2.50	3.2	10.8	9.2	1.5	< 0.5	1.8	5.1	0.7	3.9	5.5	0.6
SO-C-1-81-378 FT	< 1	22.3	51	33.5	44.9	69.0	97	8.2	31.3	35	6.2	6.3	1.46	1.8	5.3	4.6	0.7	0.8	0.9	2.7	0.4	2.4	3.8	0.4
SO-C-1-81-382 FT	< 1	21.1	34	38.4	47.2	79.9	105	9.6	35.6	37	6.7	6.3	1.26	1.4	5.7	4.5	0.8	< 0.5	0.9	2.4	0.3	1.9	2.7	0.3

Analyte Symbol	W	Y	Zr	La	La	Ce	Ce	Pr	Nd	Nd	Sm	Sm	Eu	Eu	Gd	Dy	Tb	Tb	Ho	Er	Tm	Yb	Yb	Lu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	0.1	1	0.1	0.5	0.1	3	0.1	0.1	5	0.1	0.1	0.05	0.2	0.1	0.1	0.1	0.5	0.1	0.1	0.1	0.1	0.2	0.1
Analysis Method	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-MS
SO-C-1-81-397 FT	< 1	31.2	72	50.3	65.6	101	137	12.1	47.0	45	9.5	9.1	1.63	2.2	7.9	6.4	1.1	2.2	1.3	3.7	0.5	3.2	4.5	0.5
SO-C-1-81-406 FT	< 1	14.8	78	40.1	54.2	82.8	111	9.7	35.5	41	6.3	5.8	1.49	2.1	4.6	3.0	0.5	< 0.5	0.6	1.8	0.3	1.9	2.9	0.3
SO-C-1-81-433 FT	< 1	90.0	97	64.8	101	146	225	18.6	71.6	84	14.9	16.2	3.01	4.7	16.7	18.1	2.8	4.5	3.6	9.9	1.3	7.4	10.8	1.0
SO-C-1-81-443 FT	< 1	23.1	113	51.1	62.8	105	128	12.9	48.8	41	9.2	7.6	2.17	2.7	7.0	5.2	0.9	< 0.5	1.0	3.0	0.4	2.8	4.0	0.4
SO-C-1-81-455 FT	< 1	22.5	56	32.3	37.3	67.7	82	8.4	32.3	25	6.5	5.5	1.48	2.0	5.6	4.8	0.8	< 0.5	1.0	2.7	0.4	2.4	3.4	0.4
SO-C-1-81-458 FT	< 1	22.1	33	32.2	39.3	66.9	82	8.3	32.0	29	6.1	5.1	1.24	1.3	5.3	4.4	0.7	< 0.5	0.9	2.5	0.4	2.2	2.6	0.3
SO-C-1-81-469 FT	< 1	13.6	59	32.9	41.6	65.8	82	8.3	30.6	23	5.7	5.0	1.19	1.5	4.1	2.9	0.5	< 0.5	0.6	1.7	0.3	1.8	2.7	0.3
SO-C-1-81-476 FT	< 1	23.5	23	31.0	33.0	62.7	65	7.4	28.3	22	5.6	4.5	1.34	1.4	5.2	4.4	0.7	< 0.5	0.9	2.5	0.3	2.0	2.6	0.3
SO-C-1-81-481 FT	< 1	27.8	33	26.8	32.8	57.5	68	7.2	28.1	27	5.6	4.7	1.08	1.0	5.8	5.2	0.8	< 0.5	1.1	3.2	0.5	2.7	3.2	0.4
SO-C-1-81-494 FT	< 1	13.3	34	18.5	21.2	39.9	51	4.8	18.0	20	3.5	2.9	0.96	1.2	3.1	2.7	0.4	< 0.5	0.5	1.5	0.2	1.3	1.9	0.2
SO-C-1-81-497 FT	< 1	24.5	68	47.0	57.8	96.0	104	12.1	44.6	30	8.9	7.2	1.81	2.0	7.1	5.3	0.9	< 0.5	1.1	3.0	0.4	2.7	3.2	0.4
RC-C-1-81-126 FT	< 1	17.1	24	30.5	34.7	60.8	63	7.4	26.9	25	4.9	4.1	1.04	1.1	4.2	3.6	0.6	< 0.5	0.7	2.1	0.3	1.8	2.5	0.3
RC-C-1-81-145.5 FT	< 1	15.9	19	24.3	27.5	50.1	56	6.2	22.7	18	4.2	3.6	0.98	1.2	3.7	3.2	0.5	< 0.5	0.7	1.8	0.3	1.6	1.9	0.2
RC-C-1-81-168 FT	< 1	16.7	30	30.2	36.2	61.6	80	7.7	28.5	19	5.4	4.7	1.39	1.3	4.7	3.7	0.7	< 0.5	0.7	1.9	0.3	1.6	2.3	0.2
RC-C-1-81-193 FT	< 1	21.4	49	23.2	45.6	49.4	73	6.7	25.6	32	5.3	7.3	1.15	1.6	4.9	4.5	0.7	< 0.5	0.9	2.8	0.4	2.4	3.6	0.4
RC-C-1-81-211 FT	< 1	7.2	13	12.8	16.9	26.3	25	3.1	11.7	< 5	2.2	2.5	0.48	0.6	2.0	1.5	0.3	< 0.5	0.3	0.8	0.1	0.6	1.0	< 0.1
RC-C-1-81-230 FT	< 1	20.7	43	27.8	42.0	58.8	71	7.5	28.8	32	5.7	6.5	1.15	1.4	5.1	4.5	0.7	< 0.5	0.9	2.5	0.4	2.1	2.7	0.3
RC-C-1-81-249 FT	< 1	18.1	26	34.9	43.9	65.9	68	8.0	29.3	30	5.4	5.8	1.40	1.6	4.7	3.9	0.7	< 0.5	0.7	2.0	0.3	1.6	2.7	0.2
RC-C-1-81-282 FT	< 1	13.6	24	22.9	28.4	45.6	46	5.6	20.5	22	3.8	4.1	0.94	1.0	3.5	2.9	0.5	< 0.5	0.6	1.5	0.2	1.2	1.6	0.2
RC-C-1-81-300 FT	< 1	25.7	33	41.5	58.2	86.8	89	10.9	41.6	47	8.0	8.7	1.76	2.2	7.2	5.5	1.0	2.0	1.0	2.9	0.4	2.3	3.8	0.3
RC-C-1-81-363 FT	< 1	24.5	26	37.4	44.4	77.4	77	9.6	35.9	22	6.9	7.0	1.78	2.2	6.1	5.2	0.9	< 0.5	1.0	2.7	0.4	2.2	2.9	0.3
RC-C-1-81-403 FT	< 1	24.6	38	43.4	52.7	87.4	92	10.7	39.5	39	7.4	7.8	1.66	1.8	6.7	5.4	0.9	< 0.5	1.0	2.8	0.4	2.3	3.0	0.3
RC-C-1-81-473 FT	< 1	23.8	27	37.6	48.4	76.0	77	9.3	33.4	34	6.1	6.4	1.22	1.5	5.2	4.9	0.8	< 0.5	1.0	2.9	0.4	2.7	4.0	0.4
US-220 Road Cut 3 FT	8	17.6	36	15.6	54.7	34.1	85	4.7	18.3	34	4.1	7.2	1.11	2.1	3.9	4.0	0.6	< 0.5	0.8	2.4	0.4	2.1	4.2	0.3
US-220 Road Cut 6 FT	< 1	25.8	14	39.6	51.3	75.9	79	10.1	38.5	39	7.2	7.7	1.34	1.8	6.2	5.1	0.9	< 0.5	1.0	2.9	0.4	2.6	3.0	0.4
US-220 Road Cut 8 FT	< 1	25.8	57	38.4	58.4	76.2	95	9.8	37.5	33	7.7	9.3	1.73	2.3	6.9	5.6	1.0	1.4	1.1	3.1	0.5	2.9	4.3	0.4
Cemex Pit (C-)-1 FT	< 1	27.4	31	33.4	48.6	72.3	94	9.0	34.6	39	6.8	8.2	1.52	2.3	6.2	5.5	0.9	< 0.5	1.1	3.0	0.4	2.7	4.1	0.4
Cemex Pit (C-)-2 FT	< 1	21.3	33	27.3	38.4	53.8	60	6.6	25.0	34	4.8	5.7	1.10	1.2	4.5	4.1	0.7	< 0.5	0.8	2.4	0.3	2.1	3.2	0.3
Cemex Pit (C-)-3 FT	< 1	17.1	34	30.6	41.0	60.9	72	7.5	27.5	30	5.2	5.7	1.06	1.3	4.3	3.6	0.6	< 0.5	0.7	1.9	0.3	1.6	2.4	0.2
Cemex Pit (C-)-4 FT	< 1	21.6	15	32.8	48.1	67.3	88	7.8	29.1	23	5.4	6.6	1.06	1.3	4.8	4.1	0.7	< 0.5	0.8	2.6	0.5	3.9	5.4	0.8
Cemex Pit (C-)-6 FT	< 1	17.1	36	25.4	36.1	49.5	58	6.1	22.8	25	4.4	5.1	0.93	1.5	3.9	3.5	0.6	< 0.5	0.7	1.9	0.3	1.8	2.3	0.3
Cemex Pit (C-)-7 FT	< 1	26.1	53	29.9	41.4	64.9	78	7.8	29.8	23	6.0	6.6	1.28	1.2	5.3	5.0	0.8	< 0.5	1.0	2.9	0.4	2.4	3.3	0.3
Cemex Pit (C-)-8 FT	< 1	16.3	47	30.6	43.1	59.9	65	7.2	26.5	28	5.1	5.6	1.04	1.4	4.3	3.4	0.6	< 0.5	0.7	1.8	0.3	1.5	2.1	0.2
Cemex Pit (C-)-9 FT	< 1	12.9	43	20.4	44.5	38.9	64	5.7	21.7	33	4.3	6.5	0.92	1.4	3.7	3.1	0.5	< 0.5	0.6	1.5	0.2	1.3	2.1	0.2
Cemex Pit (C-)-11 FT	< 1	19.3	48	29.3	46.2	60.6	77	7.5	28.7	22	5.7	6.8	1.20	1.4	5.2	4.3	0.7	< 0.5	0.8	2.2	0.3	1.7	2.2	0.2
Cemex Pit (C-)-12 FT	< 1	20.6	22	29.3	44.6	61.9	68	7.4	28.3	28	5.5	6.7	1.20	1.7	5.1	4.4	0.7	< 0.5	0.8	2.2	0.3	1.8	3.2	0.3
Cemex Pit (C-)-13 FT	< 1	13.3	37	25.7	32.4	53.5	55	6.5	23.6	34	4.4	4.6	0.88	< 0.2	3.5	2.8	0.5	< 0.5	0.5	1.5	0.2	1.3	2.1	0.2
Cemex Pit (C-)-14 FT	< 1	19.7	40	28.1	35.6	62.7	66	7.0	25.9	< 5	5.1	5.0	1.10	1.2	4.5	4.0	0.7	< 0.5	0.8	2.2	0.3	2.0	2.6	0.3
Cemex Pit (C-)-15 FT	< 1	23.3	30	42.3	53.9	84.5	83	10.5	38.6	39	7.1	7.2	1.47	1.2	6.0	5.0	0.8	< 0.5	0.9	2.8	0.4	2.3	2.3	0.3
Cemex Pit (C-)-17 FT	< 1	22.1	41	35.0	42.6	70.5	67	8.6	31.9	24	6.3	6.2	1.32	1.5	5.7	4.8	0.8	< 0.5	0.9	2.5	0.4	2.2	2.5	0.3
Cemex Pit (C-)-18 FT	< 1	23.8	49	27.5	35.1	55.5	57	6.6	24.7	28	4.8	4.9	1.07	1.2	4.4	4.4	0.7	< 0.5	0.9	2.7	0.4	2.4	3.2	0.3
Cemex Pit (C-)-19 FT	6	17.0	31	27.4	36.9	56.1	60	6.7	25.2	30	4.8	5.3	1.03	1.3	4.2	3.5	0.6	< 0.5	0.7	2.0	0.3	1.8	2.3	0.3
Cemex Pit (C-)-20 FT	< 1	34.5	35	41.9	53.7	87.6	92	10.8	41.7	29	8.7	9.1	1.85	2.2	8.3	8.3	1.3	< 0.5	1.4	3.3	0.4	1.9	2.3	0.2
Cemex Pit (C-)-22 FT	< 1	13.3	42	22.6	27.3	46.9	50	5.6	20.4	17	4.0	4.3	0.81	0.8	3.4	2.9	0.5	< 0.5	0.5	1.5	0.2	1.3	1.5	0.2
Cemex Pit (C-)-23 FT	< 1	16.2	45	22.7	35.3	46.4	56	5.8	21.9	21	4.3	5.0	0.93	0.9	3.8	3.4	0.6	< 0.5	0.7	1.9	0.3	1.7	2.7	0.2
Cemex Pit (C-)-24 FT	< 1	15.5	50	25.6	34.3	51.6	53	6.7	26.1	< 5	5.4	6.0	1.14	1.4	4.8	3.6	0.7	< 0.5	0.6	1.6	0.2	1.2	1.6	0.2
Cemex Pit (C-)-26 FT	< 1	14.7	50	21.7	27.5	47.0	42	5.9	23.0	21	4.7	4.9	1.01	0.9	4.3	3.3	0.6	< 0.5	0.6	1.6	0.2	1.3	1.8	0.2
Cemex Pit (C-)-27 FT	< 1	13.1	28	27.8	35.9	55.6	51	6.5	23.9	18	4.3	4.5	0.87	1.0	3.6	2.8	0.5	< 0.5	0.5	1.4	0.2	1.3	1.8	0.2
Cemex Pit (C-)-28 FT	< 1	12.4	23	29.6	36.8	59.3	65	7.0	25.2	24	4.5	4.6	0.90	0.8	3.6	2.7	0.5	< 0.5	0.5	1.4	0.2	1.2	1.5	0.2
Cemex Pit (C-)-30 FT	< 1	28.5	51	36.5	44.7	71.4	78	9.4	36.8	45	7.6	7.9	1.65	1.7	6.9	6.2	1.0	< 0.5	1.2	3.3	0.5	2.8	3.4	0.4
Cemex Pit (C-)-31 FT	< 1	16.3	40	27.6	32.8	54.5	55	6.7	25.0	14	4.7	4.7	0.98	0.6	4.1	3.4	0.6	< 0.5	0.7	1.9	0.3	1.7	1.7	0.3
Cemex Pit (C-)-32 FT	< 1	22.5	27	30.2	35.8	61.7	60	7.4	28.1	25	5.5	5.7	1.13	1.3	5.0	4.7	0.8	< 0.5	0.9	2.5	0.3	2.1	2.2	0.3

Analyte Symbol	W	Y	Zr	La	La	Ce	Ce	Pr	Nd	Nd	Sm	Sm	Eu	Eu	Gd	Dy	Tb	Tb	Ho	Er	Tm	Yb	Yb	Lu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	0.1	1	0.1	0.5	0.1	3	0.1	0.1	5	0.1	0.1	0.05	0.2	0.1	0.1	0.1	0.5	0.1	0.1	0.1	0.1	0.2	0.1
Analysis Method	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-MS
Cemex Pit (C-)-33 FT	< 1	21.8	17	30.0	37.9	62.0	62	7.5	28.6	21	5.5	5.8	1.13	0.9	4.9	4.7	0.7	< 0.5	0.9	2.5	0.4	2.2	2.5	0.3
Cemex Pit (C-)-35 FT	< 1	12.9	40	23.2	28.9	46.6	50	5.8	21.3	33	4.0	4.2	0.84	0.6	3.4	2.7	0.5	< 0.5	0.5	1.5	0.2	1.4	1.9	0.2
Cemex Pit (C-)-36 FT	< 1	10.7	24	19.6	24.4	36.1	35	4.2	14.9	11	2.7	2.7	0.56	< 0.2	2.3	2.3	0.4	0.8	0.4	1.2	0.2	1.2	1.7	0.2
Cemex Pit (C-)-37 FT	< 1	28.5	32	30.0	37.1	59.8	57	7.4	27.8	29	5.5	5.7	1.25	1.6	5.1	5.1	0.8	< 0.5	1.1	3.6	0.5	3.2	4.2	0.5
Cemex Pit (C-)-38 FT	< 1	13.3	33	27.0	34.5	51.7	51	6.6	24.4	24	4.6	4.9	0.98	1.3	4.1	3.2	0.6	< 0.5	0.5	1.4	0.2	1.1	1.7	0.2
Cemex Pit (C-)-40 FT	< 1	34.1	49	51.7	61.8	111	107	14.5	55.7	64	11.2	11.1	2.39	2.5	9.8	8.2	1.4	< 0.5	1.4	3.5	0.4	2.2	2.8	0.3
Cemex Pit (C-)-41 FT	< 1	23.3	43	30.6	39.1	58.9	79	7.2	27.0	28	5.3	5.3	1.18	1.6	4.7	4.5	0.7	1.4	0.9	2.8	0.4	2.5	3.0	0.3
Cemex Pit (C-)-42 FT	< 1	16.7	48	32.3	41.3	61.8	83	7.6	28.0	27	5.4	5.1	1.10	1.3	4.6	3.6	0.6	< 0.5	0.7	1.9	0.3	1.6	2.0	0.2
Cemex Pit (C-)-43 FT	< 1	15.6	41	32.4	40.4	64.0	89	7.7	28.8	30	5.4	5.3	1.12	1.3	4.7	3.4	0.6	< 0.5	0.6	1.8	0.2	1.4	1.8	0.2
Cemex Pit (C-)-44 FT	< 1	17.2	45	24.6	30.3	48.7	68	6.1	22.9	21	4.4	4.4	0.95	1.2	4.0	3.6	0.6	1.3	0.7	2.0	0.3	1.8	2.0	0.3
Cemex Pit (C-)-45 FT	< 1	11.7	37	22.4	32.8	44.3	65	5.6	20.5	29	3.8	4.1	0.74	1.0	3.0	2.5	0.4	< 0.5	0.5	1.4	0.2	1.4	2.0	0.2
Cemex Pit (C-)-47 FT	< 1	21.4	23	28.2	41.2	57.1	91	7.1	26.8	26	5.2	5.5	1.12	1.7	4.6	4.4	0.7	< 0.5	0.9	2.4	0.3	2.1	2.5	0.3
Cemex Pit (C-)-49 FT	< 1	15.6	31	27.4	35.1	54.1	70	6.6	24.4	19	4.7	4.4	0.96	1.4	4.0	3.4	0.6	< 0.5	0.6	1.8	0.3	1.5	1.8	0.2
Cemex Pit (C-)-51 FT	< 1	16.7	27	30.6	39.5	60.3	85	7.5	28.2	22	5.3	5.3	1.12	1.6	4.5	3.6	0.6	< 0.5	0.7	1.9	0.3	1.6	2.2	0.2
Cemex Pit (C-)-52 FT	< 1	23.3	52	28.5	37.2	56.5	81	6.9	25.7	28	5.0	5.1	1.03	1.5	4.4	4.3	0.7	1.9	0.9	2.8	0.4	2.7	3.3	0.4
Cemex Pit (C-)-53 FT	< 1	13.0	37	32.8	42.4	63.6	87	7.9	29.3	29	5.5	5.6	1.12	1.2	4.4	3.1	0.6	< 0.5	0.6	1.4	0.2	1.1	1.5	0.2
Cemex Pit (C-)-54 FT	< 1	17.4	27	30.5	38.2	50.0	66	7.6	27.9	25	5.3	5.1	1.14	1.5	4.4	3.7	0.6	2.0	0.7	2.0	0.3	1.5	2.0	0.2
Cemex Pit (C-)-56 FT	< 1	14.5	38	27.1	41.1	53.2	74	6.5	24.5	42	4.7	5.6	0.99	0.9	4.2	3.2	0.6	< 0.5	0.6	1.7	0.3	1.6	2.1	0.3
Cemex Pit (C-)-57 FT	< 1	23.7	32	27.8	41.6	55.7	68	6.8	25.0	43	4.9	5.7	1.02	0.8	4.5	4.5	0.7	< 0.5	1.0	3.0	0.5	3.3	4.2	0.5
Cemex Pit (C-)-58 FT	< 1	8.4	34	22.1	39.3	43.7	64	5.0	18.1	24	3.3	4.4	0.66	0.7	2.7	1.9	0.3	< 0.5	0.4	1.0	0.1	0.9	1.6	0.1
Cemex Pit (C-)-59 FT	< 1	8.9	44	22.1	44.9	46.8	67	6.0	23.2	36	4.5	6.3	0.92	1.2	3.6	2.3	0.5	< 0.5	0.4	1.1	0.2	1.0	1.4	0.1
Cemex Pit (C-)-60 FT	< 1	13.6	41	24.0	42.6	54.6	90	6.2	23.5	24	4.5	6.2	0.96	1.6	3.9	3.0	0.5	< 0.5	0.6	1.5	0.2	1.2	1.8	0.2
Cemex Pit (C-)-61 FT	< 1	18.5	30	33.3	52.8	65.7	86	8.3	31.2	34	6.0	7.5	1.20	1.3	4.8	4.1	0.7	< 0.5	0.8	2.3	0.3	2.2	2.6	0.3
Cemex Pit (C-)-62 FT	< 1	16.9	36	26.5	41.5	52.8	72	6.4	23.7	26	4.5	5.8	0.95	1.3	4.1	3.4	0.6	< 0.5	0.7	2.1	0.3	1.8	2.5	0.3
Cemex Pit (C-)-64 FT	< 1	28.9	16	29.5	44.5	59.5	75	7.4	28.0	25	5.5	6.5	1.19	2.1	5.1	5.3	0.8	< 0.5	1.2	3.7	0.6	3.6	4.0	0.5
Cemex Pit (C-)-65 FT	2	28.9	38	35.6	52.0	72.2	84	9.6	37.6	44	7.9	9.0	1.73	2.2	6.9	6.1	1.0	< 0.5	1.2	3.2	0.5	2.6	3.1	0.4
Cemex Pit (C-)-66 FT	< 1	61.7	20	31.1	60.4	63.9	109	8.6	35.0	42	7.9	10.1	1.84	2.3	7.9	10.8	1.5	< 0.5	2.5	7.9	1.2	6.9	9.0	0.9
Cemex Pit (C-)-67 FT	< 1	16.8	39	16.6	45.9	35.3	67	4.8	19.1	< 5	4.2	6.4	0.94	1.3	3.8	3.6	0.6	< 0.5	0.7	2.2	0.3	2.0	2.4	0.3
Cemex Pit (C-)-68 FT	< 1	13.1	37	26.7	36.3	51.1	51	6.3	23.3	25	4.2	4.5	0.87	0.7	3.5	2.9	0.5	< 0.5	0.6	1.5	0.2	1.2	1.6	0.2
Cemex Pit (C-)-69 FT	< 1	15.9	30	31.6	45.0	62.6	81	7.8	28.8	31	5.4	5.8	1.09	1.1	4.5	3.5	0.6	< 0.5	0.7	1.9	0.3	1.5	1.8	0.2

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
SO-C-2-81-198 FT	0.38	1.03
SO-C-2-81-206.2 FT	0.38	1.02
SO-C-2-81-219 FT	0.40	1.01
SO-C-2-81-227 FT	0.33	1.04
SO-C-2-81-237 FT	0.49	1.00
SO-C-2-81-248 FT	0.50	1.01
SO-C-2-81-254 FT	0.60	1.06
SO-C-2-81-270 FT	0.42	1.03
SO-C-2-81-280 FT	0.43	1.02
SO-C-2-81-290 FT	0.94	1.05
SO-C-2-81-293 FT	0.66	1.00
SO-C-2-81-310 FT	0.18	1.04
SO-C-2-81-319 FT	0.42	1.02
SO-C-2-81-340 FT	0.44	1.03
SO-C-2-81-346 FT	0.50	1.06
SO-C-2-81-358 FT	0.33	1.02
SO-C-2-81-366 FT	0.27	1.04
SO-C-2-81-374 FT	0.16	1.06
SO-C-2-81-384 FT	0.60	1.05
SO-C-1-81-48 FT	0.50	1.04
SO-C-1-81-59 FT	0.40	1.01
SO-C-1-81-69 FT	0.42	1.03
SO-C-1-81-78 FT	0.48	1.02
SO-C-1-81-88 FT	0.41	1.03
SO-C-1-81-98 FT	0.47	1.05
SO-C-1-81-109 FT	0.38	1.05
SO-C-1-81-117 FT	0.44	1.02
SO-C-1-81-125 FT	0.47	1.04
SO-C-1-81-136 FT	0.22	1.03
SO-C-1-81-144 FT	0.35	1.00
SO-C-1-81-163 FT	0.29	1.03
SO-C-1-81-175 FT	0.36	1.00
SO-C-1-81-182 FT	0.39	1.02
SO-C-1-81-191 FT	0.68	1.06
SO-C-1-81-201 FT	0.38	1.01
SO-C-1-81-211 FT	0.42	1.04
SO-C-1-81-221 FT	0.49	1.03
SO-C-1-81-226 FT	0.74	1.04
SO-C-1-81-241 FT	0.57	1.03
SO-C-1-81-251 FT	0.53	1.03
SO-C-1-81-271 FT	0.42	1.03
SO-C-1-81-280 FT	0.60	1.02
SO-C-1-81-290 FT	0.53	1.04
SO-C-1-81-291 FT	0.46	1.04
SO-C-1-81-305.5 FT	0.43	1.04
SO-C-1-81-313 FT	0.44	1.00
SO-C-1-81-328 FT	0.64	1.03
SO-C-1-81-347 FT	0.42	1.00
SO-C-1-81-353 FT	0.43	1.04
SO-C-1-81-361 FT	0.91	1.03
SO-C-1-81-378 FT	0.69	1.05
SO-C-1-81-382 FT	0.43	1.03

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
SO-C-1-81-397 FT	0.76	1.03
SO-C-1-81-406 FT	0.56	1.03
SO-C-1-81-433 FT	1.81	1.01
SO-C-1-81-443 FT	0.71	1.05
SO-C-1-81-455 FT	0.64	1.01
SO-C-1-81-458 FT	0.45	1.01
SO-C-1-81-469 FT	0.43	1.03
SO-C-1-81-476 FT	0.31	1.06
SO-C-1-81-481 FT	0.61	1.04
SO-C-1-81-494 FT	0.32	1.04
SO-C-1-81-497 FT	0.61	1.01
RC-C-1-81-126 FT	0.44	1.03
RC-C-1-81-145.5 FT	0.31	1.02
RC-C-1-81-168 FT	0.37	1.00
RC-C-1-81-193 FT	0.68	1.03
RC-C-1-81-211 FT	< 0.05	1.00
RC-C-1-81-230 FT	0.45	1.03
RC-C-1-81-249 FT	0.31	1.05
RC-C-1-81-282 FT	0.25	1.04
RC-C-1-81-300 FT	0.52	1.02
RC-C-1-81-363 FT	0.42	1.05
RC-C-1-81-403 FT	0.52	1.01
RC-C-1-81-473 FT	0.59	1.03
US-220 Road Cut 3 FT	0.57	1.05
US-220 Road Cut 6 FT	0.41	1.05
US-220 Road Cut 8 FT	0.71	1.02
Cemex Pit (C-)-1 FT	0.56	1.02
Cemex Pit (C-)-2 FT	0.50	1.03
Cemex Pit (C-)-3 FT	0.47	1.02
Cemex Pit (C-)-4 FT	1.00	1.03
Cemex Pit (C-)-6 FT	0.38	1.00
Cemex Pit (C-)-7 FT	0.55	1.04
Cemex Pit (C-)-8 FT	0.32	1.01
Cemex Pit (C-)-9 FT	0.35	1.01
Cemex Pit (C-)-11 FT	0.34	1.03
Cemex Pit (C-)-12 FT	0.37	1.04
Cemex Pit (C-)-13 FT	0.15	1.02
Cemex Pit (C-)-14 FT	0.39	1.03
Cemex Pit (C-)-15 FT	0.34	1.00
Cemex Pit (C-)-17 FT	0.38	1.03
Cemex Pit (C-)-18 FT	0.35	1.07
Cemex Pit (C-)-19 FT	0.41	1.02
Cemex Pit (C-)-20 FT	< 0.05	1.04
Cemex Pit (C-)-22 FT	0.24	1.06
Cemex Pit (C-)-23 FT	0.38	1.03
Cemex Pit (C-)-24 FT	0.26	1.05
Cemex Pit (C-)-26 FT	0.26	1.07
Cemex Pit (C-)-27 FT	0.25	1.04
Cemex Pit (C-)-28 FT	0.26	1.02
Cemex Pit (C-)-30 FT	0.50	1.05
Cemex Pit (C-)-31 FT	0.35	1.03
Cemex Pit (C-)-32 FT	0.36	1.06

Analyte Symbol	Lu	Mass
Unit Symbol	ppm	g
Detection Limit	0.05	
Analysis Method	INAA	INAA
Cemex Pit (C-)-33 FT	0.44	1.00
Cemex Pit (C-)-35 FT	0.23	1.06
Cemex Pit (C-)-36 FT	0.16	1.06
Cemex Pit (C-)-37 FT	0.61	1.07
Cemex Pit (C-)-38 FT	0.27	1.04
Cemex Pit (C-)-40 FT	0.24	1.01
Cemex Pit (C-)-41 FT	0.54	1.04
Cemex Pit (C-)-42 FT	0.31	1.02
Cemex Pit (C-)-43 FT	0.29	1.07
Cemex Pit (C-)-44 FT	0.40	1.05
Cemex Pit (C-)-45 FT	0.36	1.01
Cemex Pit (C-)-47 FT	0.51	1.01
Cemex Pit (C-)-49 FT	0.37	1.04
Cemex Pit (C-)-51 FT	0.34	1.05
Cemex Pit (C-)-52 FT	0.63	1.02
Cemex Pit (C-)-53 FT	0.18	1.05
Cemex Pit (C-)-54 FT	0.33	1.05
Cemex Pit (C-)-56 FT	0.38	1.06
Cemex Pit (C-)-57 FT	0.89	1.04
Cemex Pit (C-)-58 FT	0.23	1.05
Cemex Pit (C-)-59 FT	0.22	1.01
Cemex Pit (C-)-60 FT	0.21	1.01
Cemex Pit (C-)-61 FT	0.47	1.03
Cemex Pit (C-)-62 FT	0.45	1.06
Cemex Pit (C-)-64 FT	0.62	1.02
Cemex Pit (C-)-65 FT	0.54	1.03
Cemex Pit (C-)-66 FT	1.41	1.01
Cemex Pit (C-)-67 FT	0.40	1.03
Cemex Pit (C-)-68 FT	0.28	1.01
Cemex Pit (C-)-69 FT	< 0.05	1.05

Quality Control

Analyte Symbol	Au	Ag	Ag	Ag	Cu	Cu	Cd	Cd	Mo	Pb	Pb	Ni	Ni	Ni	Zn	Zn	Zn	S	Al	As	Ba	Ba	Be	Be
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	0.05	0.3	5	0.2	1	0.1	0.3	1	0.5	3	0.5	1	20	0.5	1	50	0.01	0.01	0.5	1	50	0.1	1
Analysis Method	INAA	TD-MS	TD-ICP	INAA	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-ICP	INAA	TD-MS	TD-ICP	INAA	TD-ICP	TD-ICP	INAA	TD-MS	INAA	TD-MS	TD-ICP
GXR-1 Meas		31.6	31.2		1020	1170	2.4	2.8	15	732	711	35.4	49		724	704		0.25	2.13		588		0.8	1
GXR-1 Cert		31.0	31.0		1110	1110	3.30	3.30	18.0	730	730	41.0	41.0		760	760		0.257	3.52		750		1.22	1.22
GXR-1 Meas			31.9			1160		3.4	15		732		47			719		0.26	2.13					1
GXR-1 Cert			31.0			1110		3.30	18.0		730		41.0			760		0.257	3.52					1.22
DH-1a Meas																								
DH-1a Cert																								
DH-1a Meas																								
DH-1a Cert																								
GXR-4 Meas		2.77	3.7		6060	6810	< 0.1	0.5	322	44.3	41	35.9	49		67.4	73		1.71	6.30		83		2.0	2
GXR-4 Cert		4.00	4.00		6520	6520	0.860	0.860	310	52.0	52.0	42.0	42.0		73.0	73.0		1.77	7.20		1640		1.90	1.90
GXR-4 Meas			3.4			6470		0.4	314		36		49			70		1.70	6.90					2
GXR-4 Cert			4.00			6520		0.860	310		52.0		42.0			73.0		1.77	7.20					1.90
SDC-1 Meas		< 0.05	< 0.3		26.9	31	< 0.1	< 0.3	< 1	22.2	21	31.9	39		98.8	97		0.07	7.85		562		2.8	3
SDC-1 Cert		0.0410	0.0410		30.00	30.00	0.0800	0.0800	0.250	25.00	25.00	38.0	38.0		103.00	103.00		0.0650	8.34		630		3.00	3.00
SDC-1 Meas			< 0.3			31		< 0.3	< 1		19		38			96		0.09	7.81					3
SDC-1 Cert			0.0410			30.00		0.0800	0.250		25.00		38.0			103.00		0.0650	8.34					3.00
SCO-1 Meas		< 0.05	< 0.3		23.9	29	0.1	< 0.3	< 1	26.6	28	23.8	31		88.5	95		0.08	6.80		465		1.5	2
SCO-1 Cert		0.134	0.134		29	29	0.140	0.140	1.4	31.0	31.0	27	27		100	100		0.0630	7.24		570		1.80	1.80
SCO-1 Meas			< 0.3			28		< 0.3	< 1		22		28			88		0.09	5.35					2
SCO-1 Cert			0.134			29		0.140	1.4		31.0		27			100		0.0630	7.24					1.80
GXR-6 Meas		0.07	0.4		60.2	66	< 0.1	< 0.3	< 1	89.5	82	21.4	28		116	117		0.02	14.9		1060		0.9	1
GXR-6 Cert		1.30	1.30		66.0	66.0	1.00	1.00	2.40	101	101	27.0	27.0		118	118		0.0160	17.7		1300		1.40	1.40
GXR-6 Meas			0.4			66		< 0.3	3		85		29			120		0.03	11.4					1
GXR-6 Cert			1.30			66.0		1.00	2.40		101		27.0			118		0.0160	17.7					1.40
DNC-1a Meas					88.7	93						250	255		65.1	50					94			
DNC-1a Cert					100.0	100.0						247	247		70.0	70.0					118			
DNC-1a Meas						92							251			51								
DNC-1a Cert						100.0							247			70.0								
DMMAS 113 Meas	1710																			1460		1620		
DMMAS 113 Cert	1665																			1468		1519		
SO-C-2-81-319 FT Orig		< 0.05	< 0.3		9.4	12	< 0.1	< 0.3	2	12.3	10	13.1	20		44.4	55		0.19	8.03		352		2.3	3
SO-C-2-81-319 FT Dup		< 0.05	< 0.3		8.7	11	< 0.1	< 0.3	< 1	11.5	11	13.6	21		47.3	57		0.20	8.02		353		2.3	3
SO-C-1-81-117 FT Orig		< 0.05	< 0.3		46.8	54	< 0.1	< 0.3	1	17.8	13	26.7	32		94.6	97		0.23	8.69		548		3.1	3
SO-C-1-81-117 FT Dup		< 0.05	< 0.3		46.3	54	< 0.1	< 0.3	< 1	16.9	14	26.6	32		91.3	98		0.23	8.48		539		3.3	3
SO-C-1-81-347 FT Orig		< 0.05	< 0.3		67.1	74	< 0.1	< 0.3	1	16.0	13	31.0	36		98.6	100		0.78	8.49		564		3.3	3
SO-C-1-81-347 FT Dup		< 0.05	< 0.3		64.7	75	< 0.1	< 0.3	2	16.0	13	30.0	37		97.3	101		0.84	9.12		408		2.9	4
SO-C-1-81-494 FT Orig		< 0.05	< 0.3		20.6	24	< 0.1	< 0.3	< 1	6.6	5	19.7	23		36.7	37		0.16	6.75		258		1.4	2
SO-C-1-81-494 FT Dup		< 0.05	< 0.3		15.9	19	< 0.1	< 0.3	< 1	6.8	6	15.0	18		36.2	38		0.15	6.75		250		1.3	2
Cemex Pit (C-)-6 FT Orig		< 0.05	< 0.3		61.0	67	< 0.1	0.4	< 1	14.0	11	39.1	45		135	126		0.06	8.86		579		2.9	3
Cemex Pit (C-)-6 FT Dup		< 0.05	< 0.3		69.3	74	< 0.1	< 0.3	< 1	13.7	13	40.4	45		140	128		0.06	9.10		603		2.8	3
Cemex Pit (C-)-23 FT Orig		< 0.05	< 0.3		71.1	55	< 0.1	< 0.3	< 1	13.2	8	29.6	34		109	95		0.05	7.75		474		2.2	2
Cemex Pit (C-)-23 FT Dup		< 0.05	0.3		51.0	57	< 0.1	< 0.3	< 1	13.3	11	31.8	34		111	102		0.05	7.90		503		2.0	2
Cemex Pit (C-)-51 FT Orig		< 0.05	< 0.3		71.3	76	< 0.1	< 0.3	< 1	20.7	15	34.4	44		117	104		0.06	8.28		499		2.9	3
Cemex Pit (C-)-51 FT Dup		< 0.05	< 0.3		69.9	77	< 0.1	< 0.3	< 1	21.1	20	33.5	38		113	110		0.06	8.24		490		3.0	3
Method Blank		< 0.05	< 0.3		< 0.2	< 1	< 0.1	< 0.3	< 1	< 0.5	< 3	< 0.5	< 1		< 0.5	< 1		0.02	< 0.01		< 1		< 0.1	< 1
Method Blank			< 0.3			4		< 0.3	7		< 3		1			1		0.02	< 0.01					< 1
Method Blank			< 0.3			< 1		< 0.3	< 1		< 3		< 1			< 1		0.02	< 0.01					< 1
Method Blank			< 0.3			< 1		< 0.3	< 1		< 3		< 1			< 1		0.02	< 0.01					< 1
Method Blank			< 0.3			< 1		< 0.3	< 1		< 3		< 1			< 1		< 0.01	< 0.01					< 1
Method Blank	< 2			< 5										< 20			< 50			< 0.5		< 50		

Quality Control

Analyte Symbol	Bi	Bi	Br	Ca	Co	Co	Cr	Cr	Cs	Cs	Fe	Hf	Hf	Ga	Ge	Hg	In	Ir	K	Li	Mg	Mn	Na	Nb
Unit Symbol	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppb	%	ppm	%	ppm	%	ppm
Detection Limit	0.02	2	0.5	0.01	0.1	1	1	2	0.05	1	0.01	0.1	1	0.1	0.1	1	0.1	5	0.01	0.5	0.01	1	0.01	0.1
Analysis Method	TD-MS	TD-ICP	INAA	TD-ICP	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-ICP	TD-MS	TD-ICP	TD-ICP	INAA	TD-MS
GXR-1 Meas	1590	1350		0.88	7.7		> 10.0		2.54			0.2		10.7			0.8		0.04	8.7	0.23	898		0.6
GXR-1 Cert	1380	1380		0.960	8.20		12.0		3.00			0.960		13.8			0.770		0.050	8.20	0.217	852		0.800
GXR-1 Meas		1380		0.90															0.04		0.23	891		
GXR-1 Cert		1380		0.960															0.050		0.217	852		
DH-1a Meas																								
DH-1a Cert																								
DH-1a Meas																								
DH-1a Cert																								
GXR-4 Meas	20.0	12		1.06	13.8		> 10.0		2.54			1.2		18.1			0.2		3.86	13.6	1.81	153		8.2
GXR-4 Cert	19.0	19.0		1.01	14.6		64.0		2.80			6.30		20.0			0.270		4.01	11.1	1.66	155		10.0
GXR-4 Meas		19		1.06															3.74		1.80	158		
GXR-4 Cert		19.0		1.01															4.01		1.66	155		
SDC-1 Meas	0.22	< 2		1.09	17.7		> 10.0		3.82			0.8		22.9					2.62	41.2	1.06	839		0.1
SDC-1 Cert	2.60	2.60		1.00	18.0		64.00		4.00			8.30		21.00					2.72	34.00	1.02	880.00		21.00
SDC-1 Meas		< 2		1.08															2.57		1.06	887		
SDC-1 Cert		2.60		1.00															2.72		1.02	880.00		
SCO-1 Meas	0.29	< 2		1.92	10.3		> 10.0		6.17					14.9					2.14	46.6	1.67	377		8.7
SCO-1 Cert	0.37	0.37		1.87	11.00		68.0		7.80					15					2.30	45	1.64	410		11
SCO-1 Meas		< 2		1.81															1.93		1.50	360		
SCO-1 Cert		0.37		1.87															2.30		1.64	410		
GXR-6 Meas	0.13	< 2		0.25	12.9		> 10.0		3.85			2.4		27.5			< 0.1		1.63	39.3	0.70	961		2.4
GXR-6 Cert	0.290	0.290		0.180	13.8		96.0		4.20			4.30		35.0			0.260		1.87	32.0	0.609	1010		7.50
GXR-6 Meas		< 2		0.17															1.68		0.61	1020		
GXR-6 Cert		0.290		0.180															1.87		0.609	1010		
DNC-1a Meas					56.9		> 10.0													5.3				
DNC-1a Cert					57.0		270													5.20				
DNC-1a Meas																								
DNC-1a Cert																								
DMMAS 113 Meas						38		77			2.94												1.84	
DMMAS 113 Cert						36		75			2.86												1.82	
SO-C-2-81-319 FT Orig	0.02	< 2		0.48	6.3		> 10.0		1.06			1.5		20.0	0.6		< 0.1		1.25	23.9	0.55	121		0.4
SO-C-2-81-319 FT Dup	< 0.02	< 2		0.48	6.7		> 10.0		1.06			1.4		20.0	0.5		< 0.1		1.24	24.3	0.55	121		0.4
SO-C-1-81-117 FT Orig	0.38	2		0.74	19.4		> 10.0		6.06			2.4		28.0	1.0		< 0.1		2.37	82.0	1.55	446		5.7
SO-C-1-81-117 FT Dup	0.36	< 2		0.74	19.8		> 10.0		5.99			2.1		27.8	0.8		< 0.1		2.37	85.2	1.53	440		2.9
SO-C-1-81-347 FT Orig	0.52	< 2		1.75	20.6		> 10.0		5.86			1.1		24.7	1.4		< 0.1		1.77	37.8	1.29	2460		5.3
SO-C-1-81-347 FT Dup	0.55	< 2		1.88	20.7		> 10.0		6.11			1.0		24.3	0.2		< 0.1		1.83	38.2	1.34	2560		4.7
SO-C-1-81-494 FT Orig	0.03	< 2		4.45	6.6		> 10.0		1.05			1.1		17.1	0.6		< 0.1		0.88	16.6	0.66	891		2.2
SO-C-1-81-494 FT Dup	0.03	< 2		4.40	6.3		> 10.0		1.03			1.0		17.3	0.5		< 0.1		0.87	16.2	0.65	835		0.5
Cemex Pit (C-)-6 FT Orig	0.41	< 2		2.16	25.0		> 10.0		9.33			1.0		27.6	0.9		< 0.1		3.93	147	2.90	651		1.6
Cemex Pit (C-)-6 FT Dup	0.38	2		2.20	25.5		> 10.0		9.55			1.0		27.5	1.1		< 0.1		3.98	153	2.95	649		3.7
Cemex Pit (C-)-23 FT Orig	0.29	< 2		3.68	18.7		> 10.0		4.77			1.4		21.0	1.0		< 0.1		2.98	89.5	2.42	1150		9.9
Cemex Pit (C-)-23 FT Dup	0.28	< 2		3.81	20.1		> 10.0		5.32			1.3		22.4	0.4		< 0.1		2.59	98.7	2.48	1180		5.2
Cemex Pit (C-)-51 FT Orig	0.69	< 2		3.17	20.9		> 10.0		7.53			0.6		21.7	0.4		< 0.1		2.58	114	2.76	946		0.2
Cemex Pit (C-)-51 FT Dup	0.71	< 2		3.18	21.0		> 10.0		7.51			0.8		21.6	0.5		< 0.1		2.58	106	2.77	957		0.2
Method Blank	< 0.02	< 2		< 0.01	< 0.1		< 1		< 0.05			< 0.1		< 0.1	< 0.1		< 0.1		< 0.01	< 0.5	< 0.01			< 0.1
Method Blank		< 2		< 0.01															< 0.01		< 0.01			
Method Blank		< 2		< 0.01															< 0.01		< 0.01			
Method Blank		< 2		< 0.01															< 0.01		< 0.01			
Method Blank		< 2		< 0.01															< 0.01		< 0.01			
Method Blank			< 0.5			< 1		< 2		< 1	< 0.01		< 1			< 1		< 5					< 0.01	

Quality Control

Analyte Symbol	P	Rb	Rb	Re	Sb	Sc	Se	Se	Sn	Sr	Ta	Ta	Te	Ti	Th	Th	Tl	U	U	V	W	Y	Zr	La
Unit Symbol	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.001	0.2	15	0.001	0.1	0.1	0.1	3	1	0.2	0.1	0.5	0.1	0.01	0.1	0.2	0.05	0.1	0.5	2	1	0.1	1	0.1
Analysis Method	TD-ICP	TD-MS	INAA	TD-MS	INAA	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	TD-ICP	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-ICP	INAA	TD-MS	TD-MS	TD-MS
GXR-1 Meas	0.052	2.5					16.2		30	284	< 0.1		12.9		3.6		0.37	31.0		87		26.4	15	7.0
GXR-1 Cert	0.0650	14.0					16.6		54.0	275	0.175		13.0		2.44		0.390	34.9		80.0		32.0	38.0	7.50
GXR-1 Meas	0.061																			90				
GXR-1 Cert	0.0650																			80.0				
DH-1a Meas																908			2640					
DH-1a Cert																910			2629					
DH-1a Meas																914			2640					
DH-1a Cert																910			2629					
GXR-4 Meas	0.114	122					6.0		7	208	0.5		1.0		16.8		2.94	5.2		95		12.5	39	53.2
GXR-4 Cert	0.120	160					5.60		5.60	221	0.790		0.970		22.5		3.20	6.20		87.0		14.0	186	64.5
GXR-4 Meas	0.120																			92				
GXR-4 Cert	0.120																			87.0				
SDC-1 Meas	0.047	121							< 1	178	< 0.1			0.17	11.9		0.60	2.7		51		31.7	30	40.3
SDC-1 Cert	0.0690	127.00							3.00	180.00	1.20			0.606	12.00		0.70	3.10		102.00		40.0	290.00	42.00
SDC-1 Meas	0.056													0.15						45				
SDC-1 Cert	0.0690													0.606						102.00				
SCO-1 Meas	0.064	66.4							3	144				0.24	4.7					118		13.0	89	15.7
SCO-1 Cert	0.0900	110.0							3.7	170				0.380	9.70					130		26	160	30.0
SCO-1 Meas	0.075													0.34						130				
SCO-1 Cert	0.0900													0.380						130				
GXR-6 Meas	0.031	74.5					1.1		< 1	35.4	0.1		< 0.1		4.6		2.00	1.3		121		11.1	86	11.4
GXR-6 Cert	0.0350	90.0					0.940		1.70	35.0	0.485		0.0180		5.30		2.20	1.54		186		14.0	110	13.9
GXR-6 Meas	0.040																			184				
GXR-6 Cert	0.0350																			186				
DNC-1a Meas										143										142		15.7	34	3.5
DNC-1a Cert										144.0										148.0		18.0	38	3.6
DNC-1a Meas																				144				
DNC-1a Cert																				148.0				
DMMAS 113 Meas						6.4													14.5					
DMMAS 113 Cert						5.8													15.6					
SO-C-2-81-319 FT Orig	0.060	44.4		< 0.001			< 0.1		1	158	< 0.1		< 0.1	0.27	6.5		0.35	3.3		45		14.9	50	23.6
SO-C-2-81-319 FT Dup	0.062	45.1		< 0.001			0.2		2	159	< 0.1		< 0.1	0.26	6.5		0.31	7.3		40		14.8	47	24.0
SO-C-1-81-117 FT Orig	0.049	106		< 0.001			0.2		4	196	< 0.1		< 0.1	0.54	13.1		0.83	3.6		133		18.4	79	37.0
SO-C-1-81-117 FT Dup	0.049	102		< 0.001			< 0.1		3	194	< 0.1		< 0.1	0.44	11.8		0.80	3.2		126		17.9	73	34.4
SO-C-1-81-347 FT Orig	0.212	110		< 0.001			1.2		1	322	0.2		< 0.1	0.35	14.5		0.67	2.9		130		13.7	43	33.1
SO-C-1-81-347 FT Dup	0.259	112		< 0.001			1.0		2	319	0.2		< 0.1	0.45	14.8		0.67	2.9		134		15.3	40	35.2
SO-C-1-81-494 FT Orig	0.032	38.1		< 0.001			0.5		1	276	< 0.1		< 0.1	0.24	4.2		0.80	2.1		69		13.4	37	18.6
SO-C-1-81-494 FT Dup	0.030	36.7		< 0.001			< 0.1		1	266	< 0.1		< 0.1	0.19	4.2		0.25	2.1		58		13.2	32	18.4
Cemex Pit (C-)-6 FT Orig	0.114	181		< 0.001			0.4		2	302	< 0.1		< 0.1	0.36	11.1		1.06	15.0		116		16.8	34	24.8
Cemex Pit (C-)-6 FT Dup	0.113	191		< 0.001			1.0		3	325	< 0.1		< 0.1	0.43	10.7		1.08	14.9		128		17.5	37	26.0
Cemex Pit (C-)-23 FT Orig	0.088	70.5		< 0.001			0.6		2	424	0.6		< 0.1	0.41	6.7		0.63	3.5		112		14.6	45	19.2
Cemex Pit (C-)-23 FT Dup	0.087	108		< 0.001			0.8		2	447	0.3		< 0.1	0.38	11.0		0.62	3.6		107		17.8	45	26.1
Cemex Pit (C-)-51 FT Orig	0.080	125		< 0.001			0.9		1	352	< 0.1		< 0.1	0.22	9.6		0.75	6.7		109		17.1	25	31.0
Cemex Pit (C-)-51 FT Dup	0.083	120		< 0.001			0.5		1	337	< 0.1		< 0.1	0.26	10.3		0.75	6.7		122		16.2	29	30.2
Method Blank	0.013	< 0.2		< 0.001			< 0.1		< 1	< 0.2	< 0.1		< 0.1	< 0.01	< 0.1		< 0.05	< 0.1		< 2		< 0.1	< 1	< 0.1
Method Blank	0.013													< 0.01						< 2				
Method Blank	0.013													< 0.01						< 2				
Method Blank	0.013													< 0.01						< 2				
Method Blank	0.003													< 0.01						< 2				
Method Blank			< 15		< 0.1	< 0.1		< 3				< 0.5				< 0.2			< 0.5		< 1			

Quality Control

Analyte Symbol	La	Ce	Ce	Pr	Nd	Nd	Sm	Sm	Eu	Eu	Gd	Dy	Tb	Tb	Ho	Er	Tm	Yb	Yb	Lu	Lu	Mass
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g
Detection Limit	0.5	0.1	3	0.1	0.1	5	0.1	0.1	0.05	0.2	0.1	0.1	0.1	0.5	0.1	0.1	0.1	0.1	0.2	0.1	0.05	
Analysis Method	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA
GXR-1 Meas		13.8			8.1		2.8		0.60		4.0	4.7	0.7				0.4	2.1		0.3		
GXR-1 Cert		17.0			18.0		2.70		0.690		4.20	4.30	0.830				0.430	1.90		0.280		
GXR-1 Meas																						
GXR-1 Cert																						
DH-1a Meas																						
DH-1a Cert																						
DH-1a Meas																						
DH-1a Cert																						
GXR-4 Meas		101			39.9		6.1		1.40		4.7	2.8	0.5				0.2	1.0		0.1		
GXR-4 Cert		102			45.0		6.60		1.63		5.25	2.60	0.360				0.210	1.60		0.170		
GXR-4 Meas																						
GXR-4 Cert																						
SDC-1 Meas		88.2			41.0		8.1		1.63		7.2	6.6	1.1		1.3	3.8	0.5	3.2				
SDC-1 Cert		93.00			40.00		8.20		1.70		7.00	6.70	1.20		1.50	4.10	0.65	4.00				
SDC-1 Meas																						
SDC-1 Cert																						
SCO-1 Meas		32.3		4.2	16.1																	
SCO-1 Cert		62.00		6.6	26.0																	
SCO-1 Meas																						
SCO-1 Cert																						
GXR-6 Meas		31.0			11.6		2.4		0.63		2.3	2.3	0.4				0.2	1.6		0.2		
GXR-6 Cert		36.0			13.0		2.67		0.760		2.97	2.80	0.415				0.0320	2.40		0.330		
GXR-6 Meas																						
GXR-6 Cert																						
DNC-1a Meas					4.8				0.59									1.9				
DNC-1a Cert					5.20				0.59									2.0				
DNC-1a Meas																						
DNC-1a Cert																						
DMMAS 113 Meas	15.5		25					2.3														
DMMAS 113 Cert	14.5		24					2.2														
SO-C-2-81-319 FT Orig		51.3		6.5	24.6		5.1		1.06		4.5	3.3	0.6		0.6	1.8	0.2	1.4		0.2		
SO-C-2-81-319 FT Dup		50.5		6.3	24.1		4.9		1.03		4.5	3.4	0.6		0.6	1.6	0.2	1.3		0.2		
SO-C-1-81-117 FT Orig		78.2		9.8	36.3		6.9		1.44		5.7	4.3	0.8		0.8	2.3	0.3	2.0		0.3		
SO-C-1-81-117 FT Dup		73.8		9.2	33.9		6.5		1.37		5.5	4.2	0.7		0.8	2.1	0.3	1.8		0.3		
SO-C-1-81-347 FT Orig		70.5		8.2	29.1		5.5		1.14		4.2	3.4	0.6		0.6	1.7	0.2	1.4		0.2		
SO-C-1-81-347 FT Dup		73.3		8.6	31.8		6.2		1.30		5.2	3.8	0.7		0.7	1.9	0.3	1.7		0.2		
SO-C-1-81-494 FT Orig		40.1		4.9	18.1		3.5		0.94		3.1	2.7	0.4		0.5	1.5	0.2	1.3		0.2		
SO-C-1-81-494 FT Dup		39.8		4.8	18.0		3.5		0.97		3.1	2.7	0.4		0.5	1.5	0.2	1.4		0.2		
Cemex Pit (C-)-6 FT Orig		48.8		6.0	22.5		4.4		0.94		3.9	3.4	0.6		0.7	1.9	0.3	1.8		0.3		
Cemex Pit (C-)-6 FT Dup		50.2		6.2	23.2		4.4		0.93		3.9	3.5	0.6		0.7	2.0	0.3	1.8		0.3		
Cemex Pit (C-)-23 FT Orig		40.8		5.2	19.9		3.8		0.85		3.4	3.2	0.5		0.6	1.8	0.3	1.6		0.2		
Cemex Pit (C-)-23 FT Dup		52.0		6.4	24.0		4.7		1.02		4.2	3.7	0.6		0.7	2.0	0.3	1.7		0.3		
Cemex Pit (C-)-51 FT Orig		60.7		7.6	28.5		5.3		1.11		4.4	3.6	0.6		0.7	1.9	0.3	1.6		0.2		
Cemex Pit (C-)-51 FT Dup		59.8		7.4	27.9		5.4		1.13		4.5	3.6	0.6		0.7	1.9	0.3	1.6		0.2		
Method Blank		< 0.1		< 0.1	< 0.1		< 0.1		< 0.05		< 0.1	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1		< 0.1		
Method Blank																						
Method Blank																						
Method Blank																						
Method Blank																						
Method Blank	< 0.5		< 3			< 5		< 0.1		< 0.2				< 0.5					< 0.2		< 0.05	1.00

Appendix 4. Dan River basin inorganic chemistry – Inorganic chemistry plots by drill hole.

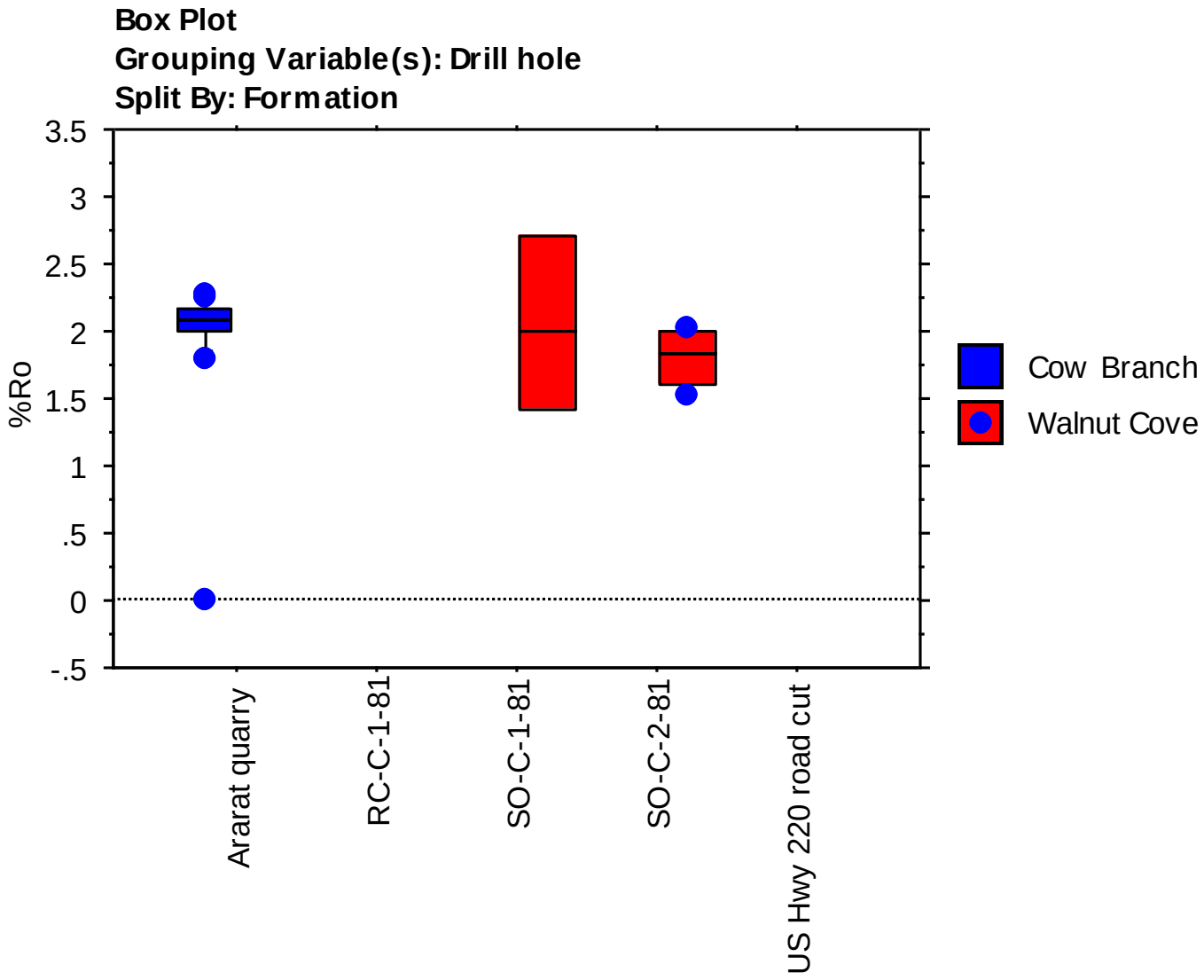
Appendix 4 - Dan River basin

Down hole inorganic chemistry plots

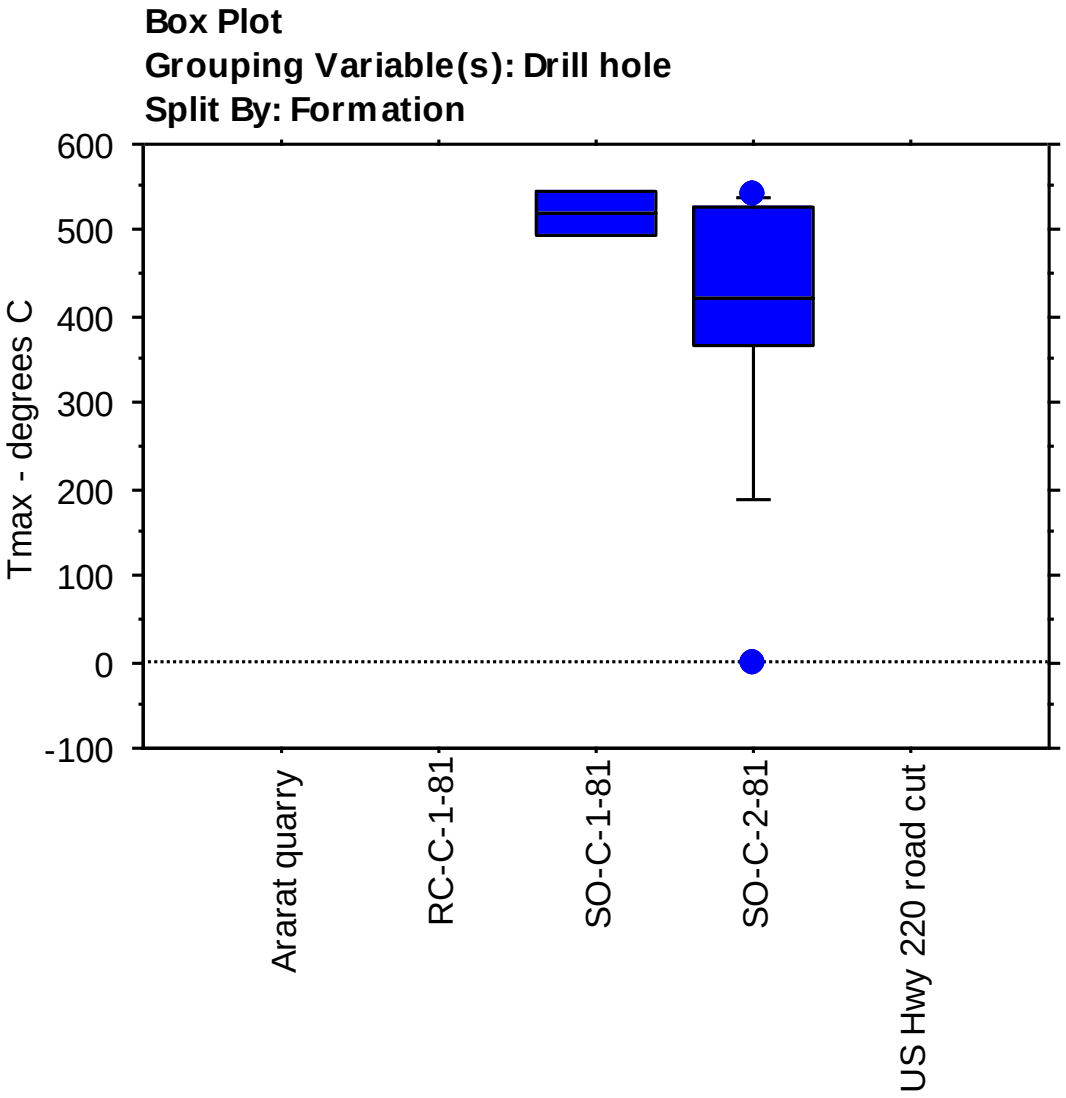
by

drill hole

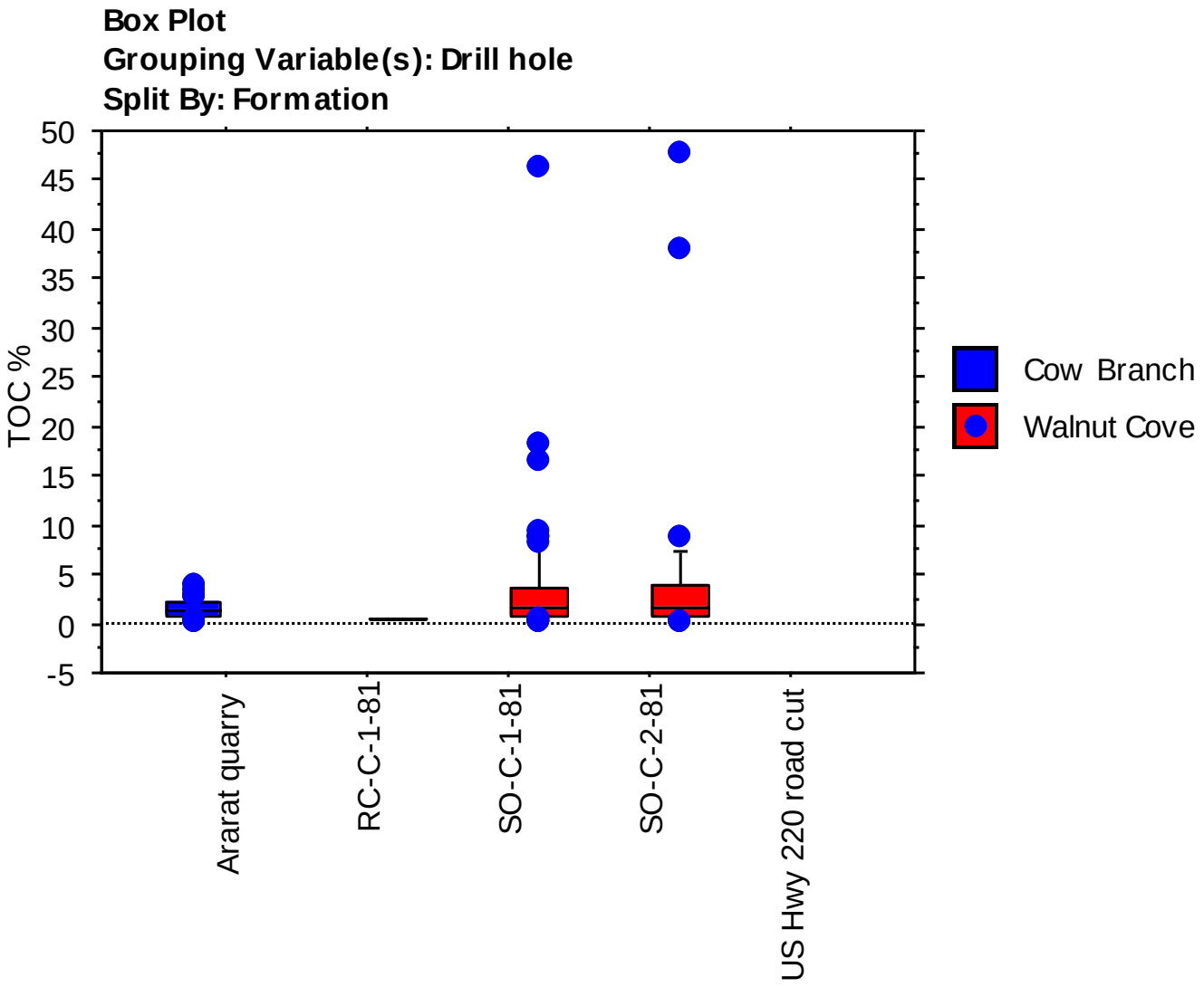
%Ro by drill hole



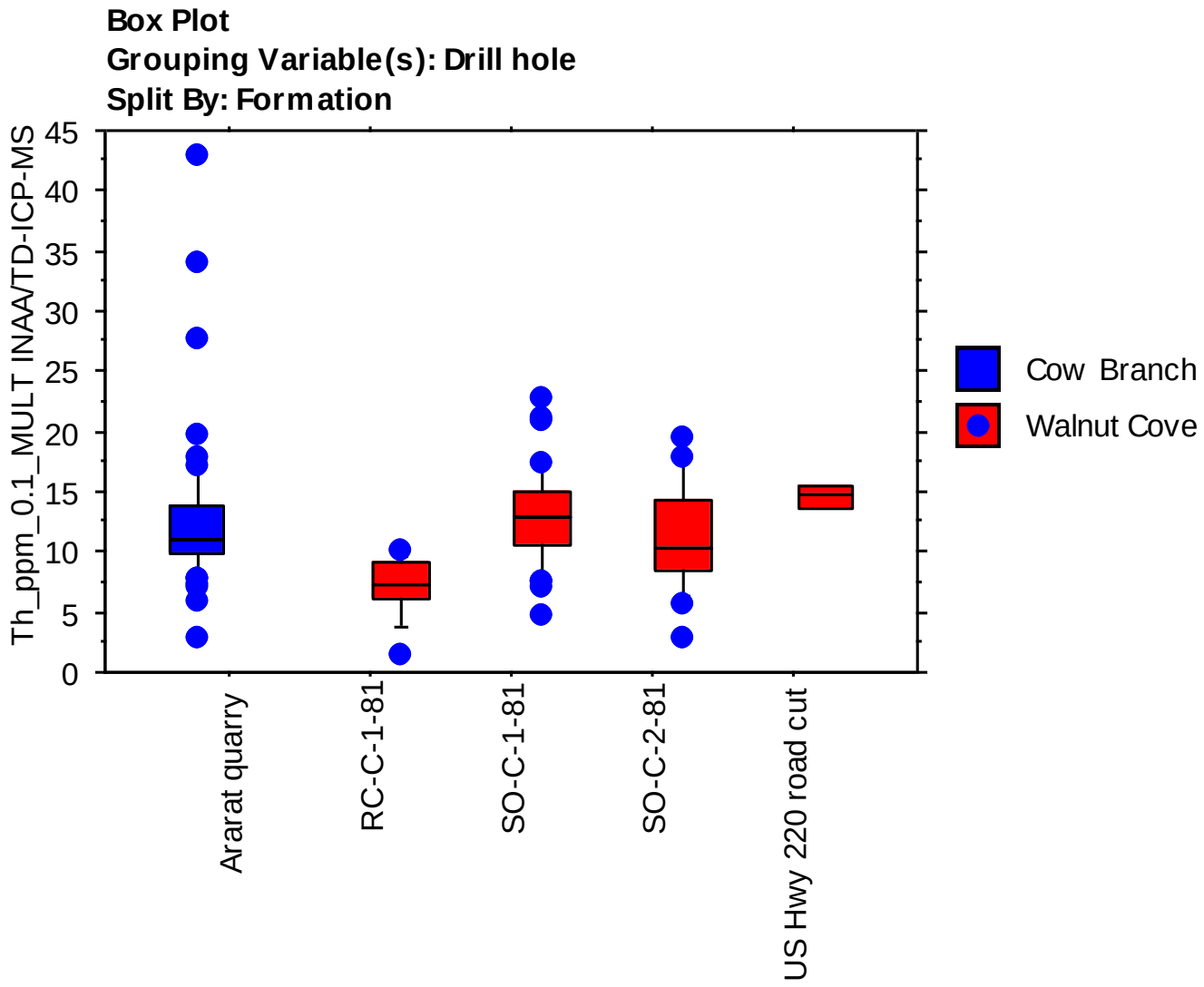
Tmax by drill hole



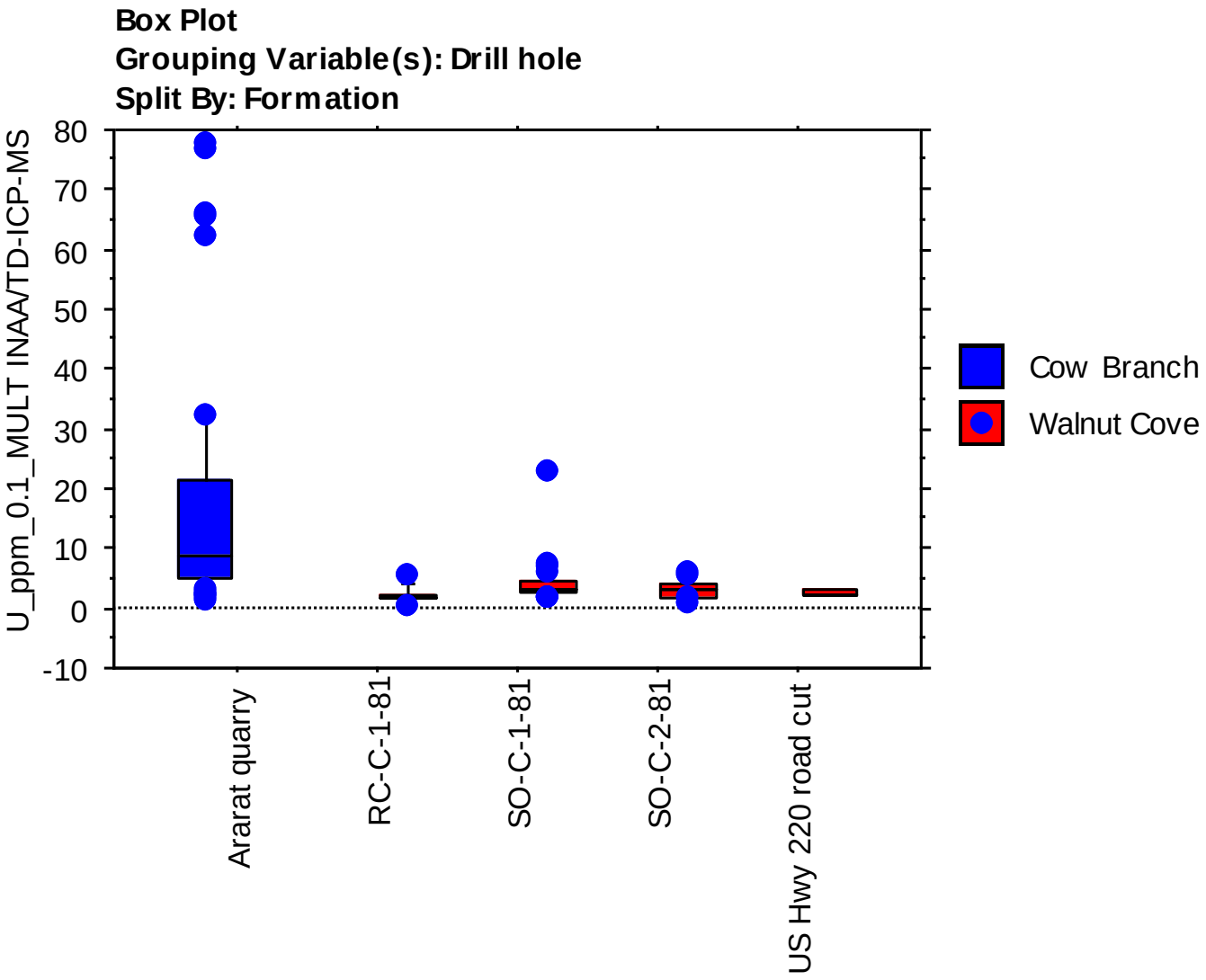
TOC% by drill hole



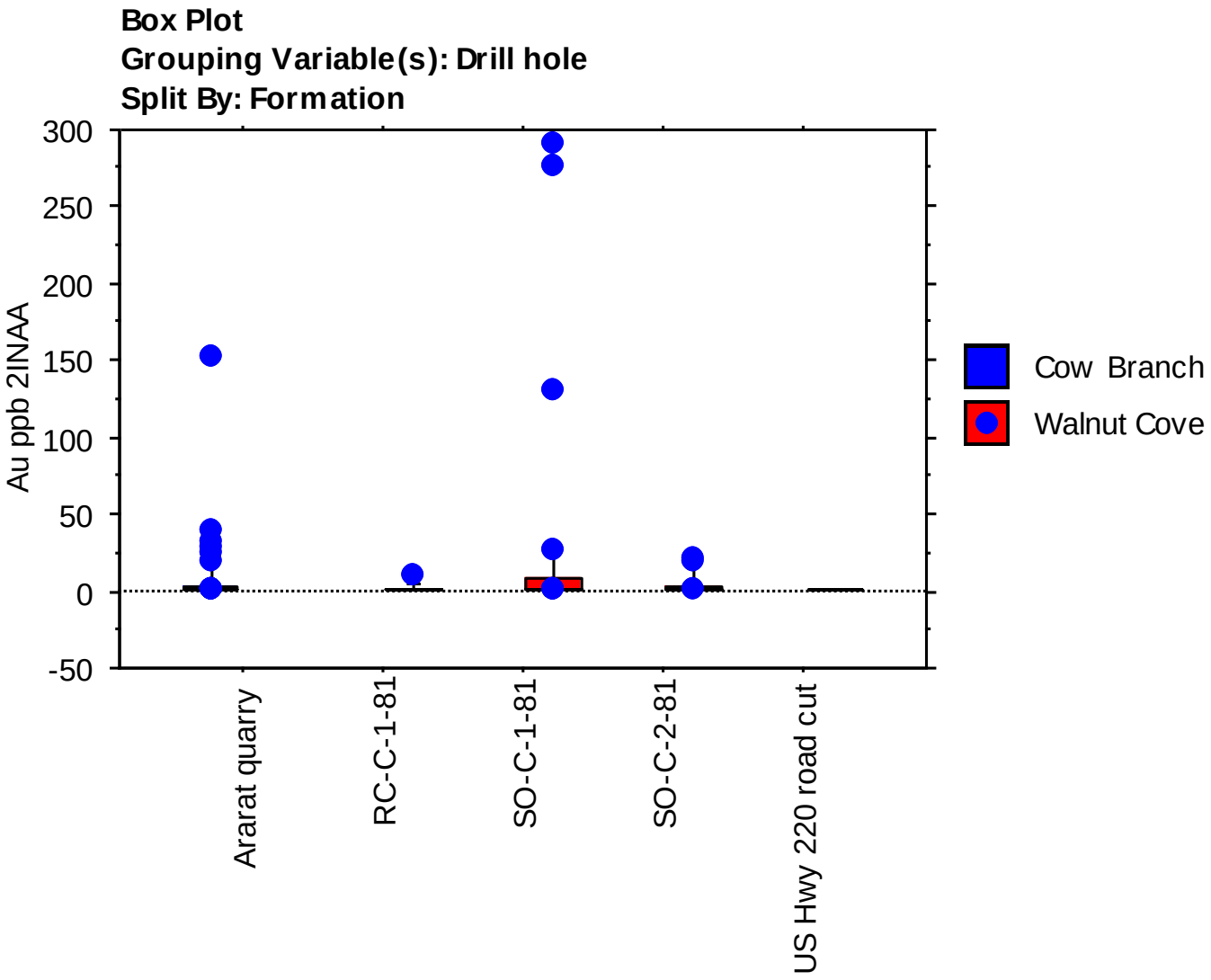
Th (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Th_ppm_0.1_MULT INAA/TD-ICP-MS
0
5
10
15
20
25
30
35
40
45
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

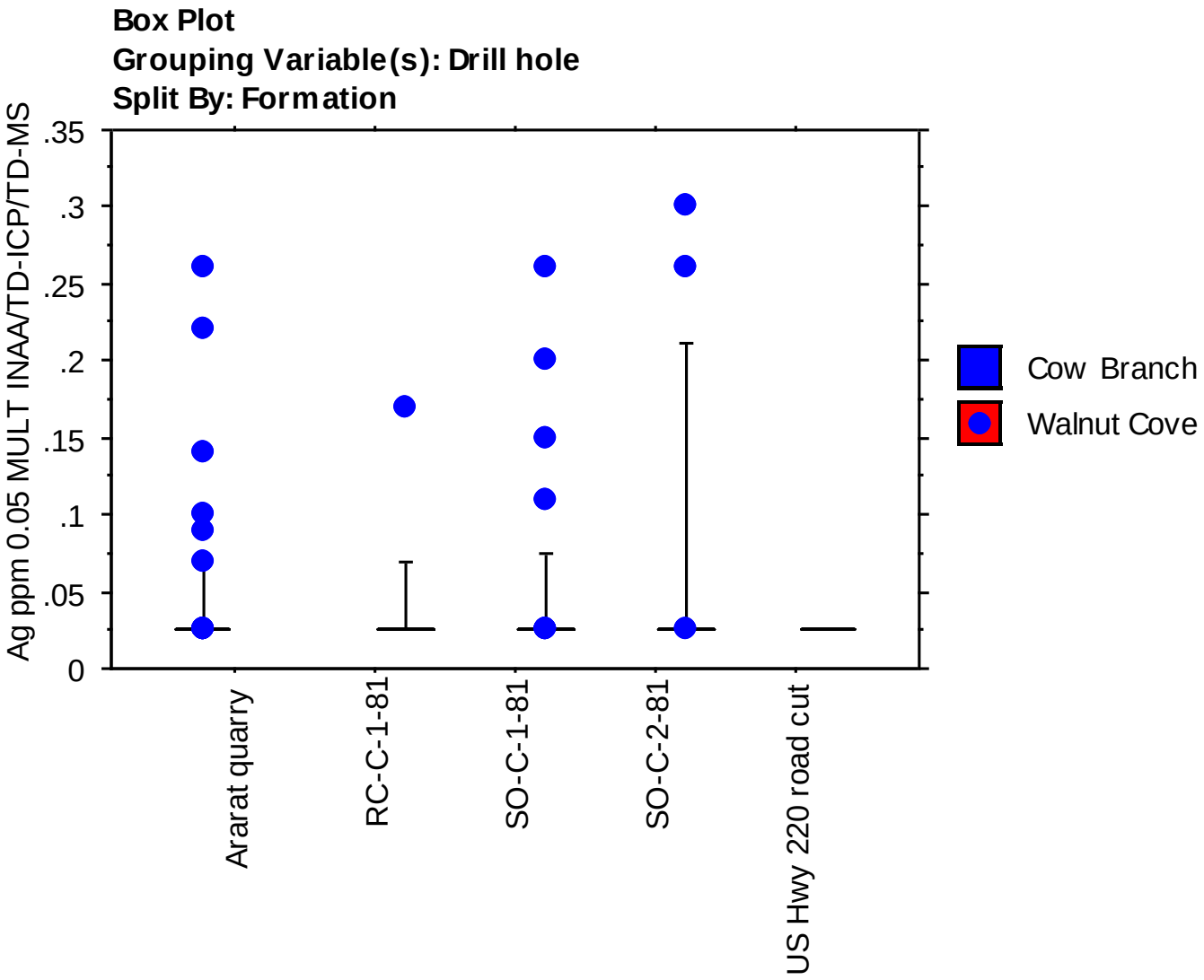
U (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
U_ppm_0.1_MULT INAA/TD-ICP-MS
80
70
60
50
40
30
20
10
0
-10
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

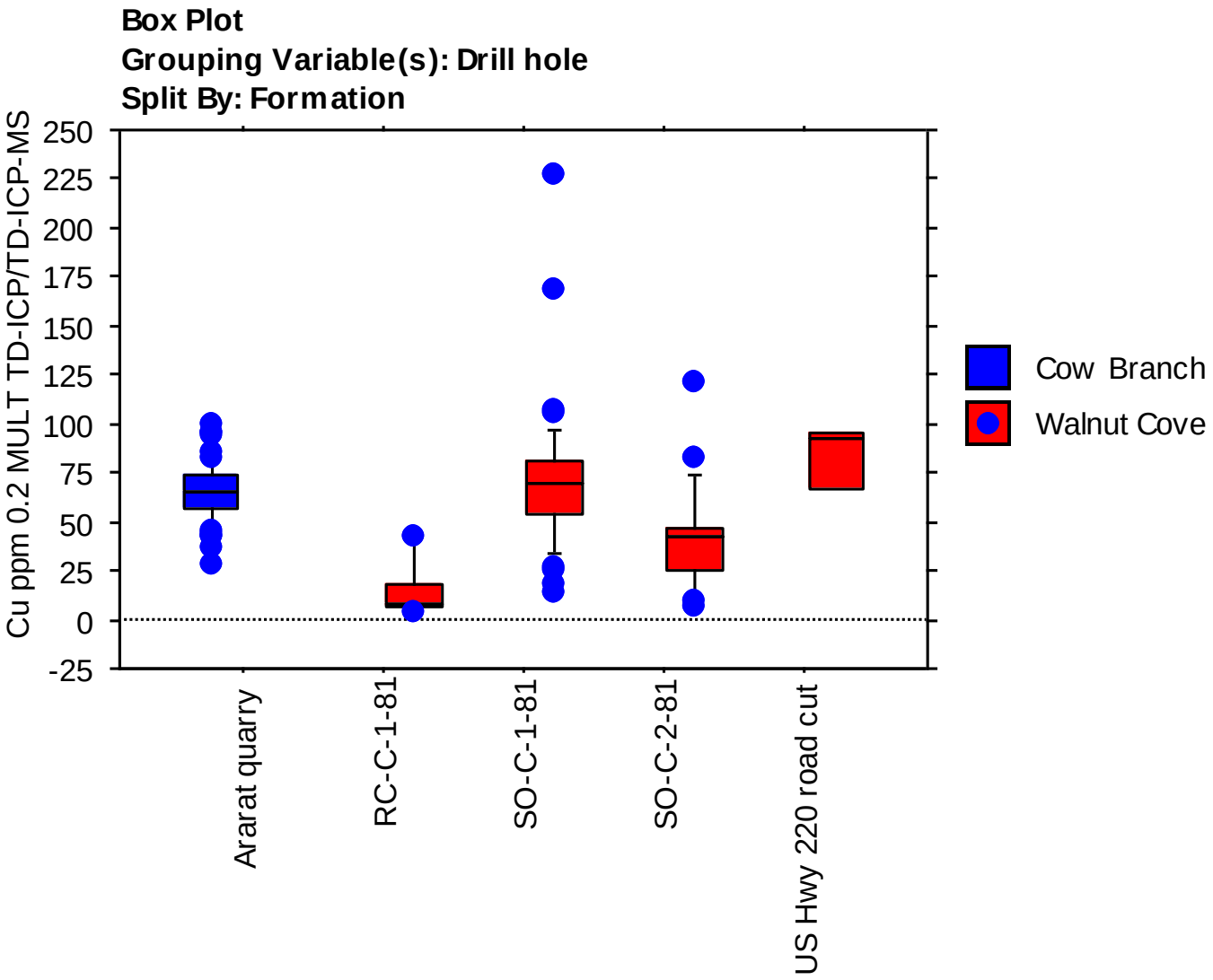
Au (ppb)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Au ppb 2INAA
300
250
200
150
100
50
0
-50
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

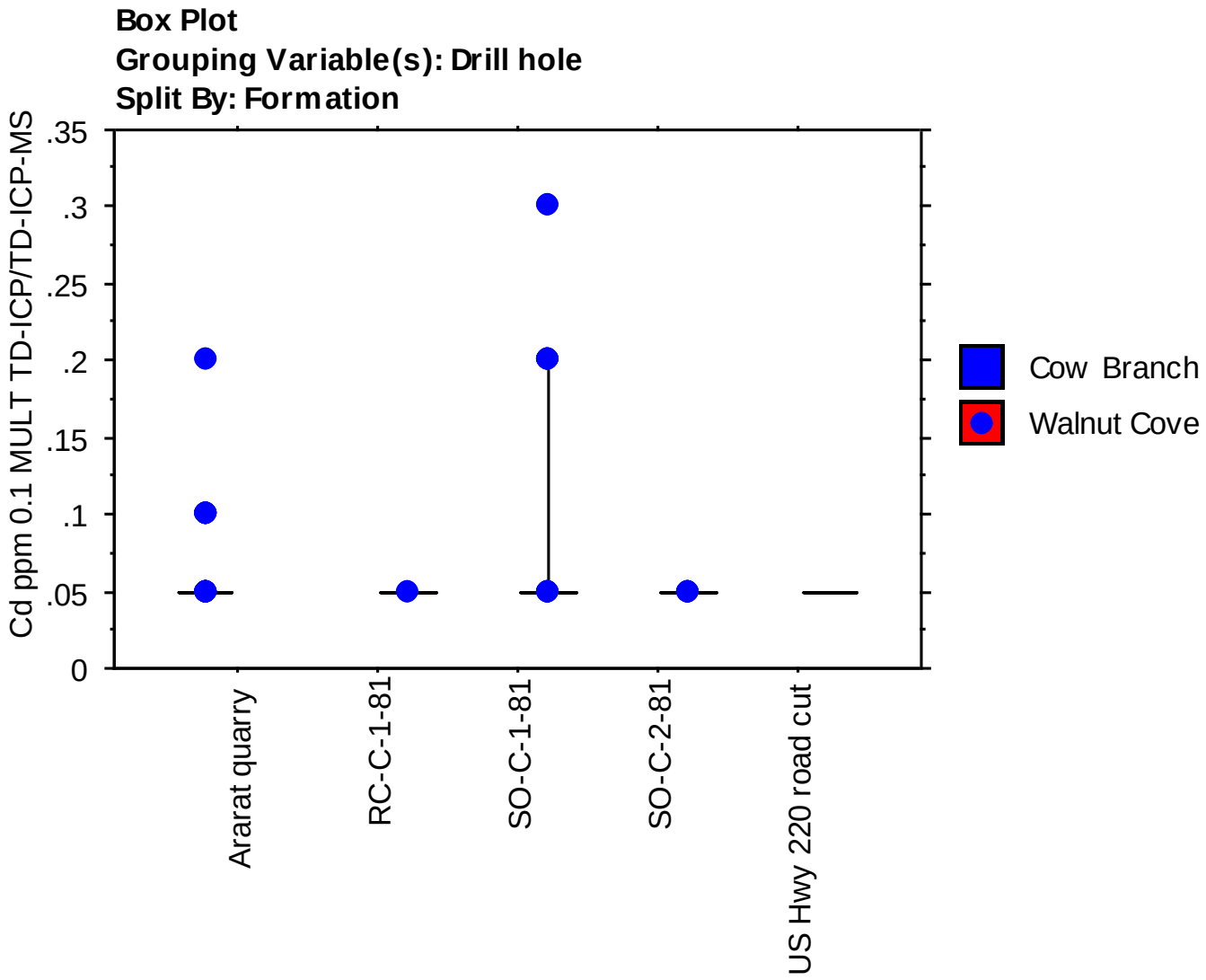
Ag (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Ag ppm 0.05 MULT INAA/TD-ICP/TD-MS
.35
.3
.25
.2
.15
.1
.05
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

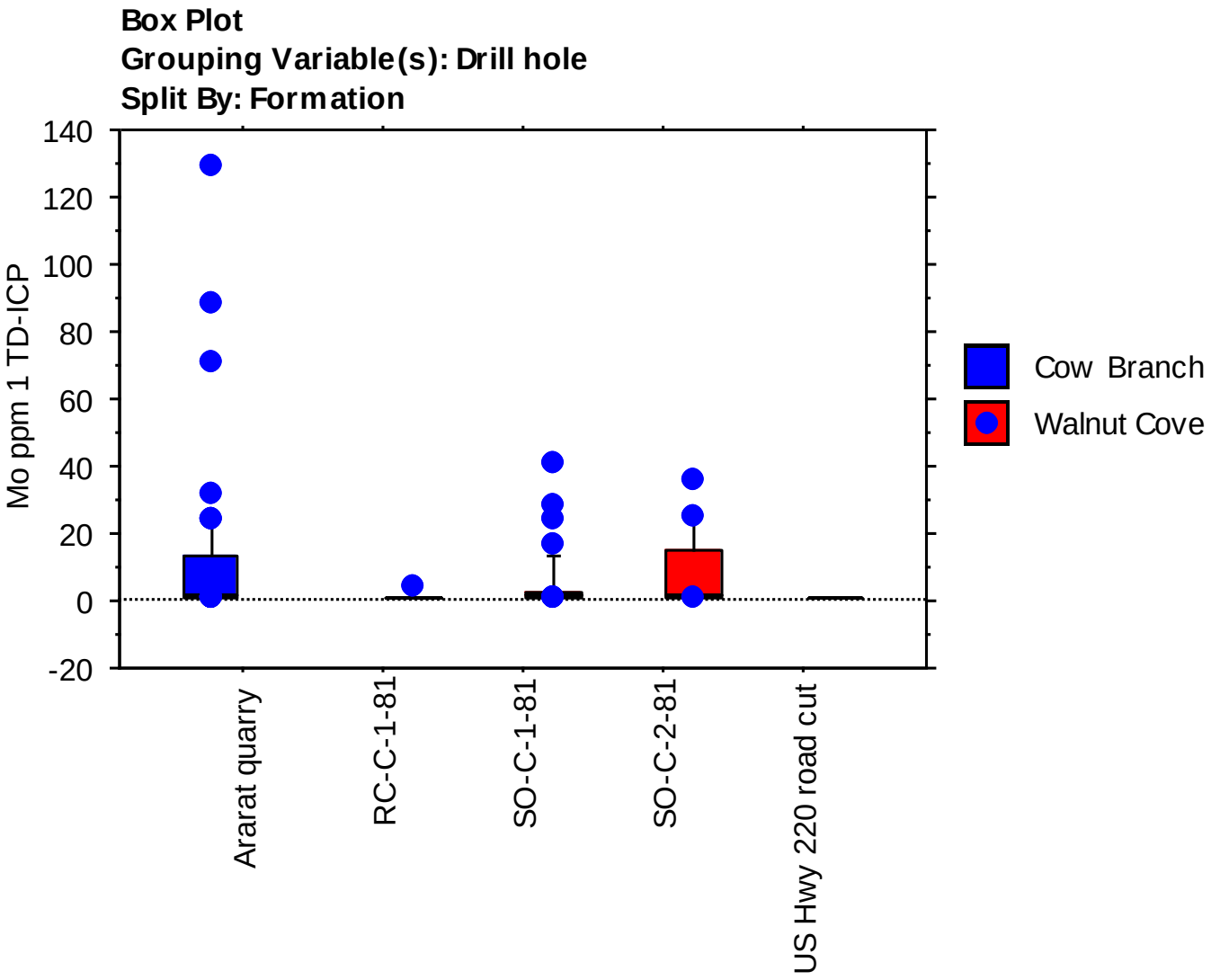
Cu (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Cu ppm 0.2 MULT TD-ICP/TD-ICP-MS
250
225
200
175
150
125
100
75
50
25
0
-25
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

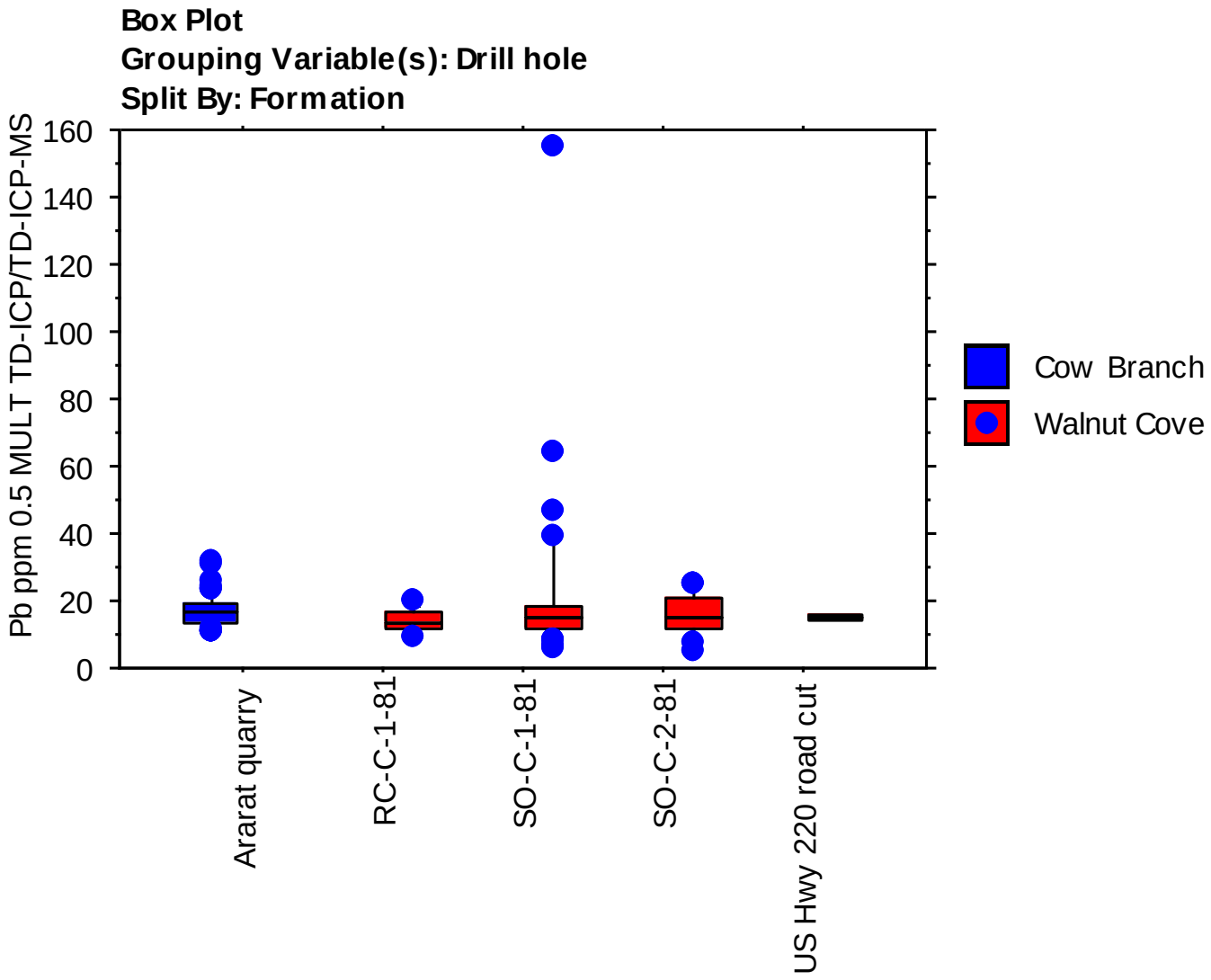
Cd (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Cd ppm 0.1 MULT TD-ICP/TD-ICP-MS
.35
.3
.25
.2
.15
.1
.05
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

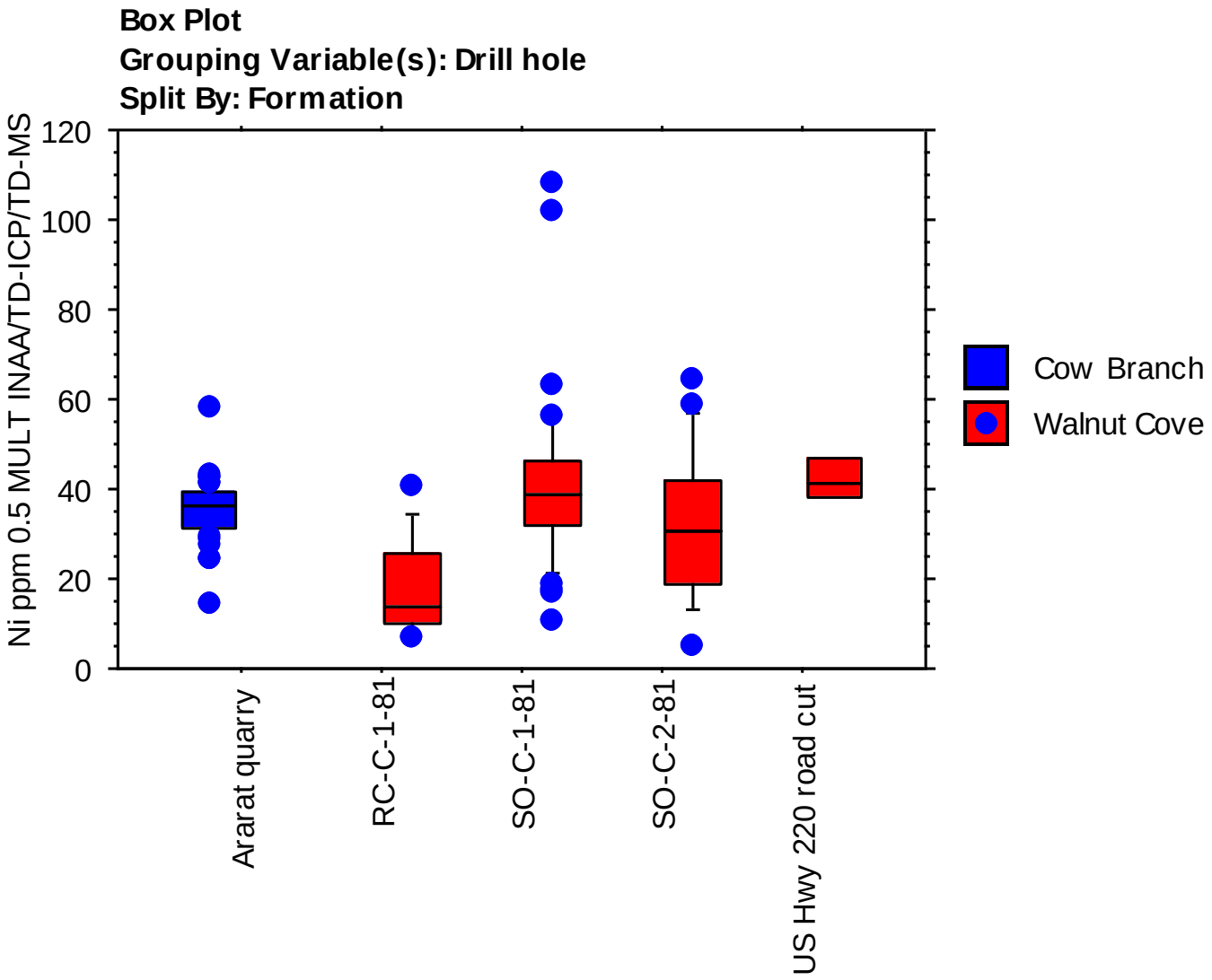
Mo (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Mo ppm 1 TD-ICP
140
120
100
80
60
40
20
0
-20
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

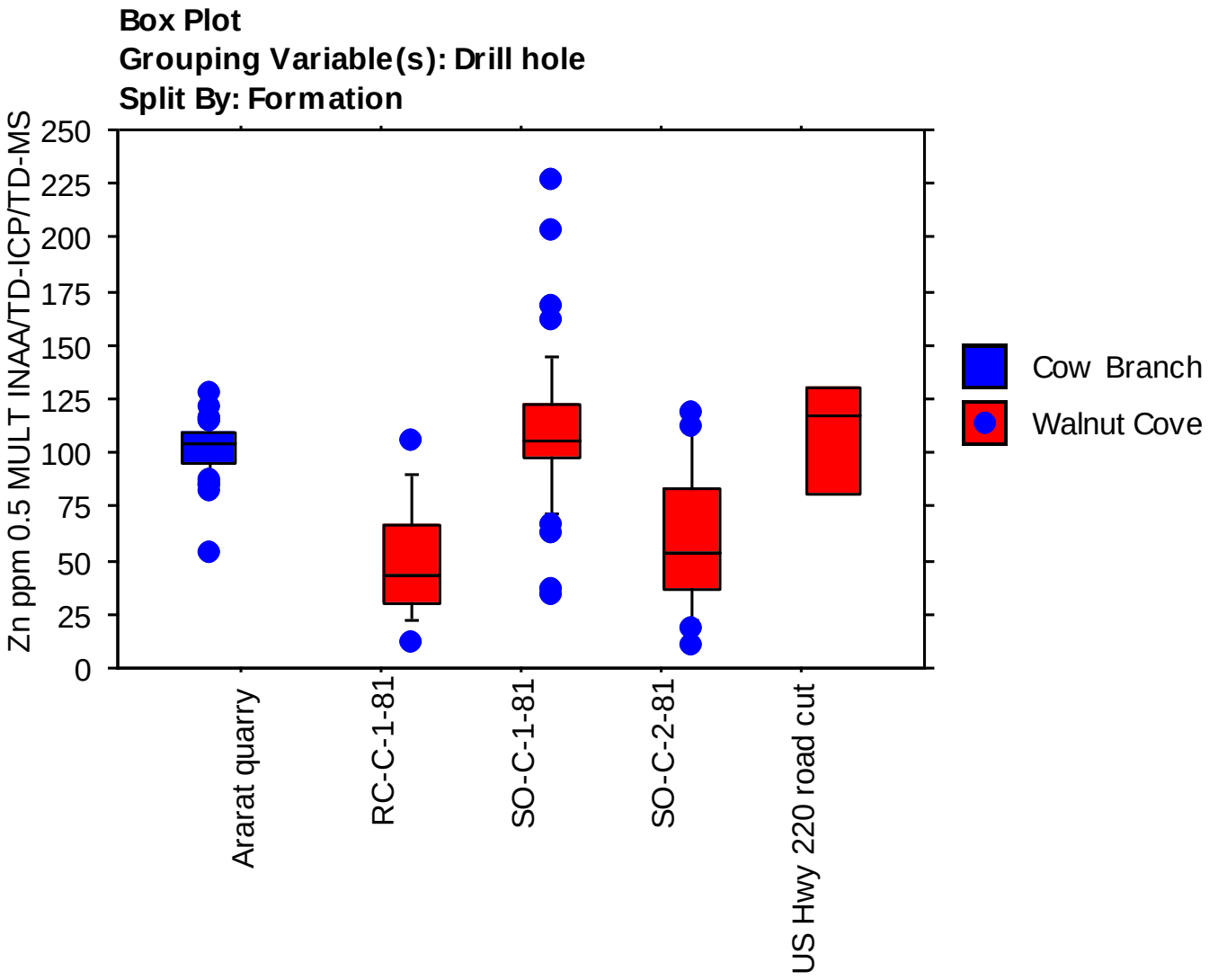
Pb (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Pb ppm 0.5 MULT TD-ICP/TD-ICP-MS
160
140
120
100
80
60
40
20
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

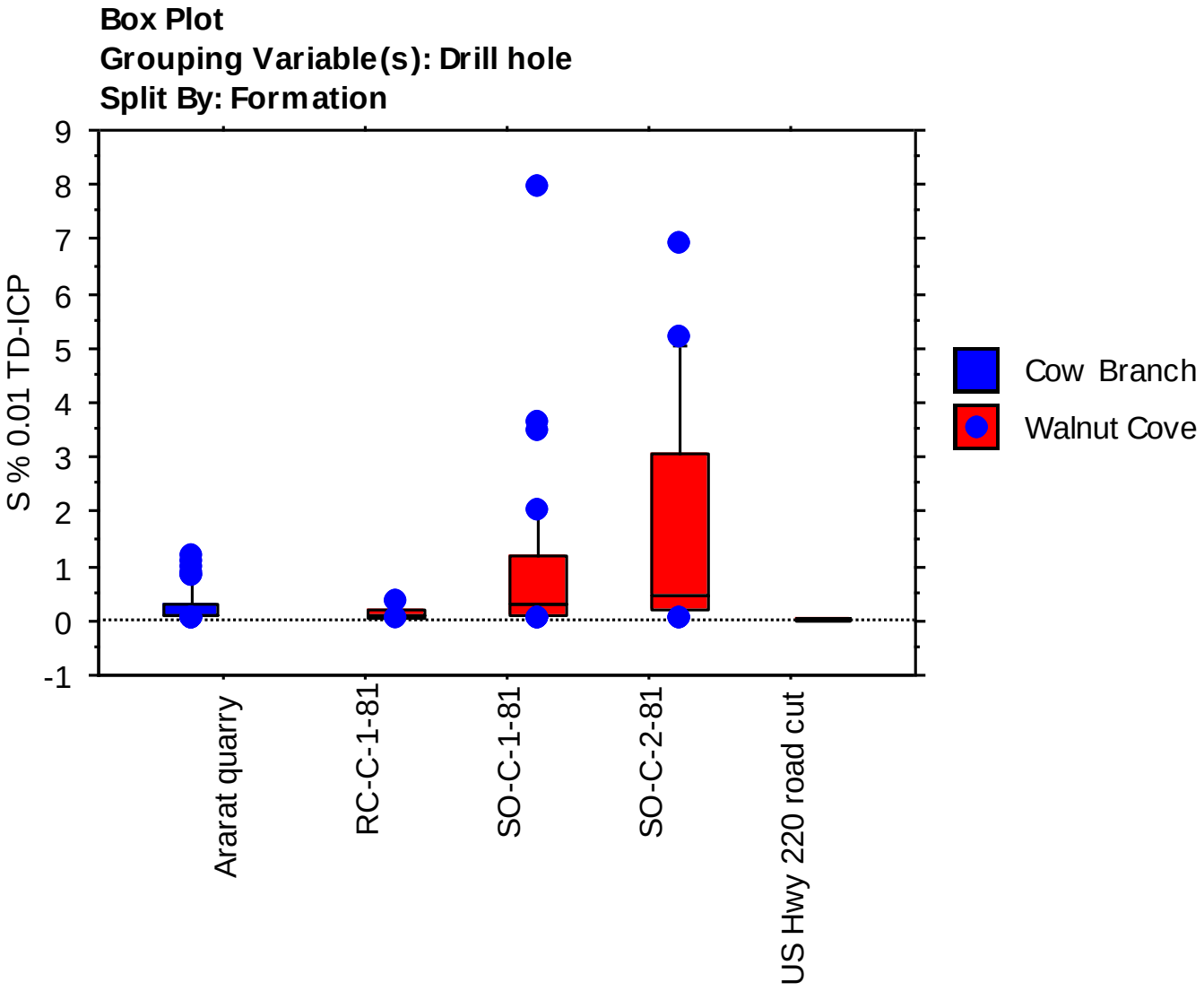
Ni (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Ni ppm 0.5 MULT INAA/TD-ICP/TD-MS
120
100
80
60
40
20
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

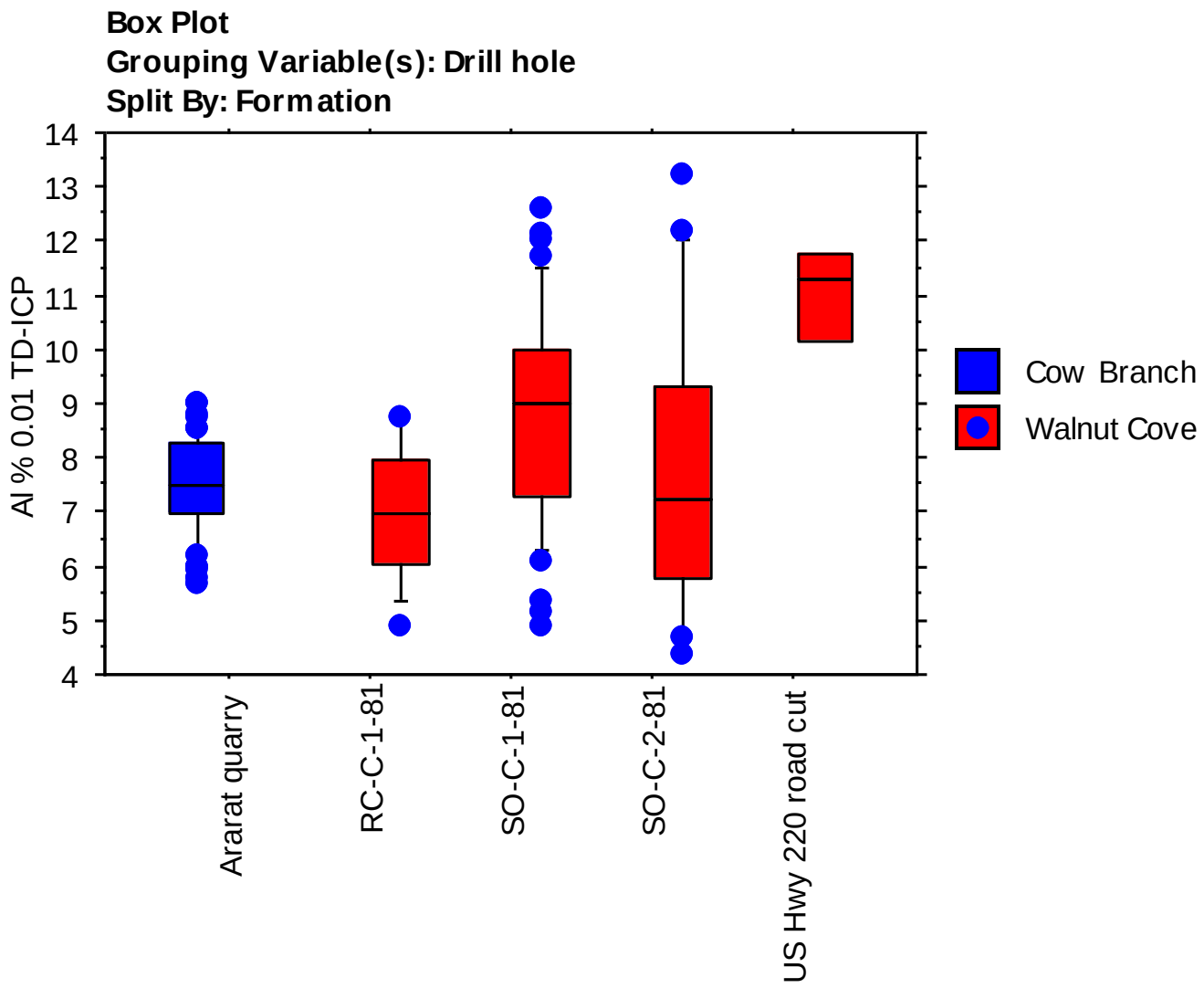
Zn (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Zn ppm 0.5 MULT INAA/TD-ICP/TD-MS
250
225
200
175
150
125
100
75
50
25
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

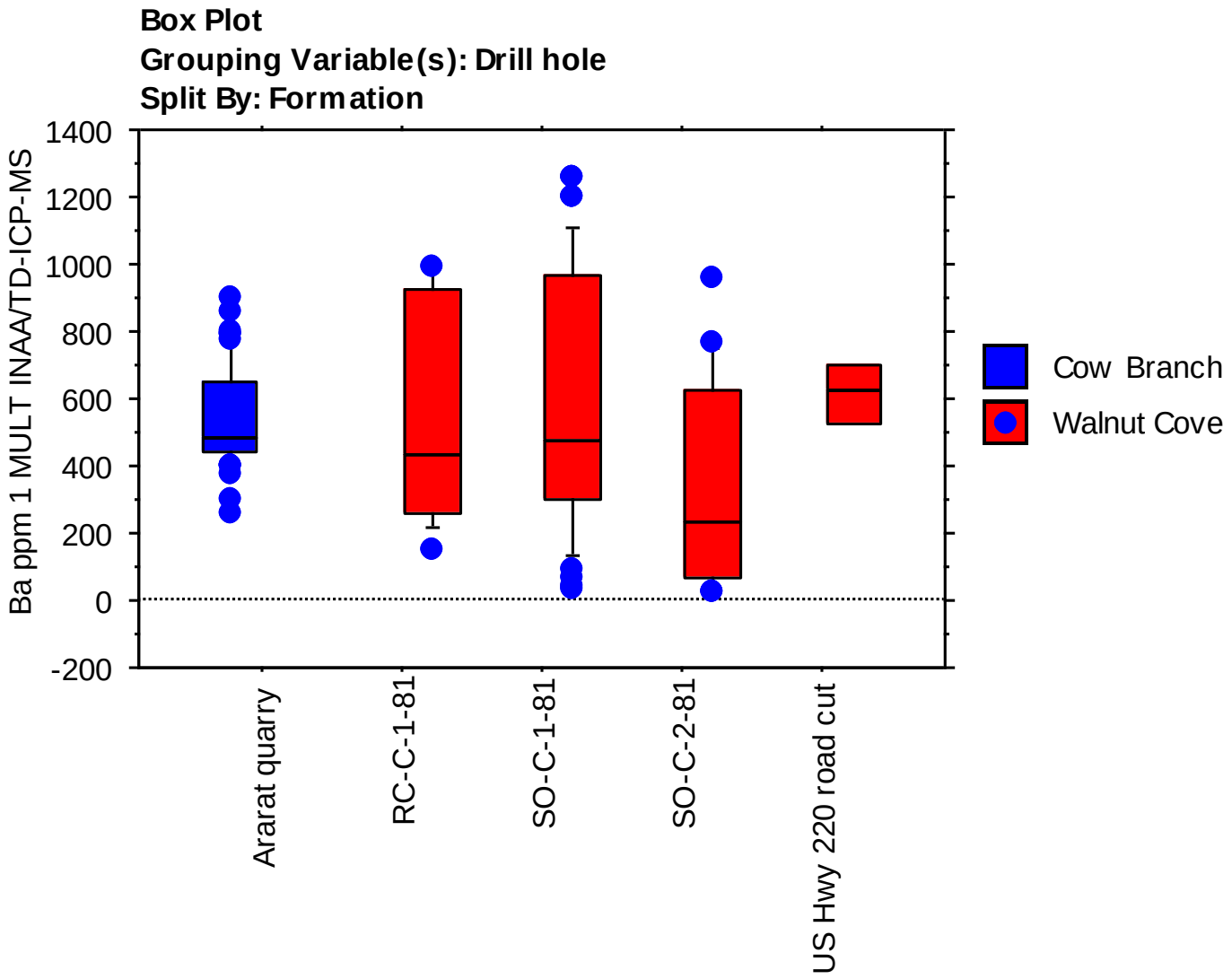
S (%)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
S % 0.01 TD-ICP
9
8
7
6
5
4
3
2
1
0
-1
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

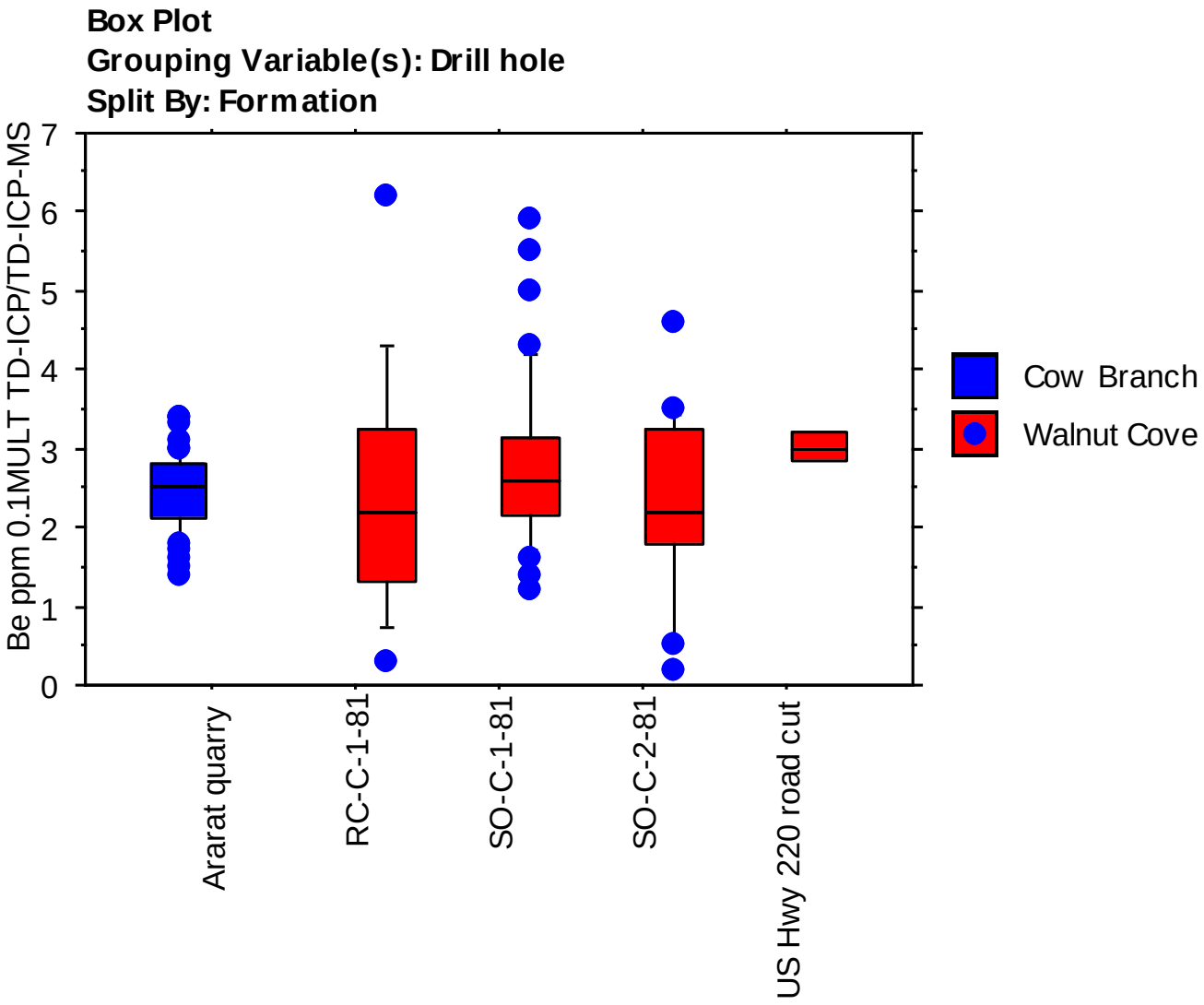
Al (%)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Al % 0.01 TD-ICP
14
13
12
11
10
9
8
7
6
5
4
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

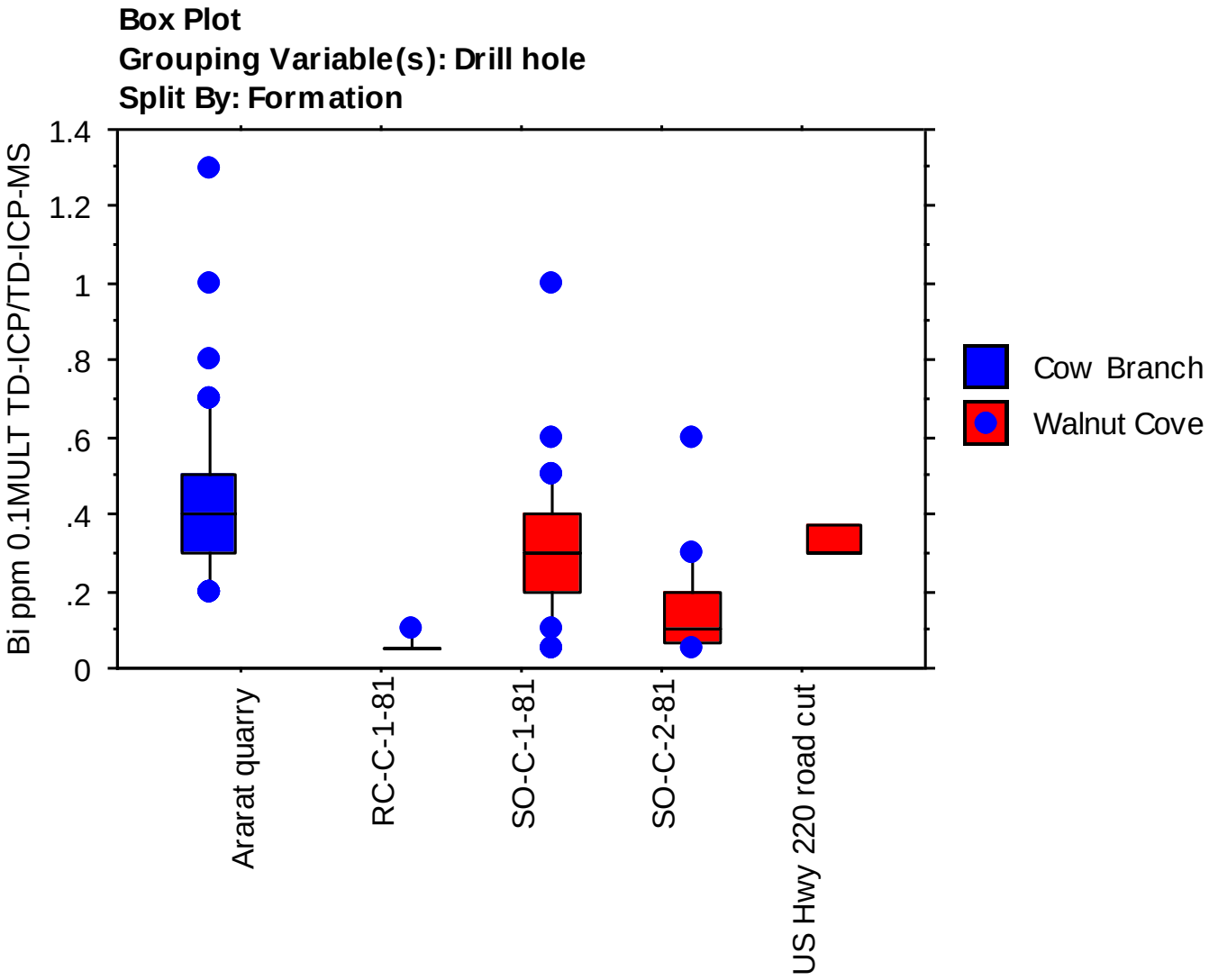
Ba (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Ba ppm 1 MULT INAA/TD-ICP-MS
1400
1200
1000
800
600
400
200
0
-200
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

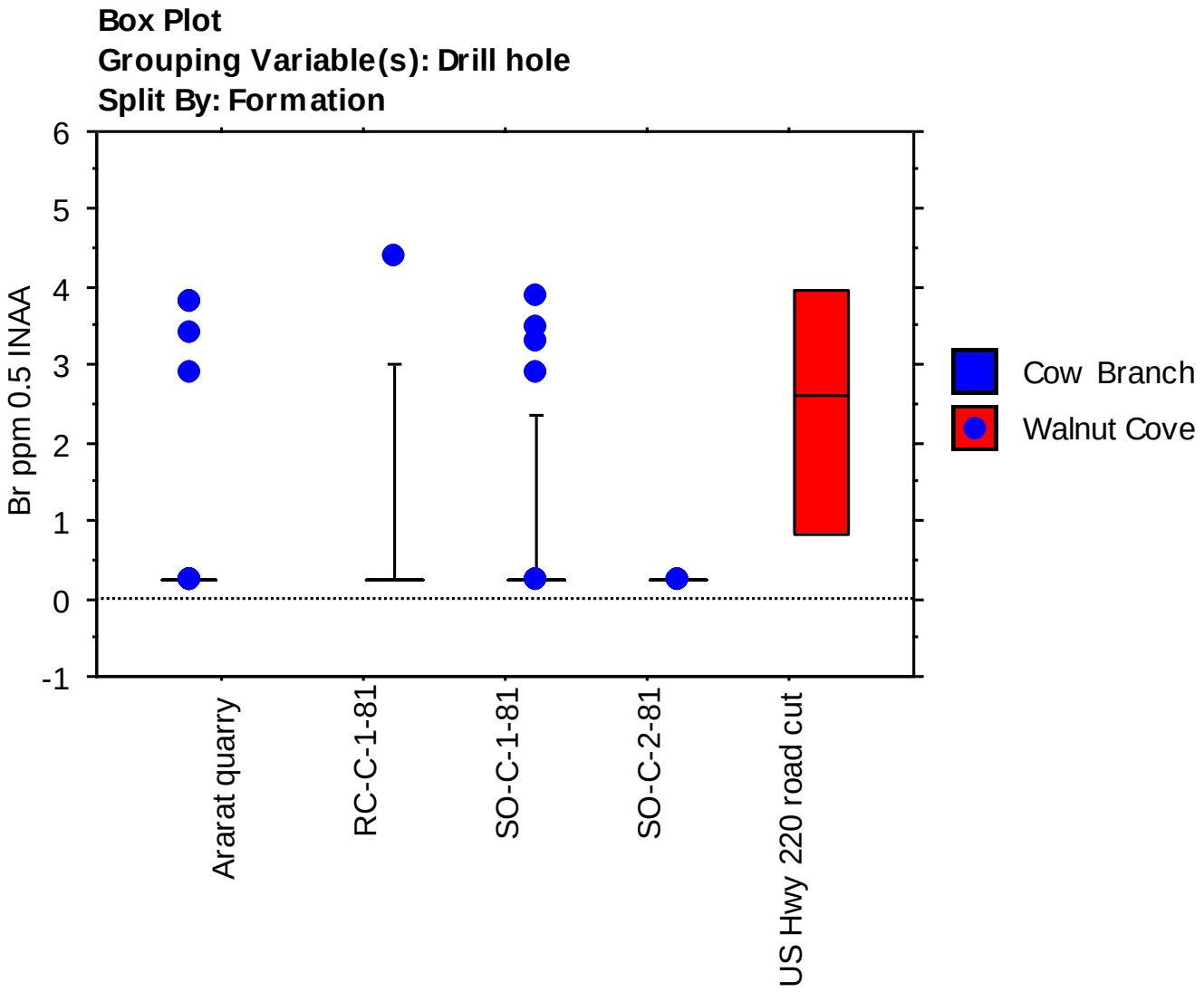
Be (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Be ppm 0.1MULT TD-ICP/TD-ICP-MS
0
1
2
3
4
5
6
7
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

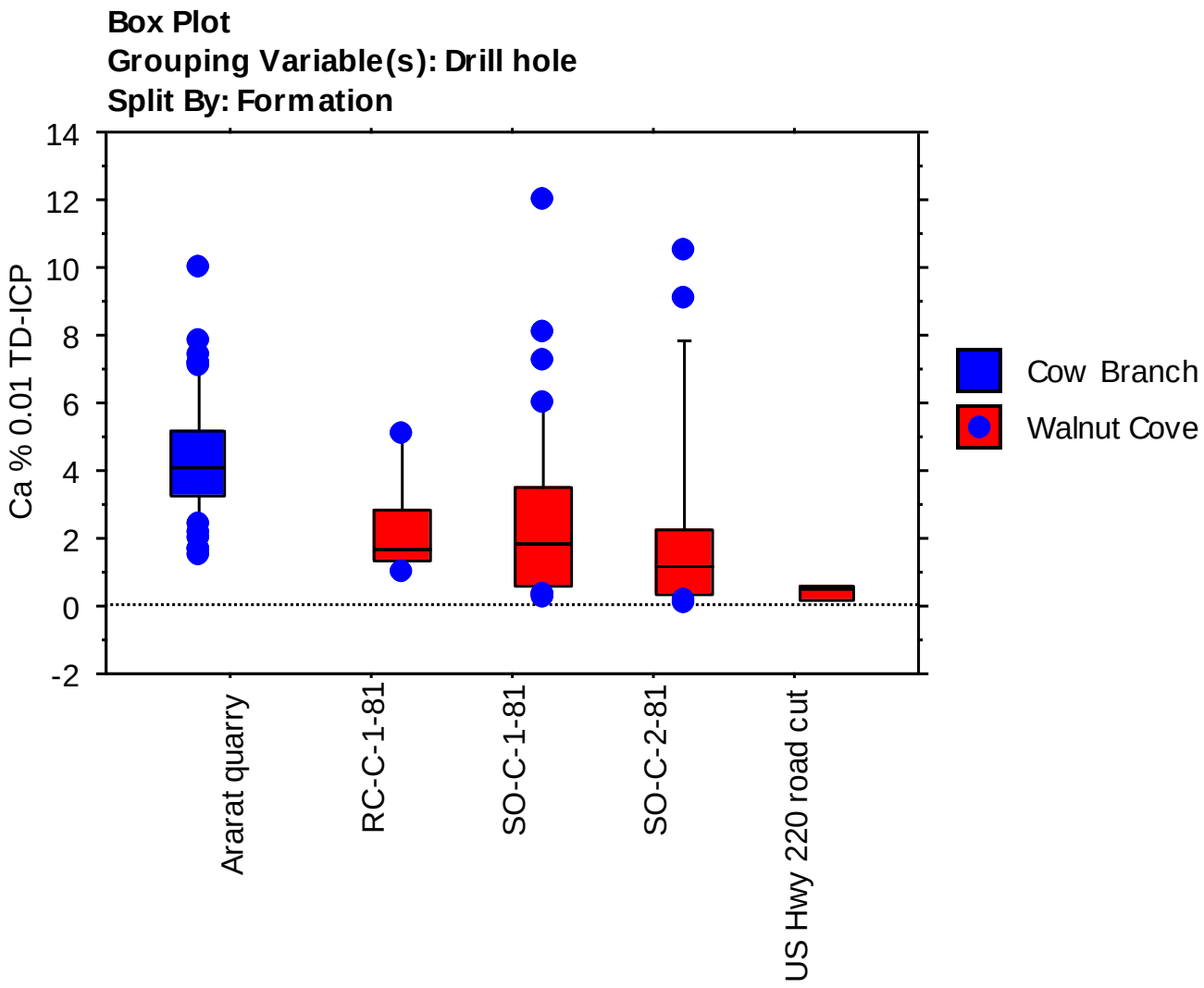
Bi (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Bi ppm 0.1MULT TD-ICP/TD-ICP-MS
1.4
1.2
1
.8
.6
.4
.2
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

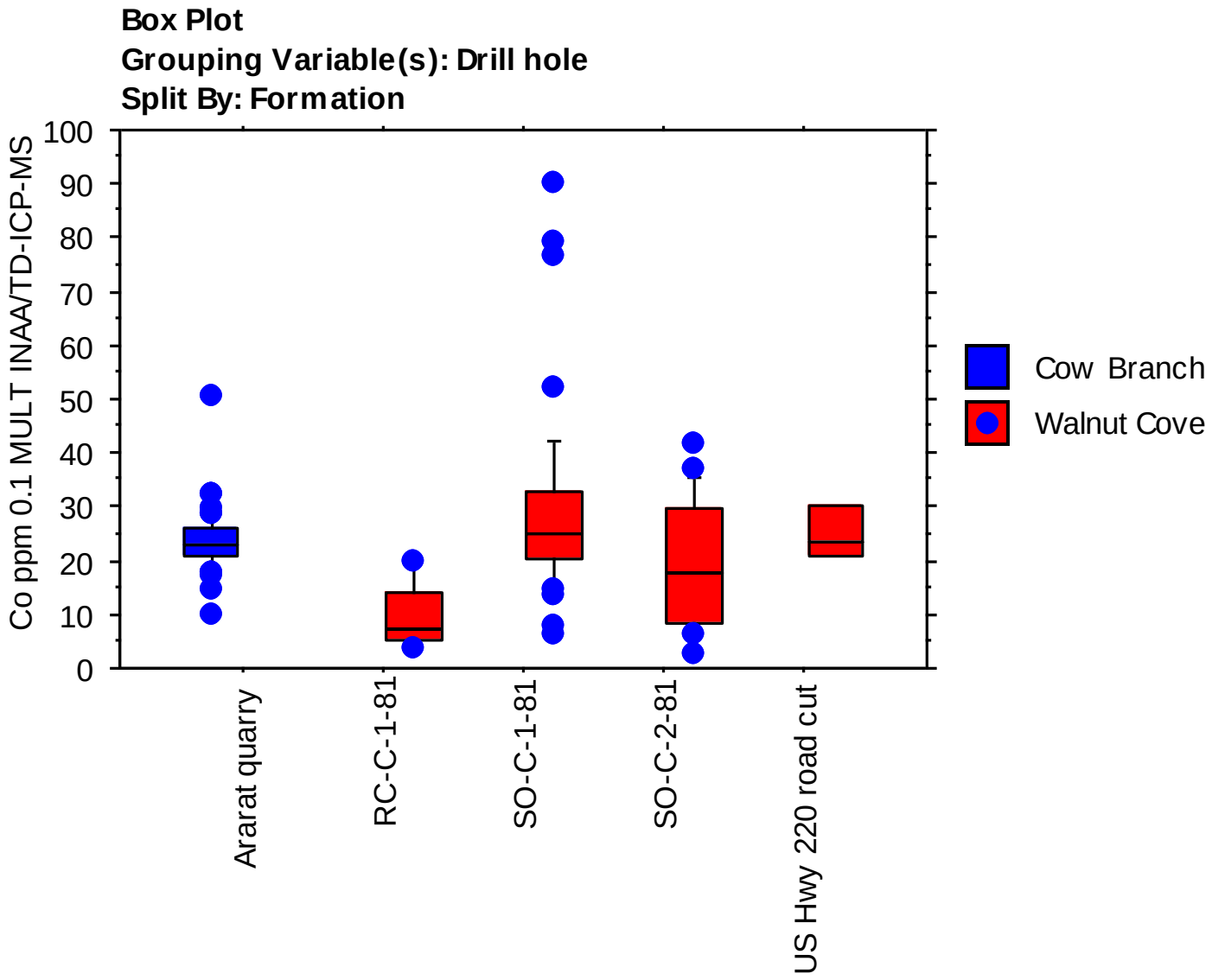
Br (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Br ppm 0.5 INAA
6
5
4
3
2
1
0
-1
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

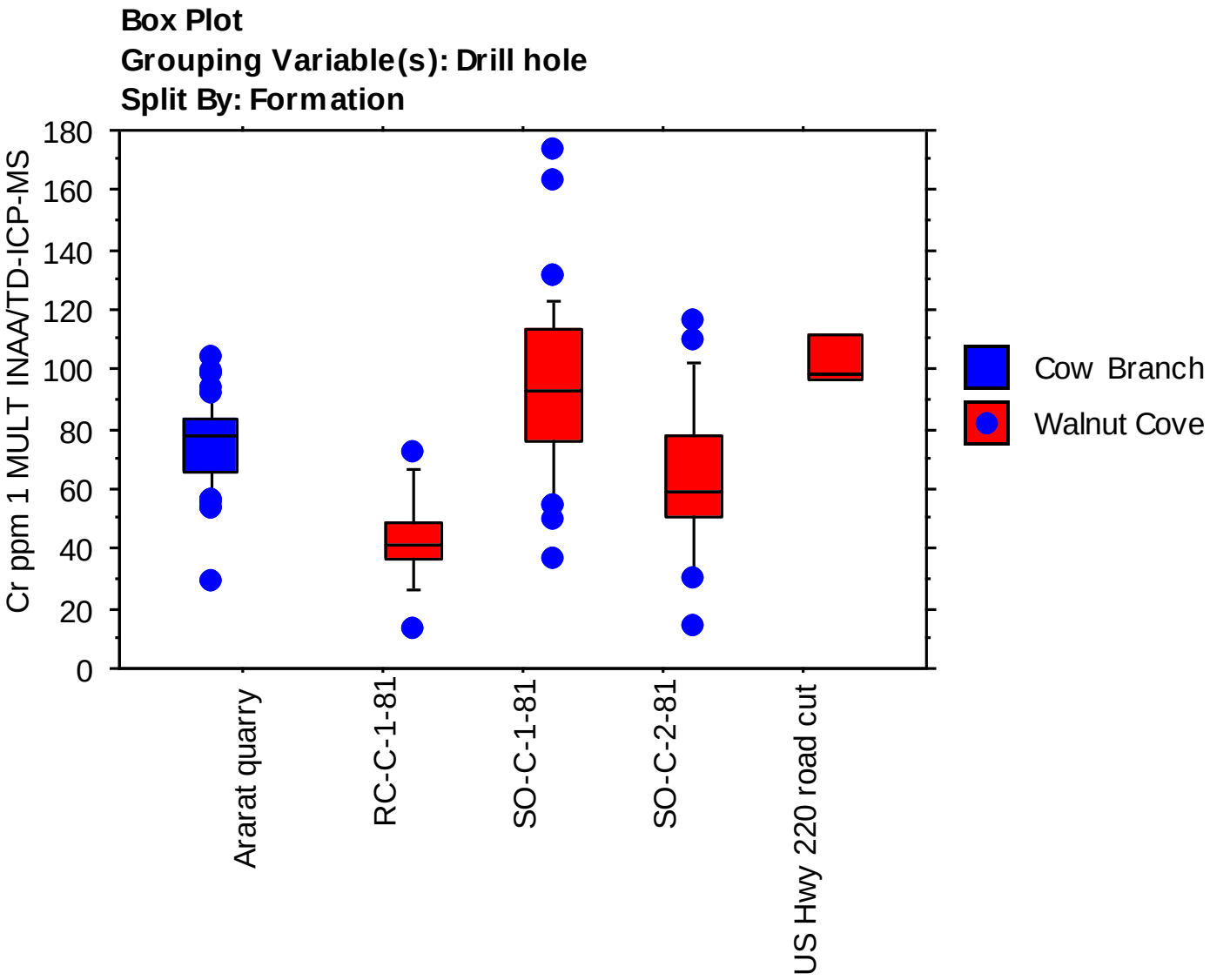
Ca (%)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Ca % 0.01 TD-ICP
14
12
10
8
6
4
2
0
-2
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

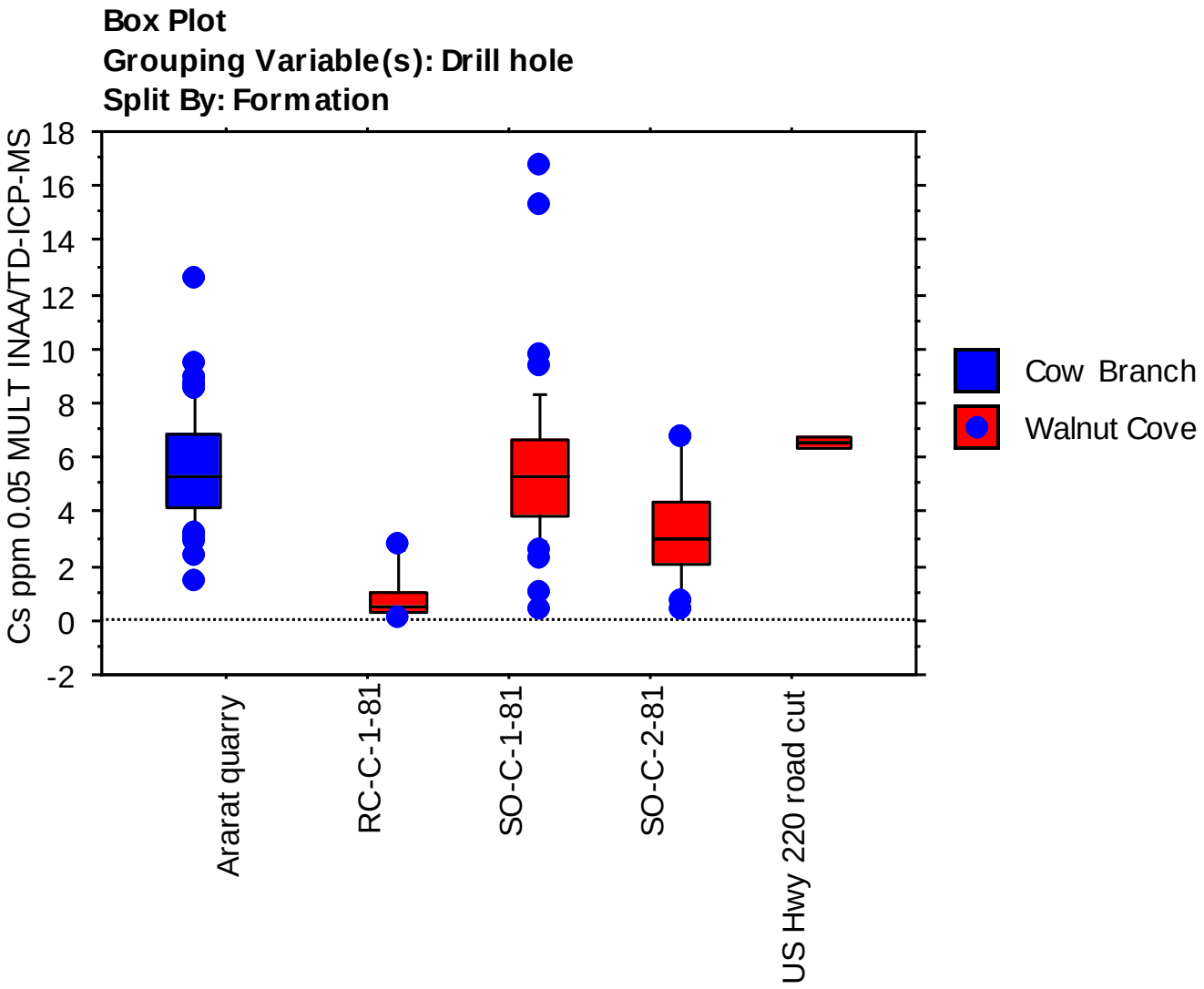
Co (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Co ppm 0.1 MULT INAA/TD-ICP-MS
100
90
80
70
60
50
40
30
20
10
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

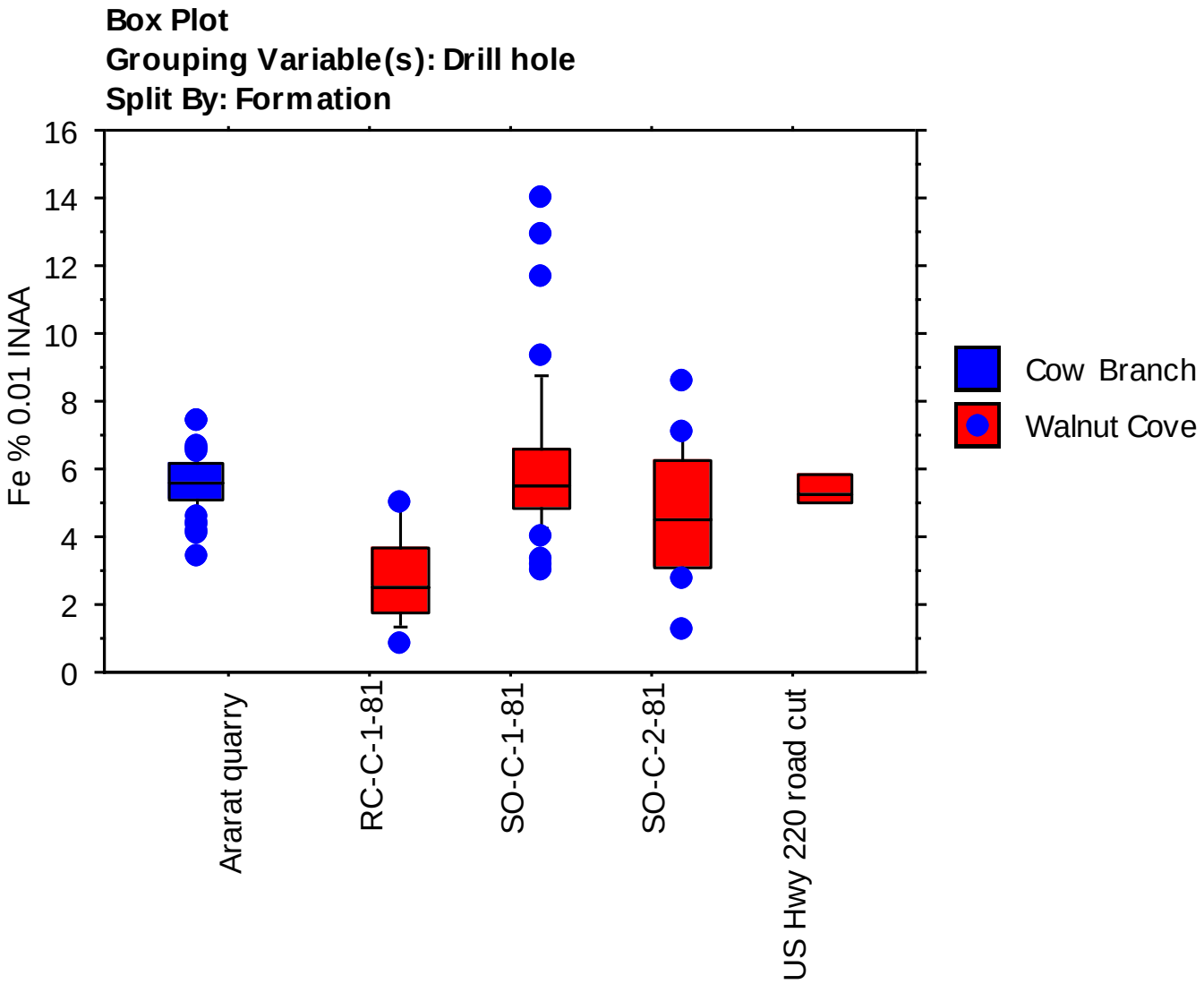
Cr (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Cr ppm 1 MULT INAA/TD-ICP-MS
180
160
140
120
100
80
60
40
20
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

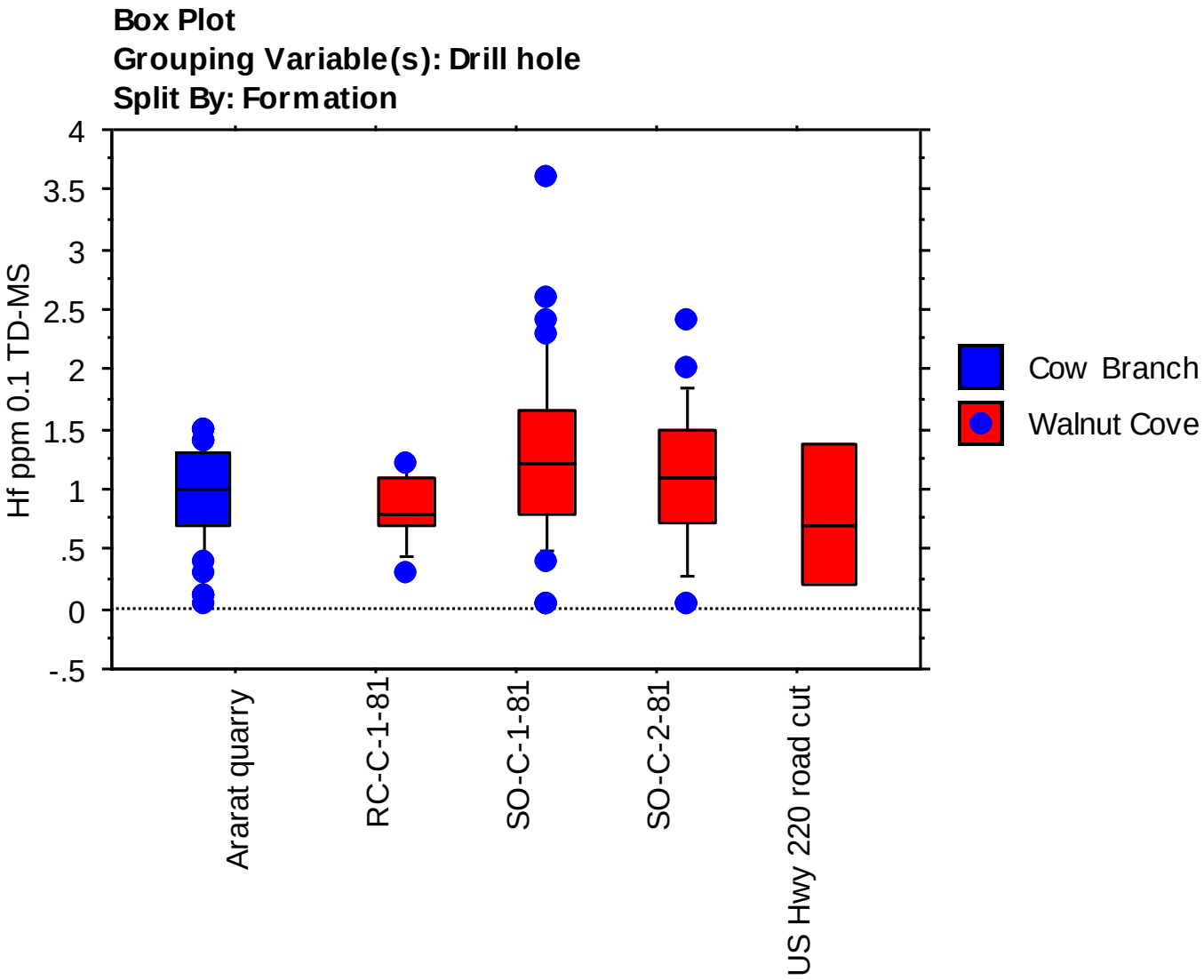
Cs (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Cs ppm 0.05 MULT INAA/TD-ICP-MS
18
16
14
12
10
8
6
4
2
0
-2
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

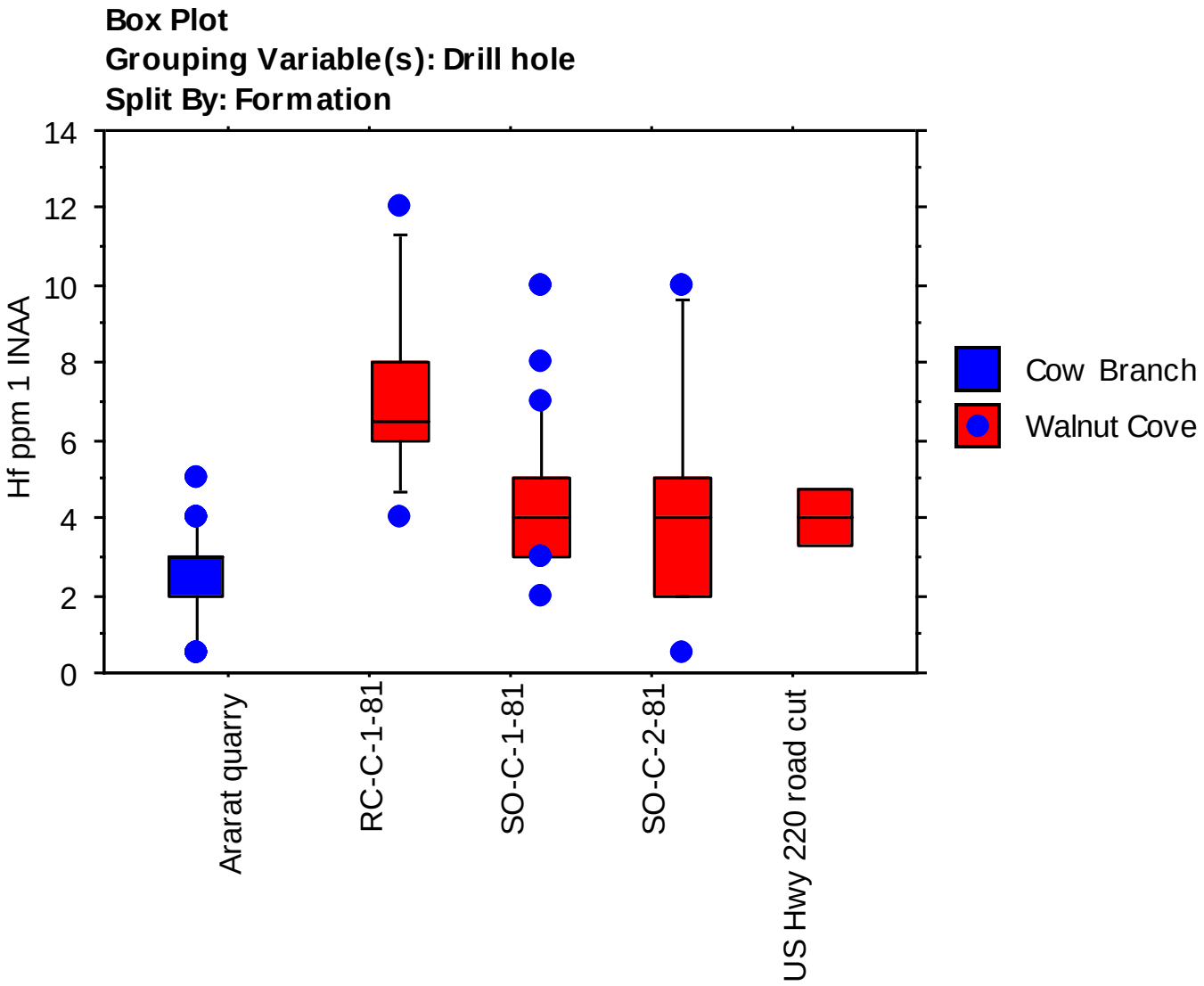
Fe (%)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Fe % 0.01 INAA
16
14
12
10
8
6
4
2
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

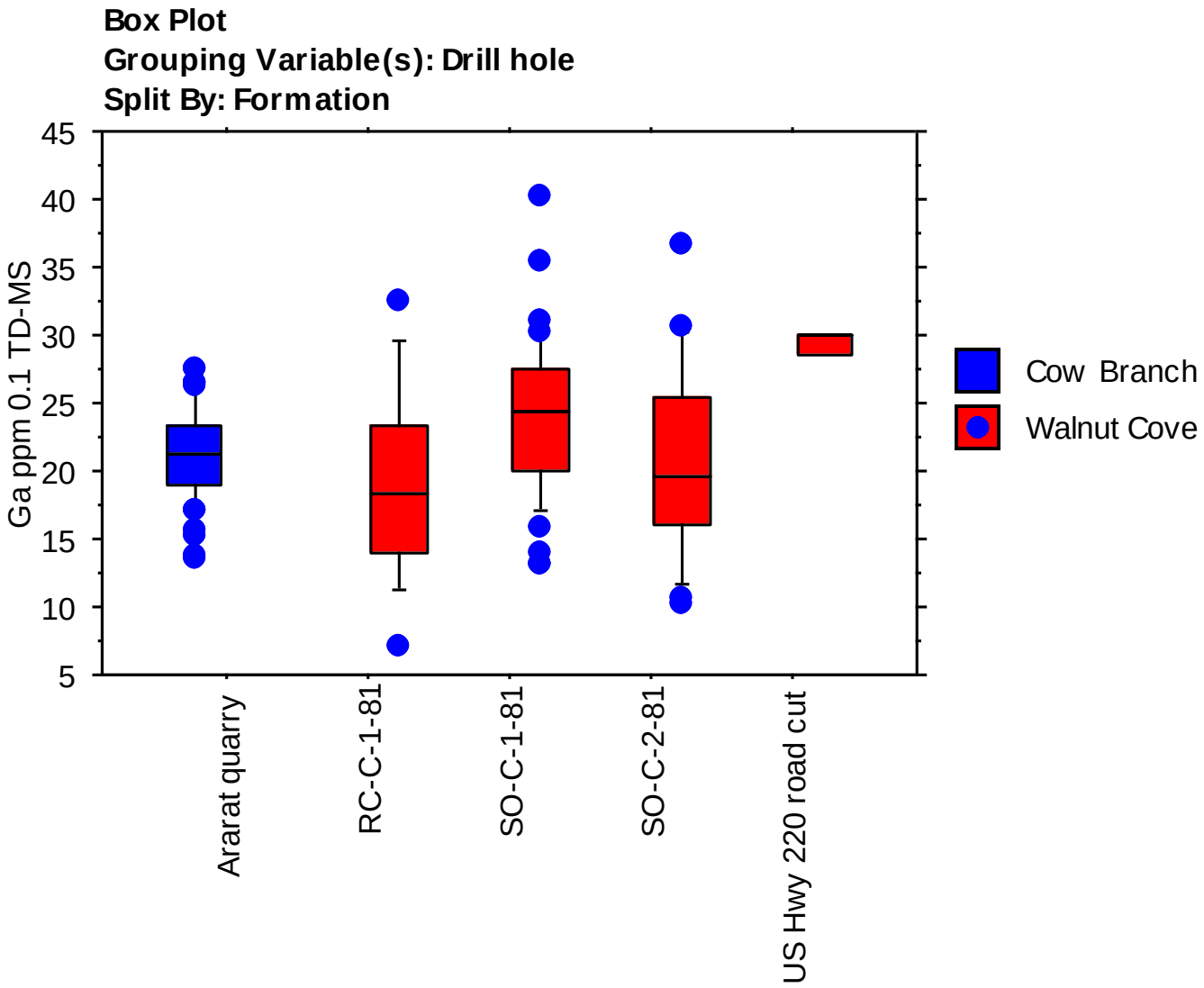
Hf (ppm) – method 1



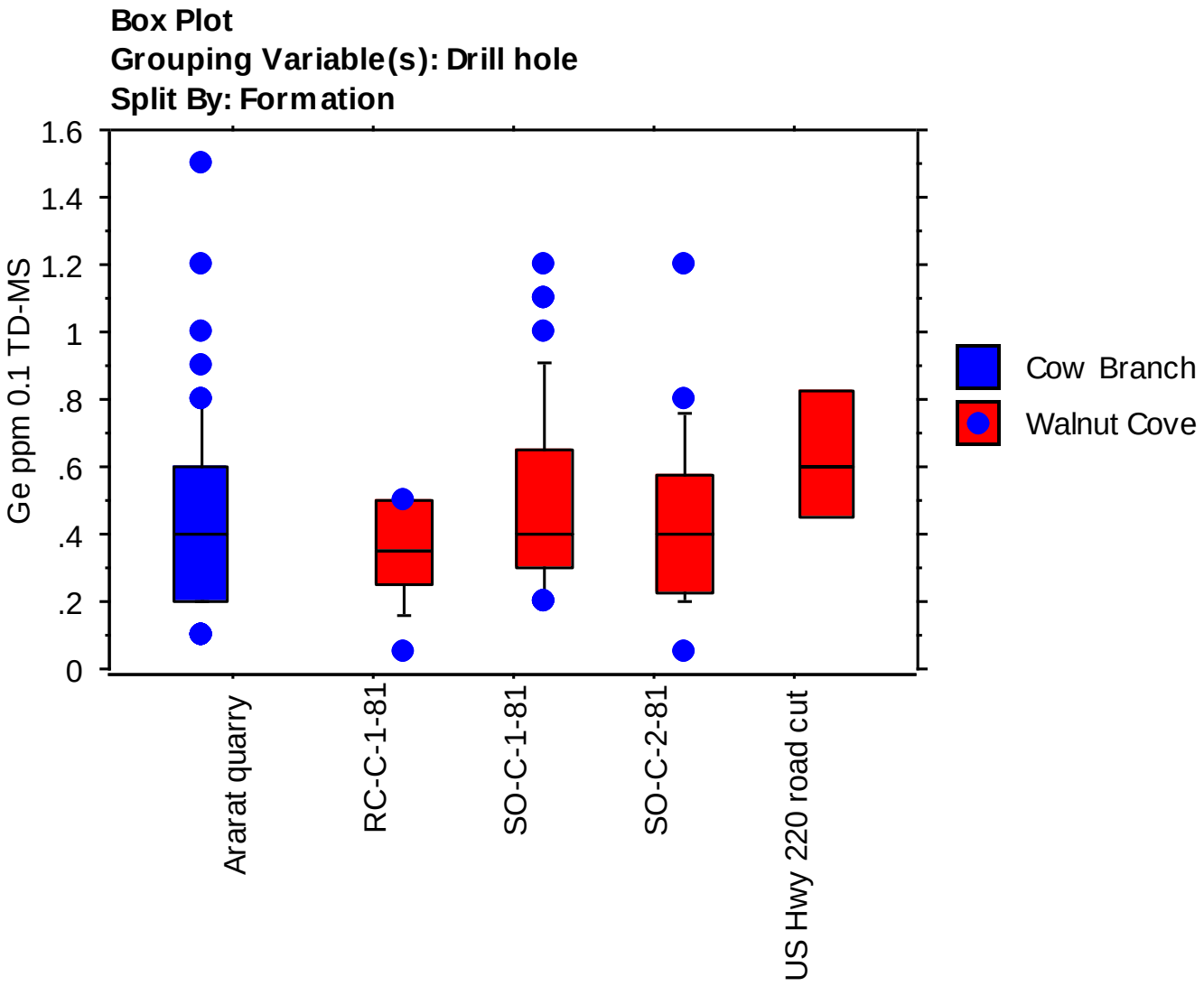
Hf (ppm) – method 2



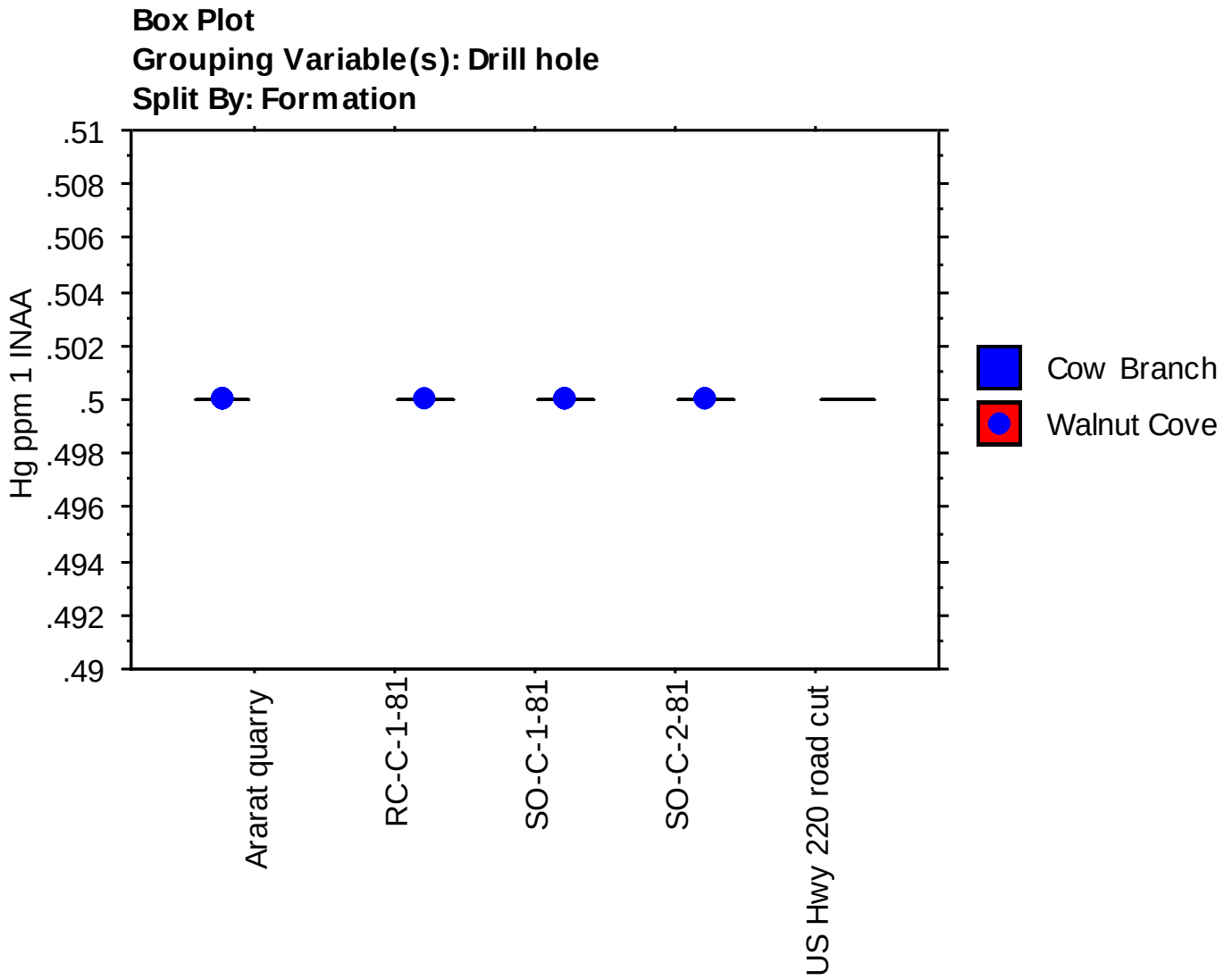
Ga (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Ga ppm 0.1 TD-MS
45
40
35
30
25
20
15
10
5
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

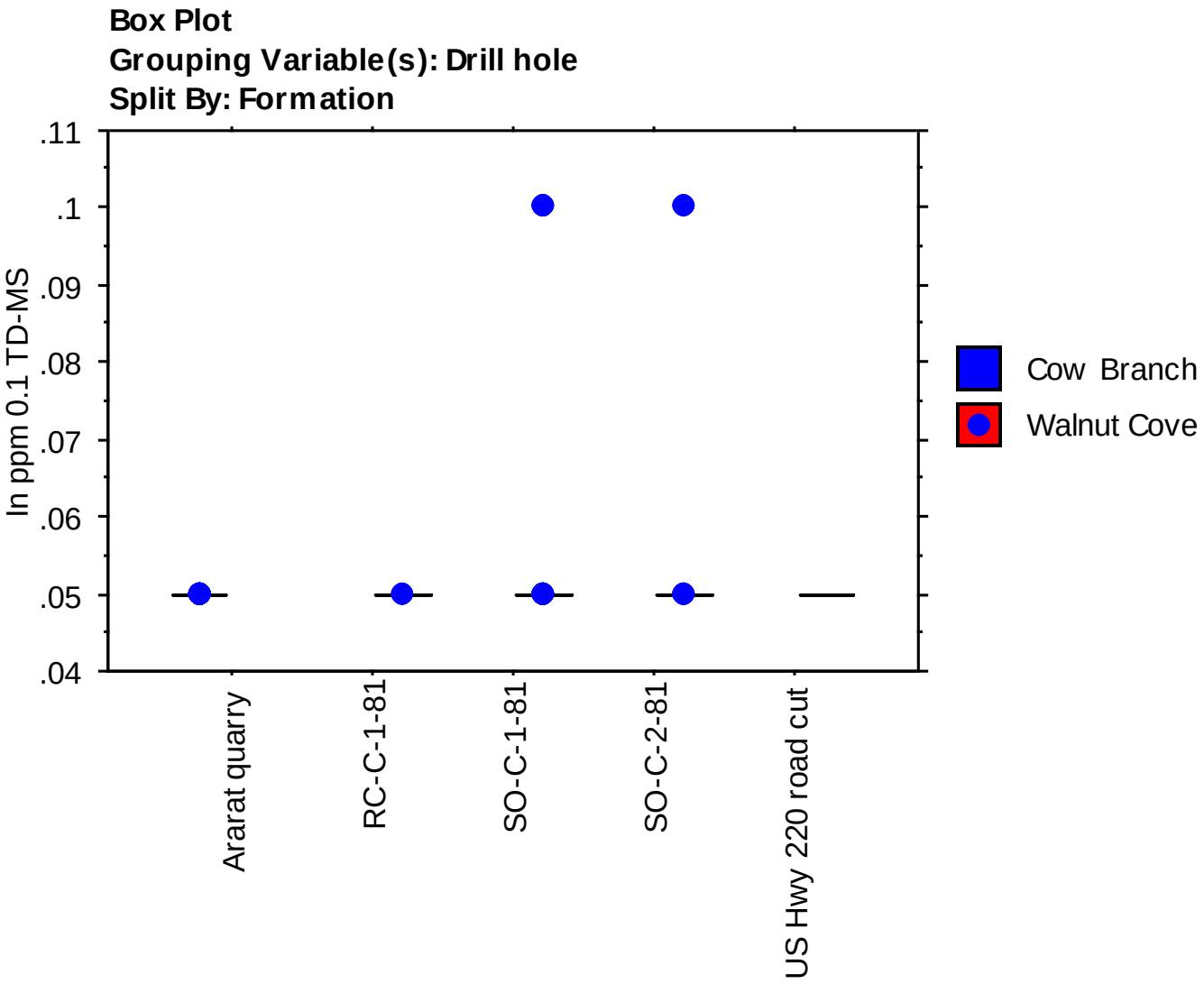
Ge (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Ge ppm 0.1 TD-MS
1.6
1.4
1.2
1
.8
.6
.4
.2
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

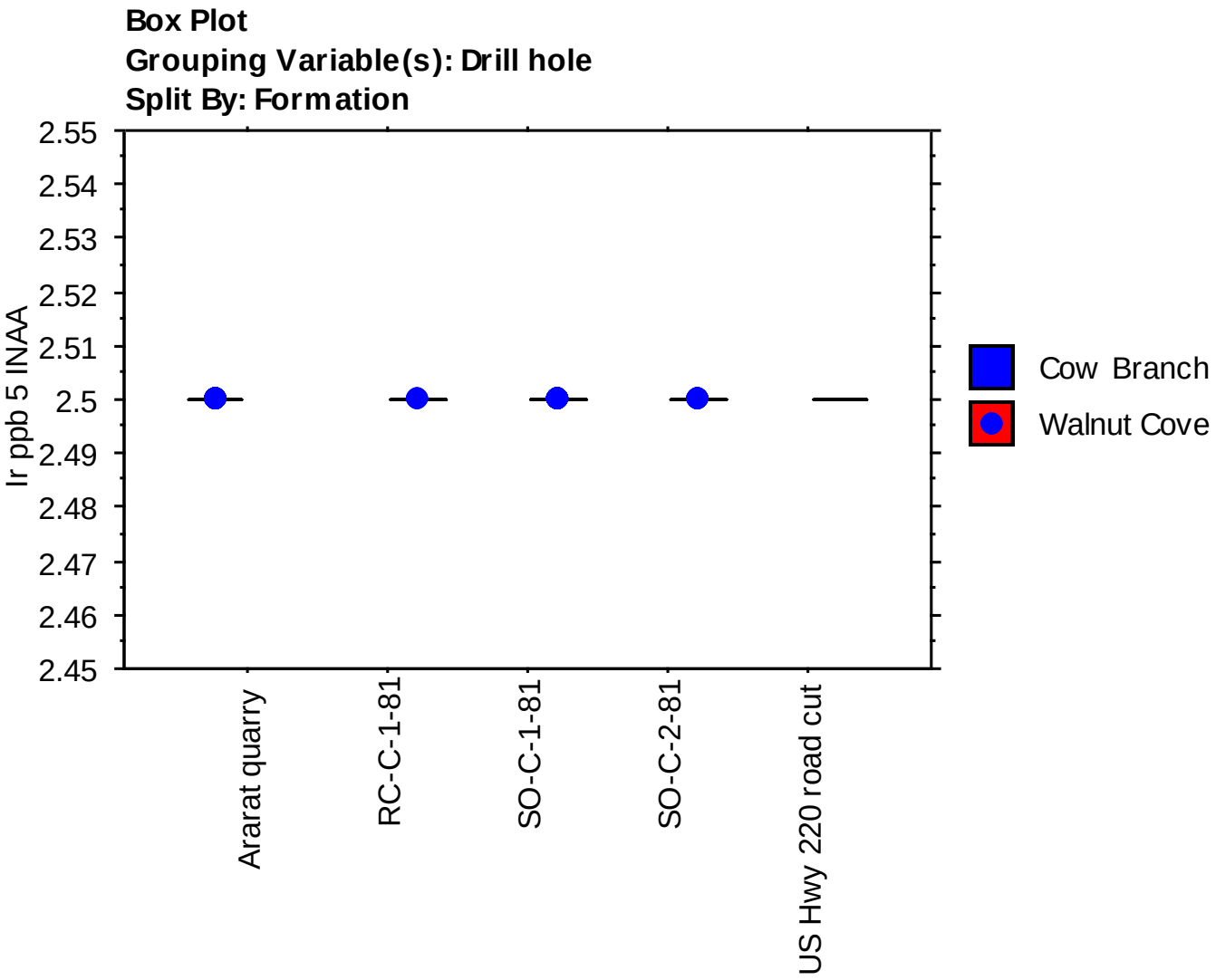
Hg (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Hg ppm 1 INAA
.51
.508
.506
.504
.502
.5
.498
.496
.494
.492
.49
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

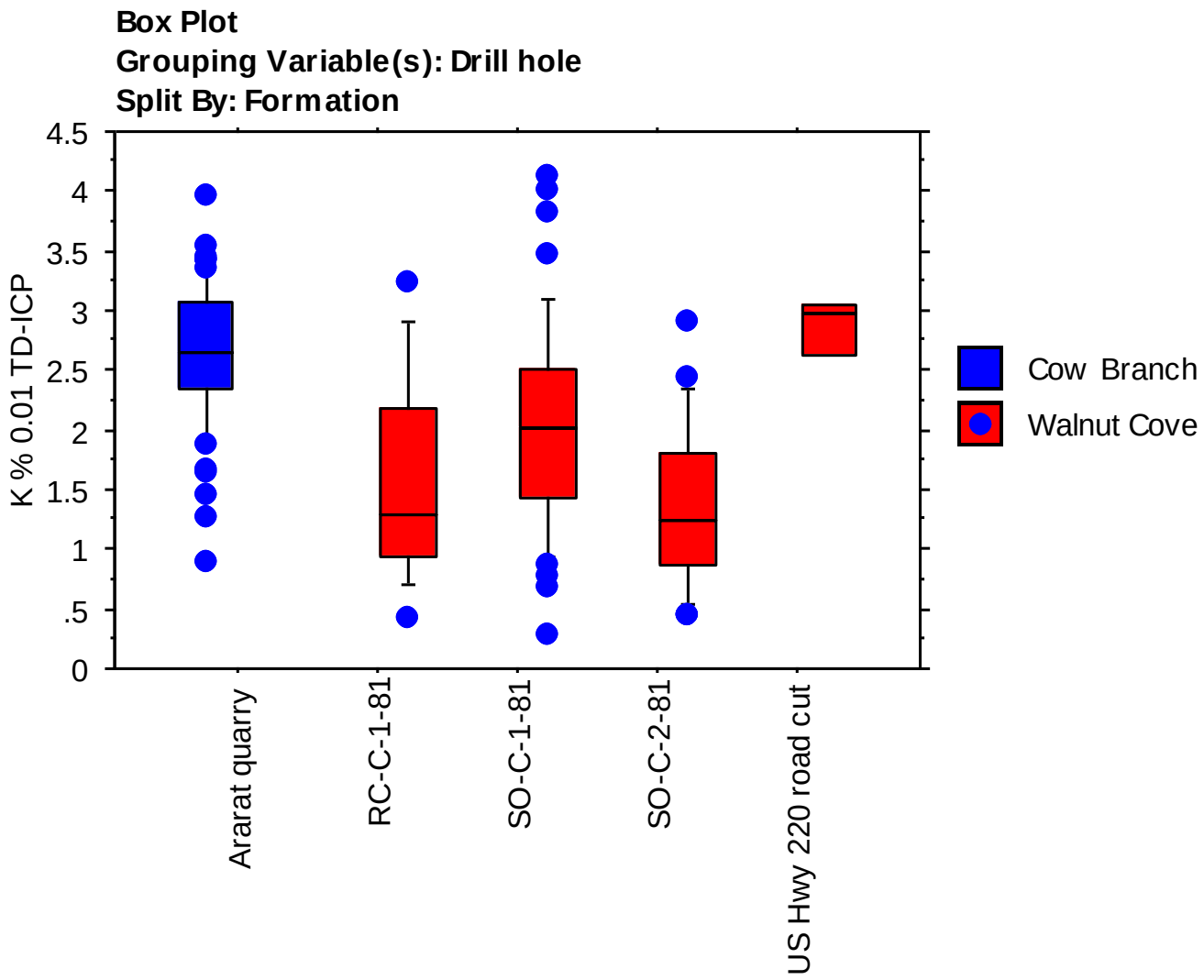
In (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
ln ppm 0.1 TD-MS
.11
.1
.09
.08
.07
.06
.05
.04
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

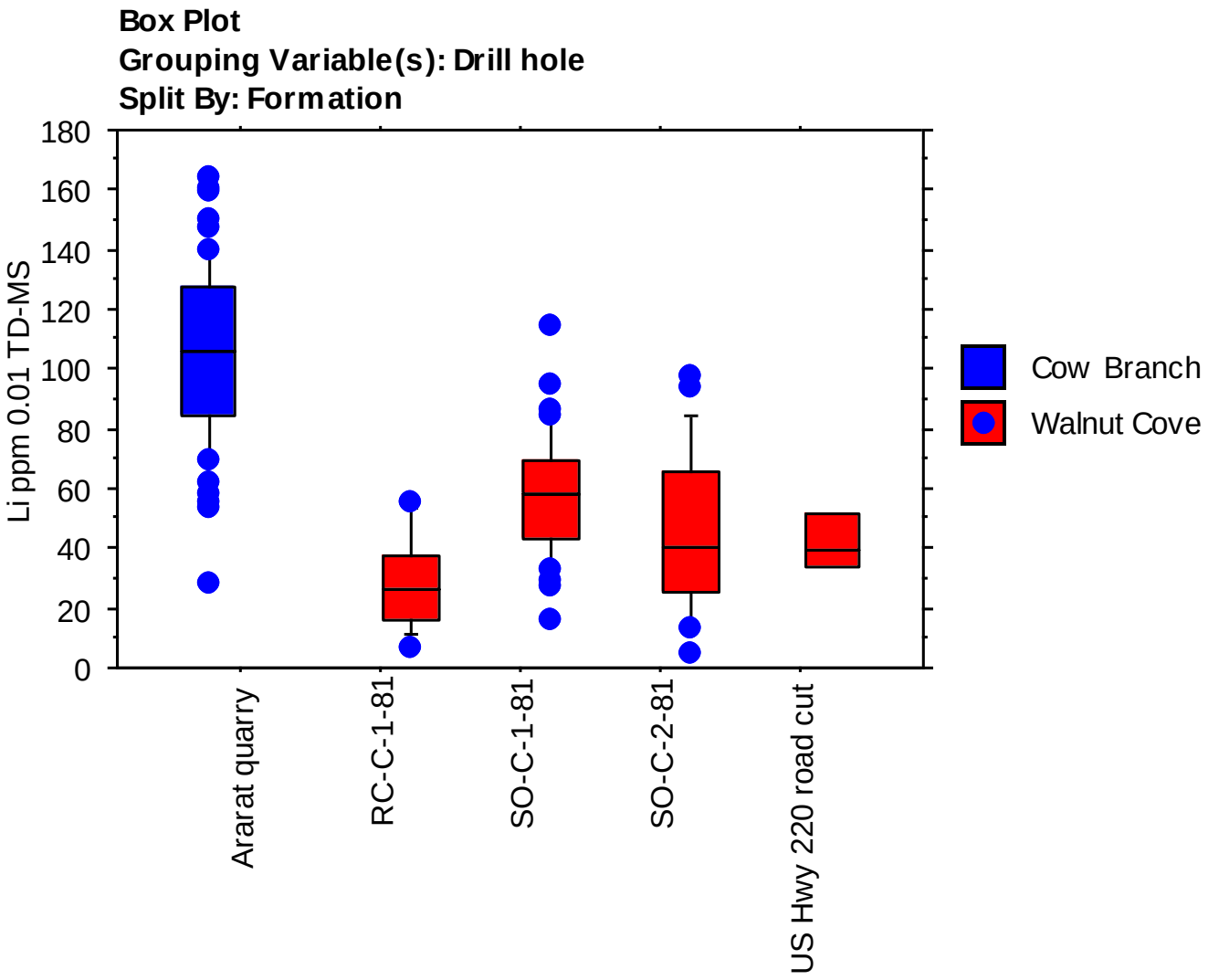
Ir (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Ir ppb 5 INAA
2.55
2.54
2.53
2.52
2.51
2.5
2.49
2.48
2.47
2.46
2.45
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

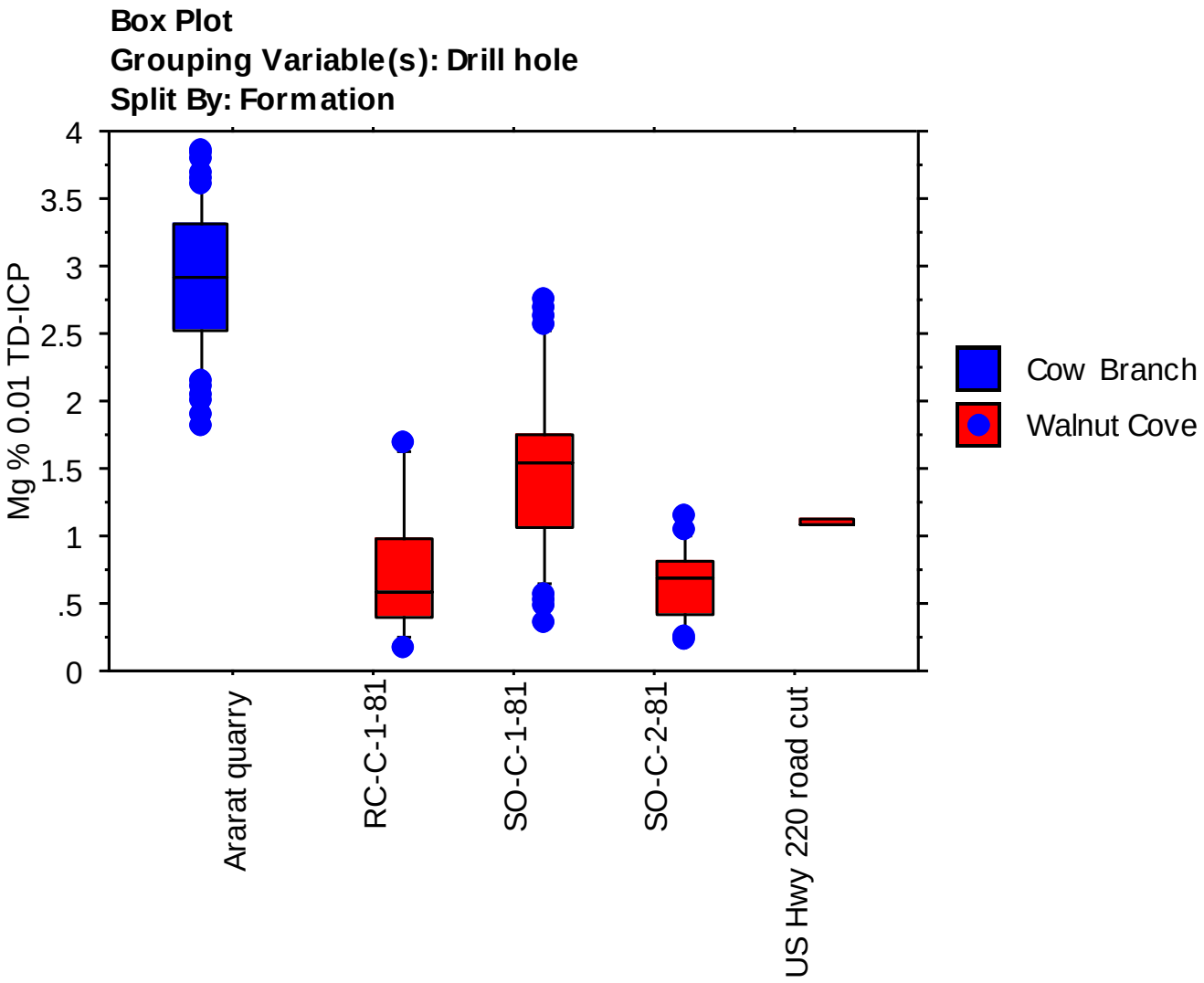
K (%)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
K % 0.01 TD-ICP
4.5
4
3.5
3
2.5
2
1.5
1
.5
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

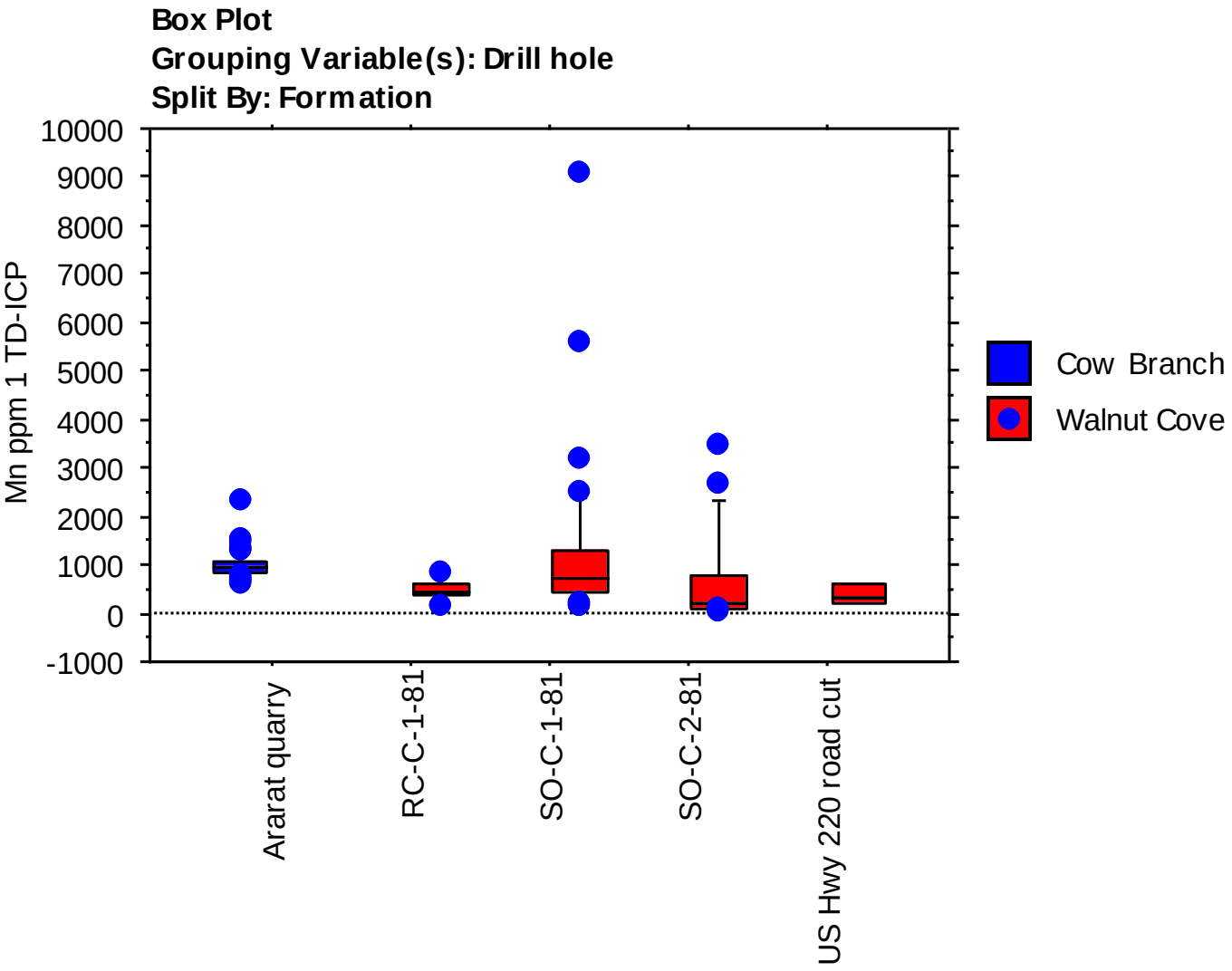
Li (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Li ppm 0.01 TD-MS
180
160
140
120
100
80
60
40
20
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

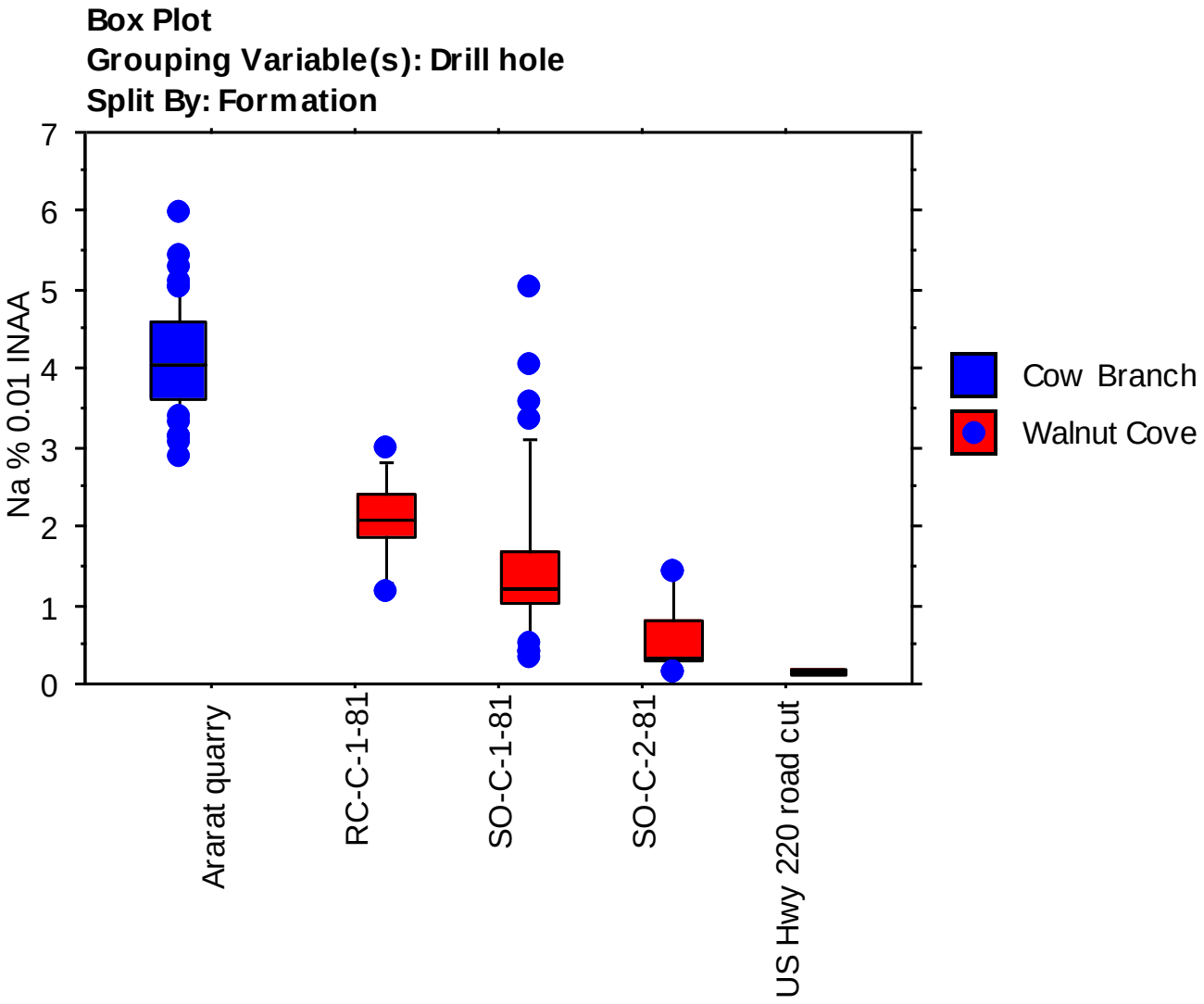
Mg (%)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Mg % 0.01 TD-ICP
4
3.5
3
2.5
2
1.5
1
.5
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

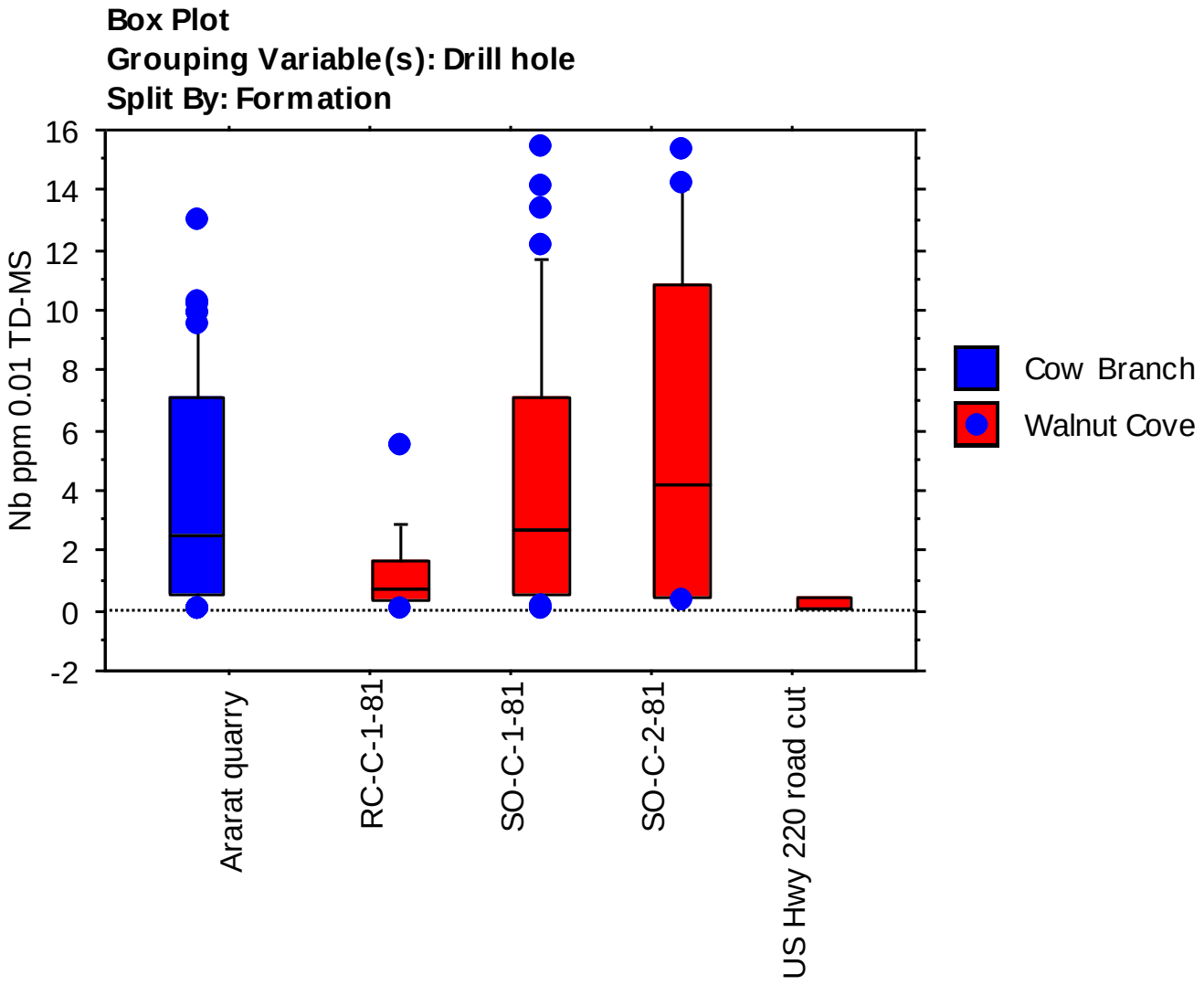
Mn (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Mn ppm 1 TD-ICP
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

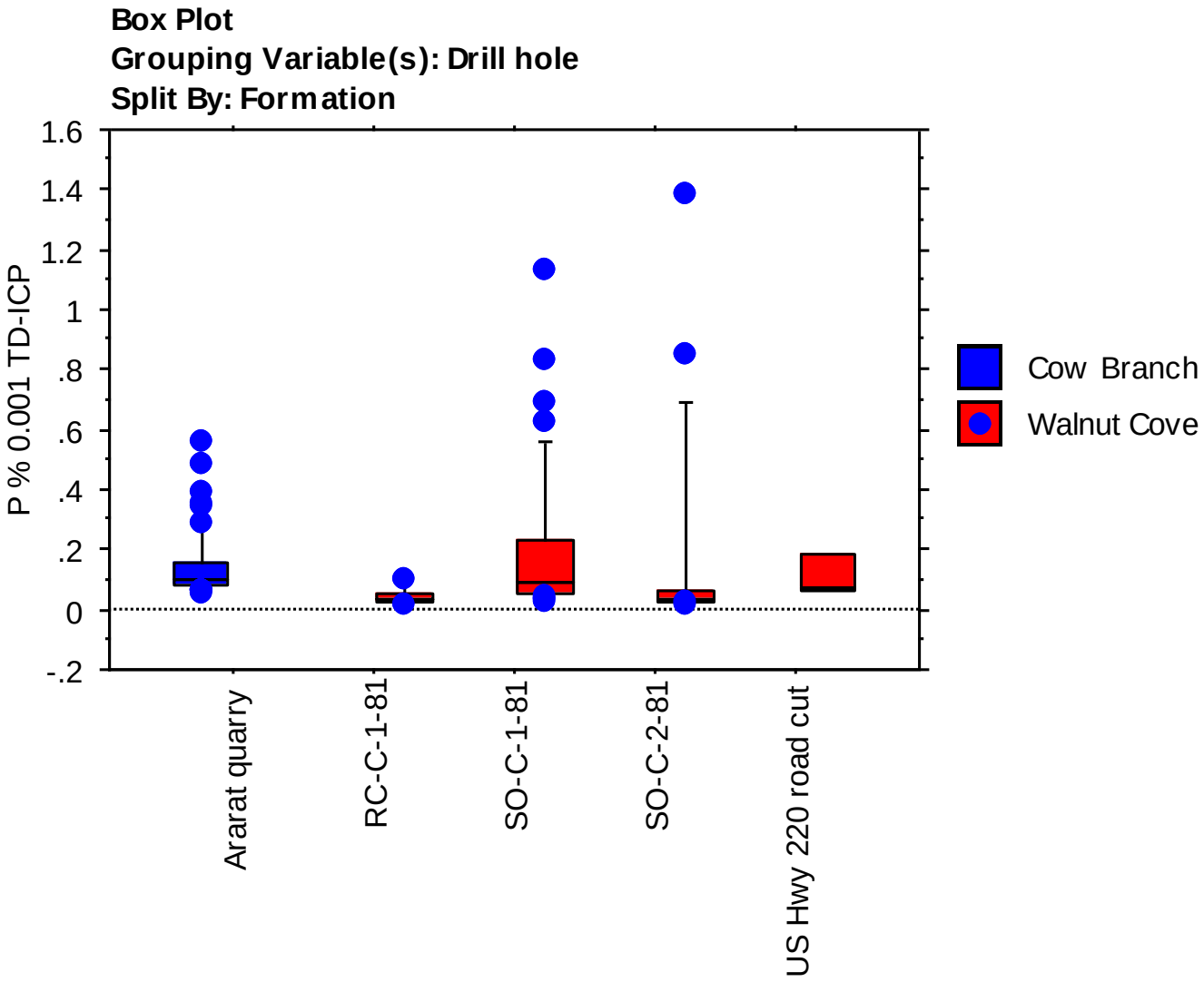
Na (%)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Na % 0.01 INAA
0
1
2
3
4
5
6
7
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

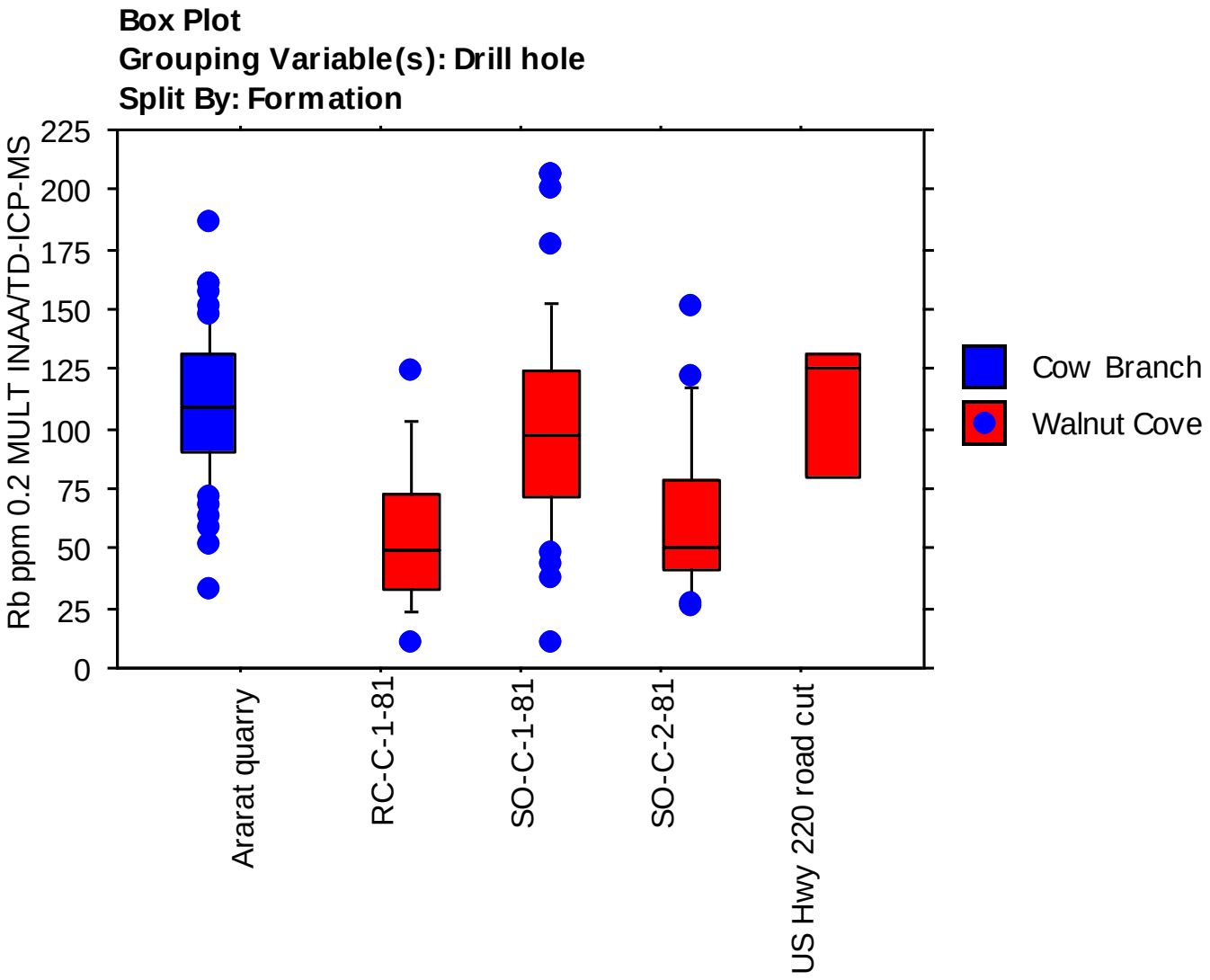
Nb (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Nb ppm 0.01 TD-MS
16
14
12
10
8
6
4
2
0
-2
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

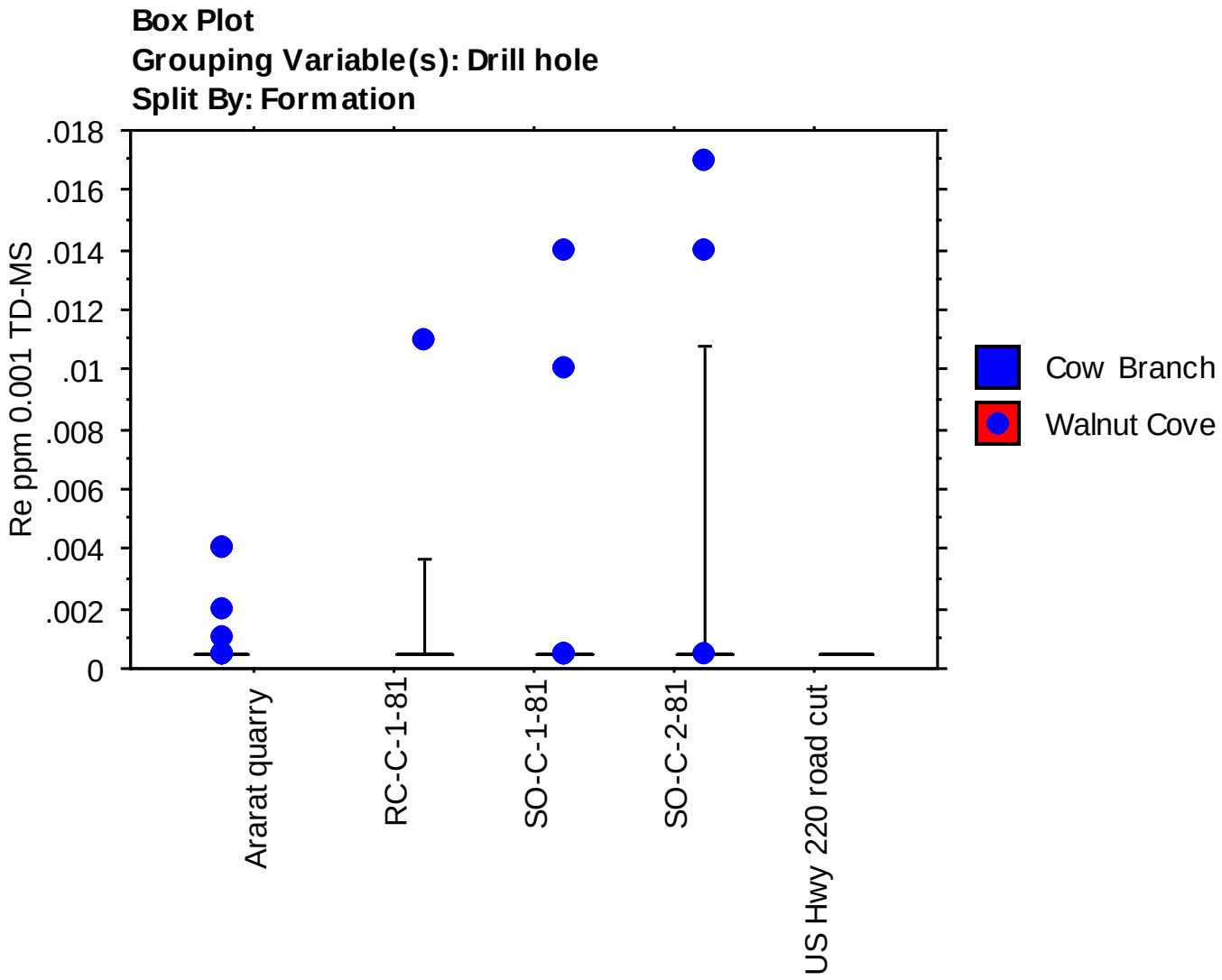
P (%)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
P % 0.001 TD-ICP
1.6
1.4
1.2
1
.8
.6
.4
.2
0
-.2
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

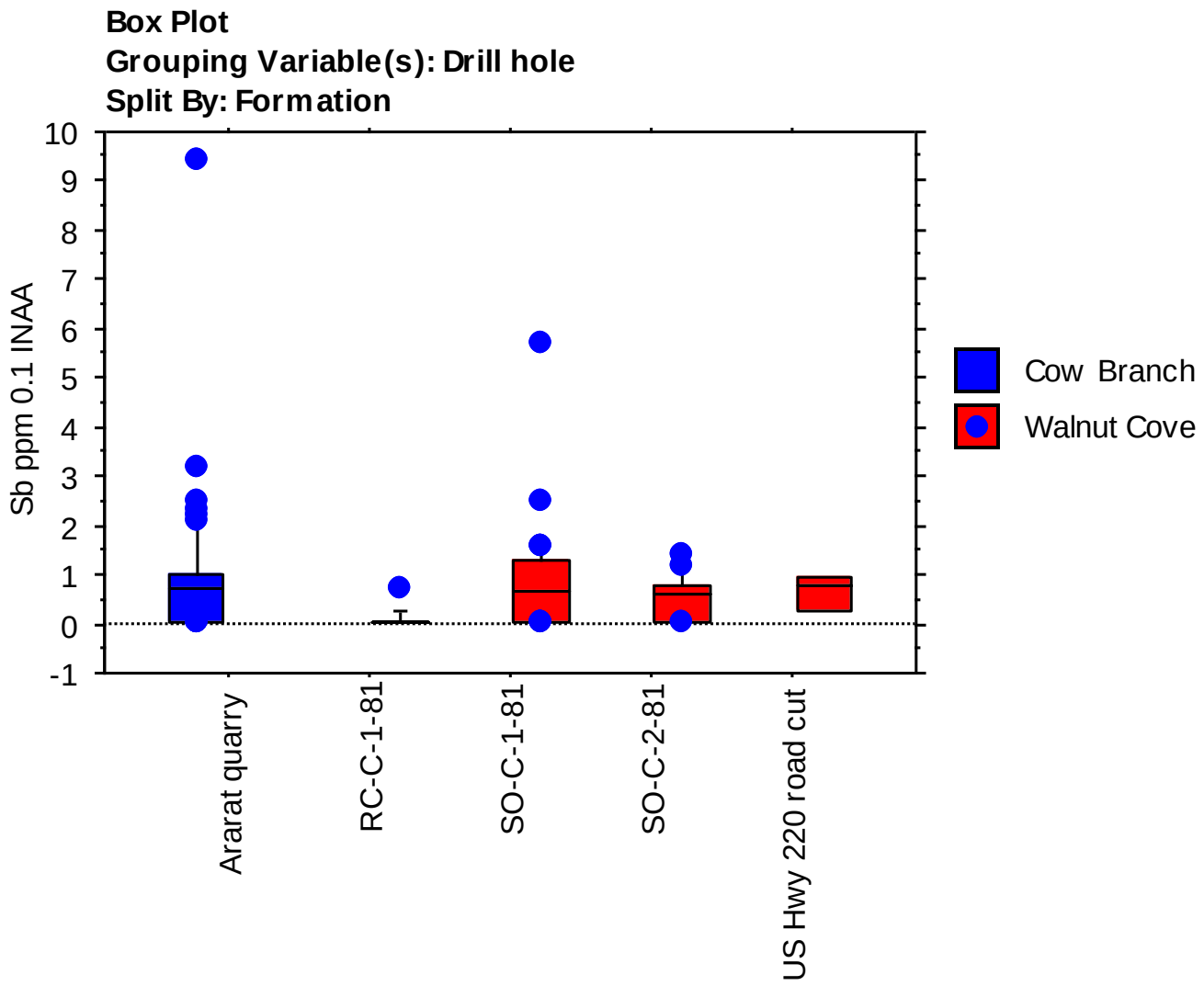
Rb (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Rb ppm 0.2 MULT INAA/TD-ICP-MS
225
200
175
150
125
100
75
50
25
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

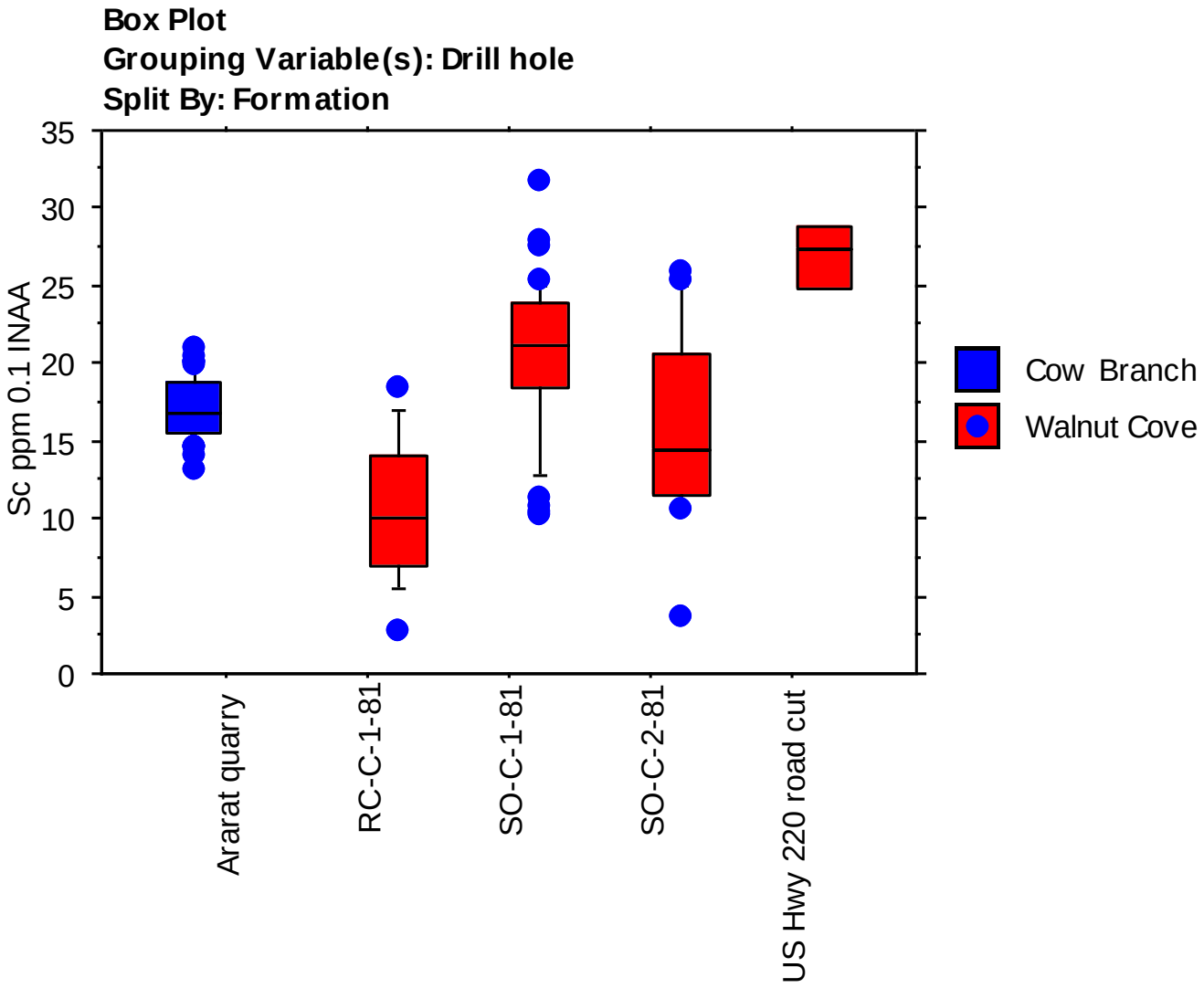
Re (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Re ppm 0.001 TD-MS
.018
.016
.014
.012
.01
.008
.006
.004
.002
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

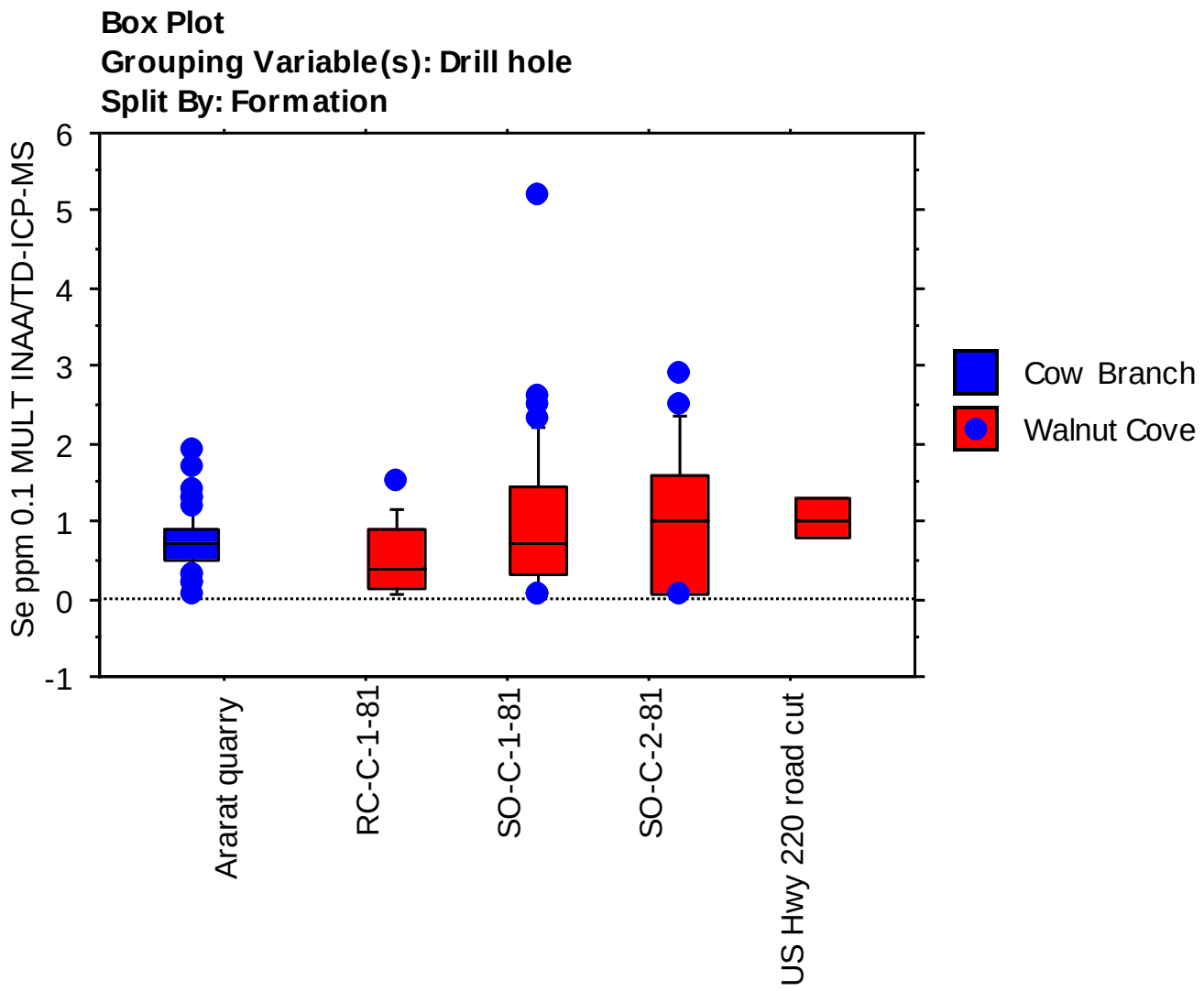
Sb (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Sb ppm 0.1 INAA
10
9
8
7
6
5
4
3
2
1
0
-1
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

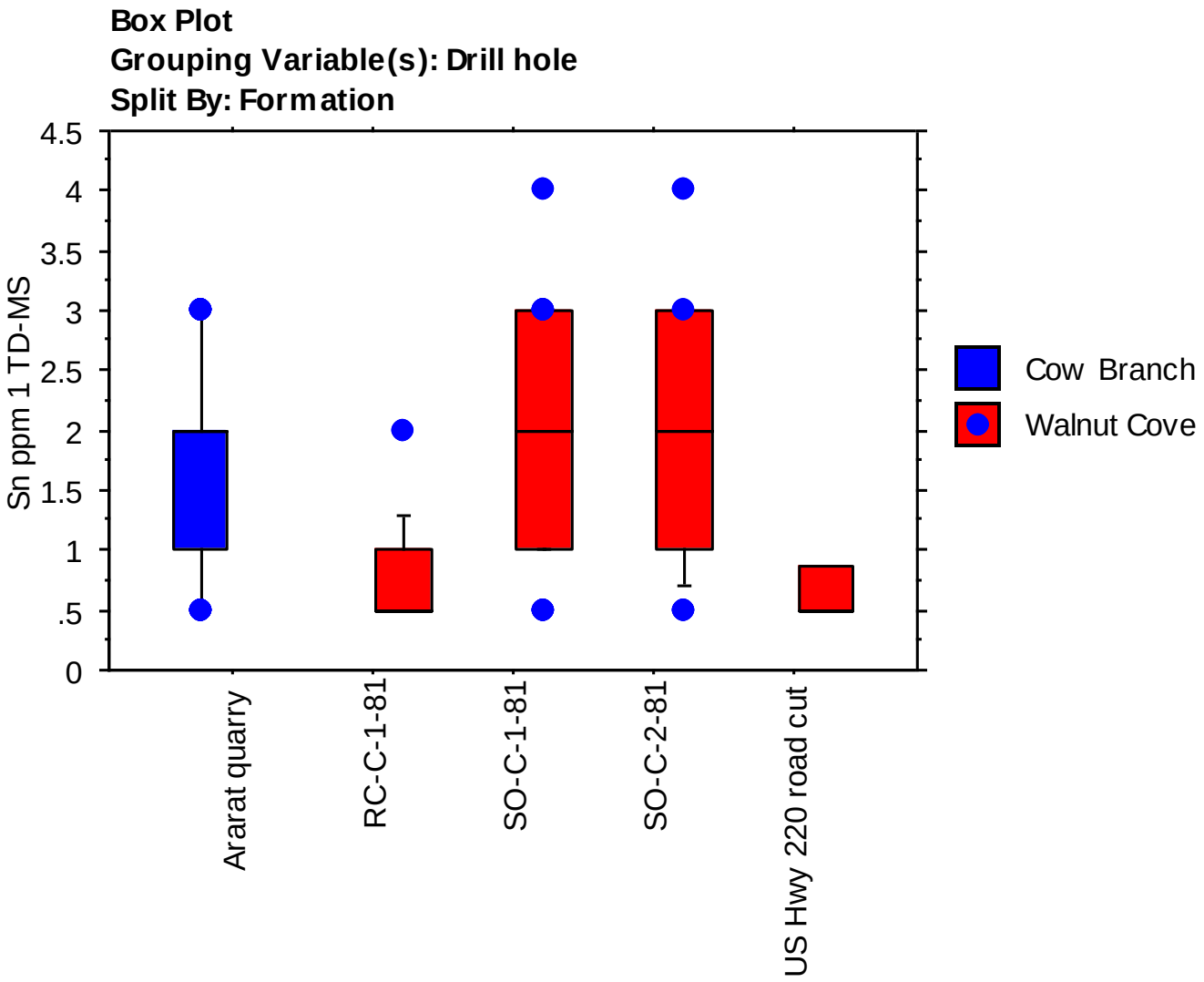
Sc (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Sc ppm 0.1 INAA
35
30
25
20
15
10
5
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

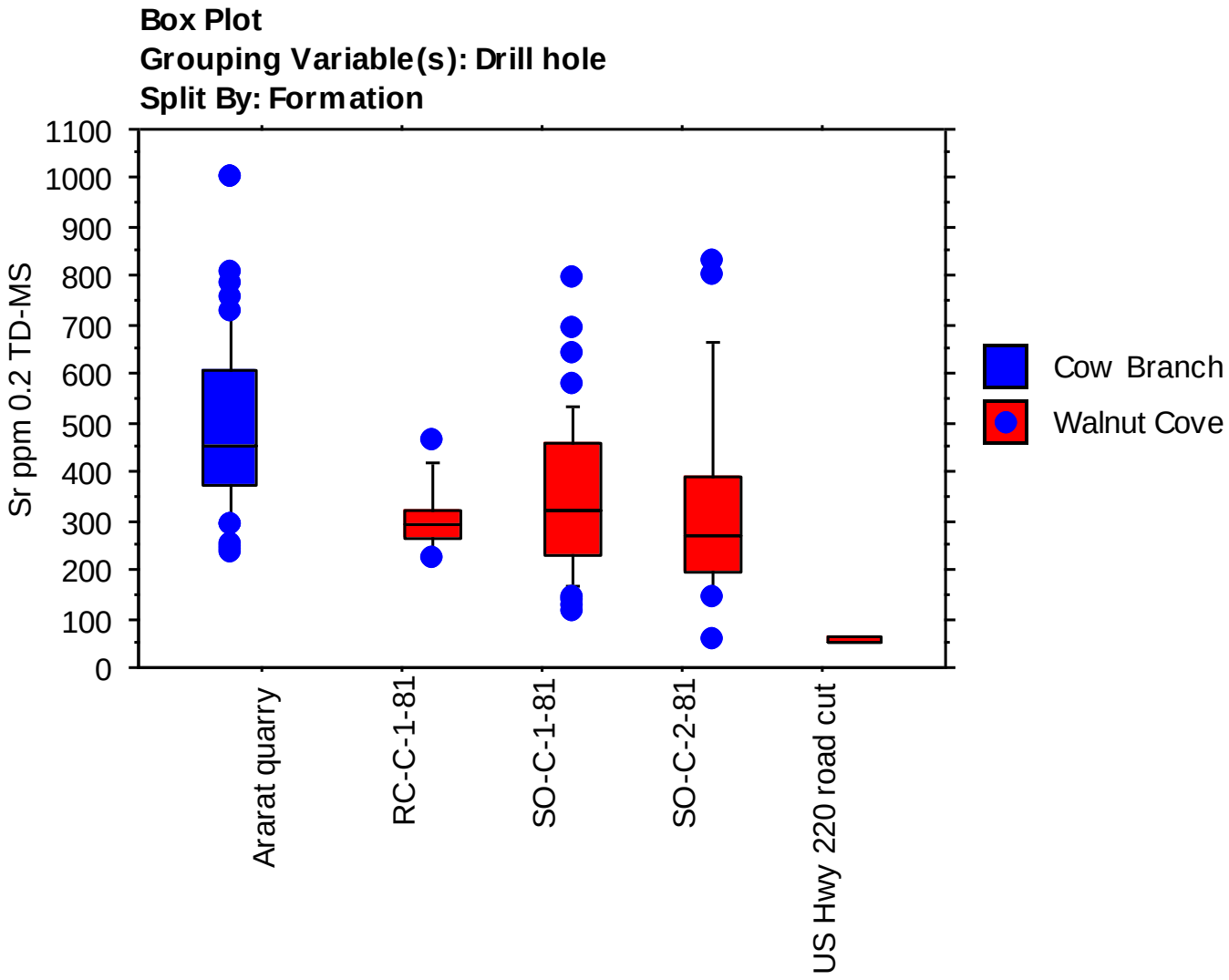
Se (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Se ppm 0.1 MULT INAA/TD-ICP-MS
6
5
4
3
2
1
0
-1
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

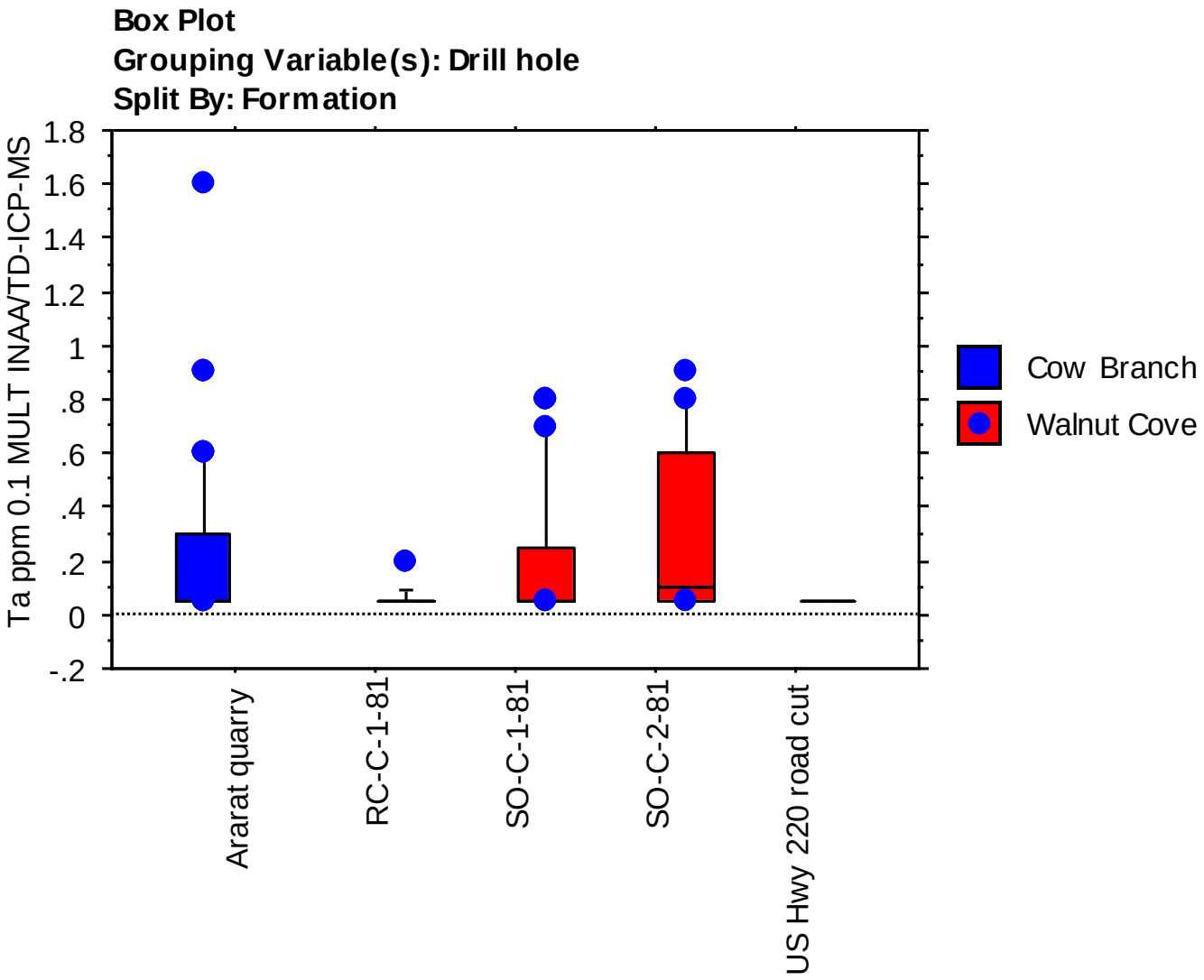
Sn (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Sn ppm 1 TD-MS
4.5
4
3.5
3
2.5
2
1.5
1
.5
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

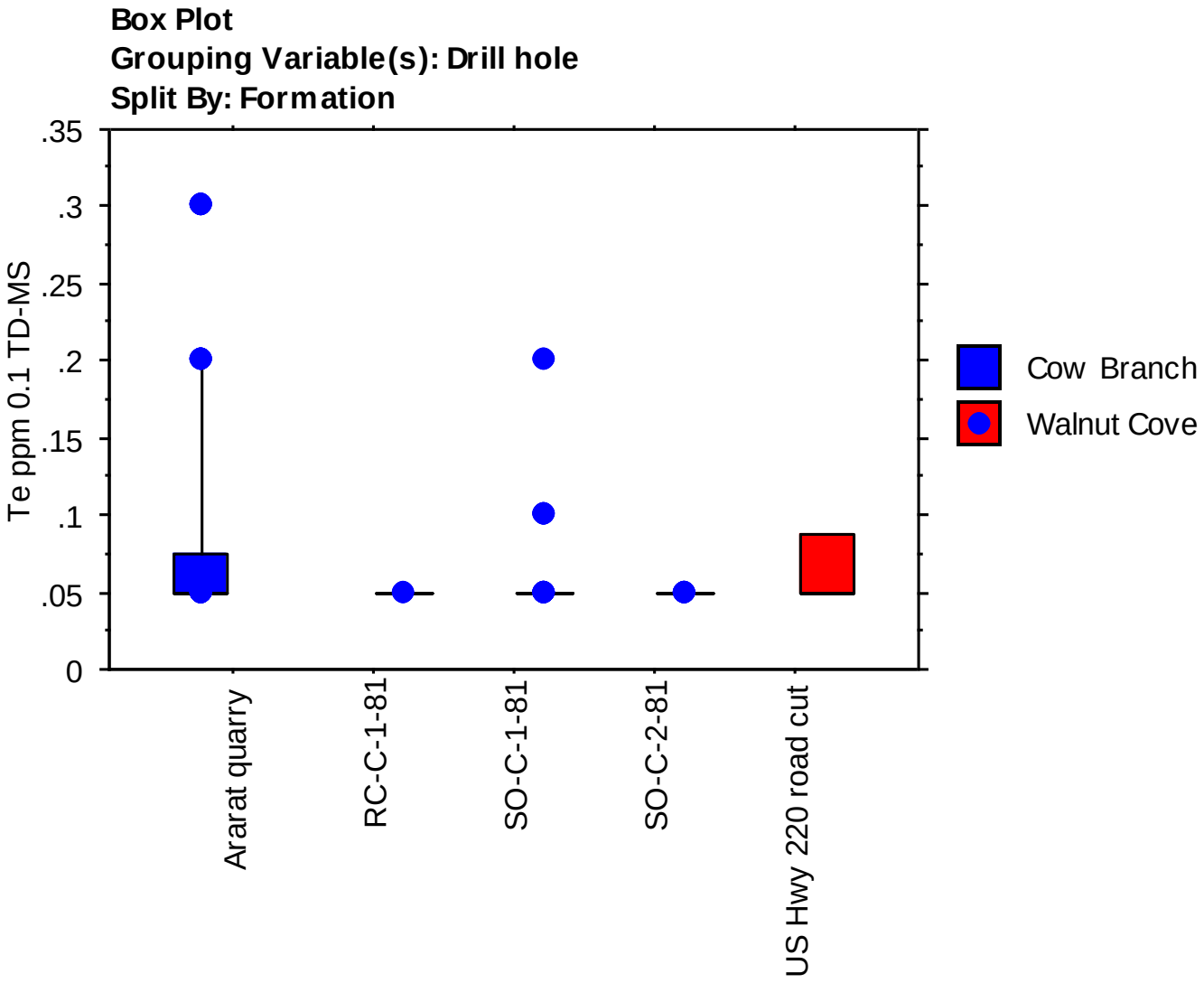
Sr (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Sr ppm 0.2 TD-MS
1100
1000
900
800
700
600
500
400
300
200
100
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

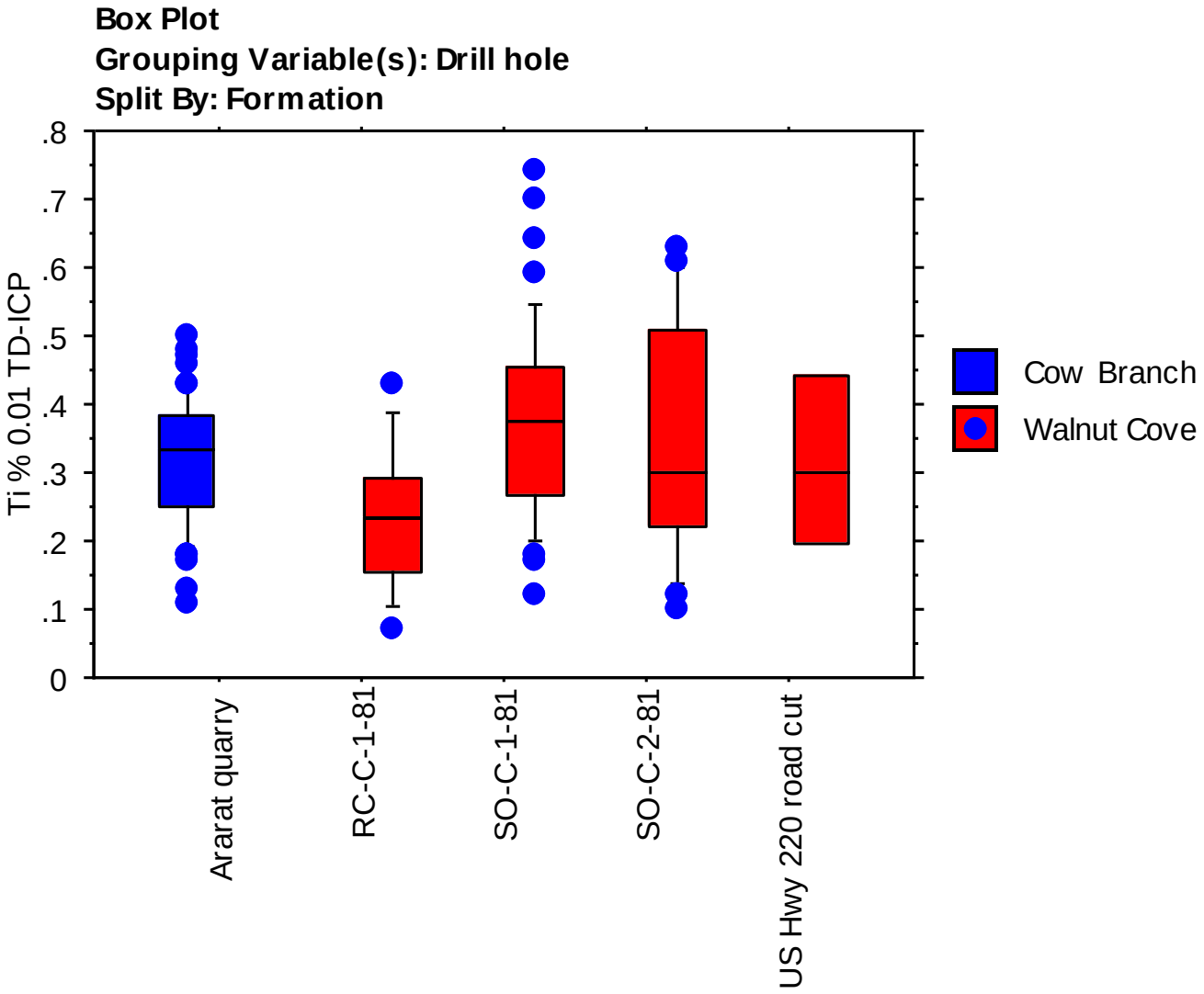
Ta (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Ta ppm 0.1 MULT INAA/TD-ICP-MS
1.8
1.6
1.4
1.2
1
.8
.6
.4
.2
0
-.2
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

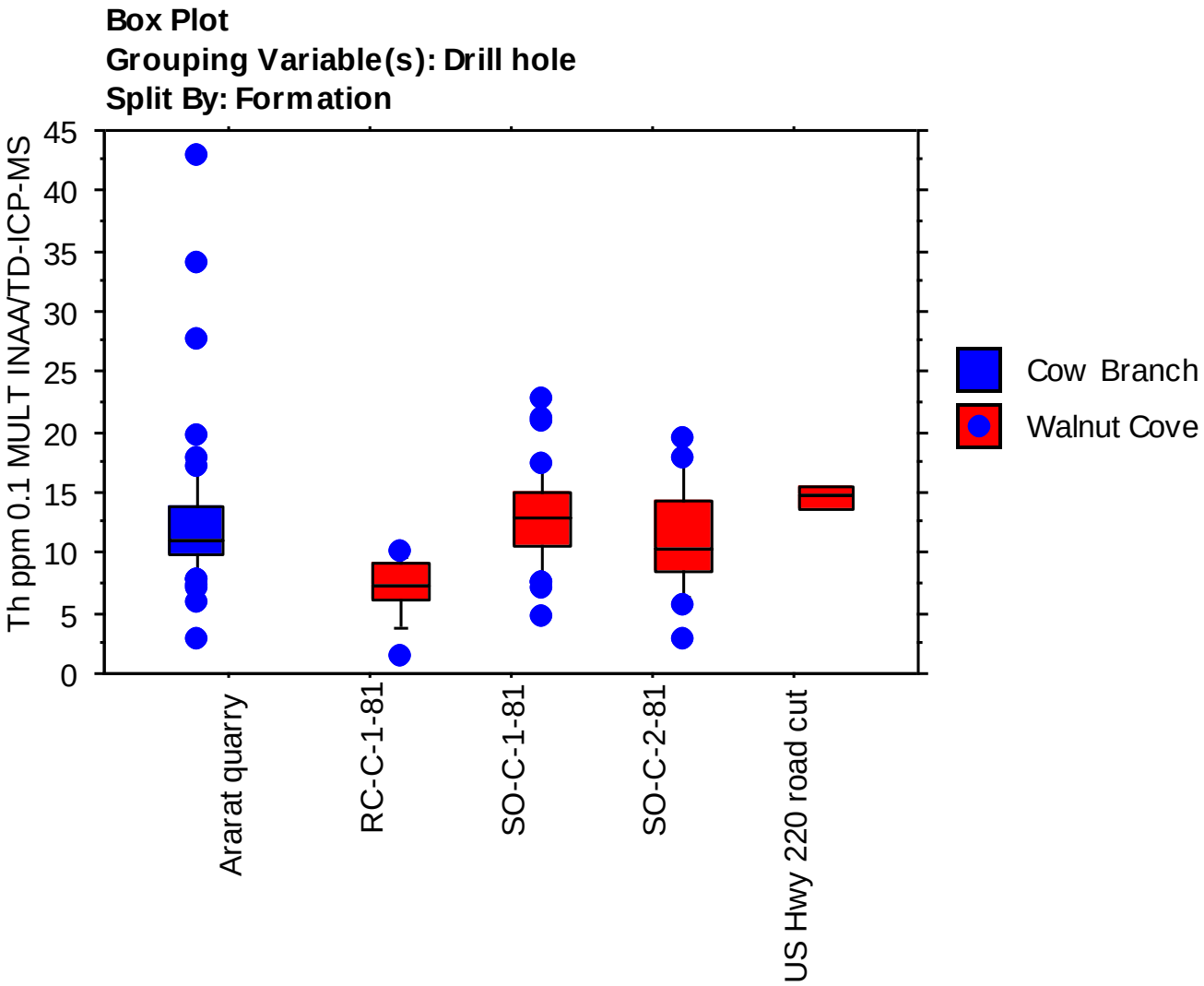
Te (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Te ppm 0.1 TD-MS
.35
.3
.25
.2
.15
.1
.05
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

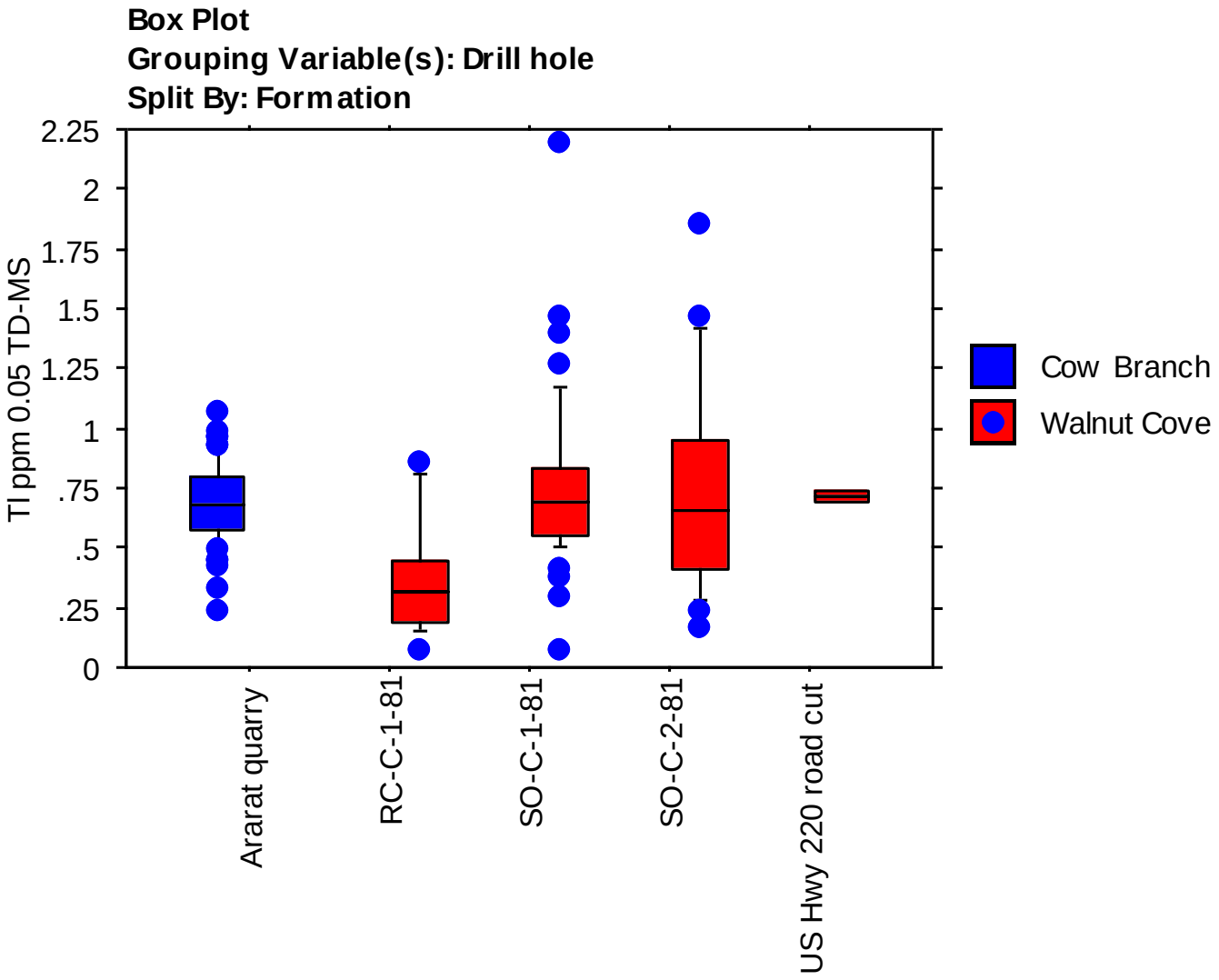
Ti (%)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Ti % 0.01 TD-ICP
.8
.7
.6
.5
.4
.3
.2
.1
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

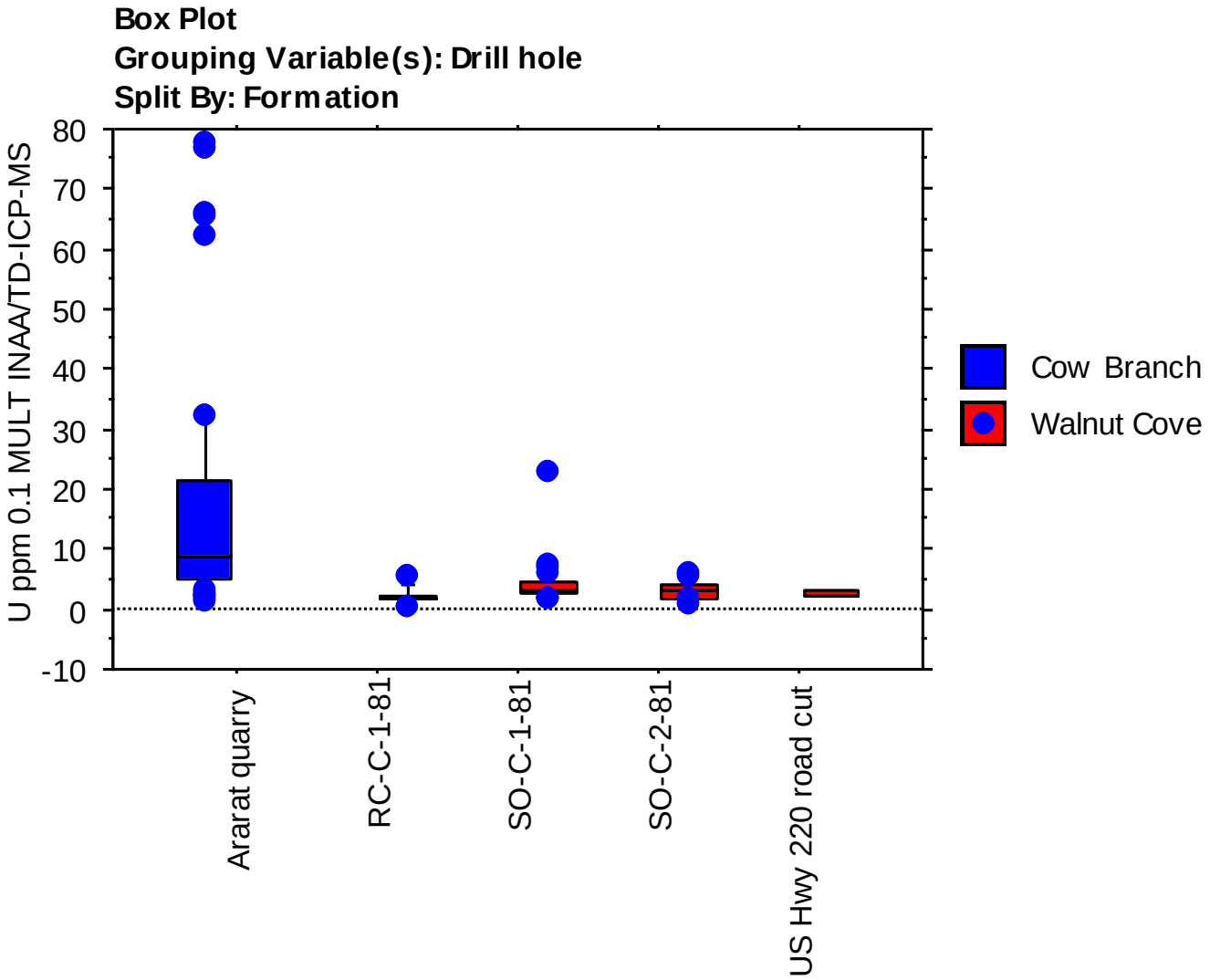
Th (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Th ppm 0.1 MULT INAA/TD-ICP-MS
45
40
35
30
25
20
15
10
5
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

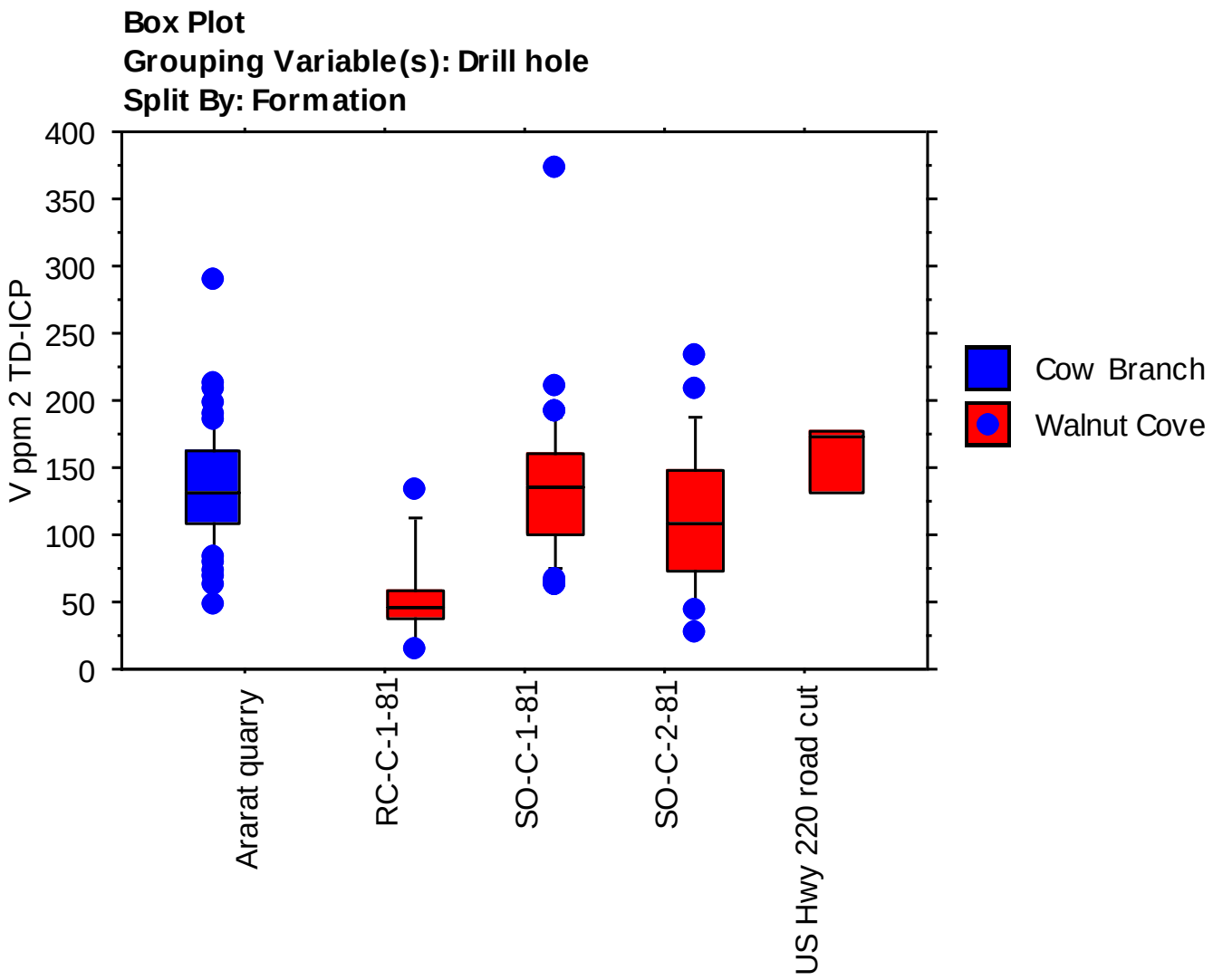
Tl (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Tl ppm 0.05 TD-MS
2.25
2
1.75
1.5
1.25
1
.75
.5
.25
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

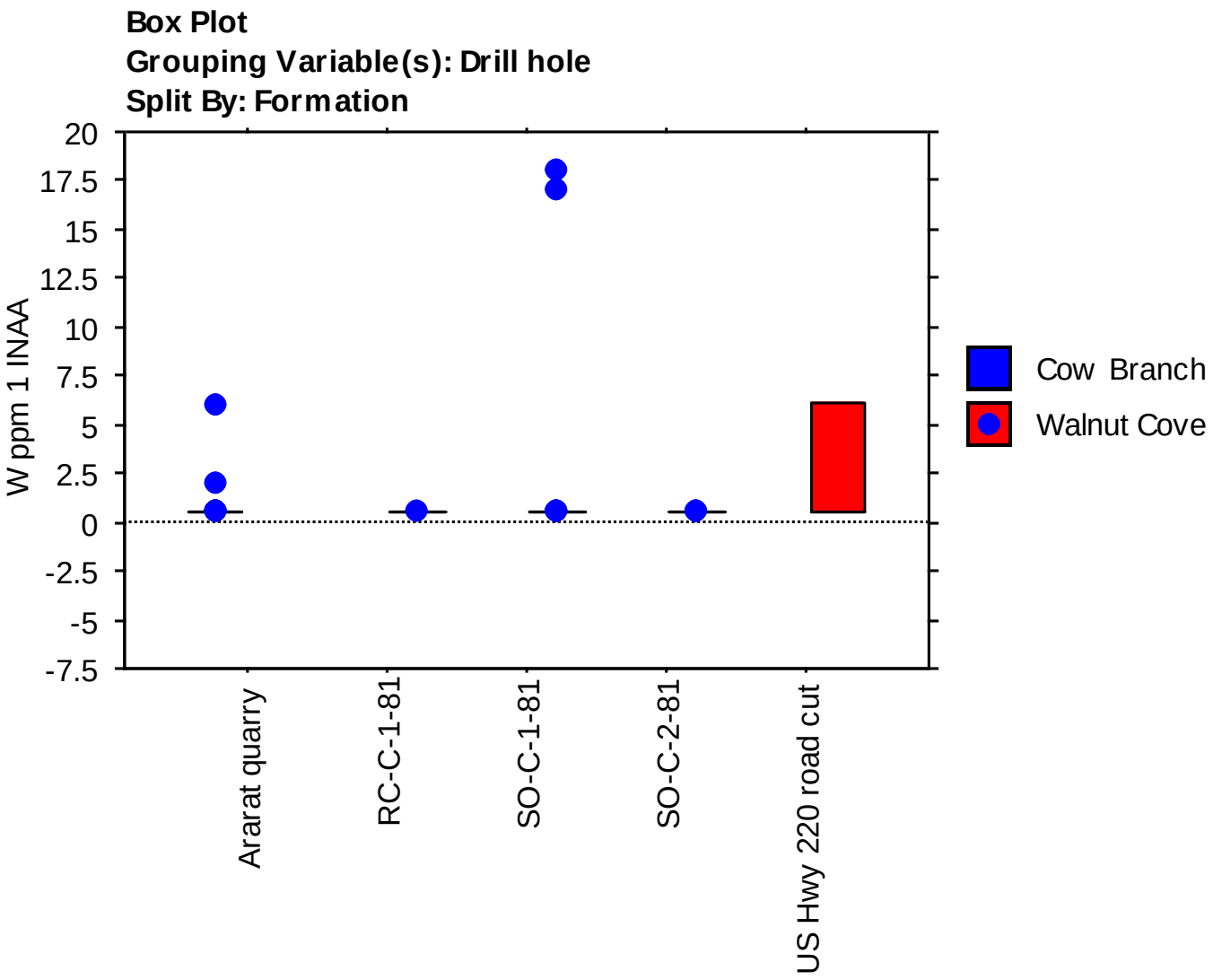
U (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
U ppm 0.1 MULT INAA/TD-ICP-MS
80
70
60
50
40
30
20
10
0
-10
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

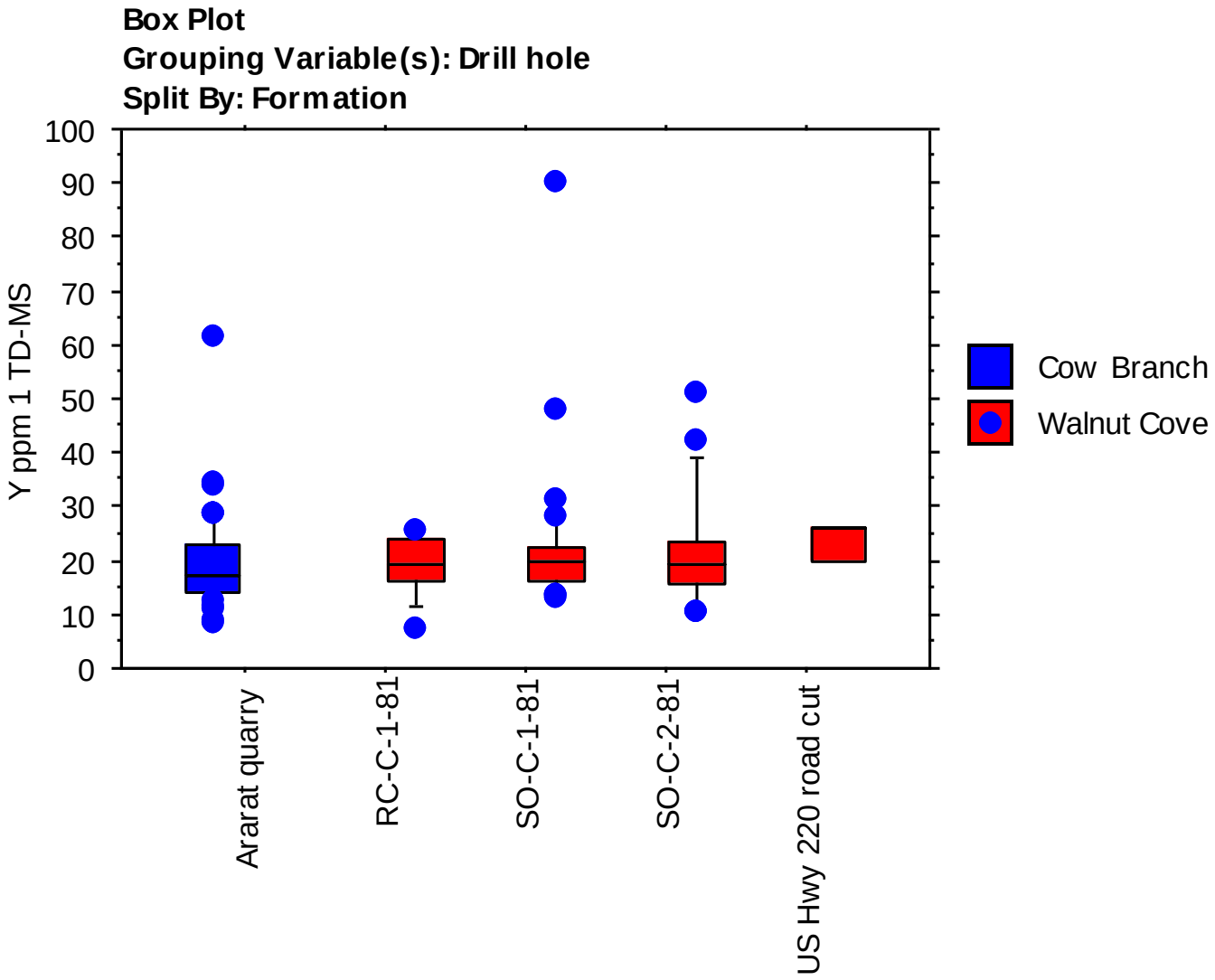
V (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
V ppm 2 TD-ICP
400
350
300
250
200
150
100
50
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

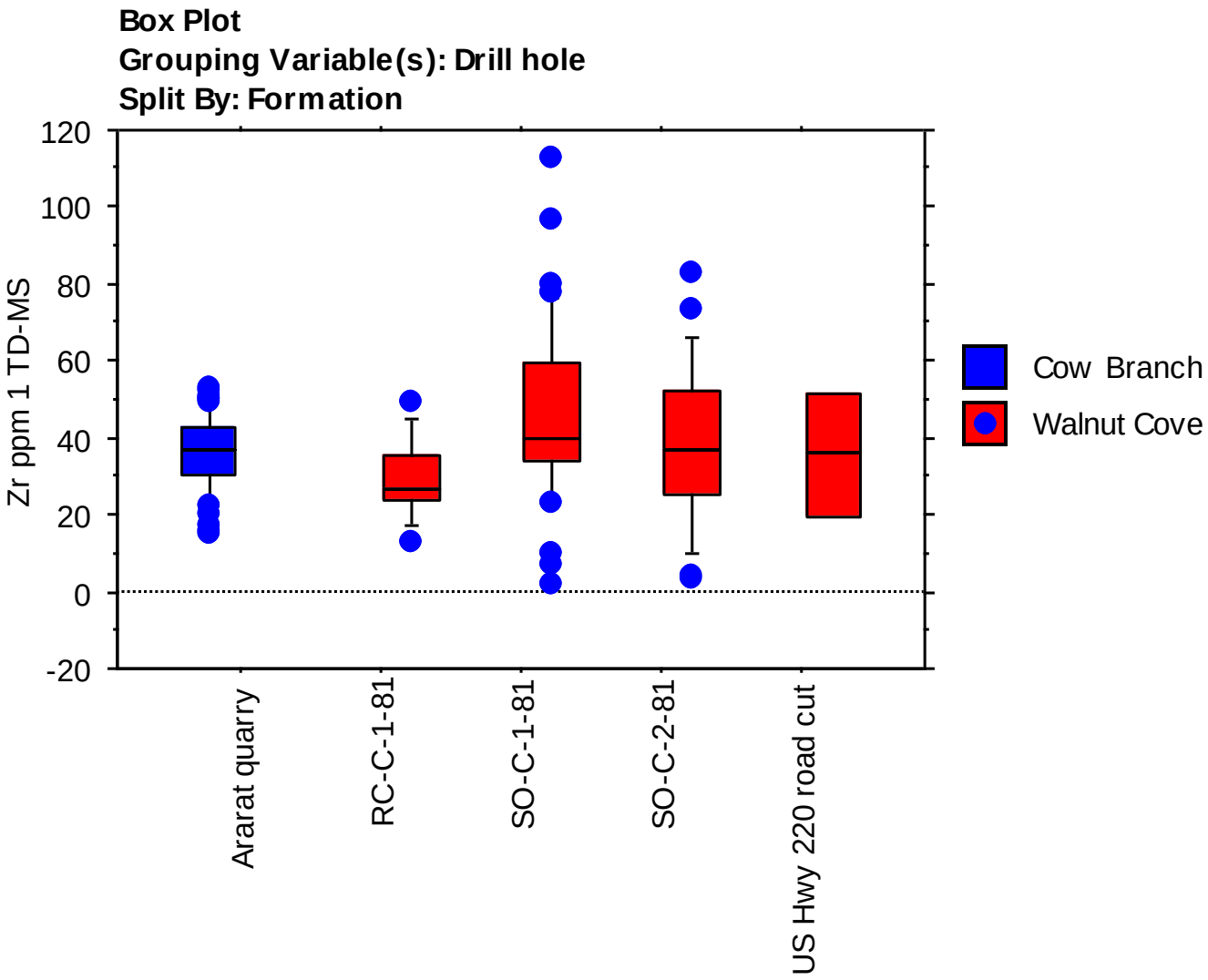
W (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
W ppm 1 INAA
20
17.5
15
12.5
10
7.5
5
2.5
0
-2.5
-5
-7.5
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

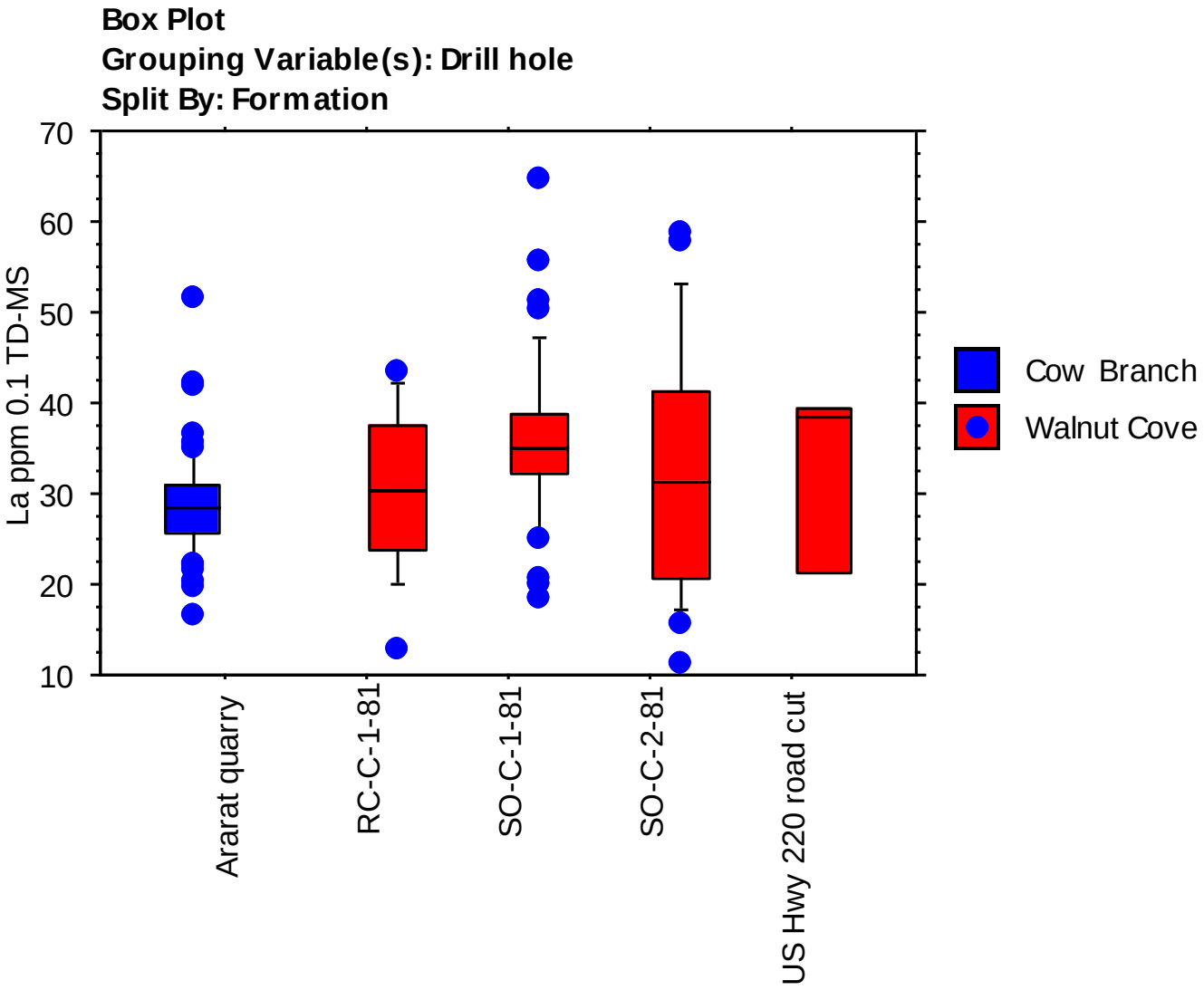
Y (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Y ppm 1 TD-MS
100
90
80
70
60
50
40
30
20
10
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

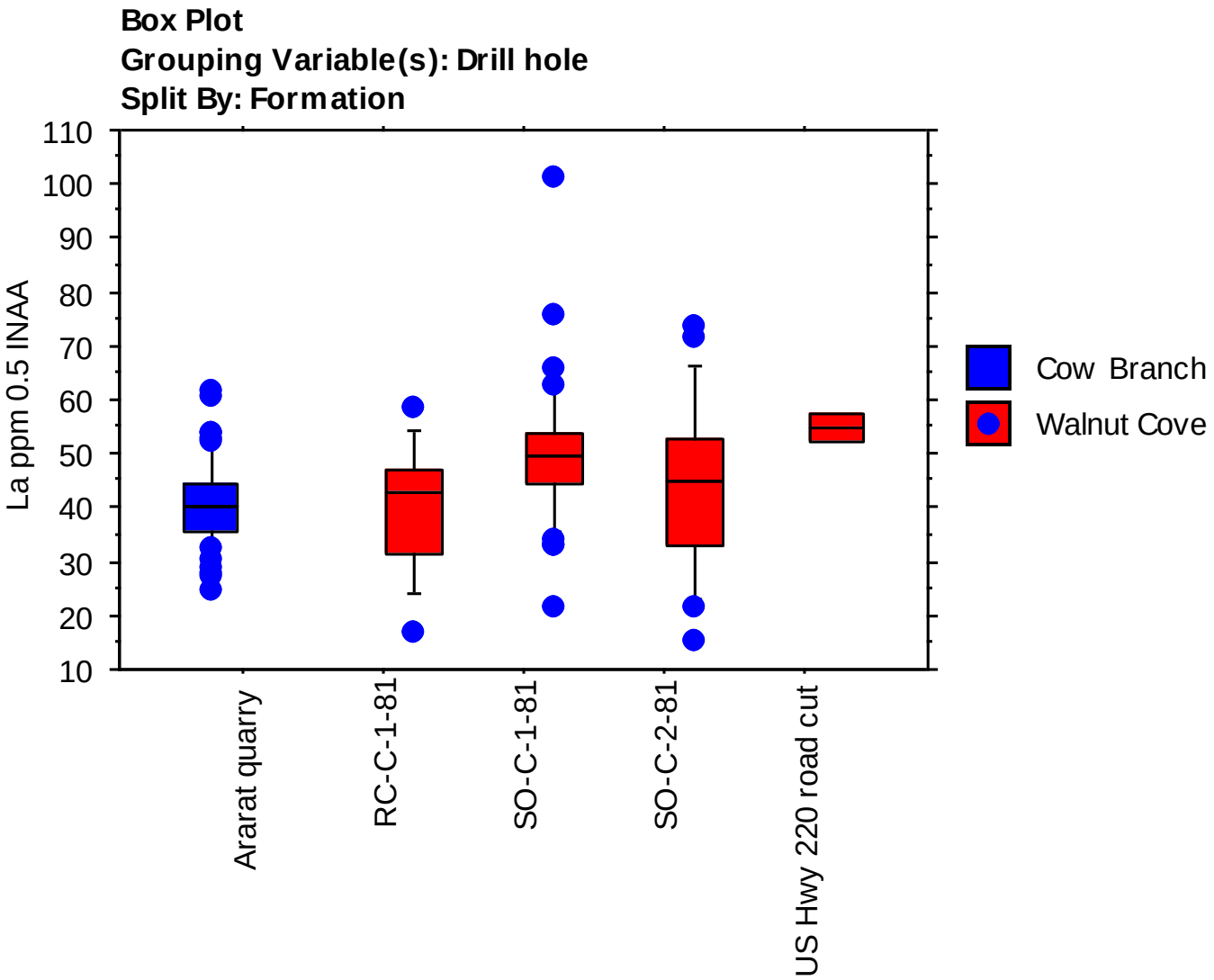
Zr (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Zr ppm 1 TD-MS
120
100
80
60
40
20
0
-20
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

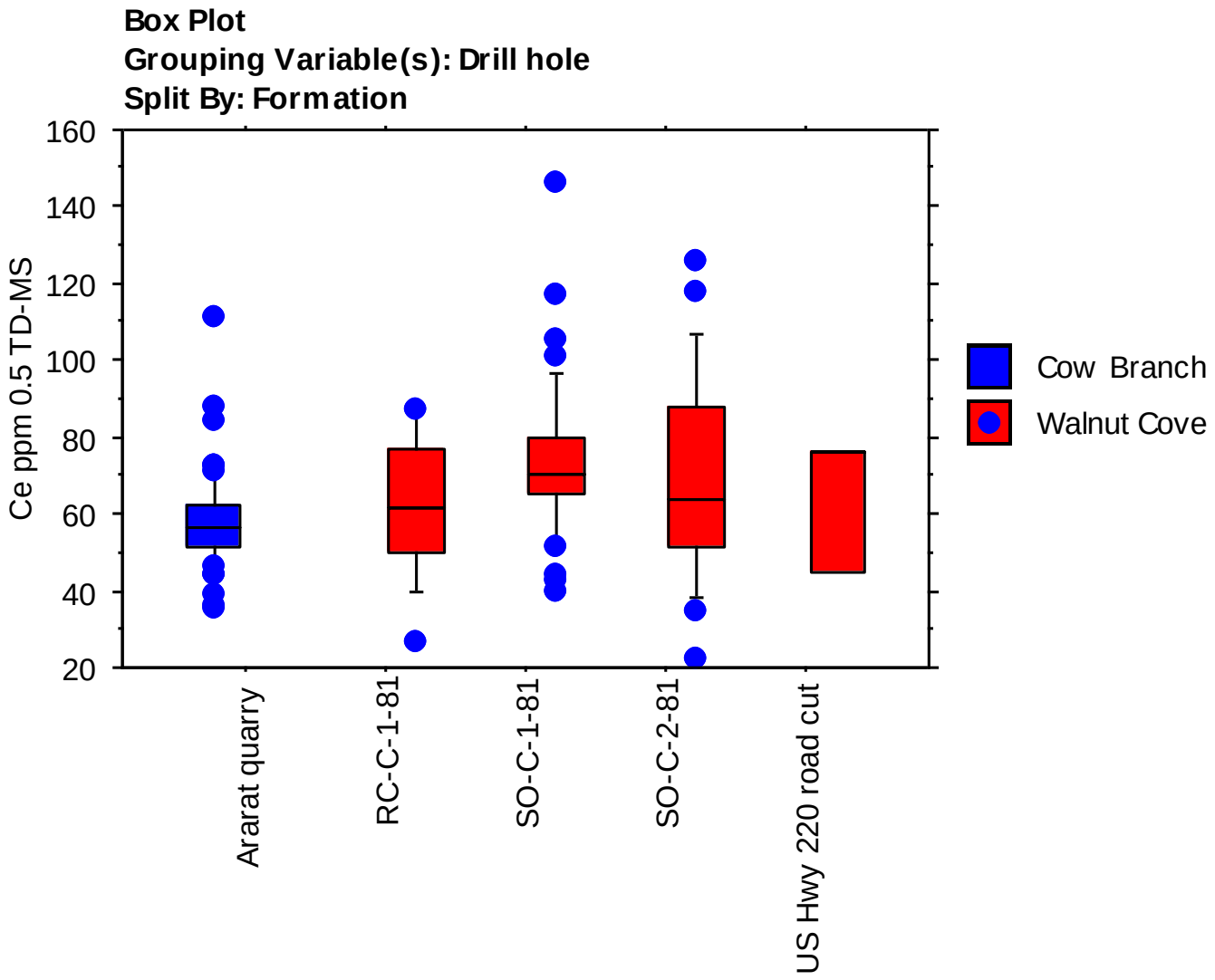
La (ppm) - 1


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
La ppm 0.1 TD-MS
70
60
50
40
30
20
10
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

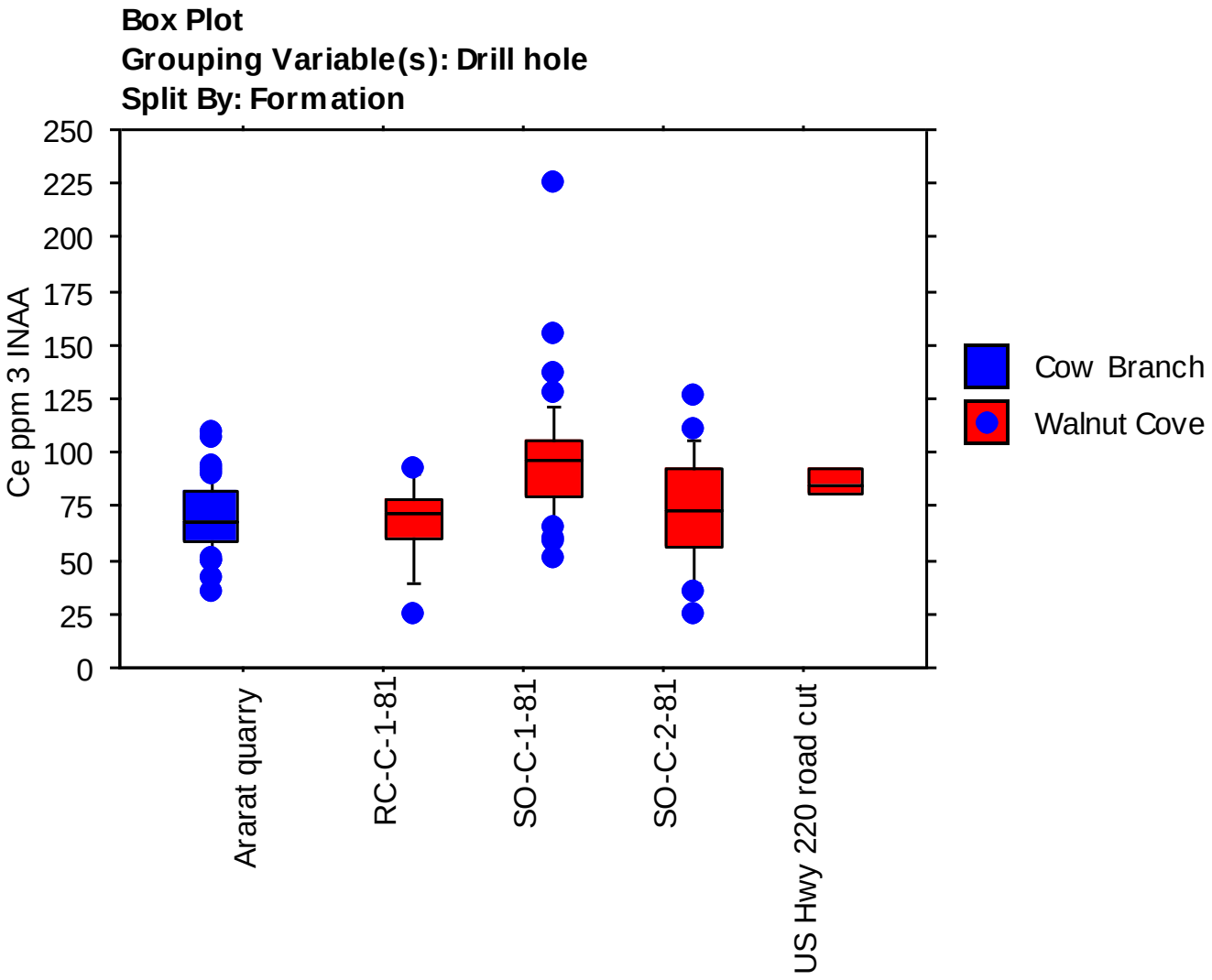
La (ppm) - 2


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
La ppm 0.5 INAA
110
100
90
80
70
60
50
40
30
20
10
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

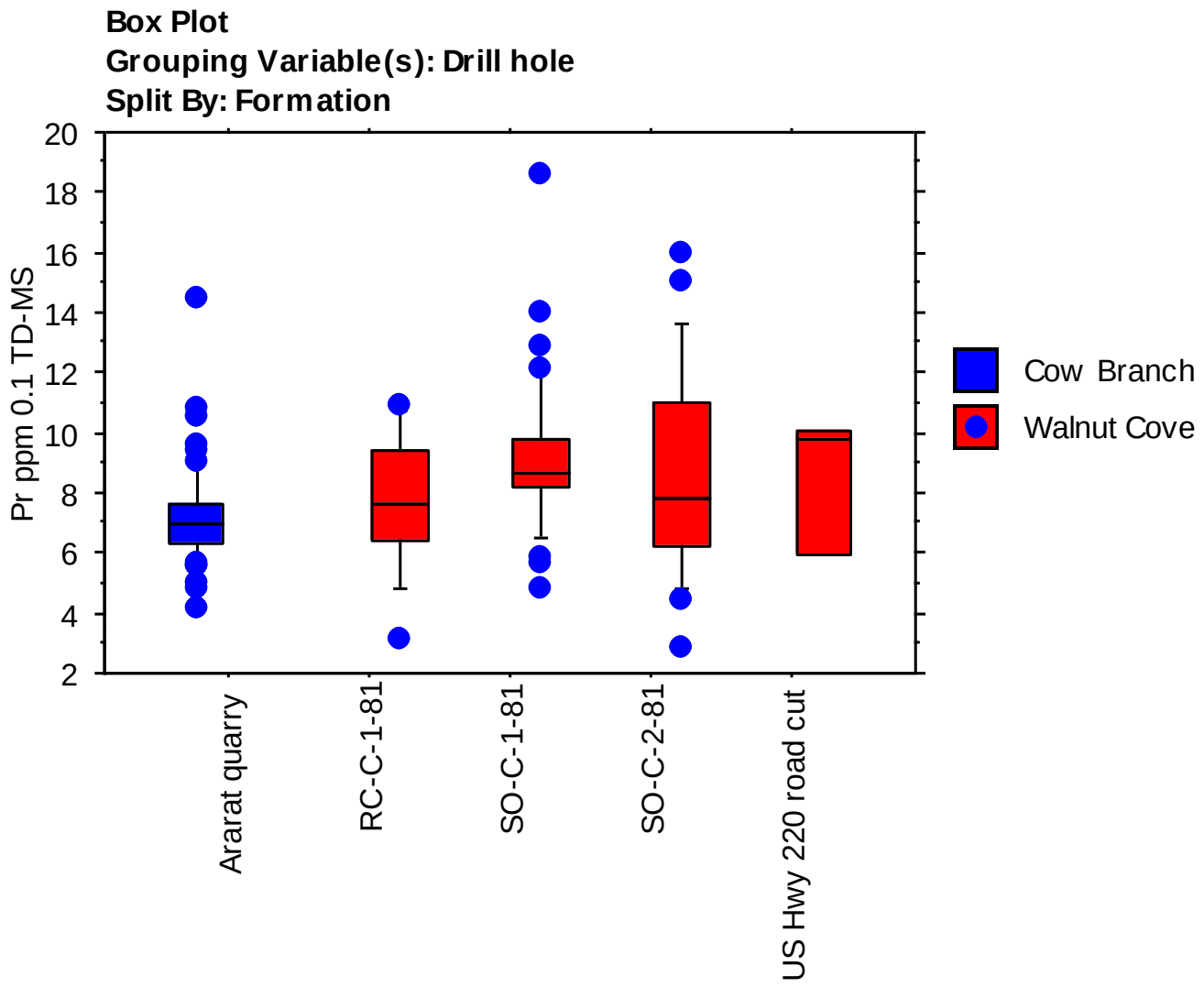
Ce (ppm) - 1


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Ce ppm 0.5 TD-MS
160
140
120
100
80
60
40
20
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

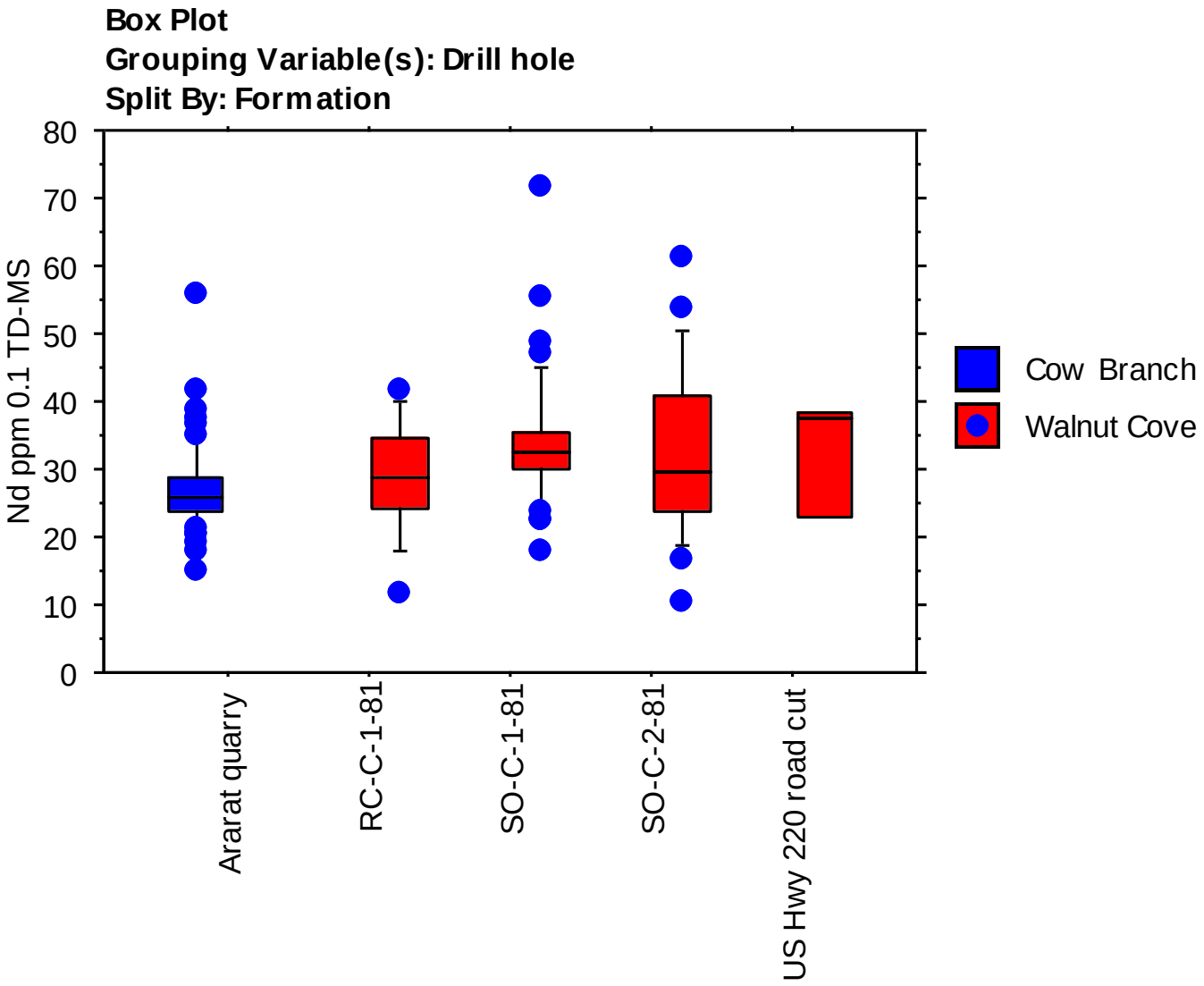
Ce (ppm) - 2


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Ce ppm 3 INAA
250
225
200
175
150
125
100
75
50
25
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

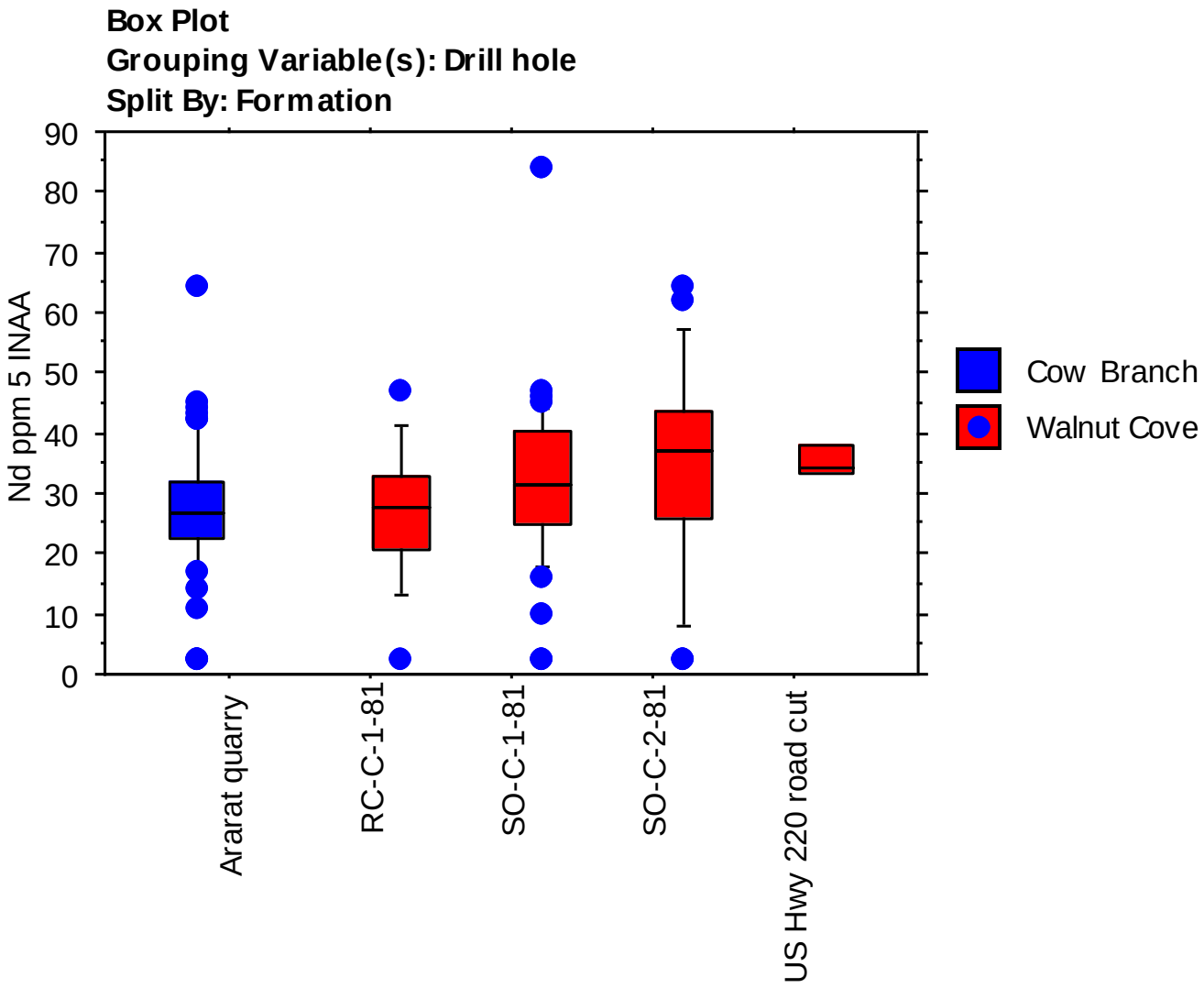
Pr (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Pr ppm 0.1 TD-MS
20
18
16
14
12
10
8
6
4
2
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

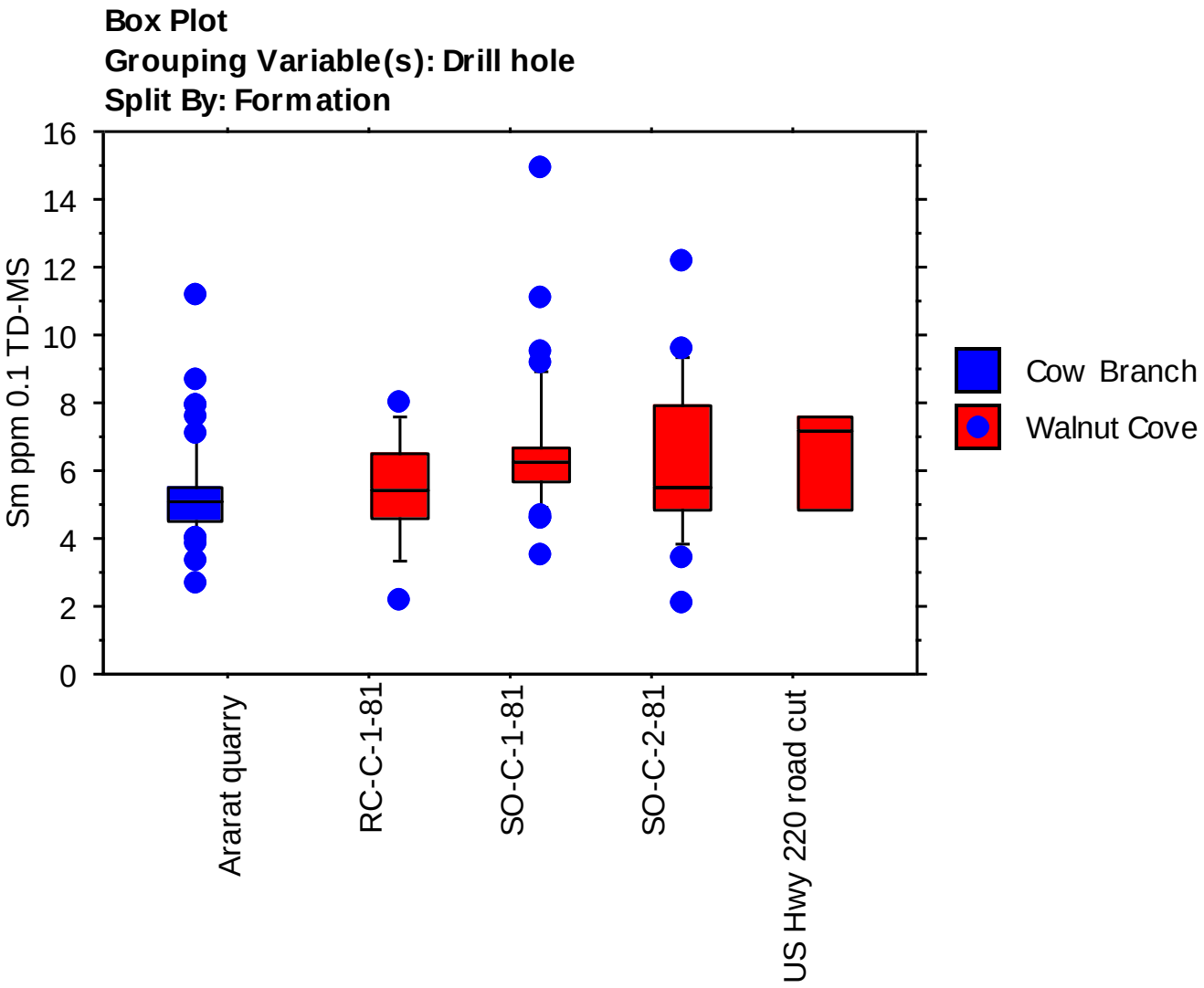
Nd (ppm) - 1


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Nd ppm 0.1 TD-MS
80
70
60
50
40
30
20
10
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

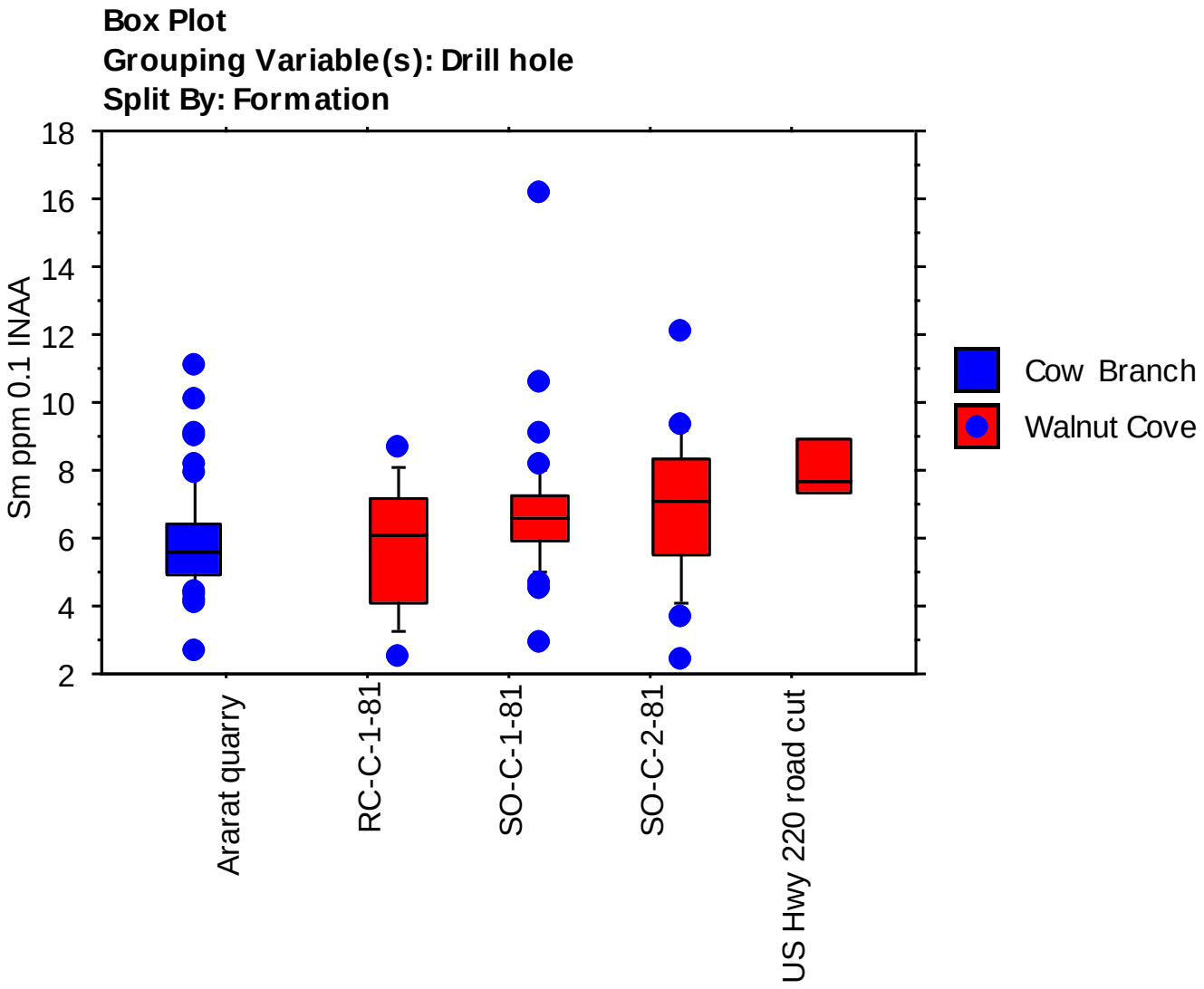
Nd (ppm) - 2


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Nd ppm 5 INAA
90
80
70
60
50
40
30
20
10
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

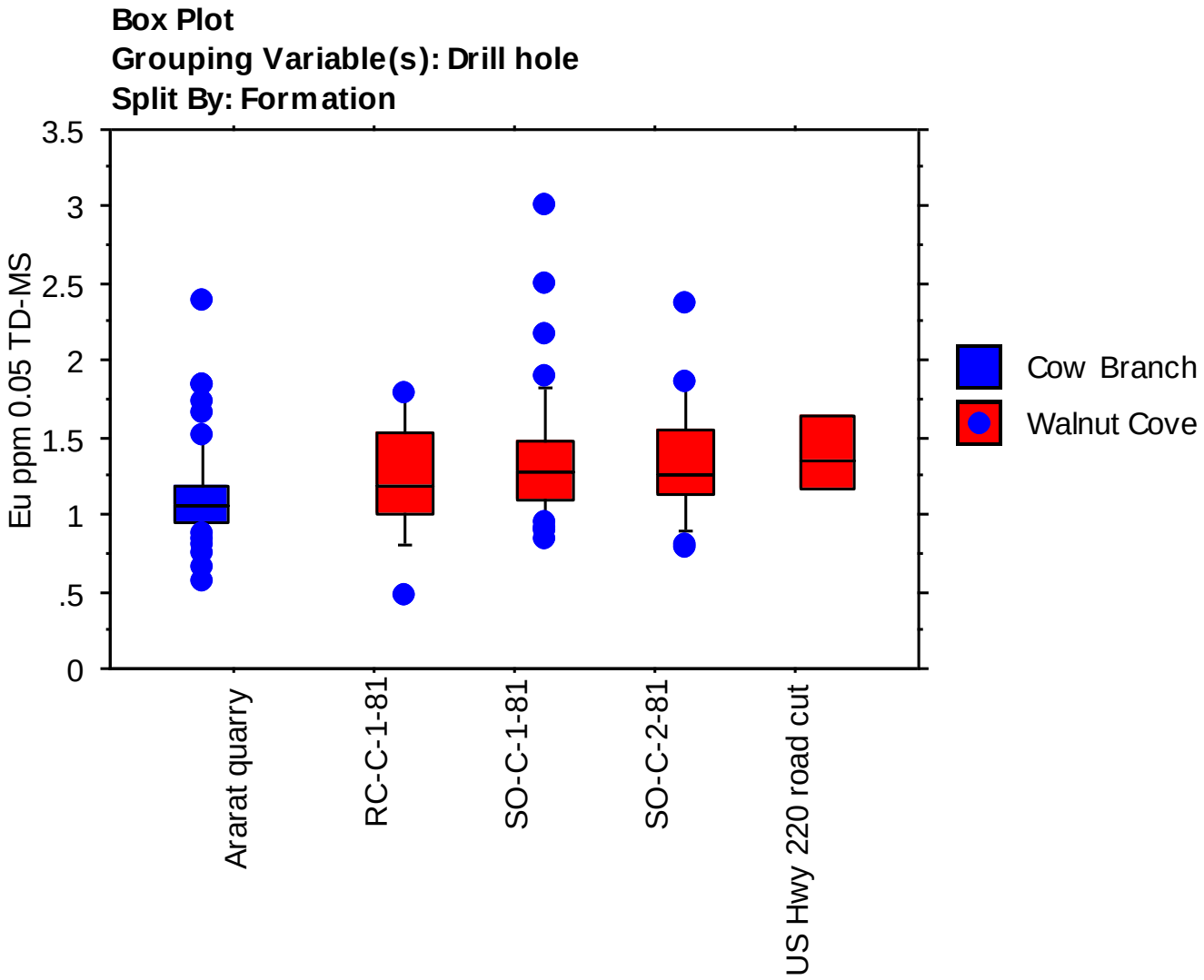
Sm (ppm) - 1


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Sm ppm 0.1 TD-MS
16
14
12
10
8
6
4
2
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

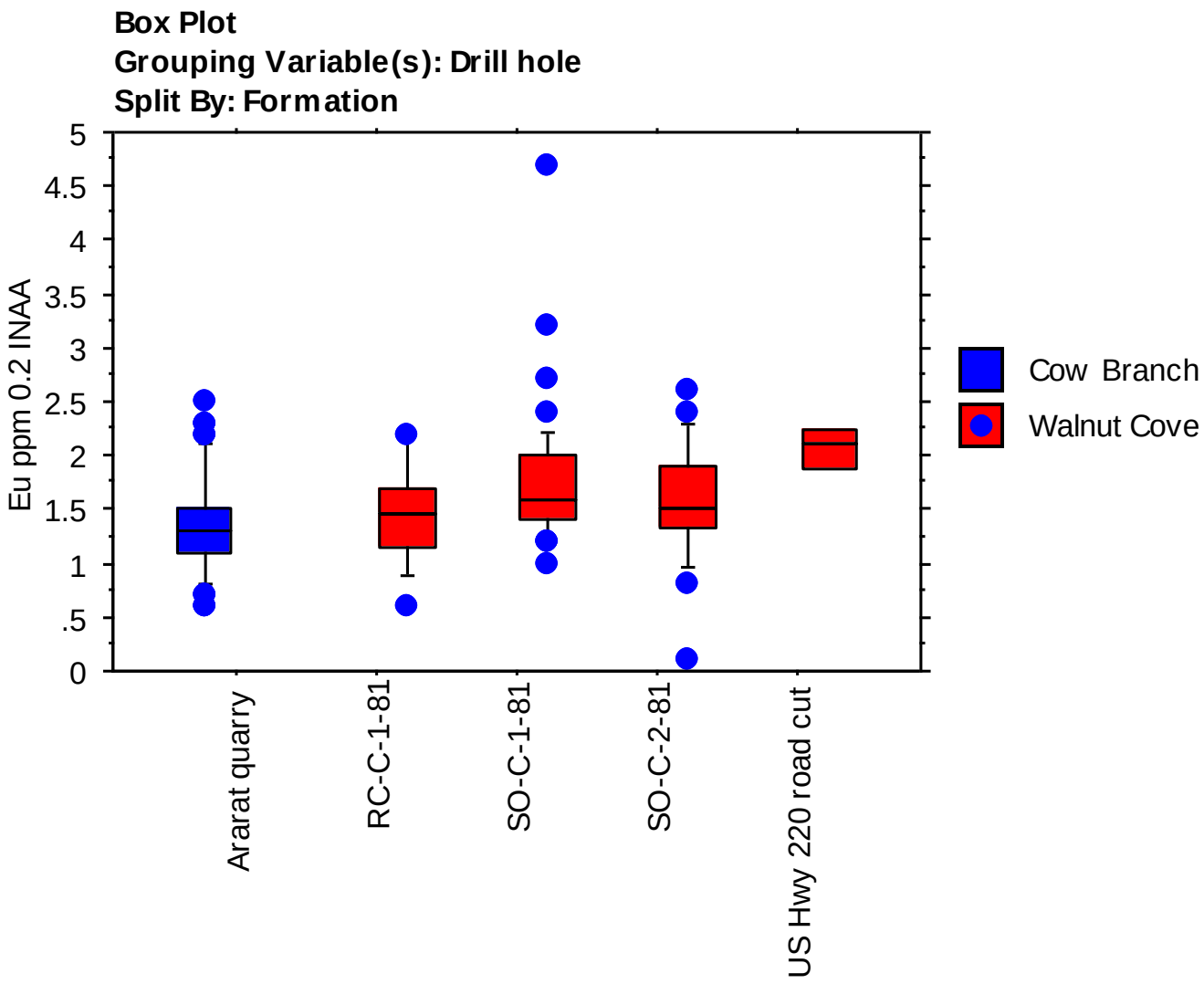
Sm (ppm) – 2


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Sm ppm 0.1 INAA
18
16
14
12
10
8
6
4
2
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

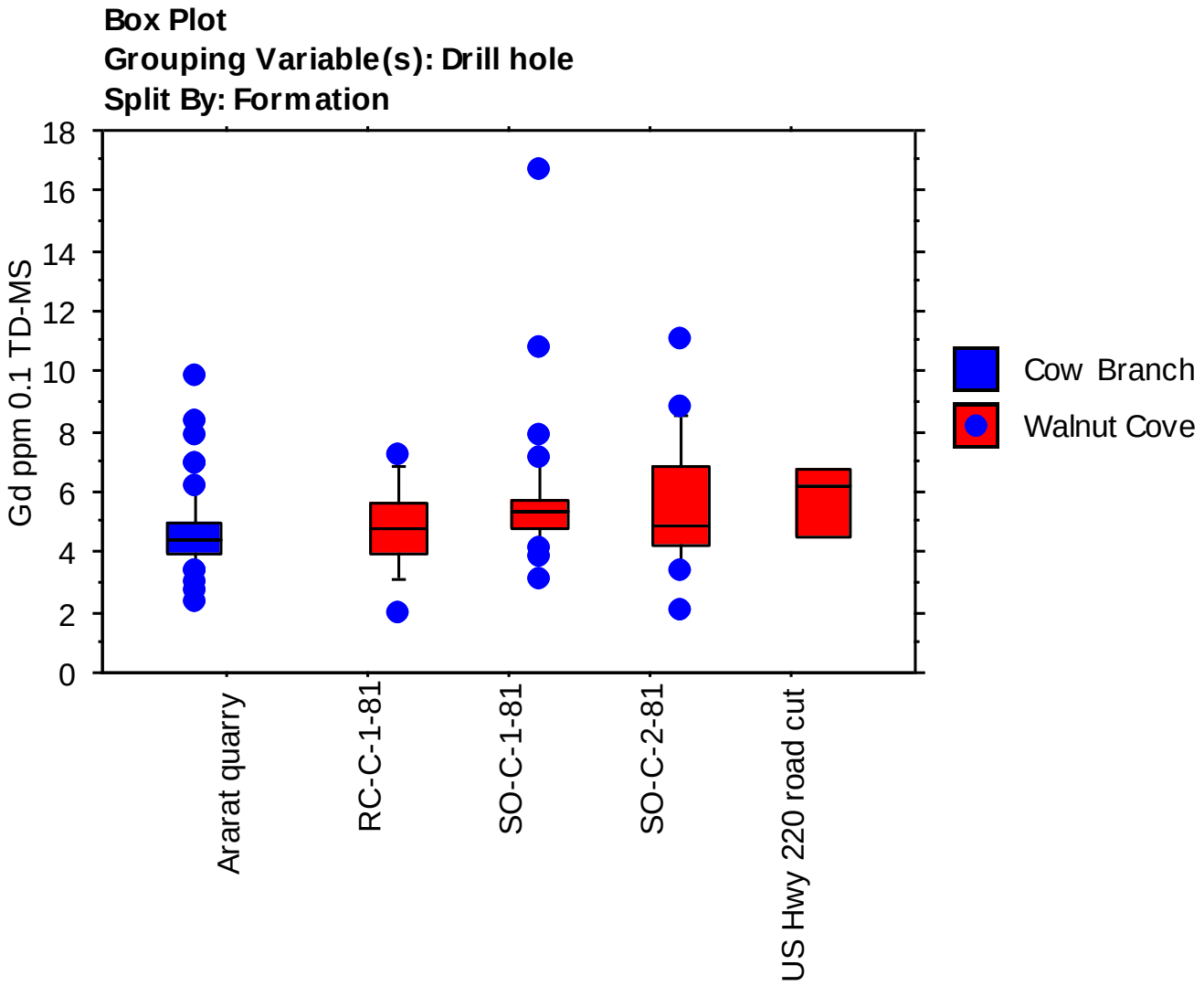
Eu (ppm) - 1


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Eu ppm 0.05 TD-MS
3.5
3
2.5
2
1.5
1
.5
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

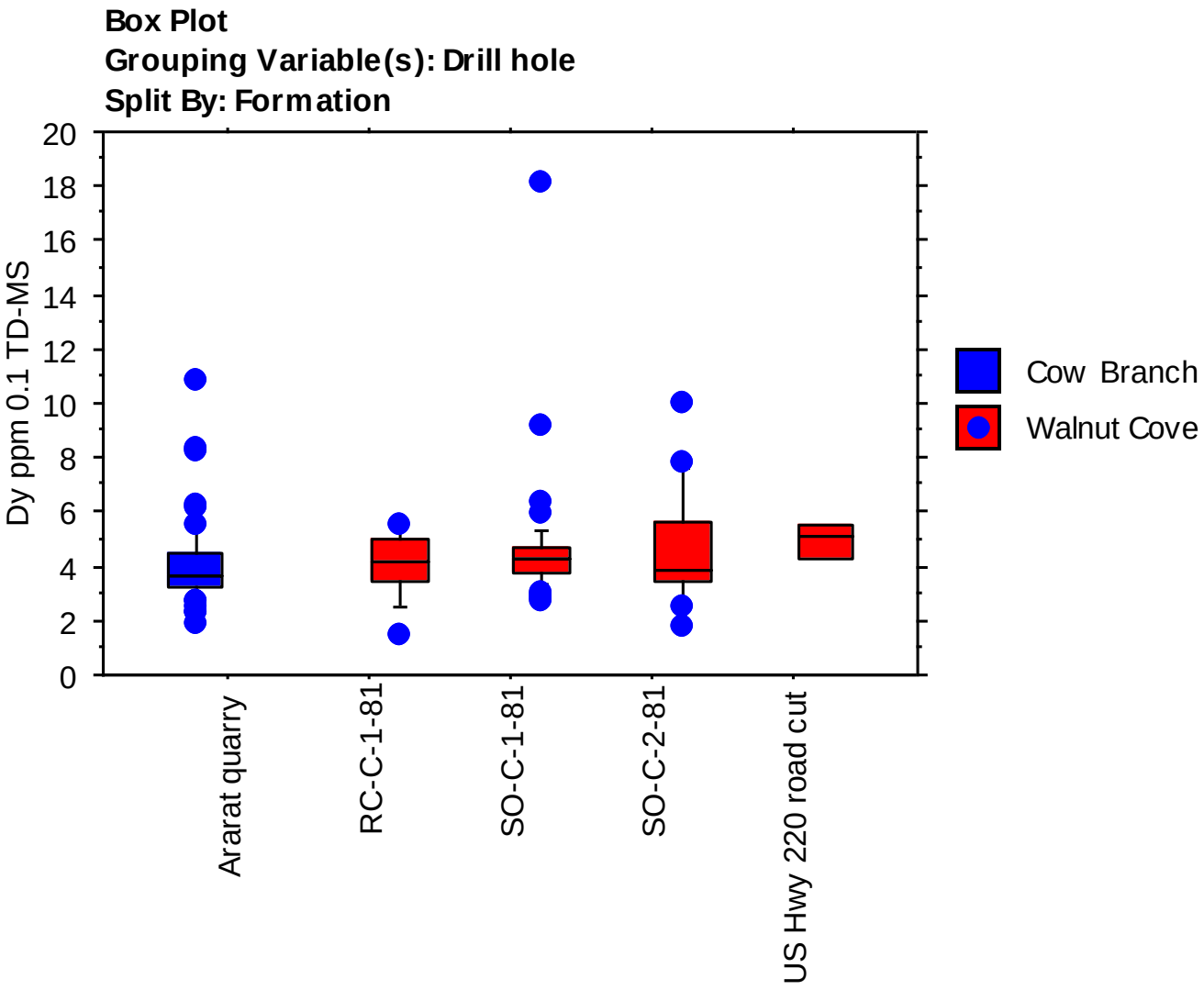
Eu (ppm) - 2


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Eu ppm 0.2 INAA
5
4.5
4
3.5
3
2.5
2
1.5
1
.5
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

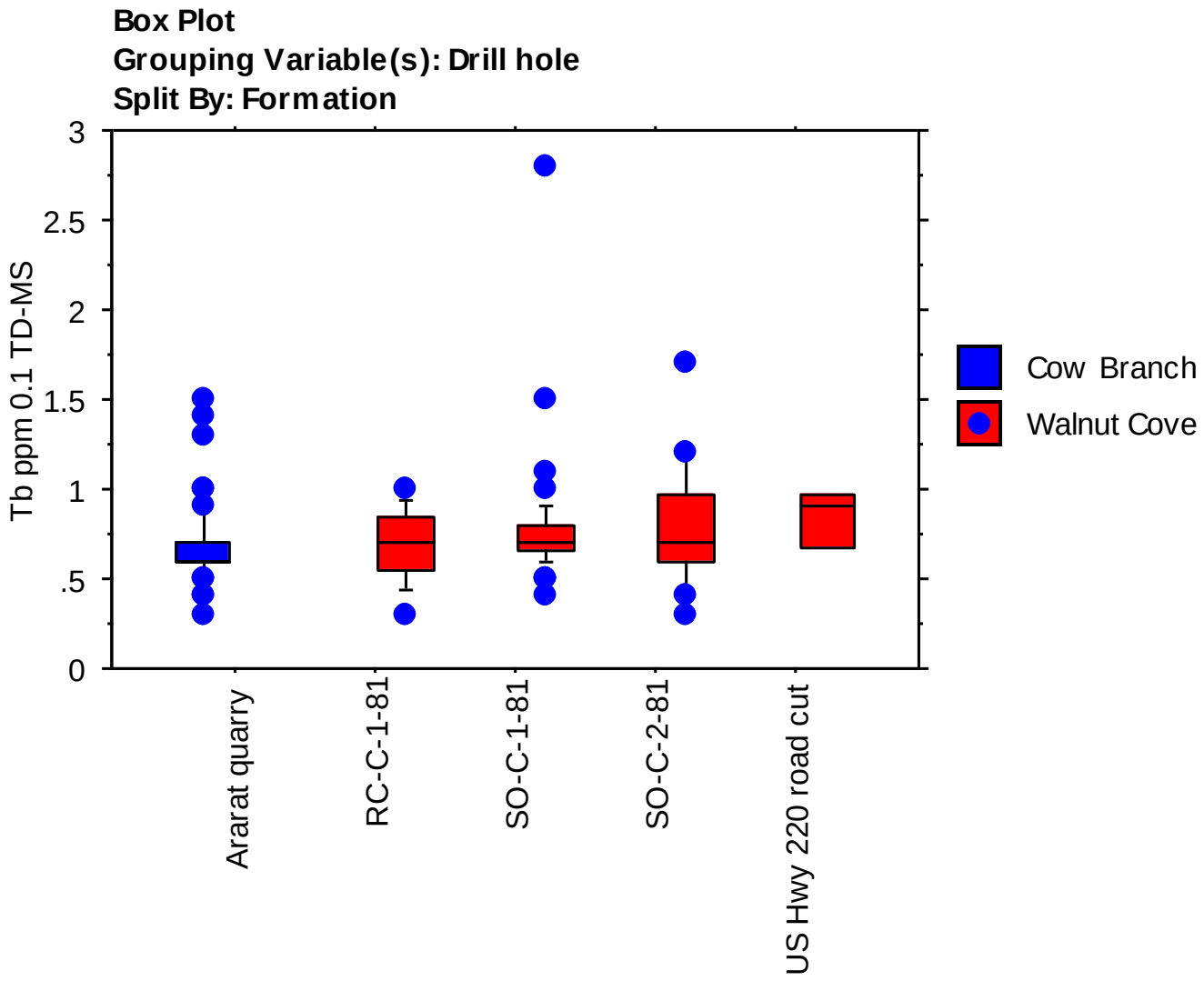
Gd (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Gd ppm 0.1 TD-MS
0
2
4
6
8
10
12
14
16
18
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

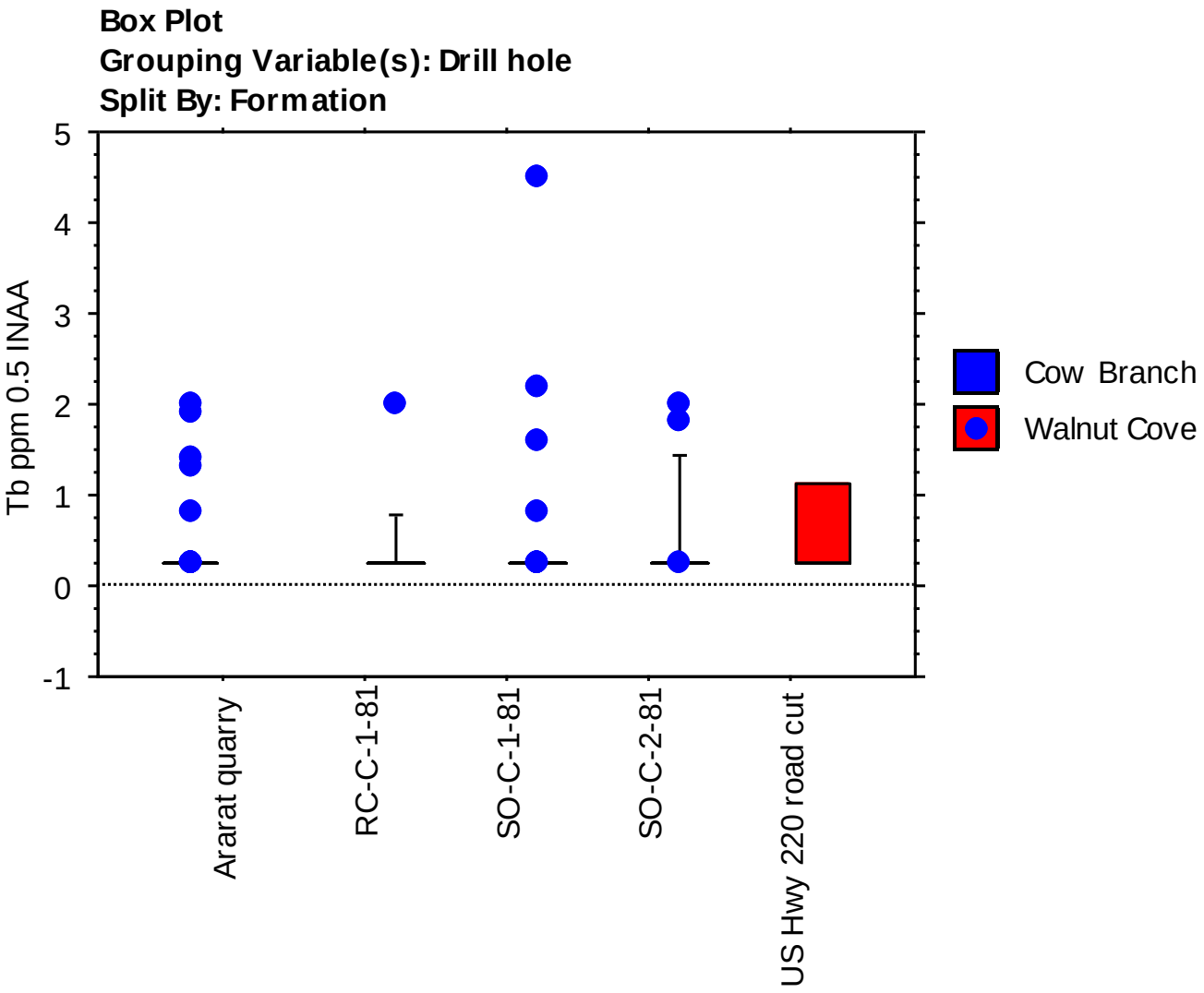
Dy (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Dy ppm 0.1 TD-MS
20
18
16
14
12
10
8
6
4
2
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

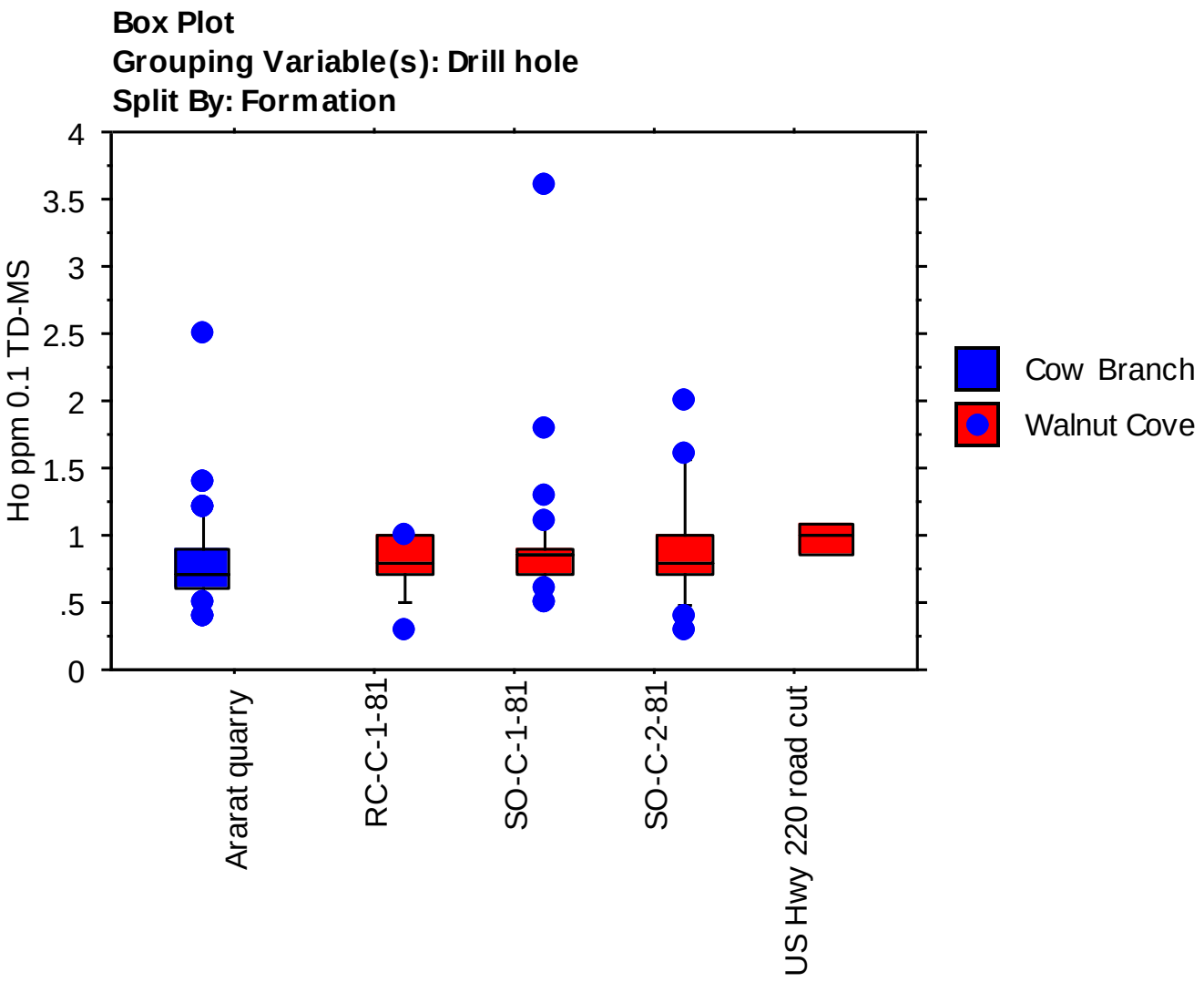
Tb (ppm) - 1


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Tb ppm 0.1 TD-MS
3
2.5
2
1.5
1
.5
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

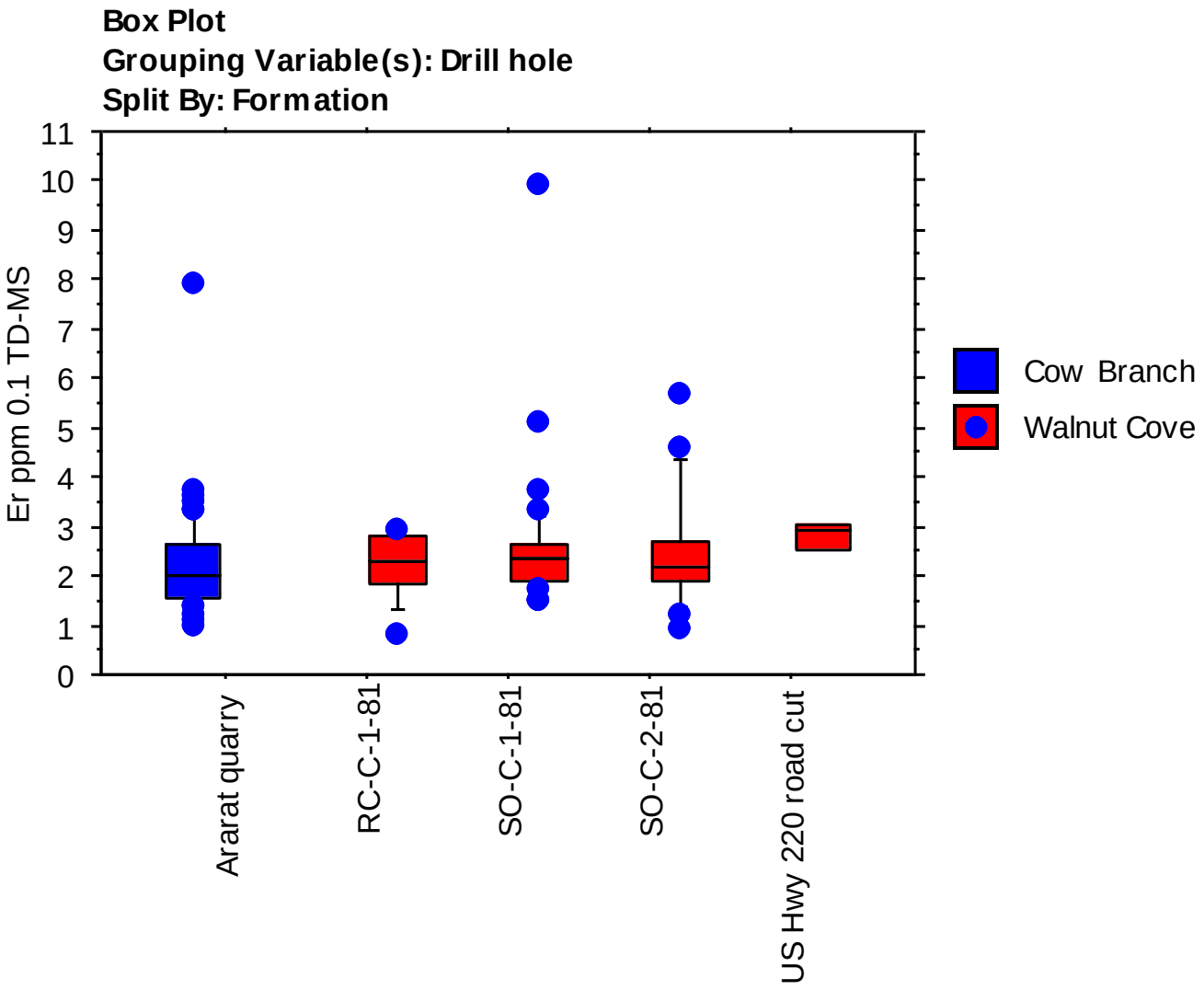
Tb (ppm) - 2


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Tb ppm 0.5 INAA
5
4
3
2
1
0
-1
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

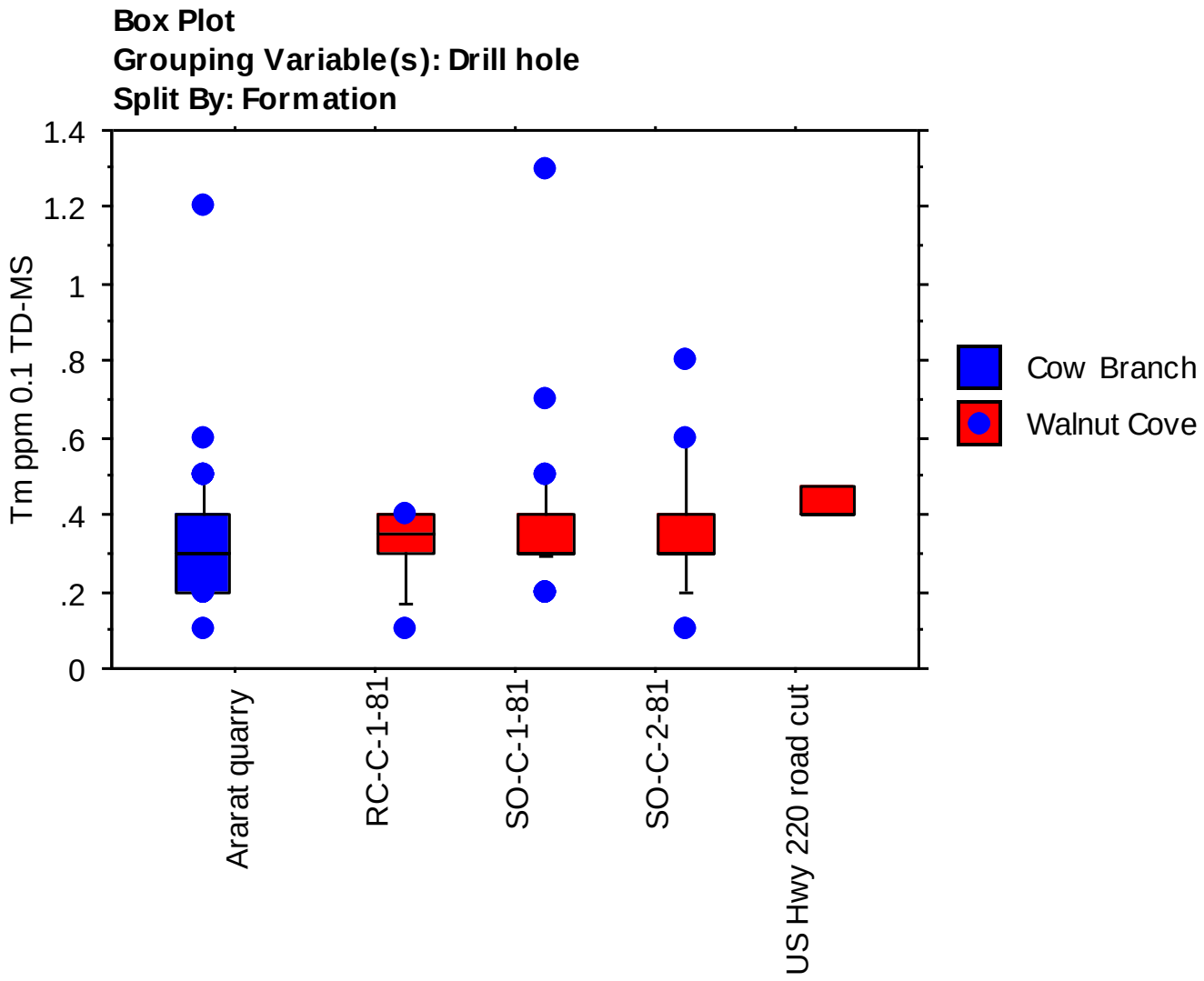
Ho (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Ho ppm 0.1 TD-MS
4
3.5
3
2.5
2
1.5
1
.5
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

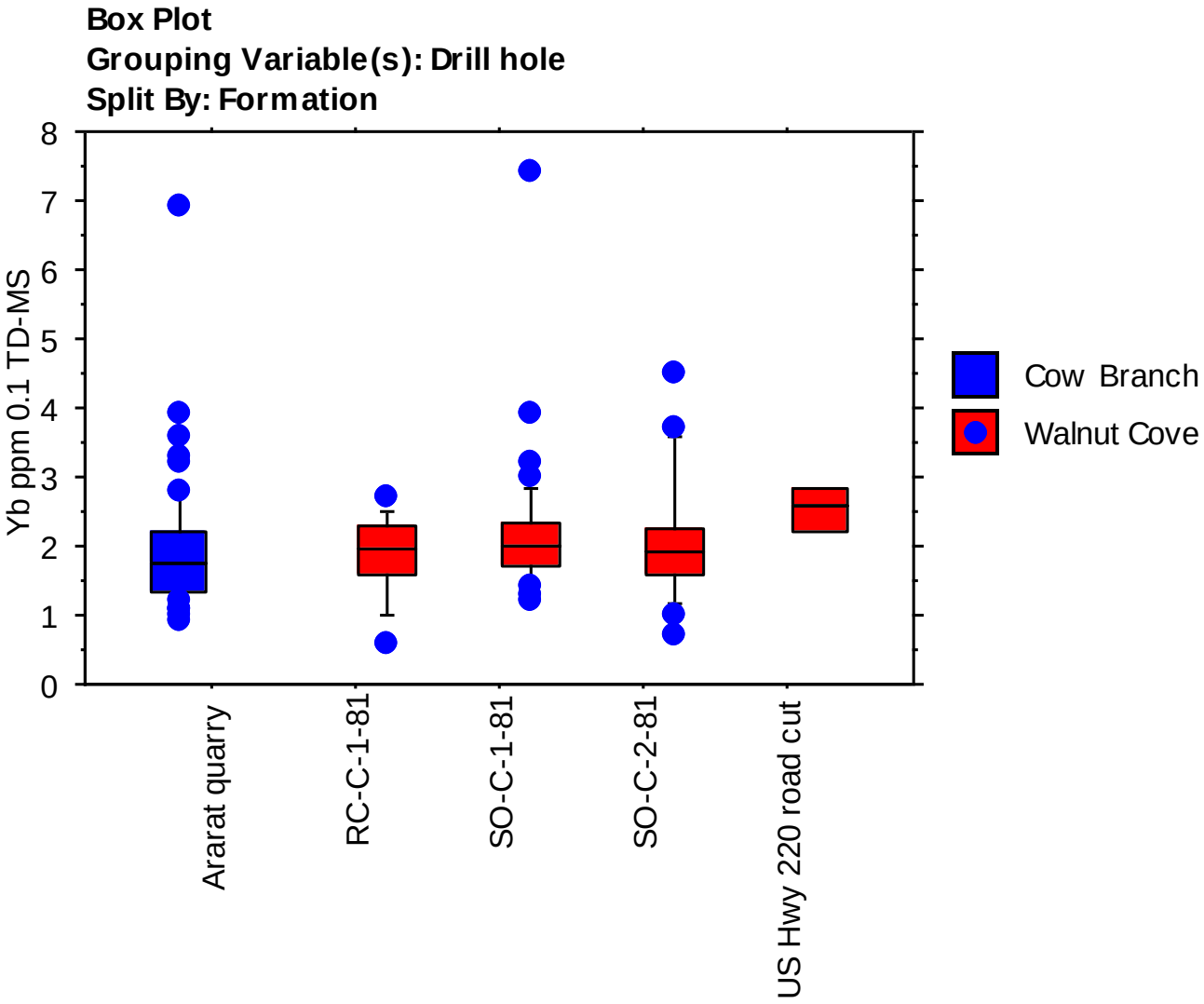
Er (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Er ppm 0.1 TD-MS
0
1
2
3
4
5
6
7
8
9
10
11
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

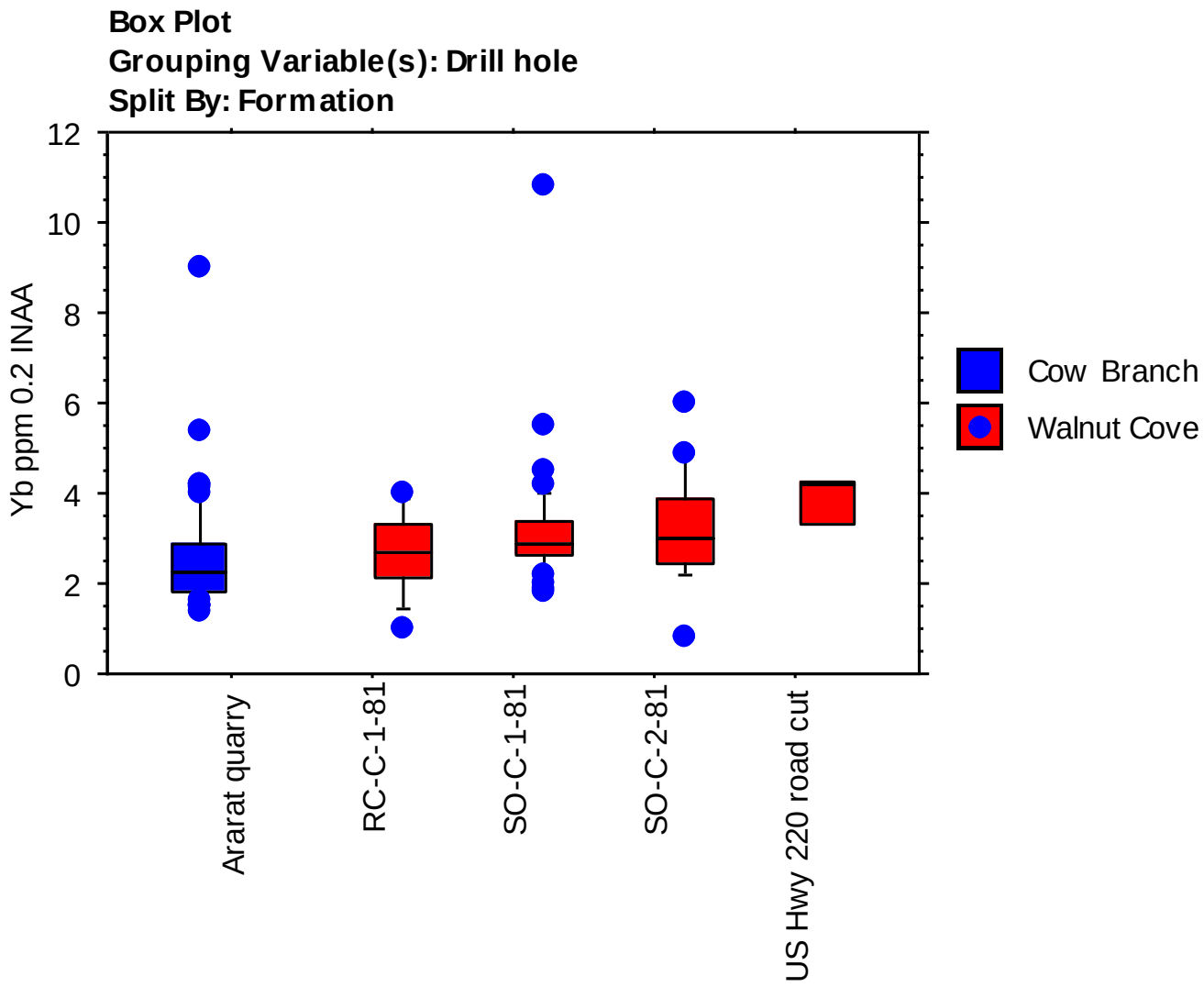
Tm (ppm)


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Tm ppm 0.1 TD-MS
1.4
1.2
1
.8
.6
.4
.2
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

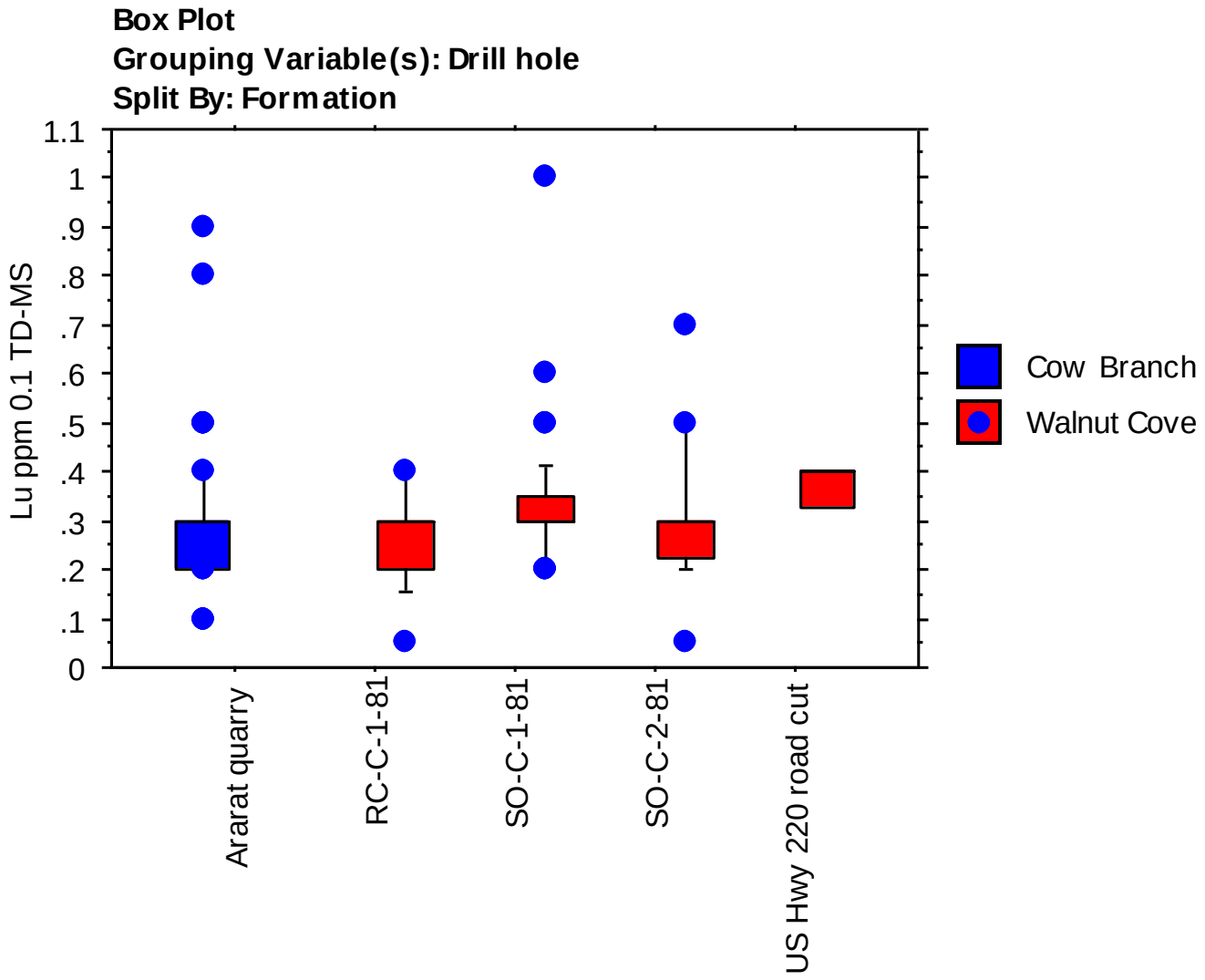
Yb (ppm) - 1


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Yb ppm 0.1 TD-MS
0
1
2
3
4
5
6
7
8
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

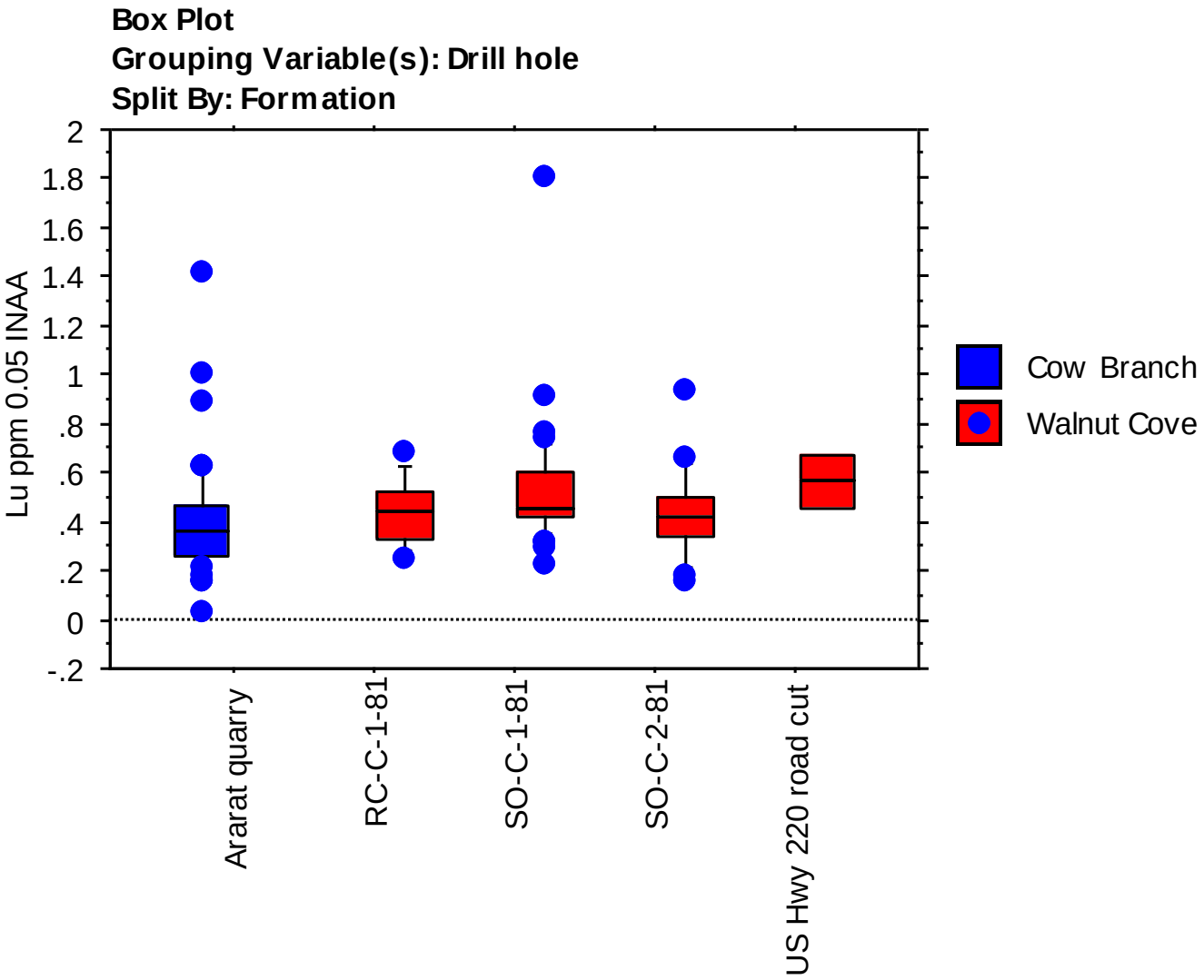
Yb (ppm) - 2


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Yb ppm 0.2 INAA
12
10
8
6
4
2
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

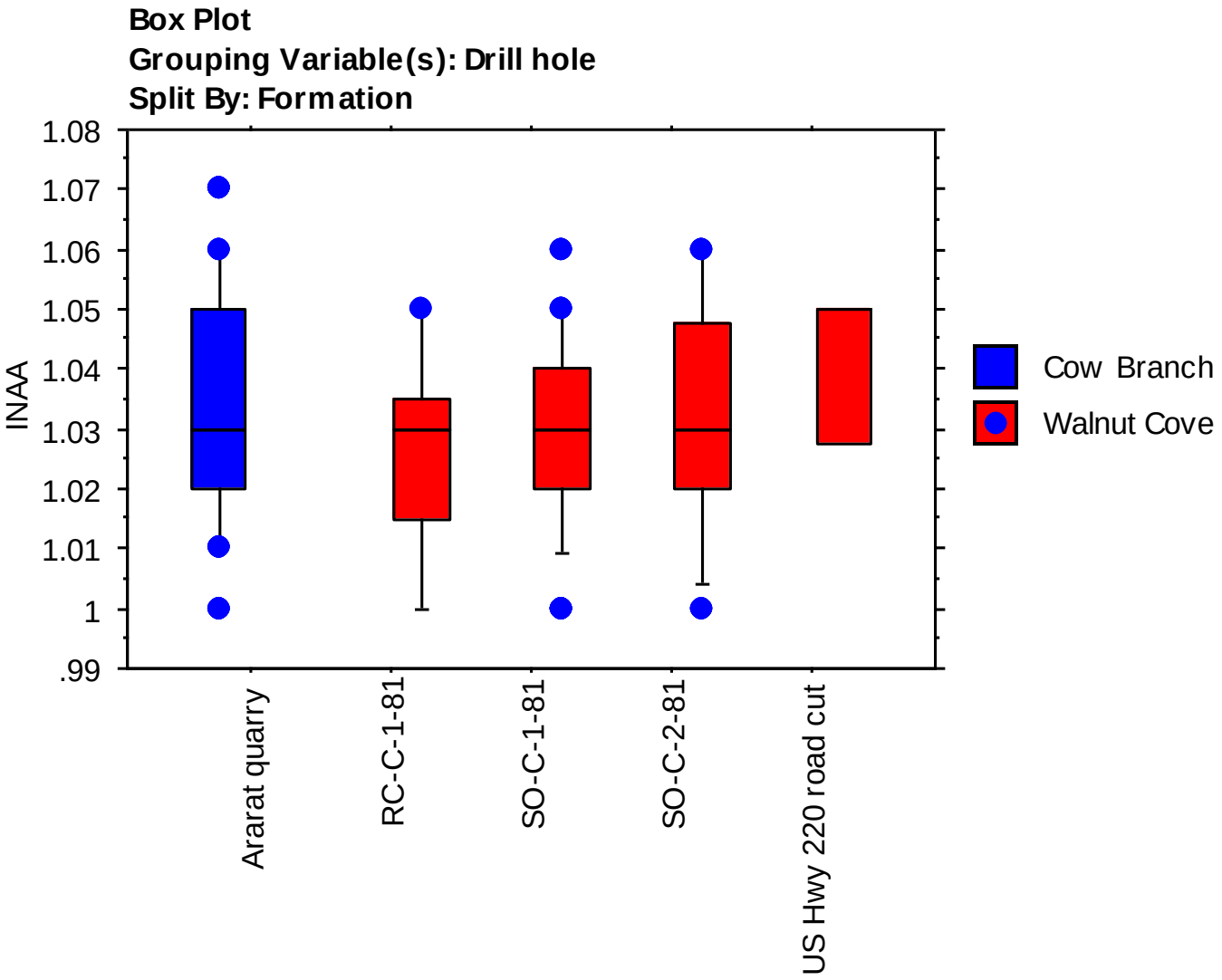
Lu (ppm) - 1


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Lu ppm 0.1 TD-MS
1.1
1
.9
.8
.7
.6
.5
.4
.3
.2
.1
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

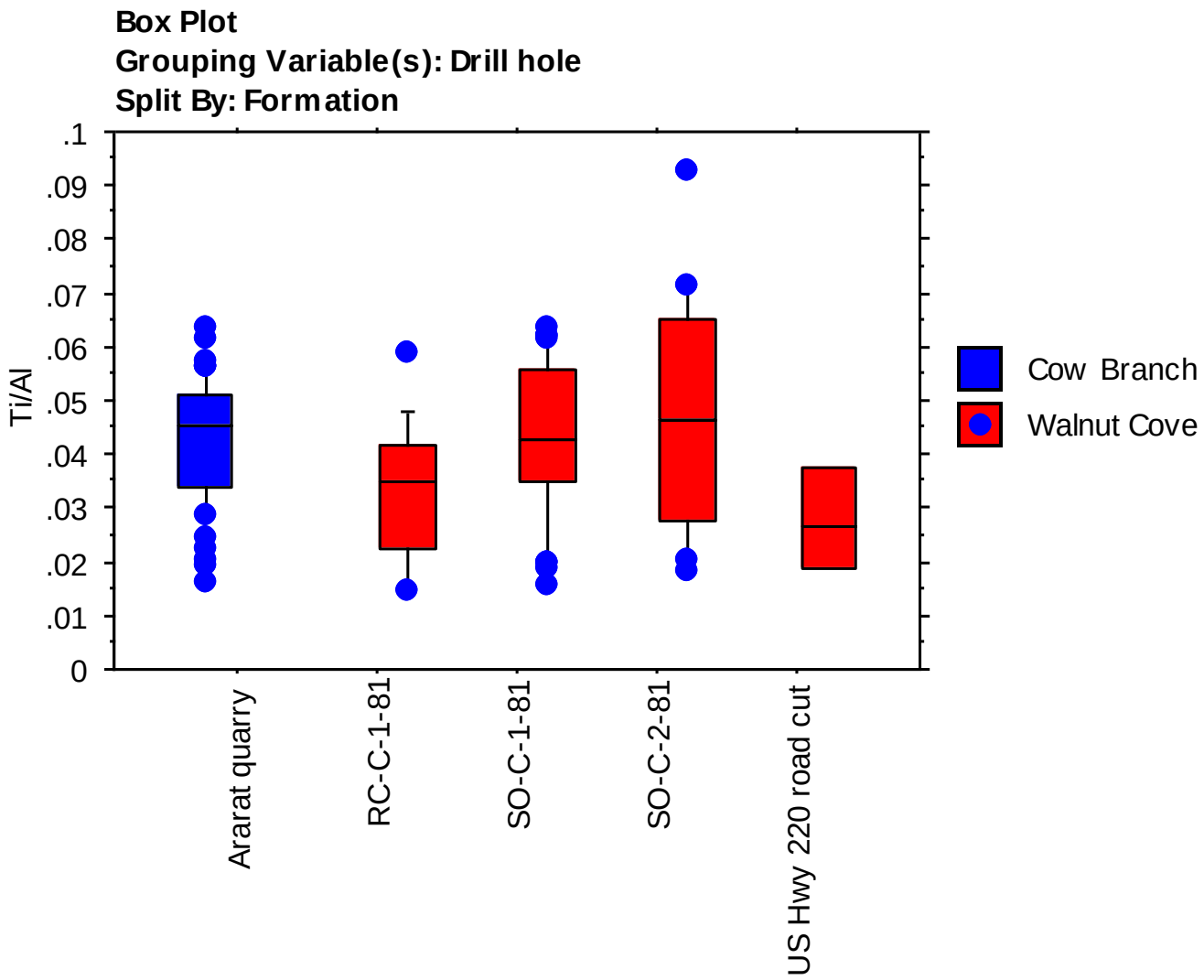
Lu (ppm) - 2


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Lu ppm 0.05 INAA
2
1.8
1.6
1.4
1.2
1
.8
.6
.4
.2
0
-.2
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

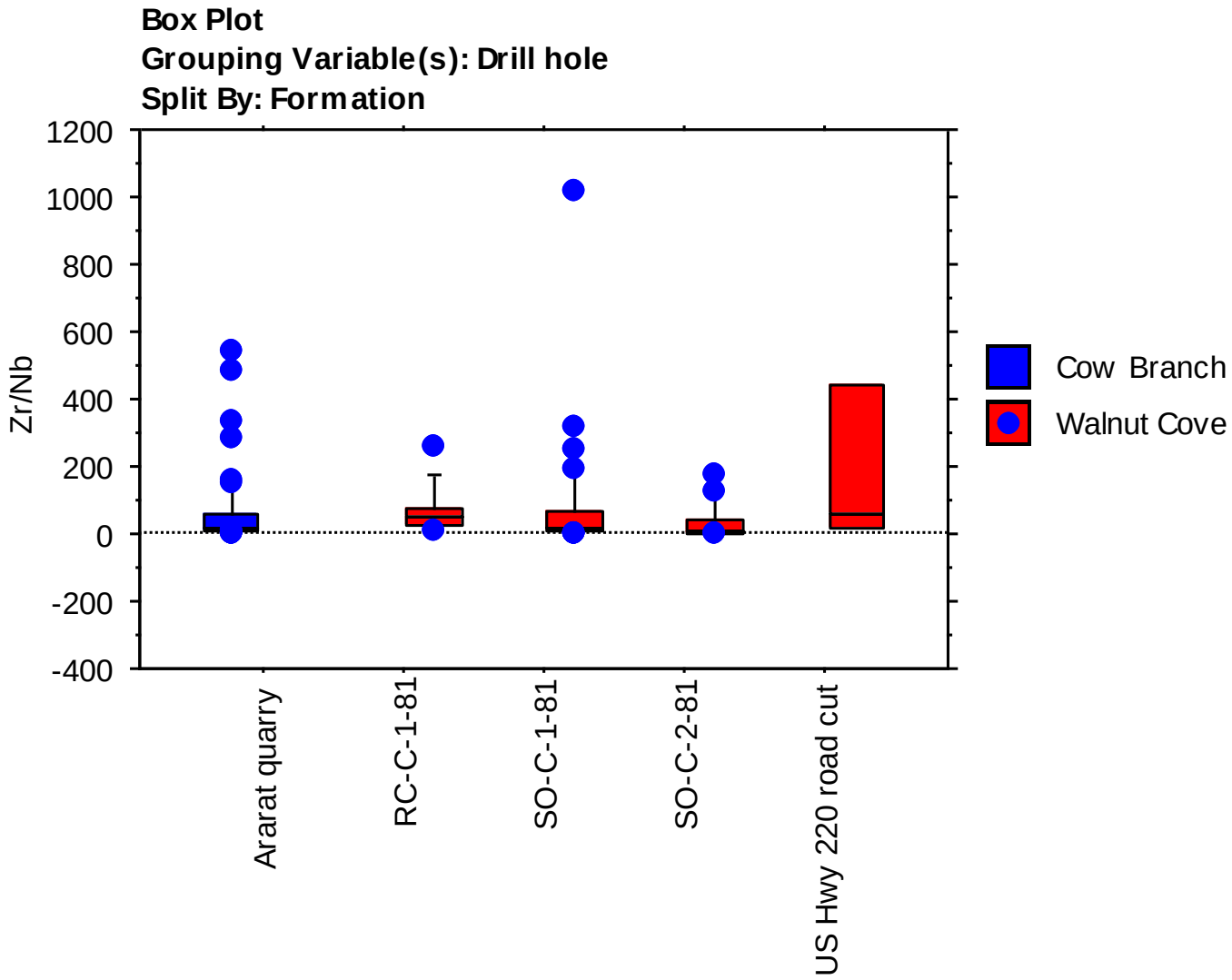
INAA totals - variation



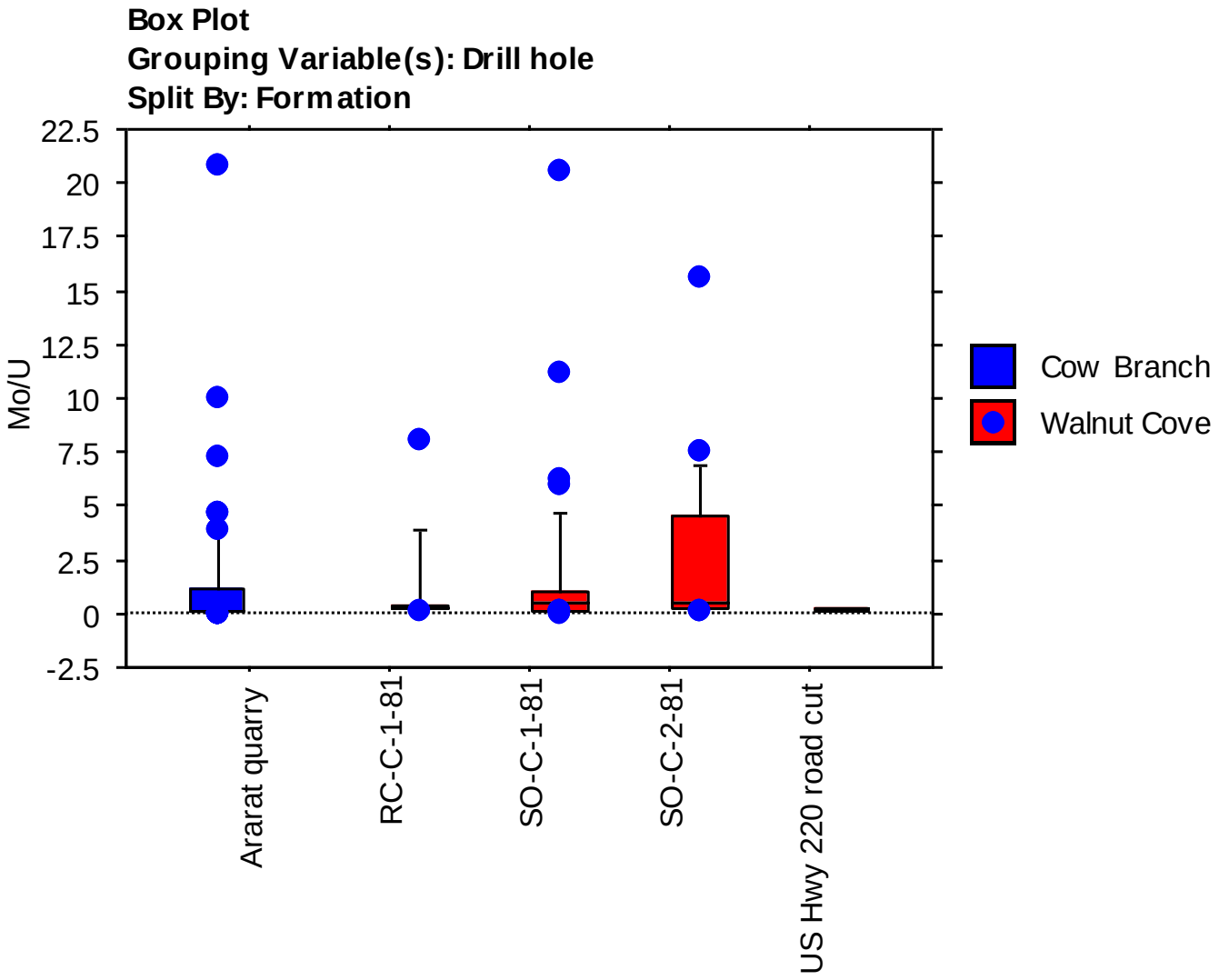
Ti/Al ratio


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Ti/Al
.1
.09
.08
.07
.06
.05
.04
.03
.02
.01
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

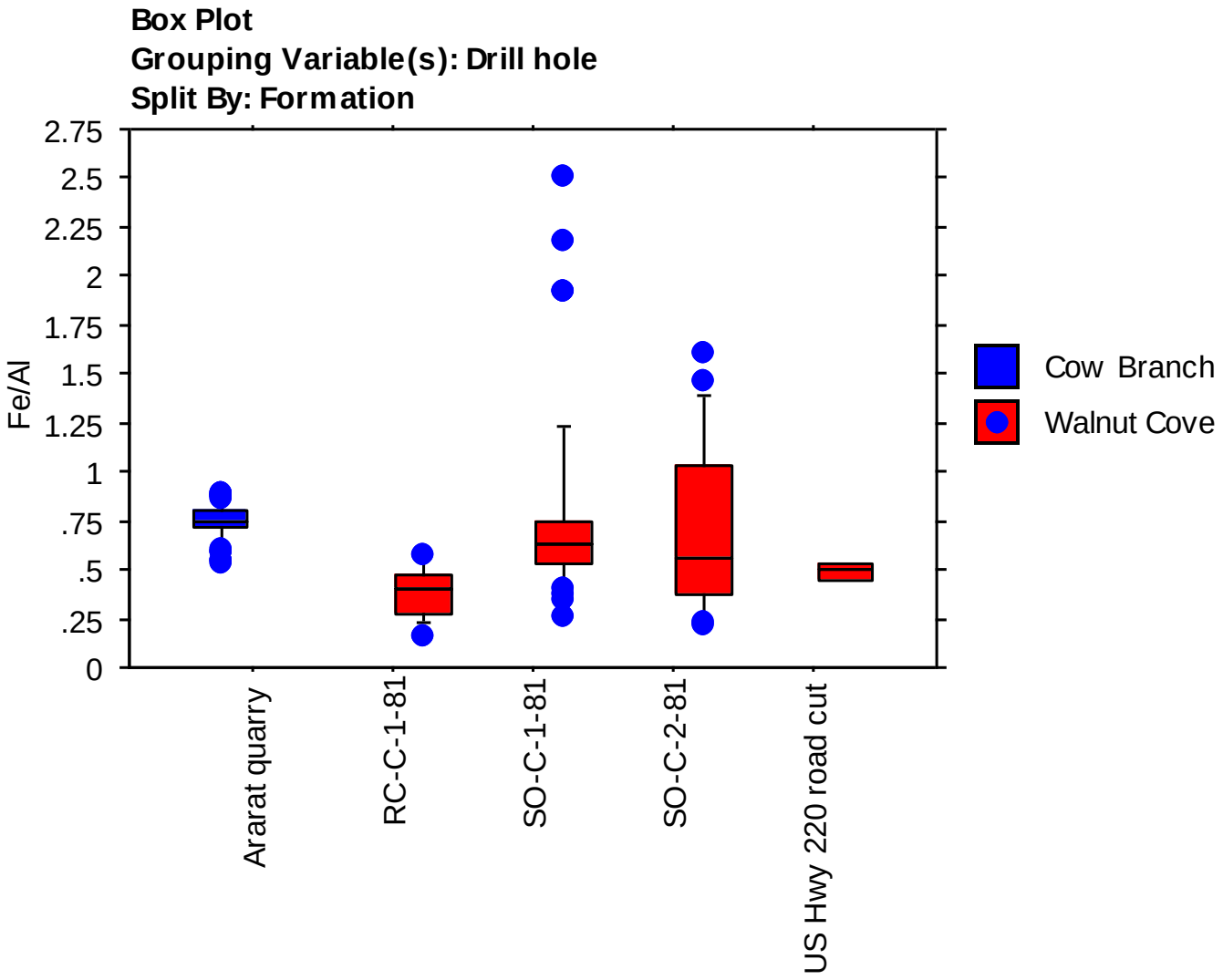
Zr/Nb ratio


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Zr/Nb
1200
1000
800
600
400
200
0
-200
-400
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

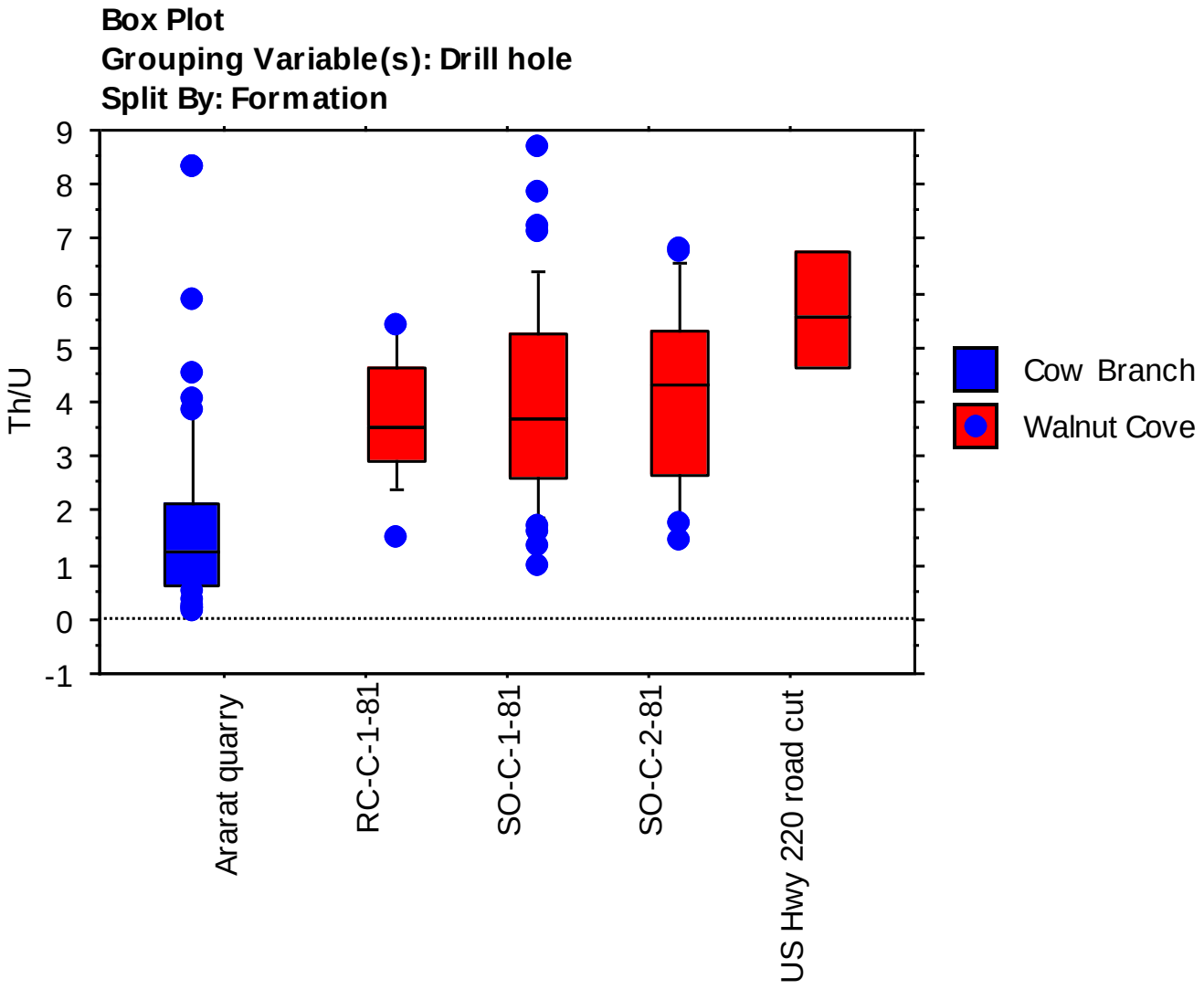
Mo/U ratio


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Mo/U
22.5
20
17.5
15
12.5
10
7.5
5
2.5
0
-2.5
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

Fe/Al rato


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Fe/Al
2.75
2.5
2.25
2
1.75
1.5
1.25
1
.75
.5
.25
0
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove

Th/U ratio


Box Plot
Grouping Variable(s): Drill hole
Split By: Formation
Th/U
9
8
7
6
5
4
3
2
1
0
-1
Ararat quarry
RC-C-1-81
SO-C-1-81
SO-C-2-81
US Hwy 220 road cut
Cow Branch
Walnut Cove