ARSENIC IN ROCKS AND STREAM SEDIMENTS OF THE CENTRAL APPALACHIAN BASIN, KENTUCKY

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INTRODUCTION

Arsenic (As) enrichment in coal and stream sediments has been documented in the southern Appalachian basin (see Goldhaber and others, submitted) and is attributed to interaction of rocks and coal with metamorphic fluids generated during the Allegheny Orogeny (late Paleozoic). Similarly derived fluids are expected to affect the coal and in the Kentucky Appalachian Basin to the north as well. In addition, similar processes may have influenced the Devonian oil shale on the western margin of the basin. The major goals of this study are to determine the effect such fluids had on rocks in the Kentucky Appalachian basin (fig. 1), and to understand the geochemical processes that control trace-metal source, residence, and mobility within the basin. This report includes data presented in a poster at the USGS workshop on arsenic (February 21 and 22, 2001), new NURE stream sediment data[3], and field data from a trip in April 2001. Although data for major and minor elements and all detectable trace metals are reported in the Appendices, the narrative of this report primarily focuses on arsenic.

The study is divided in to three phases. The first phase is completed and inventoried trace-metal concentrations in stream sediments throughout the Kentucky Appalachian basin. The distribution of arsenic concentrations was used to identify areas enriched in arsenic relative to estimated background values[4]. A summary of all chemical data from phase one is presented in Appendix I. The second phase is in progress and focuses on areas identified in phase one to have high concentrations of arsenic. Shale and coal from these regions were sampled for chemical and isotopic analyses and selective extractions to determine arsenic residence. Preliminary field data (including semi-quantitative X-ray fluorescence (XRF) data[5]) are presented in this report. The quantitative chemical and stable isotopic data currently being collected and analyzed will be used to determine source, residence and mobility of trace elements during weathering. Some preliminary results are presented in Tuttle and others (2001). The third phase (to begin 2002) will

[3] NURE stream sediment samples were retrieved from storage and reanalyzed in 2000.

[4] Estimated background values, as used in this report, represent average concentrations in stream sediments within the defined area (e.g. United States, Central Appalachian basin, etc.).

[5] XRF data were collected using a hand-held Niton spectrophotometer that measures surface concentrations (the use of the trade name Niton is for descriptive purposes only and does not imply endorsement by the U.S. Government).

focus on specific watersheds to help identify processes that affect trace-element concentrations in streams and associated ecosystems.

ENERGY RESOURCES IN THE KENTUCKY APPALACHIAN BASIN

The Kentucky Appalachian basin has about 28 billion tons of recoverable coal today (fig. 2). There is about 190 billion barrels of synthetic oil in surface and near-surface Devonian oil shale within Kentucky (Matthews and others, 1981)--with a substantial portion along the western margin of the Appalachian basin. Although oil shale currently is not targeted for mining, most of the available coal in Kentucky will be mined.

Arsenic in Kentucky Appalachian Basin Coal

The geometric mean of arsenic in the eastern Kentucky coals is 11 ppm (U.S. Geological Survey Coal quality Database; Bragg and others, 1997). Over one-half of these coals have concentrations greater than the geometric mean concentration (6.1 ppm) for all US coals in the database. Because the arsenic concentrations are log normally distributed (see fig. 3), all averages are given as geometric means.

Effect of Regional Structural Features on Spatial Distribution of Arsenic in Eastern Kentucky Coals

High arsenic concentrations (>24 ppm) in Kentucky coal appear to be oriented in lines trending northeast to southwest or northwest to southeast (fig. 4). The northeast to southwest trends are parallel to the regional trend of Appalachian fold and faults. The perpendicular trend (northwest to southeast) is parallel to mapped cross strike discontinuities (CSD; Coleman and others, 1988) (fig. 5). These CSD's and major Appalachian folds and faults could have focused hydrothermal fluids generated during orogenic processes into the Kentucky Appalachian Basin.

Eastern Kentucky coal rank increases to the southeast, probably due, in part, to a southeastward increase in paleogeothermal gradient (Hower and others, 1991). Flow of mineralizing hydrothermal fluids through the Central Appalachian Basin along CSD's from southeast to northwest is consistent with these paleogeothermal gradients.

Residence of Arsenic in Coal

Figure 6 shows arsenic concentrations plotted against pyritic sulfur concentrations for the drill-core, channel, and weathered channel samples in the USGS Coal Quality Database. The three plots all show a positive relation between the two variables indicating that pyrite is a likely candidate for the residence of the arsenic in the coal. A similar relation was found in all U.S. coals (Coleman and Bragg, 1990). The scatter in each of the plots likely reflects variations in the ratio of early diagenetic pyrite to epigenetic pyrite in the coal samples and variable amounts of siderite present in the coal.

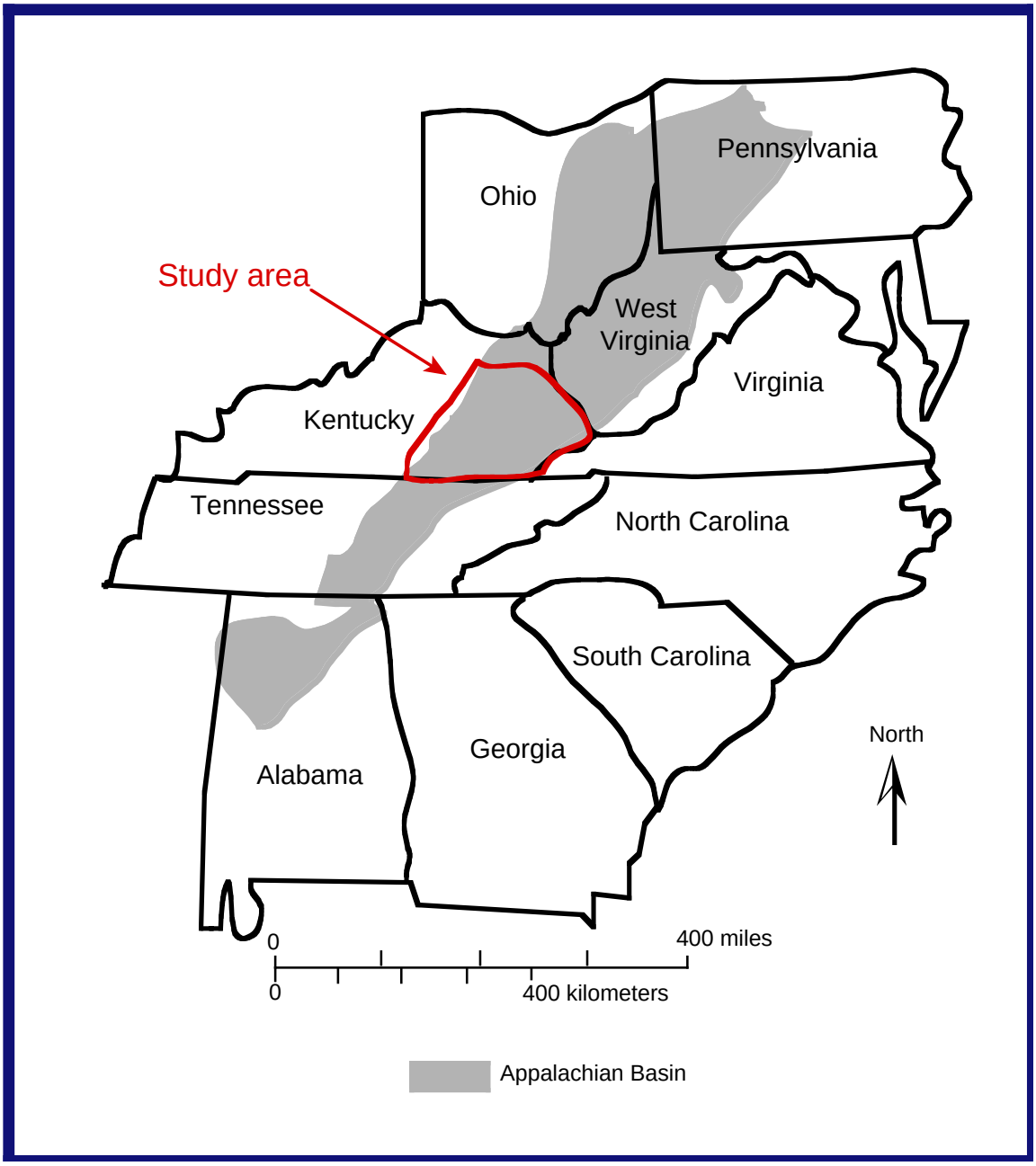
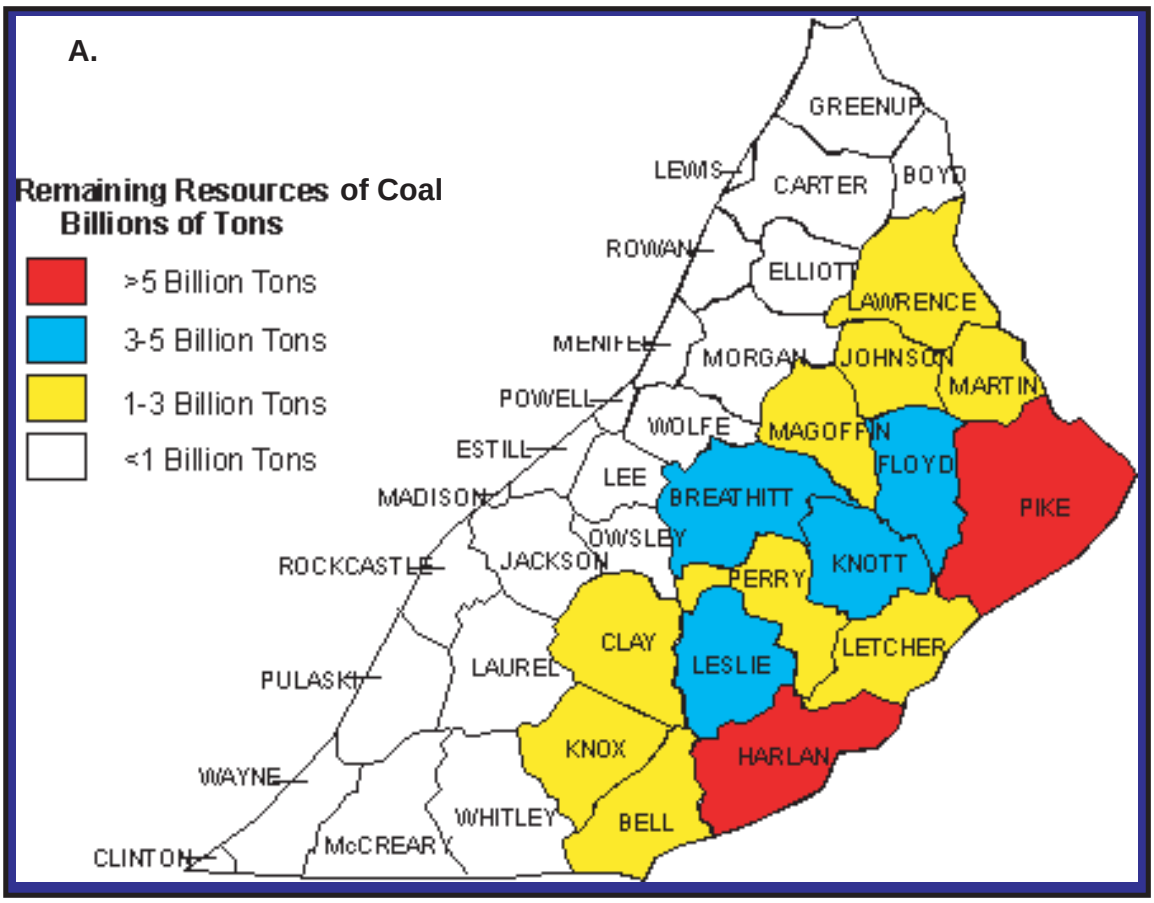


Figure 1. Map of the Appalachian Coal Region in Eastern USA showing location of study area. (modified from Britton and others, 1989)


A.
Remaining Resources of Coal
Billions of Tons
>5 Billion Tons
3-5 Billion Tons
1-3 Billion Tons
<1 Billion Tons
GREENUP
LEWIS
CARTER
BOYD
ROWAN
ELLIOTT
LAWRENCE
MENIFEE
MORGAN
JOHNSON
MARTIN
POWELL
WOLFE
MAGOFFIN
ESTILL
FLOYD
LEE
BREATHITT
PIKE
MADISON
OWSLEY
ROCKCASTLE
JACKSON
KNOTT
PERRY
CLAY
LESLIE
LETCHER
PULASKI
LAUREL
KNOX
HARLAN
WAYNE
WHITLEY
BELL
CLINTON
McCREARY

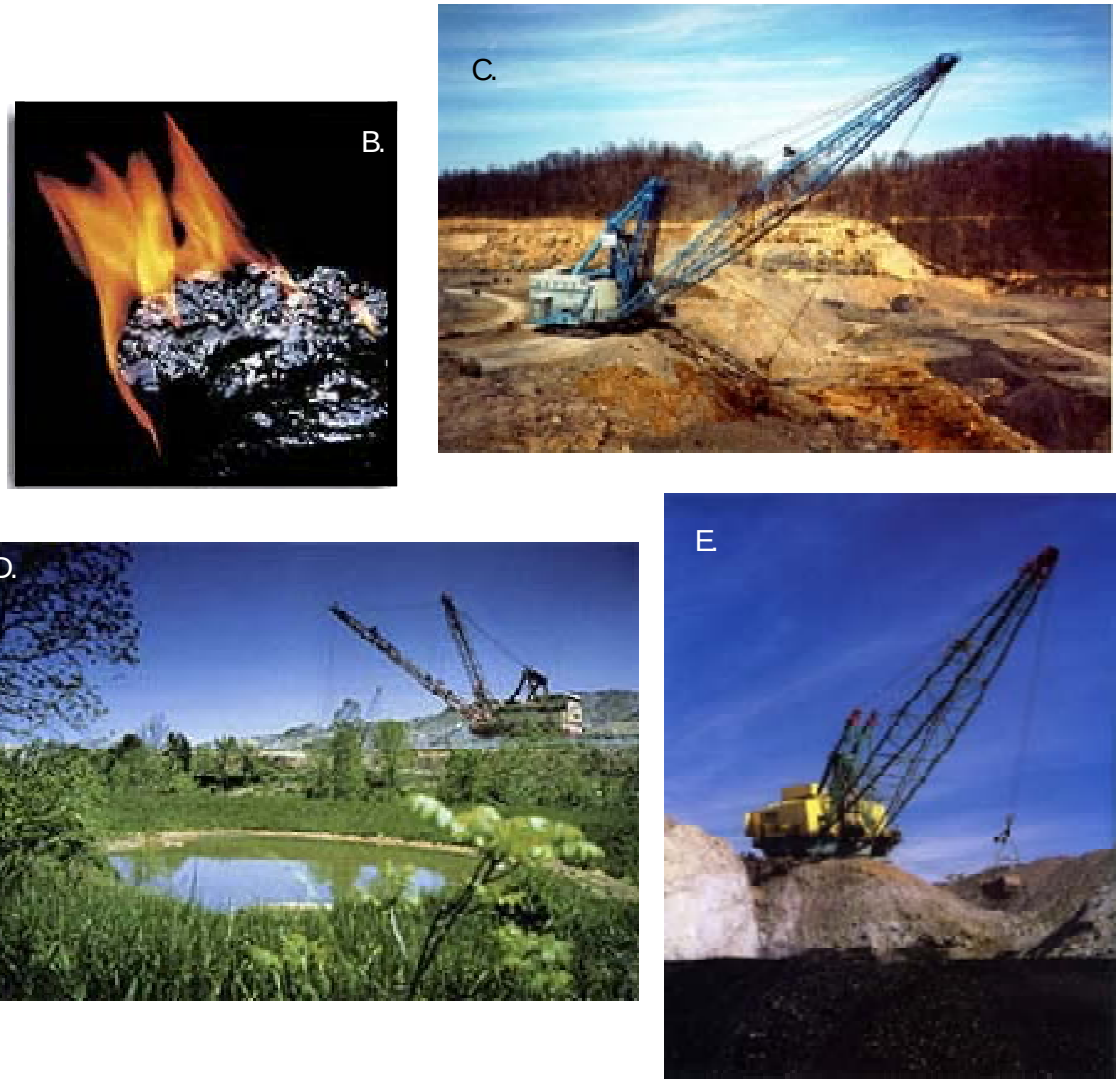


Figure 2. The resource map (A) shows eastern Kentucky coal resources by county. Photos (B-E) of the Kentucky coal industry and resource map were downloaded from http://www.coaleducation.org/Ky_Coal_Facts/main_coal_facts.htm

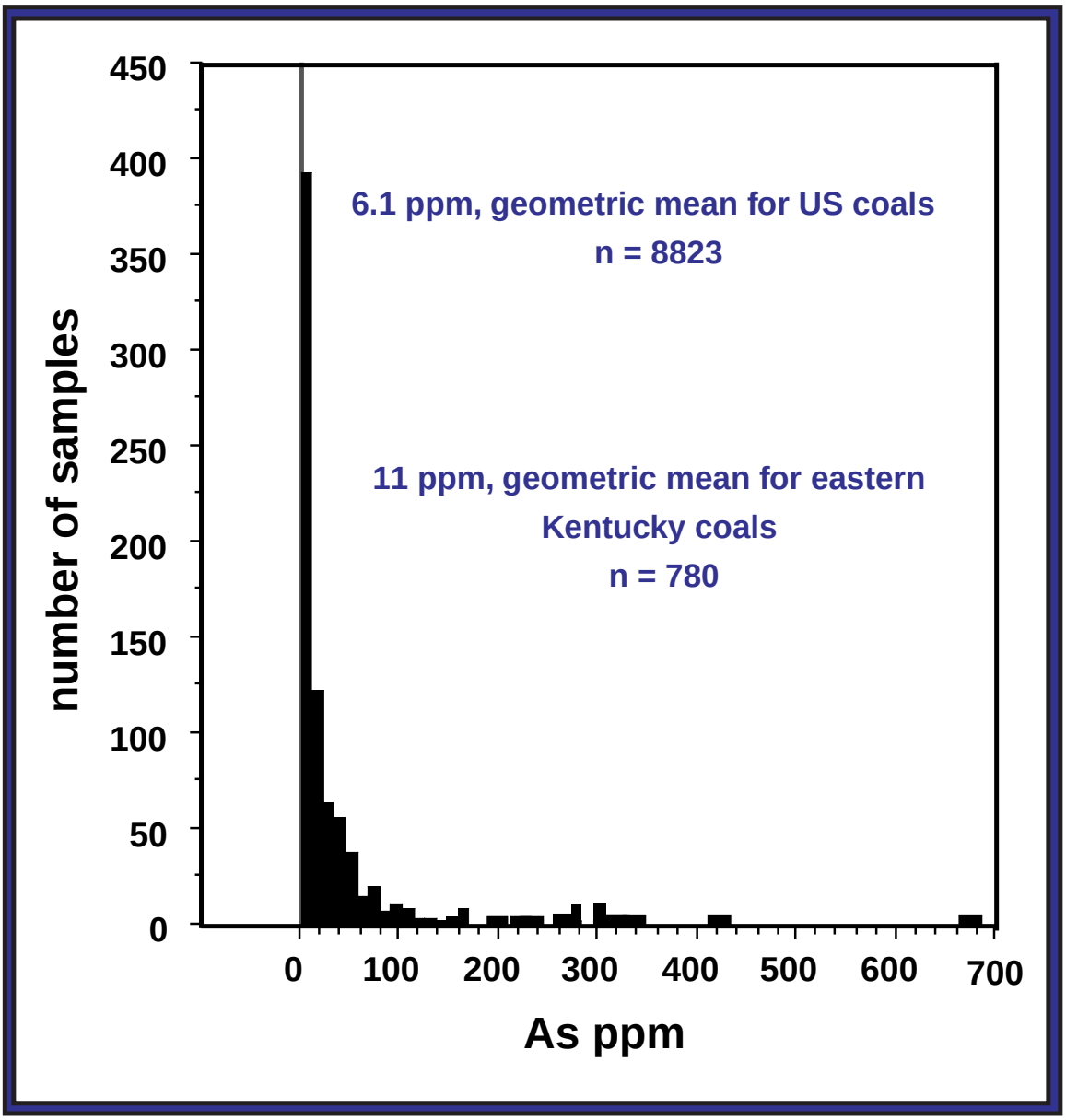


Figure 3. Histogram of arsenic concentrations (whole-rock basis) in Eastern Kentucky Coal (data from Coleman and Bragg, 1990; Bragg and others, 1997).

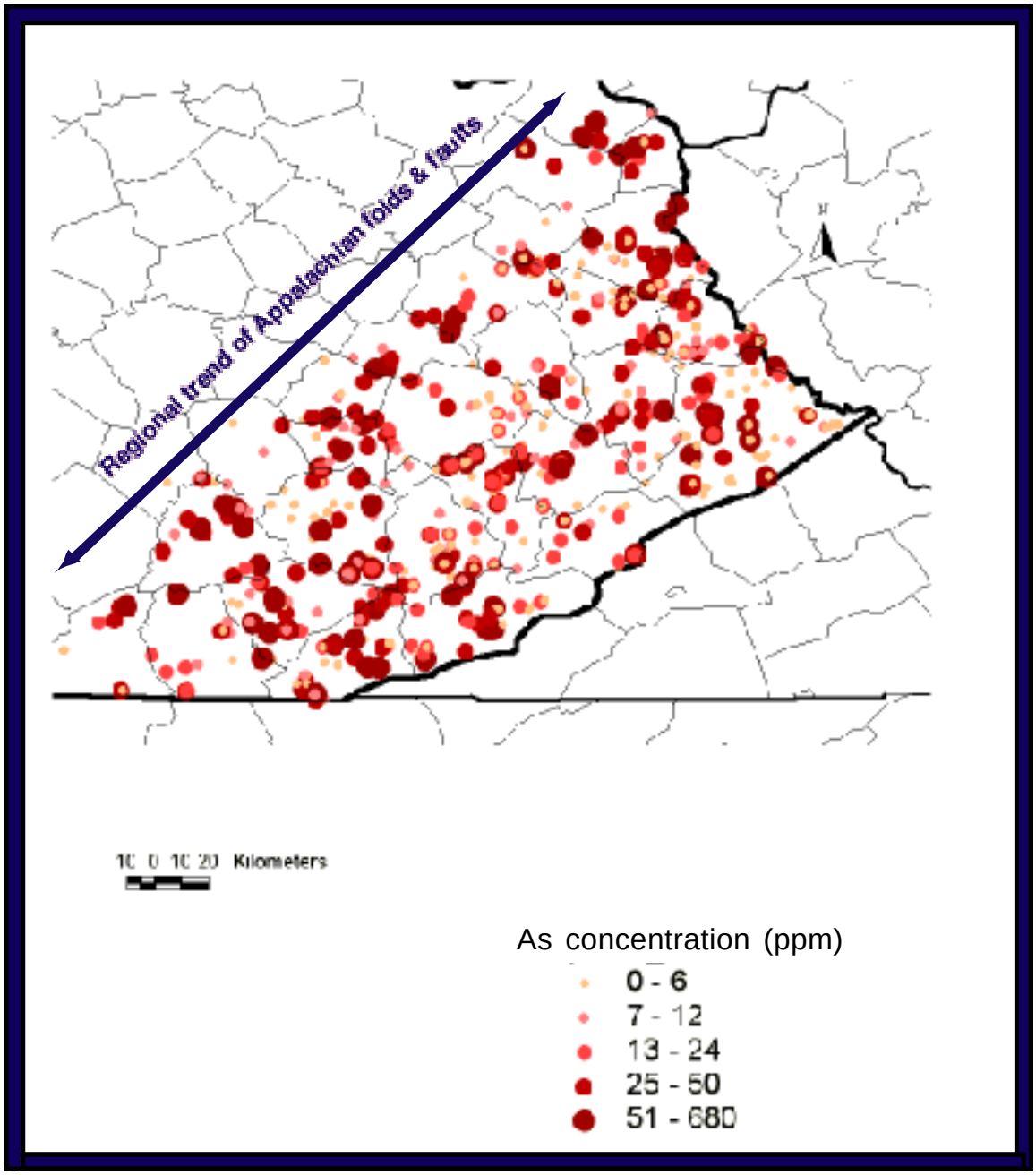


Figure 4. Spatial distribution of arsenic concentrations (ppm) in east Kentucky coal.

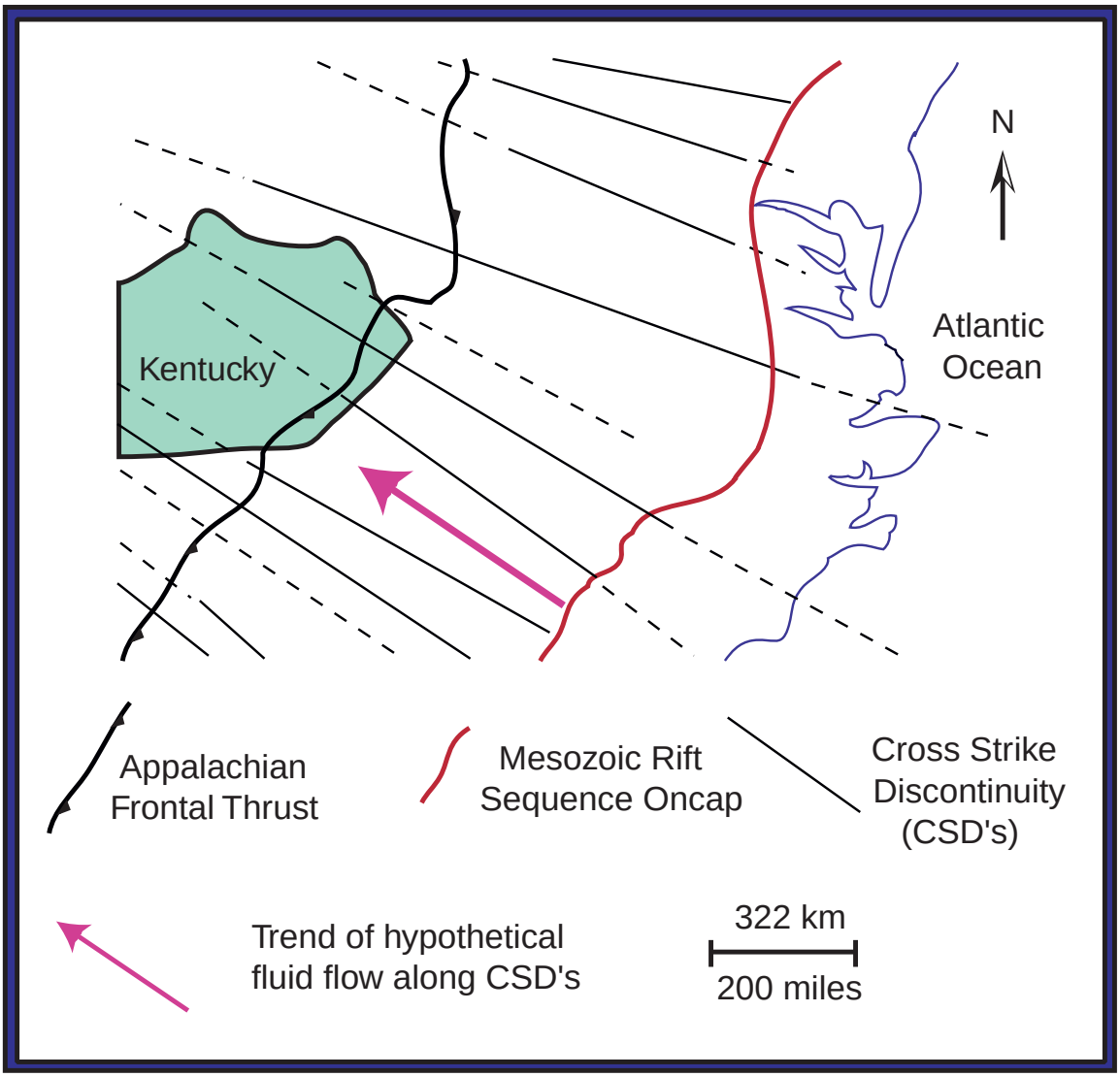


Figure 5. CSD's of the Eastern United States. Eastern Kentucky shown in green (Coleman and others, 1988).

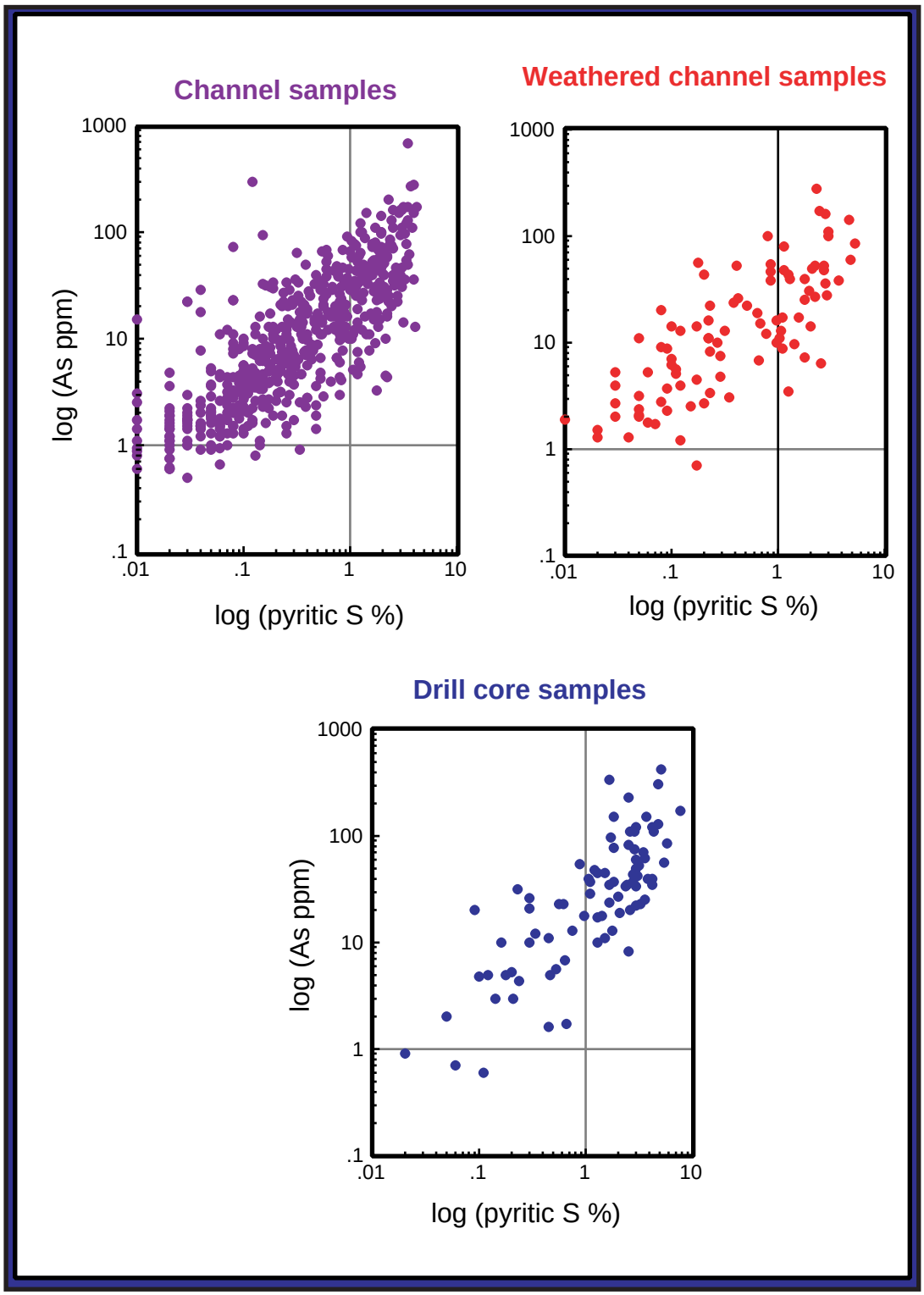


Figure 6. Cross plots of Arsenic (ppm) versus pyritic sulfur (wt % S) in drill-core, channel, and weathered channel coal samples.

Diagenetic pyrite formed early in the peat's history would not accumulate arsenic unless arsenic was in the peat pore water. Whether the peat was influenced by seawater or not, it is unlikely that large amounts of arsenic would be available during, or shortly after, peat deposition. Most arsenic in the Warrior Basin to the South is associated with epigenetic pyrite formed when mineralizing fluids moved through the Alabama coals after deposition and early diagenesis (see Goldhaber and others, submitted). We hypothesize that the enrichment of arsenic in eastern Kentucky coals occurred under similar conditions to those in Alabama.

ARSENIC IN NURE SAMPLES FROM THE KENTUCKY APPALACHIAN BASIN

Twelve hundred forty NURE (National Uranium Resource Evaluation) stream sediment samples from the Kentucky Appalachian Basin were reanalyzed because of improved detection limits for arsenic and other metals. Ninety-three per cent of the samples have arsenic concentrations less than 10 ppm, the average arsenic abundance in shale (Wedepohl, 1974) (fig. 7). High arsenic concentrations along the western edge of the basin correlate with exposure of arsenic-enriched Upper Devonian black shale (Leventhal and Kepferle, 1982) (fig. 8).

Some stream sediments from the eastern Kentucky coal region are high in arsenic (Pennsylvanian rocks in fig. 8). Arsenic-enrichment in this portion of the basin likely is associated with streams impacted by coal mining and agriculture (Porter and others; 1995).

Possible Controls on Arsenic in NURE Samples from the Kentucky Appalachian Basin

Elevated amounts of iron oxyhydroxide precipitates in streams affected by coal mining have been reported in eastern Kentucky coal region (Porter and others, 1995). Arsenic released to the environment either through natural weathering processes or human activity such as coal mining is adsorbed onto iron oxyhydroxide precipitates (Cullen and Reimer, 1989).

The cross plot in Figure 9 shows the relation between arsenic concentration (ppm) and iron concentration (wt%) in NURE stream sediment samples. In the coal region (Kentucky Appalachian Basin proper), there is a weak, but observable positive relation between the two variables. The scatter in these data is likely due to variability in the availability of arsenic in the drainage basin. On the northwest margin of the basin where the Devonian black shale crops out, there is a strong positive relation between the two variables. Several samples from the coal region (pink dots) plot in the Devonian black shale field and suggest that these stream sediments accumulated arsenic over and above most stream sediment in the coal region.

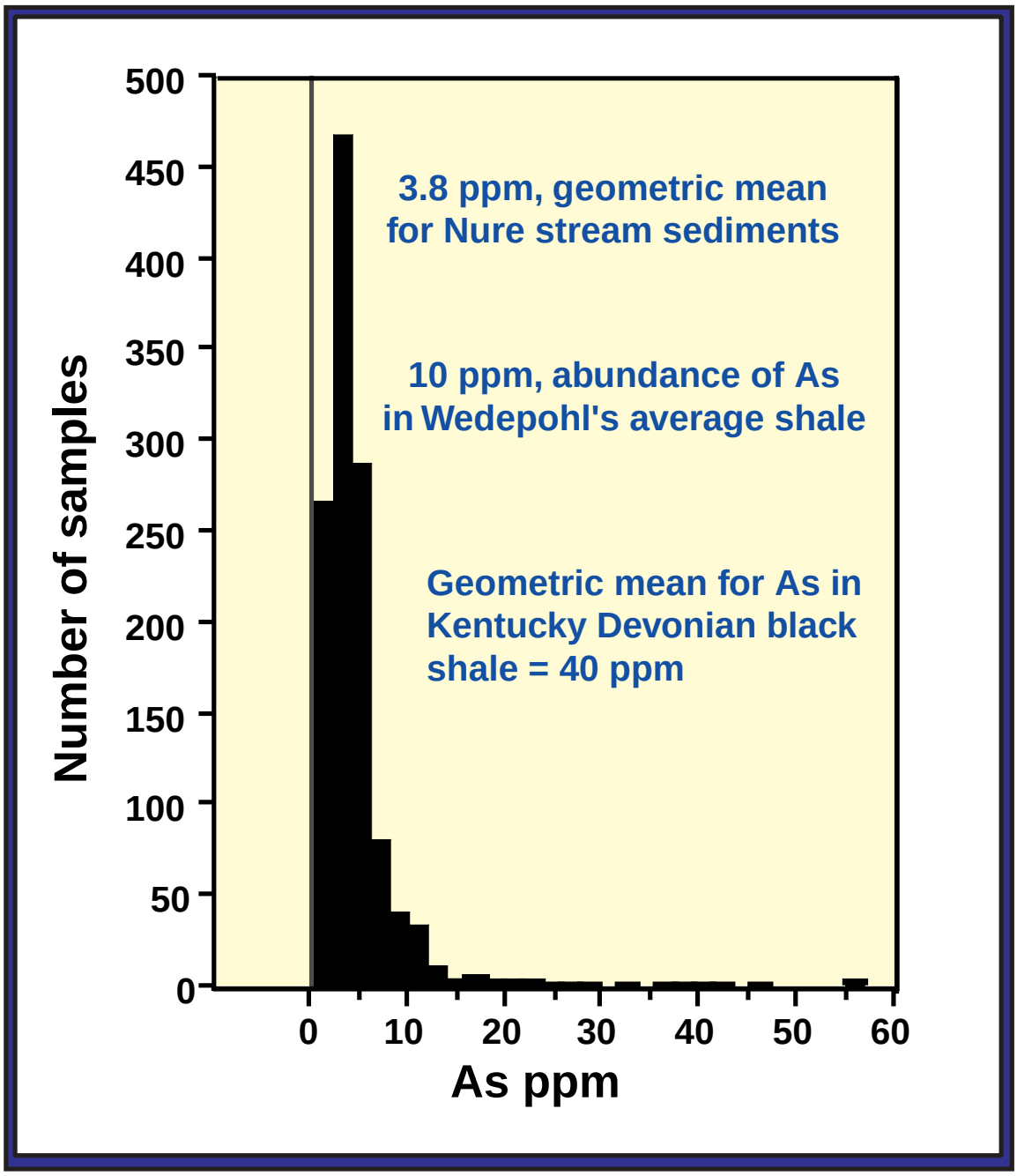


Figure 7. Histogram of arsenic concentrations in 1,200 NURE stream sediments, Kentucky Appalachian Basin (abundance data from Wedepohl, 1974; Kentucky Devonian shale data from 14 core samples of Leventhal and Kepferle, 1982).

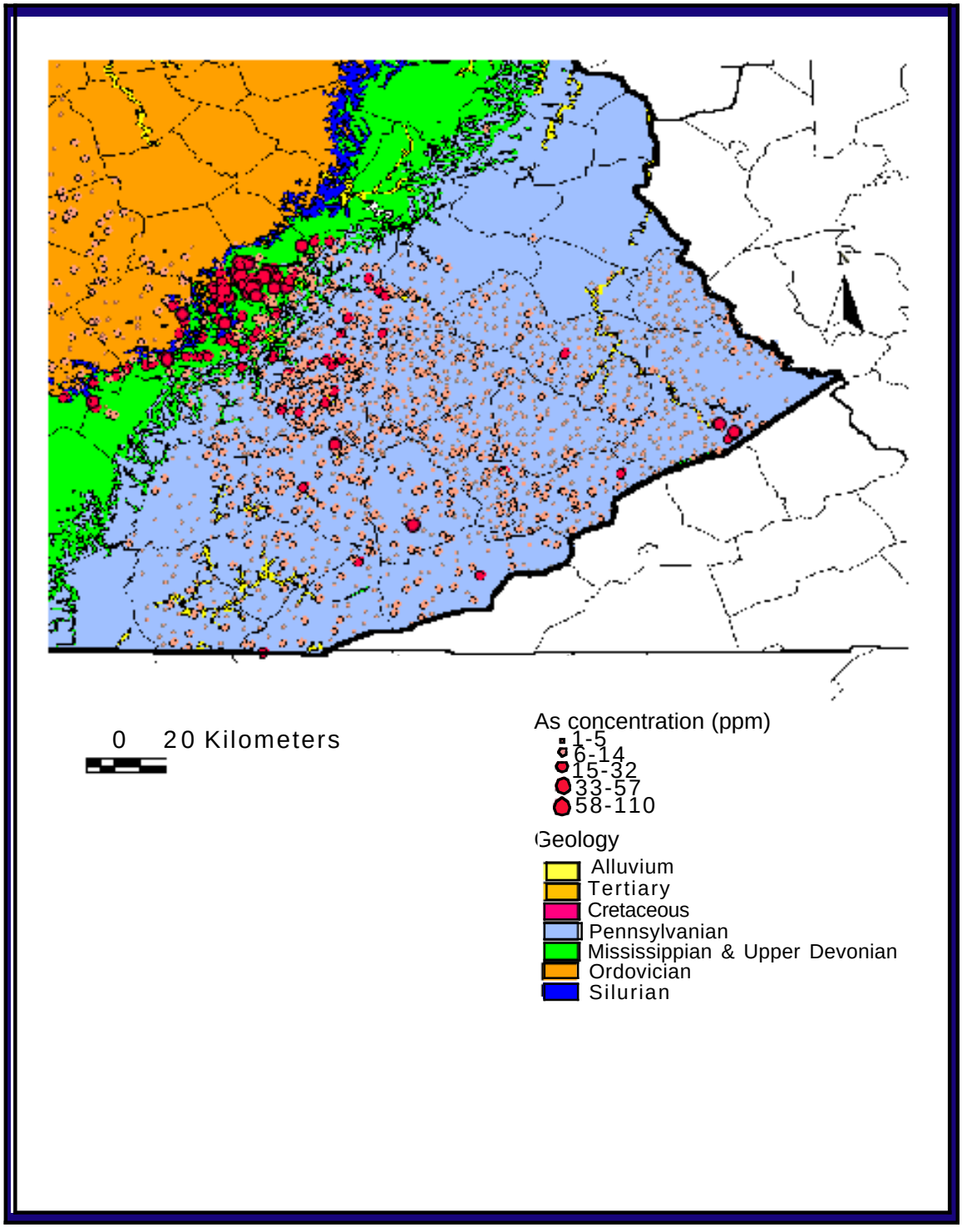


Figure 8. Map showing generalized geology of the Kentucky Appalachian Basin, and arsenic concentrations (ppm) in NURE stream sediments.

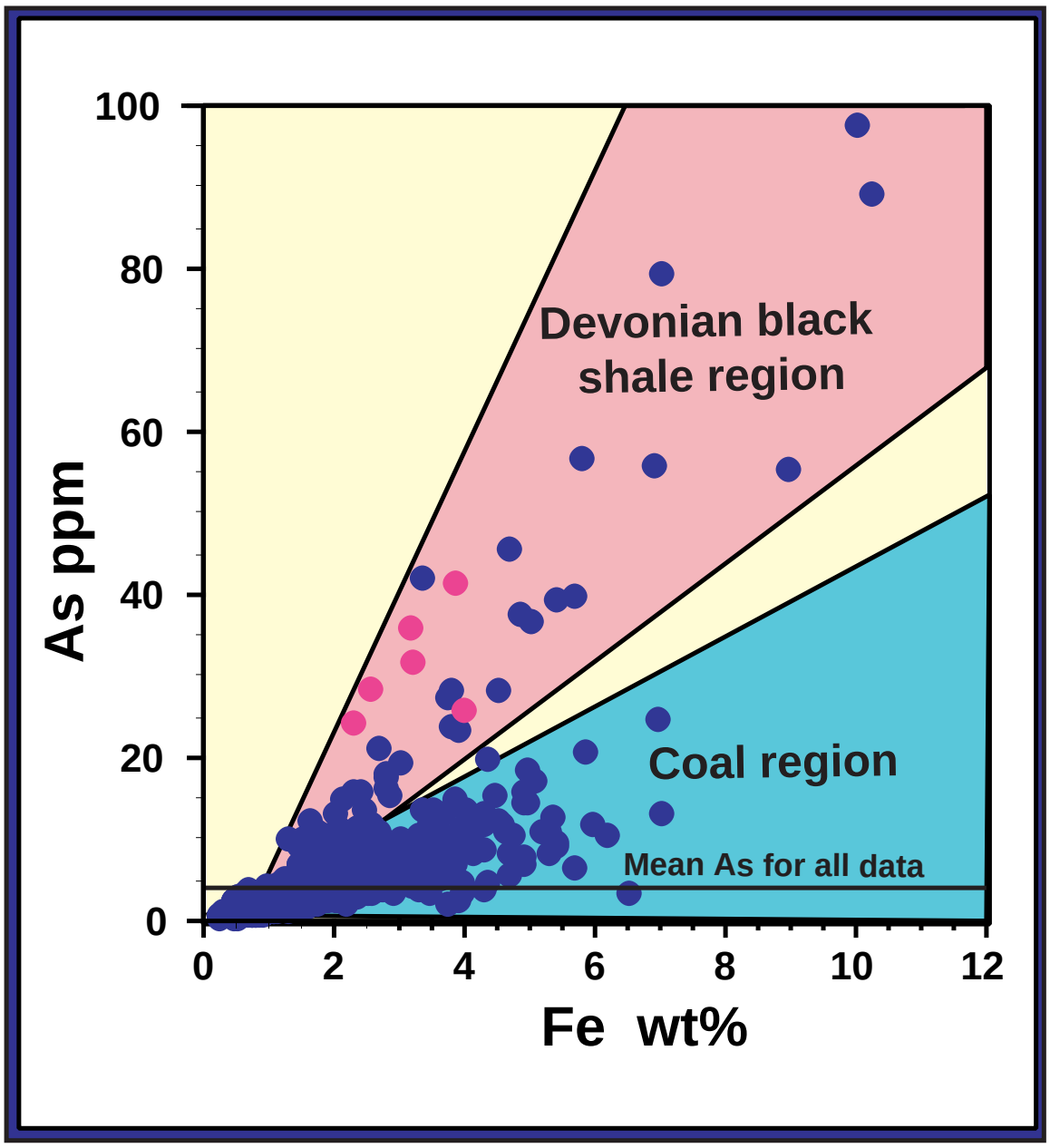


Figure 9. Cross plot of arsenic (ppm) versus iron (wt %) divided into regions within the basin. Geometric mean calculated from all data reanalyzed in this study. Pink dots; data from the Coal region that plot with those from the Devonian black shale region.

ARSENIC IN SHALE AND COAL COLLECTED IN THE KENTUCKY APPALACHIAN BASIN

Our sampling of the Devonian New Albany Formation was designed to test the working hypotheses that the formation is the source of anomalously high concentrations of Arsenic in sediments on the western margin of the Kentucky Appalachian basin. In

addition, our study will investigate the weathering processes that transport the arsenic to the stream sediments. Five types of New Albany Shale samples were collected at an outcrop near Clay City (fig. 10A). The first was surface samples from a horizontal transect across the face of a roadcut (fig. 10A and 10B). These samples (n = 17) represent a weathering profile related to topography in the region and surface weathering since the roadcut. The second type was unexposed samples directly behind the first type (fig. 10B). These samples (n = 9) represent a weathering profile related to topography, with minimal surface weathering related to the road cut. The third type was soils that developed on the side of the transect (n = 4) (fig. 10A). The fourth type was from a drill core taken a short distance from the outcrop. These samples (n = 22) represent unweathered shale material. In addition, shale fragments that had been mechanically weathered from the outcrop (n = 3) and salt crusts on the shale (n = 4) were also sampled. The semiquantitative XRF data for all samples are in Appendix II.

Coal samples were collected at 4 mines to test the hypothesis that arsenic mobilized during weathering of pyrite in the Kentucky coal is the source of arsenic anomalies in the Appalachian basin proper. Bench samples were collected at each mine for analyses by the USGS coal package (data not included in this report). Pyrite and associated coal (n = 11) were sampled at each mine except at one where no pyrite could be found. The semiquantitative XRF data on these pyritic samples are in Appendix II. Three of the 11 coals are from the fold-belt at Pound Gap (Chestnut, 1998) (fig. 10C) and were collected to test the hypothesis of large-scale fluid flow through this region.

Relation between Iron and Arsenic in the Eastern Kentucky Coal

Compared to the coal in the Warrior Basin in Southern Appalachia, there is visually less pyrite in the Kentucky coal. Also, there appears to be much less structural features in the coal suggesting fewer conduits for epigenetic fluid flow. Figure 11 indicates that there is an increase in arsenic concentration with increasing iron content in Eastern Kentucky coals. This is consistent with the data in Figure 4 from the USGS coal database, as most of the iron in these mineral-poor coals is assumed to be pyrite, although some siderite nodules have been noted. The coal from the Pine Mountain Thrust contained no visible pyrite, but one sample contains appreciable arsenic (74 ppm As)—a possible imprint left by migrating fluids through the region.

A.

B.

C.

Figure 10. Photos of A) transect across the Devonian outcrop (Clay City, Kentucky), B) surface weathered and "fresh" shale behind, and C) two coal beds in Pound Gap roadcut.

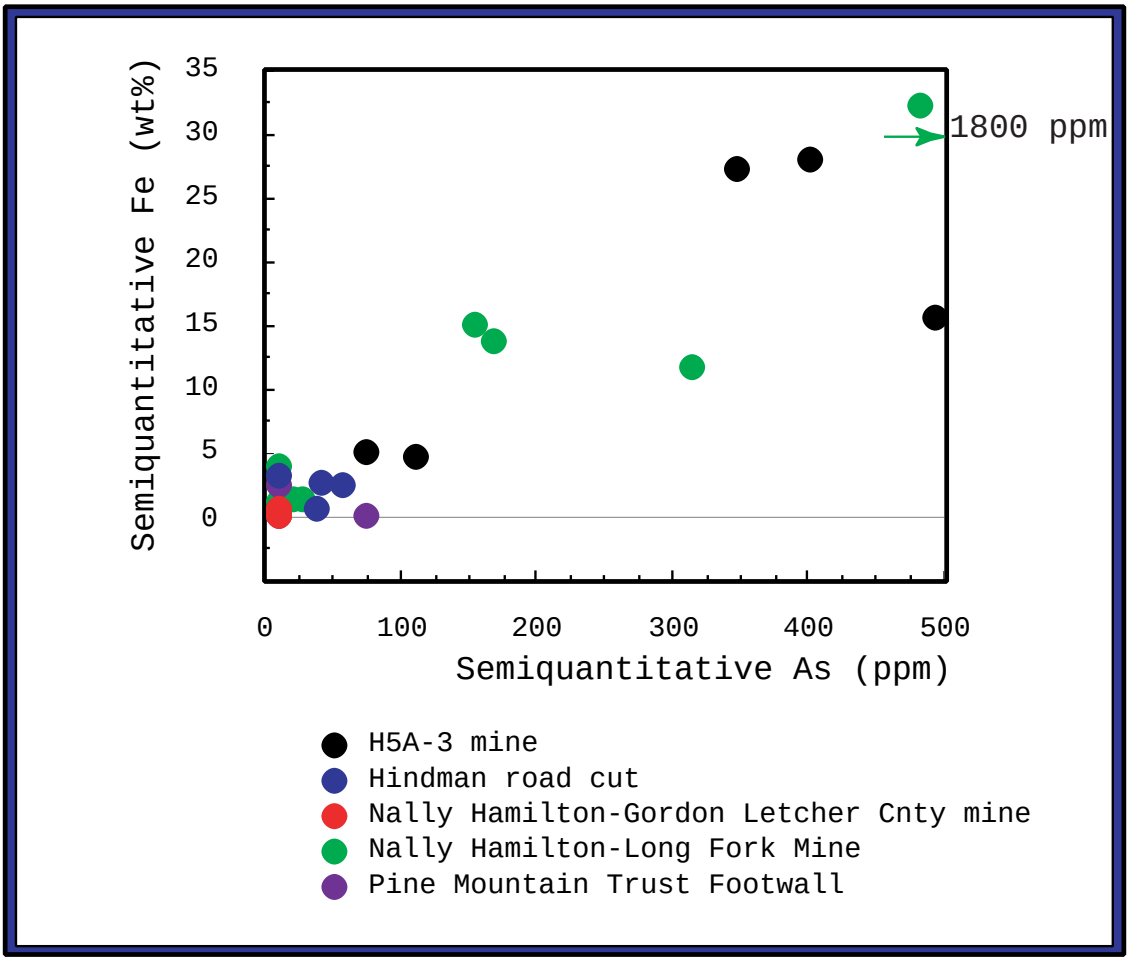


Figure 11. Cross plot of iron versus arsenic in coal collected from the Kentucky Appalachian basin.

Relation between Iron and Arsenic in the Devonian Shale

There appears to be a strong relation between iron (likely as iron hydroxides) on weathered shale samples from the outcrop and arsenic content (fig. 12A). This relation suggests that arsenic and iron from pyrite in the shale is mobilized during weathering and redeposited as iron hydroxides on the shale surfaces. Our preliminary working hypothesis mechanically transports the arsenic into stream sediments bound to this weathering rind. Once in the stream, the arsenic will remain bound to the iron hydroxides until chemical conditions radically change--the iron hydroxide dissolves or the pH of the stream increases dramatically causing the arsenic to desorb from the iron hydroxide surface.

Salts (mostly iron sulfates) forming on the outcrop accumulate arsenic (concentrations up to 170 ppm As; Tuttle and others, 2001). When these salts dissolve, they release the arsenic. This arsenic probably ends up in the iron oxyhydroxides that either form on the shale fragments or on the stream sediments (Tuttle and others, 2001).

In the core, both the shale samples and those containing significant pyrite as nodules, beds, etc. show a similar linear relationship between Fe and As (fig. 12B); however, the slope of the linear best fit is different between the two core populations. This difference indicates that the pyrite-enriched samples have a lesser amount of arsenic per unit iron than the shale. The residence of arsenic in the shale samples may be different than pyrite, or arsenic may have been less available for incorporation into the more massive pyrite that formed during later stages of diagenesis.

CONCLUDING REMARKS

Eastern Kentucky coal has less pyrite than that in the Warrior basin to the south. The difference may reflect less structural deformation in the Kentucky coal during the Allegheny Orogeny, hence fewer fluid migration pathways. Most of the epigenetic pyrite we sampled in the Kentucky coal was arsenic enriched. Weathering of this pyrite on mine-waste piles or on outcrop, will produce acid solutions that mobilize the iron and arsenic. Long-range transport of arsenic is unlikely because it will adsorb onto iron oxyhydroxides as the acidic water is neutralized.

Along the western margin of the Kentucky Appalachian basin, the source of arsenic in the stream sediment appears to be the New Albany Shale. Weathering rinds on the shale surfaces are enriched in arsenic relative to the unweathered shale surfaces. It appears that weathering of arsenic-rich pyrite within the shale mobilizes arsenic and iron that is redeposted on the shale surface. Mechanical transport of weathering rinds on shale fragments appear to be the primary transport mechanism of the arsenic into the stream sediment. Some arsenic accumulates in weathering salts on the outcrop. Arsenic in these salts is mobilized during salt dissolution, but likely is adsorbed quickly onto iron oxides.

Currently, quantitative chemical and stable isotopic data are being collected. Data will be used to test our working hypotheses developed for arsenic, determine source, residence and mobility of other trace elements in Kentucky coal and Devonian New Albany Shale, and pick additional sites for more detailed follow-up studies on trace-metal effects on streams and ecosystems.

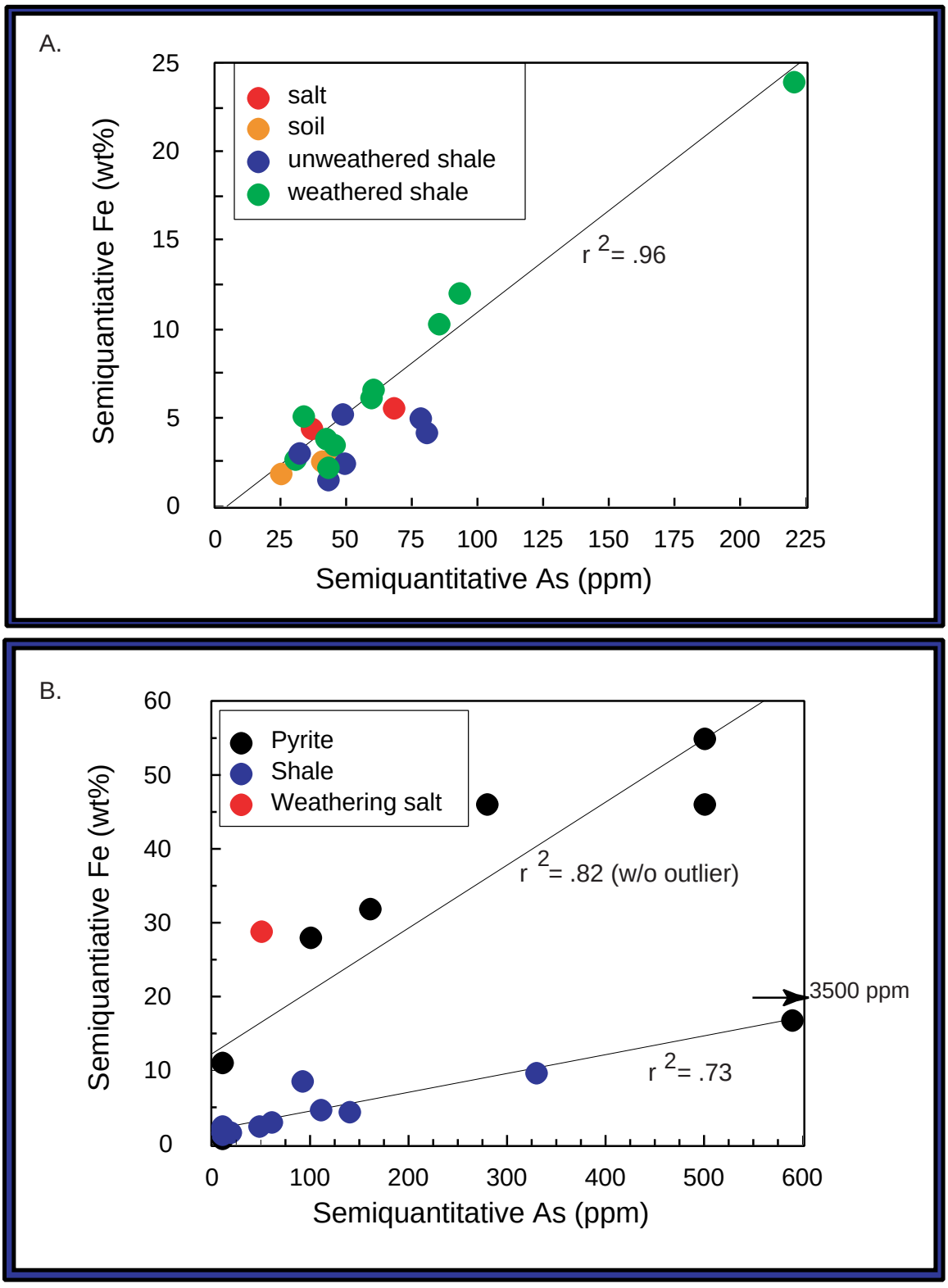


Figure 12. Cross plots of A) iron versus arsenic in outcrop samples (regression on weathered samples only) and B) iron versus arsenic in core samples of shale and shale containing large amounts of pyrite; outlier not included in

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APPENDIX I--NURE STREAM SEDIMENT DATA (REANALYZED)

The <100 µm fraction of the sample was generally analyzed. In some cases, the <40µm and >100µm fraction was analyzed if the <100 µm fraction was not available. Both fractions from 43 samples were analyzed to cross check concentrations. The lowest arsenic concentration of the pair was on the average 30% lower than the higher concentration. In 77% of the pairs, the higher concentration was in the finer-grained fraction.

Analytical Methods

Arsenic was determined by weighing 0.1 g of sample into a zirconium crucible. Approximately 0.75 g of sodium peroxide is added and mixed. The mixture is heated in a muffle furnace set at 750°C for four minutes. The sample is cooled then 15 ml of water and 5 ml of concentrated HCl is added. The mixture is shaken and 0.25 ml of an ascorbic acid KI solution is added then diluted with 20% HCl and let to stand overnight. Arsenic is then measured using hydride generation atomic absorption spectrometry. The optimum concentration ranges without sample dilution for arsenic in various solid phase sample media is 0.6 ppm to 20 ppm. Sample weight is 0.1 g and data will be deemed acceptable if recovery of As is ±20% at five times the LOD and the calculated percent RSD of duplicate samples is no greater than 20%.

Forty major, minor, and trace elements were determined in geological materials by inductively coupled plasma-atomic emission spectrometry (ICP-AES). The sample is decomposed using a mixture of hydrochloric, nitric, perchloric, and hydrofluoric acids at low temperature. The digested samples are aspirated into the ICP-AES discharge where the elemental emission signal is measured simultaneously for the forty elements. Calibration is performed by standardizing with digested rock reference materials and a series of multi-element solution standards. Sample weight was 0.2 g

Reporting limits for 40 elements by ICP-AES:

Element:	Concentration Range
Aluminum, Al	0.005 - 50%
Calcium, Ca	0.005 - 50%
Iron, Fe	0.02 - 25%
Potassium, K	0.01 - 50%
Magnesium, Mg	0.005 - 5%
Sodium, Na	0.005 - 50%
Phosphorous, P	0.005 - 50%
Titanium, Ti	0.005 - 25%
Silver, Ag	2 - 10,000 ppm
Arsenic, As	10 - 50,000 ppm
Gold, Au	8 - 50,000 ppm
Barium, Ba	1 - 35,000 ppm
Beryllium, Be	1 - 5,000 ppm

Element:	Concentration Range
Bismuth, Bi	10 - 50,000 ppm
Cadmium, Cd	2 - 25,000 ppm
Cerium, Ce	5 - 50,000 ppm
Cobalt, Co	2 - 25,000 ppm
Chromium, Cr	2 - 25,000 ppm
Copper, Cu	2 - 15,000 ppm
Europium, Eu	2 - 5,000 ppm
Gallium, Ga	4 - 50,000 ppm
Holmium, Ho	4 -5,000 ppm
Lanthanum, La	2 - 50,000 ppm
Lithium, Li	2 - 50,000 ppm
Manganese, Mn	4 - 50,000 ppm
Molybdenum, Mo	2 - 50,000 ppm
Niobium, Nb	4 - 50,000 ppm
Neodymium, Nd	9 - 50,000 ppm
Nickel, Ni	3 - 50,000 ppm
Lead, Pb	4 - 50,000 ppm
Scandium, Sc	2 - 50,000 ppm
Tin, Sn	5 - 50,000 ppm
Strontium, Sr	2 - 15,000 ppm
Tantalum, Ta	40 - 50,000 ppm
Thorium, Th	6 - 50,000 ppm
Uranium, U	100 - 100,000 ppm
Vanadium, V	2 - 30,000 ppm
Yttrium, Y	2 - 25,000 ppm
Ytterbium, Yb	1 - 5,000 ppm
Zinc, Zn	2 - 15,000 ppm

Data is deemed acceptable if recovery for all 40 elements is ±15% at five times the Lower Limit of Determination (LOD) and the calculated Relative Standard Deviation (RSD) of duplicate samples is no greater than 15%.

Sample #	Latitude	Longitude	County	As ppm	Al %	Ca %	Fe %	K%	Mg %	Na %	P %
KYBE001E	36.8125	83.7077	Bell	6.2	6.0	0.12	3.0	1.7	0.43	0.37	0.049
KYBE002E	36.8202	83.6535	Bell	3.5	4.0	0.050	2.2	1.2	0.24	0.30	0.043
KYBE003E	36.8474	83.6323	Bell	8.5	5.6	0.13	3.3	1.7	0.43	0.18	0.038
KYBE004E	36.8969	83.5757	Bell	23	6.5	2.8	3.6	1.7	0.66	0.13	0.027
KYBE005E	36.9374	83.5428	Bell	3.1	5.0	0.072	2.0	1.7	0.32	0.12	0.027
KYBE006E	36.8796	83.5388	Bell	3.9	3.7	0.061	2.1	1.1	0.21	0.085	0.027
KYBE007E	36.8481	83.5363	Bell	3.1	3.0	0.039	1.9	0.87	0.17	0.11	0.022
KYBE008E	36.8161	83.5802	Bell	2.9	3.4	0.083	1.9	1.0	0.21	0.18	0.027
KYBE009E	36.7713	83.7034	Bell	5.6	4.1	0.077	2.5	1.2	0.27	0.23	0.038
KYBE010E	36.7524	83.7766	Bell	3.5	3.5	0.077	1.9	1.1	0.21	0.25	0.027
KYBE011E	36.7329	83.8077	Bell	4.6	5.8	0.14	3.0	1.7	0.39	0.26	0.038
KYBE012E	36.7469	83.6528	Bell	1.9	2.2	0.14	1.1	0.57	0.15	0.035	0.016
KYBE013E	36.7521	83.6077	Bell	3.9	3.0	0.13	1.9	0.82	0.22	0.10	0.027
KYBE014E	36.8014	83.5203	Bell	1.9	1.8	0.033	1.1	0.47	0.11	0.045	0.016
KYBE015E	36.7655	83.5014	Bell	3.7	3.9	0.13	2.2	1.2	0.28	0.23	0.027
KYBE016E	36.7263	83.5501	Bell	4.5	5.0	0.36	2.5	1.4	0.39	0.22	0.038
KYBE017E	36.6940	83.5532	Bell	3.7	4.3	0.31	2.0	1.2	0.33	0.24	0.032
KYBE018E	36.7144	83.5125	Bell	3.7	4.5	0.099	2.3	1.2	0.33	0.30	0.032
KYBE019E	36.6371	83.6679	Bell	1.4	1.3	0.044	0.89	0.31	0.070	0.025	0.011
KYBE020E	36.6650	83.5881	Bell	1.5	1.7	0.072	0.92	0.39	0.12	0.045	0.016
KYBE021E	36.7140	83.6043	Bell	5.4	3.9	0.066	2.1	1.0	0.24	0.20	0.027
KYBE022E	36.7016	83.6363	Bell	6.3	5.5	0.099	3.0	1.5	0.39	0.30	0.043
KYBE023E	36.6665	83.6559	Bell	6.9	5.4	4.4	2.7	1.5	0.79	0.27	0.038
KYBE024E	36.6973	83.7572	Bell	5.7	5.4	0.15	2.8	1.6	0.40	0.28	0.043
KYBE025E	36.7088	83.7881	Bell	3.8	4.5	0.094	2.4	1.2	0.29	0.20	0.038
KYBE026E	36.6807	83.8253	Bell	4.8	5.4	0.22	2.9	1.5	0.40	0.24	0.038
KYBE027E	36.6456	83.8766	Bell	3.5	3.6	0.13	2.2	1.0	0.23	0.10	0.032
KYBE028E	36.6239	83.8277	Bell	6.4	4.8	0.12	2.8	1.4	0.35	0.075	0.038
KYBE029E	36.6288	83.7667	Bell	6.1	4.5	0.12	2.7	1.3	0.32	0.15	0.038

Sample #	Latitude	Longitude	County	As ppm	Al %	Ca %	Fe %	K%	Mg %	Na %	P %
KYBE030E	36.5934	83.8930	Bell	16	6.4	0.077	2.9	1.8	0.43	0.23	0.038
KYBE031E	36.6184	83.9327	Bell	7.3	5.0	0.28	2.9	1.4	0.36	0.25	0.043
KYBH001	37.6717	83.4210	Breathitt	3.7	3.4	0.11	2.3	1.0	0.22	0.43	0.032
KYBH002	37.6802	83.4012	Breathitt	3.6	3.6	0.050	1.9	1.1	0.20	0.44	0.027
KYBH003	37.6728	83.3583	Breathitt	3.0	3.6	0.061	1.6	1.2	0.20	0.47	0.022
KYBH004	37.6183	83.3966	Breathitt	3.9	4.0	0.077	2.0	1.2	0.27	0.55	0.032
KYBH005	37.6366	83.3896	Breathitt	3.3	4.1	0.066	2.1	1.2	0.27	0.47	0.027
KYBH006	37.6533	83.3745	Breathitt	3.7	4.5	0.083	2.3	1.3	0.31	0.36	0.032
KYBH007	37.6625	83.3440	Breathitt	3.4	3.5	0.061	1.9	1.1	0.23	0.28	0.027
KYBH008	37.6330	83.2879	Breathitt	1.2	2.3	0.039	1.1	0.92	0.14	0.24	0.016
KYBH009	37.6536	83.3127	Breathitt	3.1	3.5	0.050	1.9	1.1	0.23	0.39	0.022
KYBH010	37.6690	83.3075	Breathitt	2.4	2.4	0.044	1.5	0.82	0.15	0.19	0.022
KYBH011	37.6652	83.2915	Breathitt	2.1	1.8	0.028	1.2	0.63	0.091	0.13	0.016
KYBH012	37.6500	83.2539	Breathitt	1.6	1.7	0.028	1.1	0.65	0.086	0.13	0.011
KYBH013	37.6140	83.2670	Breathitt	1.8	3.1	0.066	1.3	1.1	0.18	0.36	0.027
KYBH014	37.6340	83.2254	Breathitt	1.5	1.4	0.018	0.83	0.52	0.069	0.11	0.010
KYBH015	37.6041	83.2272	Breathitt	2.0	2.7	0.053	1.1	0.98	0.15	0.22	0.015
KYBH016	37.6182	83.2078	Breathitt	2.5	3.4	0.053	1.5	1.1	0.18	0.19	0.015
KYBH017	37.5781	83.1960	Breathitt	2.1	3.0	0.047	1.3	1.1	0.16	0.20	0.020
KYBH018	37.5508	83.3414	Breathitt	2.8	3.1	0.053	1.5	0.99	0.18	0.41	0.020
KYBH019	37.5788	83.3173	Breathitt	4.3	9.0	2.5	3.2	2.0	0.73	0.23	0.035
KYBH020	37.5936	83.2831	Breathitt	1.8	2.3	0.035	1.0	0.86	0.11	0.19	0.010
KYBH021	37.5732	83.2550	Breathitt	1.5	2.2	0.61	0.82	0.9	0.12	0.18	0.015
KYBH022	37.6076	83.1622	Breathitt	1.5	2.7	0.047	1.1	0.97	0.14	0.17	0.010
KYBH023	37.6294	83.1789	Breathitt	1.6	3.3	0.047	1.3	1.1	0.18	0.19	0.020
KYBH024	37.5858	83.3587	Breathitt	2.1	2.9	0.041	1.3	0.95	0.17	0.28	0.015
KYBH025	37.5954	83.3472	Breathitt	5.0	3.3	0.059	1.6	1.2	0.19	0.30	0.025
KYBH026	37.6055	83.2993	Breathitt	5.9	8.1	0.19	3.4	2.1	0.52	0.27	0.040
KYBH027	37.6292	83.3209	Breathitt	5.9	5.0	0.11	2.3	1.4	0.36	0.33	0.030

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KYBH028	37.6156	83.3647	Breathitt	3.8	4.5	0.082	2.0	1.4	0.31	0.39	0.030
KYBH029	37.5832	83.1869	Breathitt	2.0	1.9	0.029	1.0	0.68	0.11	0.12	0.010
KYBH030	37.5568	83.1854	Breathitt	1.8	2.5	0.047	1.2	0.97	0.14	0.22	0.015
KYBH031	37.5585	83.1536	Breathitt	2.9	5.6	0.10	2.1	1.8	0.36	0.21	0.030
KYBH032	37.5739	83.1469	Breathitt	2.3	3.6	0.064	1.7	1.3	0.22	0.18	0.015
KYBH033	37.5701	83.1269	Breathitt	2.8	2.3	6.2	1.4	0.8	0.17	0.19	0.015
KYBH034	37.5508	83.0912	Breathitt	1.6	2.4	0.029	0.86	0.95	0.11	0.20	0.010
KYBH035	37.5412	83.0657	Breathitt	1.4	2.0	0.035	0.83	0.81	0.098	0.14	0.015
KYBH036	37.5395	83.0232	Breathitt	1.8	2.9	0.041	1.2	1.0	0.14	0.17	0.015
KYBH037	37.5118	83.0260	Breathitt	1.4	1.5	0.018	0.62	0.66	0.069	0.10	0.005
KYBH038	37.5102	82.9931	Breathitt	2.9	2.2	0.035	0.95	0.93	0.098	0.21	0.010
KYBH039	37.5234	83.0852	Breathitt	3.0	3.6	0.029	1.6	1.2	0.18	0.10	0.020
KYBH040	37.5383	83.1197	Breathitt	2.7	3.4	0.27	1.4	1.3	0.17	0.22	0.020
KYBH041	37.5049	83.1028	Breathitt	1.4	2.2	0.023	0.74	0.88	0.098	0.14	0.010
KYBH042	37.5412	83.3314	Breathitt	5.1	4.7	0.50	2.8	1.4	0.37	0.54	0.040
KYBH043	37.5122	83.3015	Breathitt	1.7	2.3	0.035	1.1	0.92	0.11	0.28	0.015
KYBH044	37.5446	83.2830	Breathitt	3.4	3.8	0.11	1.8	1.1	0.22	0.37	0.025
KYBH045	37.5222	83.2728	Breathitt	1.5	2.5	0.041	0.99	0.90	0.14	0.19	0.015
KYBH046	37.5398	83.2345	Breathitt	1.4	2.0	0.053	0.94	0.75	0.11	0.11	0.010
KYBH047	37.5139	83.2414	Breathitt	1.3	2.4	0.035	1.1	0.96	0.13	0.14	0.010
KYBH048	37.5157	83.2156	Breathitt	2.1	2.2	0.053	1.1	0.88	0.12	0.18	0.010
KYBH049	37.5031	83.1976	Breathitt	3.9	2.7	0.047	1.7	0.84	0.14	0.12	0.015
KYBH050	37.5182	83.1593	Breathitt	1.1	1.9	0.053	0.80	0.74	0.086	0.08	0.010
KYBH051	37.4898	83.3287	Breathitt	2.5	2.0	0.041	0.90	0.80	0.10	0.16	0.010
KYBH052	37.4951	83.2773	Breathitt	1.6	2.6	0.041	1.1	0.95	0.12	0.22	0.015
KYBH053	37.4538	83.2828	Breathitt	2.1	2.0	0.047	1.2	0.76	0.11	0.19	0.015
KYBH054	37.4293	83.2506	Breathitt	1.8	1.8	0.023	0.75	0.75	0.081	0.14	0.010
KYBH055	37.4535	83.1580	Breathitt	1.7	1.8	0.035	0.71	0.73	0.081	0.21	0.015
KYBH056	37.4782	83.1387	Breathitt	1.0	1.4	0.018	0.67	0.57	0.058	0.10	0.005

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KYBH057	37.4722	83.1480	Breathitt	2.4	2.7	0.047	1.2	0.96	0.14	0.13	0.015
KYBH058	37.4321	83.1987	Breathitt	1	1.8	0.023	0.77	0.75	0.081	0.21	0.010
KYBH059	37.4566	83.1954	Breathitt	1.2	1.8	0.029	0.99	0.66	0.098	0.12	0.010
KYBH060	37.4388	83.1616	Breathitt	1.0	1.6	0.023	0.71	0.63	0.075	0.14	0.010
KYBH061	37.4044	83.2773	Breathitt	2.4	2.1	0.46	1.5	0.74	0.13	0.14	0.015
KYBH062	37.4185	83.2750	Breathitt	4.2	2.0	0.029	1.1	0.69	0.10	0.10	0.010
KYBH063	37.4590	83.3189	Breathitt	2.3	3.2	0.059	1.4	1.1	0.18	0.39	0.015
KYBH064	37.4092	83.3076	Breathitt	3.6	3.9	0.12	1.6	1.4	0.22	0.42	0.020
KYBH065	37.3884	83.3342	Breathitt	2.8	2.4	0.11	1.2	0.89	0.12	0.18	0.015
KYBH066	37.4183	83.3596	Breathitt	1.8	2.4	0.035	1.2	0.9	0.11	0.32	0.015
KYBH067	37.4310	83.3474	Breathitt	3.2	3.3	0.047	1.6	1.1	0.17	0.41	0.020
KYBH068	37.4654	83.3449	Breathitt	1.6	2.4	0.035	0.76	1.1	0.11	0.16	0.010
KYBH069	37.4677	83.3972	Breathitt	1.7	2.4	0.035	1.2	0.82	0.13	0.27	0.015
KYBH070	37.4459	83.3843	Breathitt	2.8	3.1	0.053	1.5	0.98	0.18	0.38	0.020
KYBH071	37.4087	83.3865	Breathitt	4.0	3.0	0.26	1.6	0.94	0.17	0.26	0.015
KYBH072	37.3913	83.4088	Breathitt	2.7	2.4	0.041	1.2	0.82	0.14	0.28	0.015
KYBH073	37.4162	83.4422	Breathitt	2.6	3.4	0.076	1.7	1.1	0.21	0.37	0.020
KYBH074	37.4117	83.4629	Breathitt	2.7	2.6	0.041	1.4	0.87	0.15	0.27	0.015
KYBH075	37.3666	83.4005	Breathitt	6.8	3.2	0.059	1.9	1.0	0.19	0.18	0.020
KYBH076	37.3460	83.3819	Breathitt	5.6	4.1	0.11	2.1	1.2	0.25	0.24	0.030
KYBH077F	37.3743	83.4331	Breathitt	4.0	5.0	0.57	2.2	1.6	0.35	0.64	0.032
KYBH078F	37.4446	83.4226	Breathitt	3.7	5.4	0.13	2.6	1.6	0.35	0.71	0.049
KYBH079F	37.4259	83.4172	Breathitt	2.7	4.6	0.099	2.2	1.5	0.31	0.61	0.038
KYBH080F	37.4577	83.4446	Breathitt	3.9	5.7	0.15	2.7	1.7	0.39	0.71	0.049
KYBH081F	37.3949	83.5301	Breathitt	3.7	4.5	0.088	2.0	1.4	0.28	0.61	0.032
KYBH082F	37.3695	83.5292	Breathitt	4.0	5.5	0.15	2.7	1.6	0.35	0.56	0.043
KYBH083F	37.3535	83.5065	Breathitt	4.5	4.5	2.0	2.3	1.4	0.33	0.43	0.038
KYBH084F	37.3967	83.4756	Breathitt	3.1	4.4	0.099	2.0	1.3	0.26	0.39	0.043
KYBH085F	37.4223	83.4767	Breathitt	4.7	5.0	0.17	2.4	1.5	0.34	0.62	0.038

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KYBH086F	37.4475	83.4782	Breathitt	4.3	5.5	0.13	2.5	1.6	0.38	0.58	0.049
KYBH087F	37.4365	83.5174	Breathitt	3.1	4.6	0.11	2.2	1.4	0.28	0.60	0.038
KYBH088F	37.4391	83.5372	Breathitt	3.6	4.6	0.077	2.3	1.4	0.29	0.59	0.032
KYBH089F	37.4609	83.5016	Breathitt	3.5	5.2	0.11	2.4	1.5	0.36	0.71	0.043
KYBH090F	37.4914	83.5532	Breathitt	5.5	4.9	0.47	2.8	1.4	0.33	0.69	0.038
KYBH091F	37.5006	83.5318	Breathitt	5.8	6.0	0.099	3.1	1.7	0.45	0.71	0.049
KYBH092F	37.4808	83.4558	Breathitt	6.2	6.1	0.20	2.9	1.8	0.47	0.59	0.049
KYBH093F	37.4971	83.4615	Breathitt	4.4	5.1	0.13	2.3	1.5	0.34	0.68	0.038
KYBH094F	37.5090	83.4778	Breathitt	3.4	4.5	0.14	2.1	1.4	0.28	0.81	0.032
KYBH095F	37.5166	83.5258	Breathitt	4.2	4.9	0.088	2.4	1.4	0.34	0.72	0.038
KYBH096F	37.5372	83.5414	Breathitt	5.3	4.7	0.12	2.3	1.3	0.30	0.57	0.032
KYBH097F	37.5548	83.5112	Breathitt	4.3	4.8	0.088	2.6	1.4	0.32	0.67	0.043
KYBH098F	37.4865	83.4048	Breathitt	2.6	4.1	0.19	1.8	1.5	0.25	0.63	0.032
KYBH099F	37.5183	83.4057	Breathitt	3.5	4.9	0.22	2.0	1.5	0.30	0.68	0.032
KYBH100F	37.5272	83.3788	Breathitt	4.5	6.5	0.53	3.0	1.9	0.44	0.49	0.049
KYBH101F	37.5520	83.4244	Breathitt	4.5	5.1	0.76	2.4	1.6	0.40	0.68	0.032
KYBH102F	37.5610	83.4758	Breathitt	4.0	5.0	2.4	2.4	1.5	0.37	0.66	0.038
KYBH103F	37.5828	83.4718	Breathitt	4.5	5.1	0.17	2.4	1.5	0.35	0.62	0.038
KYBH104F	37.5946	83.5207	Breathitt	4.5	5.2	0.094	2.4	1.5	0.32	0.56	0.032
KYBH105F	37.6085	83.5158	Breathitt	5.1	4.3	0.077	2.3	1.3	0.29	0.53	0.032
KYBH106F	37.5639	83.5407	Breathitt	5.2	4.5	0.083	2.6	1.3	0.27	0.73	0.032
KYBH107F	37.5911	83.4526	Breathitt	3.9	4.3	0.072	2.1	1.2	0.27	0.61	0.032
KYBH108F	37.6080	83.4410	Breathitt	4.8	5.1	0.23	2.5	1.5	0.40	0.62	0.038
KYBH109F	37.6296	83.4232	Breathitt	4.5	4.5	0.13	2.0	1.3	0.29	0.63	0.032
KYBH110F	37.6205	83.4673	Breathitt	2.7	2.8	0.055	1.3	0.77	0.13	0.15	0.022
KYBH111F	37.5696	83.3966	Breathitt	3.2	4.4	0.083	2.0	1.3	0.27	0.70	0.032
KYBH112F	37.5899	83.3908	Breathitt	4.9	5.0	0.094	2.5	1.5	0.34	0.74	0.038
KYCY001 E	37.0574	83.8316	Clay	2.9	3.6	0.064	1.7	0.98	0.21	0.62	0.020

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KYCY002 E	37.0844	83.7704	Clay	4.0	4.0	0.064	1.9	1.1	0.25	0.55	0.025
KYCY003 E	37.0641	83.7313	Clay	4.7	3.9	0.14	2.0	1.1	0.24	0.48	0.025
KYCY004 E	37.0434	83.7518	Clay	4.2	3.9	0.047	2.0	1.1	0.23	0.53	0.025
KYCY005 E	37.1631	83.7389	Clay	5.3	4.2	0.094	2.1	1.1	0.25	0.57	0.030
KYCY006 E	37.1331	83.7309	Clay	6.0	4.6	0.11	2.4	1.2	0.31	0.53	0.035
KYCY007 E	37.1078	83.7183	Clay	4.5	4.2	0.076	2.1	1.2	0.26	0.46	0.030
KYCY008 E	37.1479	83.6603	Clay	5.8	5.0	0.24	2.5	1.3	0.37	0.57	0.040
KYCY009 E	37.2084	83.5694	Clay	6.0	4.3	0.47	2.2	1.2	0.32	0.66	0.030
KYCY010 E	37.1780	83.6012	Clay	7.7	5.7	0.11	2.8	1.6	0.41	0.50	0.035
KYCY011 E	37.1698	83.5695	Clay	6.1	5.4	0.11	2.7	1.5	0.36	0.63	0.035
KYCY012 E	37.1289	83.6034	Clay	5.0	4.6	0.26	2.3	1.3	0.30	0.69	0.030
KYCY013 E	37.1081	83.5845	Clay	4.3	5.0	0.082	2.0	1.4	0.30	0.57	0.025
KYCY014 E	37.0979	83.5629	Clay	4.5	4.0	0.49	2.0	1.1	0.29	0.48	0.030
KYCY015 E	37.0629	83.5470	Clay	5.4	4.0	0.076	2.0	1.2	0.25	0.47	0.030
KYCY016 E	37.0630	83.5928	Clay	3.6	3.7	0.18	1.7	1.1	0.24	0.32	0.020
KYCY017 E	36.9851	83.5627	Clay	3.6	4.0	0.20	1.9	1.3	0.25	0.24	0.025
KYCY018 E	36.9640	83.5337	Clay	6.0	3.9	0.082	2.4	1.2	0.25	0.20	0.030
KYCY019 E	37.0114	83.6128	Clay	4.8	4.0	0.10	2.2	1.2	0.25	0.30	0.030
KYCY020 E	37.1900	83.7998	Clay	8.6	5.1	0.053	2.5	1.3	0.29	0.21	0.030
KYCY021 E	37.2014	83.8356	Clay	6.1	5.0	0.070	2.4	1.3	0.33	0.25	0.030
KYCY022 E	37.1810	83.8241	Clay	8.9	4.1	0.12	2.8	1.1	0.28	0.19	0.030
KYCY023 E	37.1966	83.8756	Clay	8.0	3.7	0.070	2.2	0.90	0.22	0.15	0.025
KYCY024 E	37.2223	83.9066	Clay	3.7	2.9	0.094	1.6	0.79	0.16	0.34	0.025
KYCY025 E	37.1963	83.9305	Clay	4.1	3.5	0.13	1.8	0.92	0.20	0.41	0.025
KYCY026 E	37.1452	83.9149	Clay	5.7	3.8	3.2	1.9	1.1	0.32	0.39	0.030
KYCY027 E	37.1464	83.8297	Clay	8.5	5.5	0.12	2.9	1.4	0.40	0.36	0.035
KYCY028 E	37.1986	83.6594	Clay	2.2	2.8	2.2	1.4	0.75	0.21	0.31	0.020
KYCY029 E	37.2366	83.6450	Clay	6.0	5.1	0.11	2.8	1.4	0.39	0.56	0.035
KYCY030 E	37.2779	83.6137	Clay	7.6	4.9	0.14	2.8	1.3	0.39	0.54	0.035

Sample #	Latitude	Longitude	County	As ppm	Al %	Ca %	Fe %	K%	Mg %	Na %	P %
KYCY031 E	37.2519	83.6138	Clay	5.0	4.8	0.10	2.6	1.3	0.33	0.71	0.035
KYCY032 E	37.2421	83.5638	Clay	3.6	4.2	0.16	2.0	1.2	0.28	0.63	0.030
KYCY033 E	37.2939	83.6555	Clay	43	5.7	0.053	3.8	1.5	0.38	0.29	0.030
KYCY034 E	37.2899	83.7050	Clay	4.6	3.3	0.088	1.8	0.81	0.18	0.39	0.020
KYCY035 E	37.3228	83.7279	Clay	4.2	3.3	0.11	1.8	0.83	0.18	0.32	0.025
KYCY036 E	37.3225	83.7679	Clay	6.9	4.6	0.088	2.6	1.2	0.29	0.35	0.035
KYCY037 E	37.2907	83.7749	Clay	5.1	3.3	0.13	1.8	0.81	0.20	0.28	0.025
KYCY038 E	37.2671	83.8761	Clay	6.5	4.1	0.11	2.0	1.0	0.21	0.26	0.025
KYCY039 E	37.2834	83.8588	Clay	4.0	2.4	0.20	1.5	0.64	0.13	0.19	0.020
KYCY040 E	37.3160	83.8205	Clay	3.8	2.6	0.04	1.5	0.68	0.13	0.24	0.020
KYCY041 E	37.2350	83.7617	Clay	4.0	2.6	0.059	1.4	0.60	0.14	0.30	0.015
KYCY042 E	37.2347	83.6974	Clay	7.3	5.0	0.46	2.9	1.3	0.36	0.40	0.035
KYCY043 E	37.0791	83.6529	Clay	5.5	4.2	0.10	2.4	1.2	0.28	0.46	0.035
KYCY044 E	37.0309	83.7109	Clay	4.2	3.9	0.070	2.2	1.2	0.24	0.32	0.030
KYCY045 E	37.0492	83.6560	Clay	4.3	4.0	0.088	2.2	1.2	0.27	0.41	0.030
KYES003	37.6629	83.9011	Estill	24	4.8	0.12	3.8	1.5	0.39	0.20	0.025
KYES004	37.6600	83.9265	Estill	23	3.3	0.80	3.9	0.96	0.26	0.22	0.025
KYES005	37.6145	83.9241	Estill	8.3	2.2	0.10	2.8	0.55	0.14	0.10	0.020
KYES006	37.5859	83.9200	Estill	5.3	2.0	0.25	1.4	0.54	0.15	0.12	0.015
KYES007	37.5616	83.9167	Estill	3.1	1.4	0.07	1.1	0.32	0.077	0.05	0.010
KYES017F	37.6628	84.0087	Estill	28	3.7	0.25	3.7	1.3	0.31	0.23	0.030
KYES024F			Estill	12	4.3	0.14	2.5	1.4	0.37	0.46	0.015
KYES030F	37.8049	84.0498	Estill	29	4.1	5.9	4.5	1.8	2.9	0.13	0.080
KYES034	37.6809	83.9116	Estill	22	2.8	0.84	2.7	0.93	0.26	0.19	0.027
KYES036	37.6691	83.8390	Estill	14	3.6	1.1	2.4	1.1	0.31	0.22	0.025
KYES037	37.7213	83.8911	Estill	7.8	2.6	0.41	1.6	0.9	0.22	0.23	0.010
KYES038	37.7258	83.9180	Estill	11	2.3	0.58	2.7	0.69	0.19	0.16	0.020
KYES039	37.7364	83.8506	Estill	15	2.7	0.64	2.1	0.83	0.24	0.18	0.015
KYES040	37.7149	83.8584	Estill	9.5	2.2	0.22	1.8	0.63	0.18	0.11	0.015

Sample #	Latitude	Longitude	County	As ppm	Al %	Ca %	Fe %	K%	Mg %	Na %	P %
KYES041	37.7072	83.8066	Estill	2.3	0.80	0.54	0.70	0.19	0.061	0.04	0.010
KYFO001	37.7006	82.9350	Floyd	2.7	3.4	0.059	1.4	0.95	0.17	0.34	0.015
KYFO002	37.6973	82.8873	Floyd	2.8	3.1	0.047	1.4	1.1	0.18	0.35	0.020
KYFO003	37.6959	82.8512	Floyd	2.8	2.5	0.059	1.5	0.92	0.13	0.37	0.015
KYFO004	37.7102	82.8717	Floyd	3.0	3.1	0.070	1.6	1.1	0.17	0.38	0.020
KYFO005	37.7239	82.8470	Floyd	2.5	3.1	2.8	1.8	1.1	0.28	0.36	0.025
KYFO006	37.7174	82.7989	Floyd	1.7	2.6	0.076	1.3	1.0	0.12	0.43	0.015
KYFO007	37.6888	82.8075	Floyd	3.2	2.9	0.053	1.4	1.1	0.14	0.41	0.020
KYFO008	37.6565	82.8015	Floyd	3.3	3.6	0.064	1.7	1.3	0.21	0.54	0.020
KYFO009	37.6274	82.8393	Floyd	1.8	2.7	0.064	1.2	1.1	0.13	0.43	0.015
KYFO010	37.6596	82.8342	Floyd	2.8	2.4	0.18	1.2	0.87	0.14	0.36	0.020
KYFO011	37.6521	82.8692	Floyd	3.2	3.1	0.14	1.7	1.1	0.18	0.50	0.020
KYFO012	37.6386	82.8906	Floyd	2.1	3.4	0.094	1.2	1.3	0.16	0.49	0.015
KYFO013	37.6746	82.9164	Floyd	4.5	4.0	0.076	2.1	1.3	0.25	0.41	0.025
KYFO014	37.6066	82.8836	Floyd	23	3.0	0.035	2.2	1.1	0.14	0.25	0.015
KYFO015	37.5678	82.8739	Floyd	3.1	2.6	0.047	1.1	1.0	0.12	0.43	0.015
KYFO016	37.5289	82.8748	Floyd	3.4	2.6	0.047	1.2	1.0	0.13	0.36	0.015
KYFO017	37.5253	82.8426	Floyd	4.6	3.2	0.10	1.5	1.1	0.18	0.41	0.020
KYFO018	37.5012	82.8862	Floyd	4.8	3.6	0.12	1.3	1.2	0.18	0.46	0.020
KYFO019	37.4839	82.8973	Floyd	1.9	2.4	0.041	0.86	1.0	0.11	0.36	0.010
KYFO020	37.4777	82.8247	Floyd	2.0	3.2	0.064	1.4	1.0	0.15	0.44	0.020
KYFO021	37.5004	82.8329	Floyd	7.5	3.9	0.064	2.3	1.2	0.25	0.39	0.040
KYFO022	37.4996	82.8143	Floyd	4.2	3.2	0.059	2.0	1.1	0.19	0.42	0.020
KYFO023	37.5351	82.8170	Floyd	5.9	3.0	0.076	2.1	0.96	0.19	0.28	0.030
KYFO024	37.5635	82.7994	Floyd	4.1	2.9	0.088	1.2	1.1	0.13	0.53	0.010
KYFO025	37.5660	82.8315	Floyd	1.7	2.2	0.059	1.1	0.88	0.099	0.34	0.015
KYFO026	37.5958	82.8503	Floyd	2.8	2.9	0.19	1.5	1.1	0.15	0.42	0.020
KYFO026F	37.5958	82.8503	Floyd	3.2	4.2	0.24	1.9	1.3	0.23	0.80	0.025
KYFO027	37.6195	82.8024	Floyd	2.1	2.6	0.041	1.1	1.0	0.13	0.41	0.015

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KYFO028	37.5970	82.7994	Floyd	2.7	3.1	0.064	1.3	1.1	0.17	0.27	0.015
KYFO029	37.5749	82.7623	Floyd	2.4	2.8	0.10	1.3	1.0	0.15	0.33	0.020
KYFO029F	37.5749	82.7623	Floyd	3.9	5.5	0.15	2.0	1.5	0.29	0.67	0.030
KYFO030	37.5595	82.7222	Floyd	3.2	3.0	0.12	1.5	1.1	0.18	0.40	0.030
KYFO031	37.5907	82.7235	Floyd	1.9	2.6	0.57	1.3	1.0	0.14	0.32	0.015
KYFO032	37.6224	82.7477	Floyd	1.8	3.6	0.059	1.3	1.3	0.17	0.64	0.020
KYFO032F	37.6224	82.7477	Floyd	2.5	4.4	0.077	1.5	1.5	0.21	0.98	0.025
KYFO033	37.6288	82.7702	Floyd	1.9	2.5	0.059	1.1	1.0	0.13	0.38	0.020
KYFO034	37.6464	82.6779	Floyd	1.6	3.0	0.064	1.1	1.3	0.13	0.41	0.015
KYFO035	37.6350	82.6430	Floyd	1.2	1.8	0.42	0.57	0.75	0.083	0.36	0.010
KYFO036	37.6583	82.6470	Floyd	1.3	2.6	0.16	0.93	1.1	0.14	0.41	0.015
KYFO037	37.6571	82.6214	Floyd	1.4	2.0	0.023	0.79	0.96	0.083	0.24	0.010
KYFO038	37.6293	82.6025	Floyd	4.2	2.5	0.047	1.2	0.93	0.14	0.24	0.015
KYFO039	37.5077	82.6307	Floyd	5.2	3.7	0.053	1.8	1.2	0.23	0.50	0.020
KYFO040	37.4985	82.6104	Floyd	3.4	3.6	0.26	1.7	1.2	0.23	0.58	0.020
KYFO041	37.4696	82.6108	Floyd	3.3	3.6	0.49	1.5	1.3	0.22	0.59	0.020
KYFO042	37.4884	82.6679	Floyd	2.7	3.2	0.070	1.5	1.1	0.17	0.64	0.020
KYFO043	37.5263	82.6360	Floyd	2.1	3.0	0.070	1.0	1.1	0.15	0.53	0.020
KYFO044	37.5542	82.6232	Floyd	2.1	2.6	0.36	1.4	0.98	0.16	0.34	0.015
KYFO045	37.5329	82.6649	Floyd	3.6	3.0	0.14	1.8	0.96	0.21	0.42	0.020
KYFO045F	37.5329	82.6649	Floyd	5.1	4.9	0.20	2.2	1.5	0.34	0.88	0.045
KYFO046	37.5677	82.6898	Floyd	4.1	3.5	0.094	2.1	1.2	0.21	0.43	0.025
KYFO047	37.5853	82.6891	Floyd	2.2	2.8	0.15	1.4	1.0	0.14	0.38	0.015
KYFO048	37.5825	82.6494	Floyd	3.0	1.9	2.3	1.2	0.82	0.13	0.30	0.010
KYFO049	37.6543	82.7819	Floyd	2.8	2.4	0.029	3.9	0.90	0.12	0.32	0.015
KYFO050	37.7256	82.7497	Floyd	2.5	3.1	0.15	1.6	1.1	0.19	0.67	0.040
KYFO051	37.6910	82.7669	Floyd	3.0	2.7	0.059	1.3	0.95	0.12	0.13	0.015
KYFO051F	37.6910	82.7669	Floyd	3.1	3.9	0.083	1.8	1.4	0.19	0.18	0.020
KYFO052	37.6375	82.7261	Floyd	2.1	2.7	0.035	1.1	1.1	0.12	0.38	0.010

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KYFO053	37.6653	82.7213	Floyd	2.0	2.5	0.047	1.1	1.1	0.12	0.39	0.020
KYFO054	37.6888	82.7431	Floyd	2.0	2.3	0.041	1.2	0.87	0.11	0.29	0.015
KYFO055	37.7392	82.7156	Floyd	1.7	2.2	0.035	0.78	1.0	0.094	0.21	0.010
KYFO056	37.4177	82.6115	Floyd	3.5	3.7	0.053	1.9	1.2	0.23	0.38	0.020
KYFO057	37.4668	82.6726	Floyd	3.7	3.4	0.050	1.9	1.1	0.20	0.47	0.025
KYFO058	37.4480	82.6829	Floyd	2.8	3.6	0.43	1.7	1.3	0.25	0.54	0.020
KYFO060	37.3341	82.6805	Floyd	2.5	3.1	0.061	1.4	1.2	0.18	0.41	0.025
KYFO061	37.3011	82.7101	Floyd	2.3	2.4	0.033	1.2	0.89	0.13	0.22	0.010
KYFO062	37.3331	82.7079	Floyd	1.8	2.9	0.044	1.2	1.08	0.15	0.44	0.015
KYFO063	37.3489	82.7519	Floyd	2.5	2.4	0.12	1.5	0.86	0.15	0.37	0.015
KYFO064	37.3832	82.7255	Floyd	9.0	5.2	0.12	2.9	1.42	0.41	0.29	0.025
KYFO065	37.3732	82.6886	Floyd	5.5	4.0	0.061	2.1	1.31	0.28	0.41	0.025
KYFO067	37.4253	82.6593	Floyd	10	3.0	0.11	1.3	1	0.17	0.44	0.015
KYFO068	37.4561	82.6402	Floyd	4.5	5.1	0.083	2.6	1.57	0.37	0.64	0.030
KYFO069	37.5404	82.7575	Floyd	4.3	4.0	0.072	2.1	1.25	0.26	0.46	0.025
KYFO070	37.5032	82.7175	Floyd	4.0	3.0	1.1	1.6	1.05	0.21	0.34	0.020
KYFO071	37.5383	82.7308	Floyd	3.0	3.9	0.14	1.4	1.18	0.19	0.42	0.015
KYFO072	37.4426	82.7592	Floyd	2.6	2.1	0.033	1.1	0.81	0.12	0.25	0.015
KYFO073	37.4322	82.7186	Floyd	4.8	3.9	0.066	2.1	1.18	0.28	0.42	0.025
KYFO074	37.4635	82.7175	Floyd	2.7	2.6	0.30	1.5	0.95	0.18	0.30	0.020
KYFO075	37.4148	82.7306	Floyd	5.5	4.6	0.050	2.1	1.48	0.31	0.40	0.020
KYFO076	37.6967	82.7403	Floyd	3.3	1.7	0.066	0.96	0.66	0.094	0.15	0.010
KYFO077	37.6785	82.6937	Floyd	1.3	1.4	0.066	0.78	0.65	0.066	0.19	0.010
KYFO078	37.6843	82.6563	Floyd	1.3	1.9	0.039	0.74	0.86	0.088	0.19	0.010
KYFO079	37.6799	82.5846	Floyd	1.6	1.4	0.022	0.72	0.62	0.066	0.16	0.010
KYFO080	37.6876	82.6073	Floyd	1.5	1.9	0.061	0.80	0.86	0.094	0.20	0.010
KYFO081	37.4936	82.7649	Floyd	1.9	2.9	0.044	1.3	1.07	0.17	0.46	0.020
KYFO082	37.4238	82.8170	Floyd	1.9	2.1	0.033	1.2	0.80	0.14	0.22	0.015

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KYFO083	37.4561	82.7709	Floyd	9.6	5.1	0.14	3.0	1.52	0.37	0.29	0.030
KYHL001E	36.8637	83.3338	Harlan	4.0	3.0	1.2	1.6	0.86	0.26	0.21	0.025
KYHL002E	36.8632	83.3610	Harlan	2.8	2.9	0.072	1.3	0.82	0.15	0.14	0.020
KYHL003E	36.8338	83.3745	Harlan	5.6	5.2	0.11	2.8	1.56	0.40	0.51	0.035
KYHL004E	36.8382	83.4159	Harlan	3.7	1.7	0.66	1.5	0.51	0.18	0.15	0.020
KYHL005E	36.8052	83.4107	Harlan	6.2	5.6	0.14	3.4	1.67	0.44	0.41	0.040
KYHL006E	36.8851	83.2918	Harlan	1.9	1.6	0.033	0.86	0.39	0.094	0.020	0.015
KYHL007E	36.9030	83.2466	Harlan	2.2	2.0	0.12	0.99	0.43	0.11	0.045	0.050
KYHL008E	36.9365	83.1412	Harlan	2.4	2.0	0.028	1.0	0.39	0.11	0.035	0.030
KYHL009E	36.9553	83.0776	Harlan	1.2	1.2	0.022	0.60	0.35	0.077	0.020	0.010
KYHL010E	36.9954	82.9201	Harlan	3.3	4.8	0.14	2.1	1.53	0.36	0.55	0.030
KYHL011E	36.9616	82.9473	Harlan	5.9	4.7	0.29	2.3	1.54	0.36	0.40	0.030
KYHL012E	36.9564	82.9104	Harlan	5.8	5.8	0.63	2.6	1.73	0.52	0.61	0.030
KYHL013E	36.9560	83.0048	Harlan	4.7	4.0	4.0	2.0	1.27	0.40	0.29	0.025
KYHL014E	36.9293	83.2482	Harlan	4.0	2.7	1.2	1.6	0.76	0.20	0.045	0.015
KYHL015E	36.9303	83.3096	Harlan	2.8	2.3	0.088	1.2	0.73	0.14	0.080	0.020
KYHL016E	36.8541	83.4783	Harlan	5.1	4.1	0.099	2.5	1.06	0.22	0.080	0.025
KYHL017E	36.9208	83.3675	Harlan	5.0	3.8	0.094	2.0	0.99	0.20	0.055	0.020
KYHL018E	36.9648	83.2012	Harlan	3.5	2.5	0.072	1.5	0.91	0.14	0.060	0.015
KYHL019E	36.9855	83.2055	Harlan	3.2	3.7	0.072	1.7	1.5	0.22	0.075	0.025
KYHL020E	36.9968	83.1691	Harlan	1.8	1.9	0.072	0.66	0.99	0.077	0.040	0.010
KYHL021E	36.7697	83.3230	Harlan	3.7	4.3	0.57	1.9	1.3	0.29	0.51	0.020
KYHL022E	36.7495	83.3534	Harlan	5.7	4.8	0.12	2.4	1.5	0.36	0.36	0.030
KYHL023E	36.8062	83.3042	Harlan	9.5	5.3	0.49	2.9	1.7	0.42	0.45	0.030
KYHL024E	36.8141	83.2522	Harlan	6.9	4.5	1.5	2.1	1.4	0.36	0.51	0.025
KYHL025E	36.7944	83.2064	Harlan	5.4	4.1	0.18	2.4	1.3	0.33	0.49	0.030
KYHL026E	36.7653	83.1886	Harlan	6.1	5.6	0.12	2.8	1.6	0.41	0.44	0.030
KYHL027E	36.8632	83.2395	Harlan	6.0	5.4	0.20	2.7	1.6	0.39	0.67	0.035
KYHL028E	36.8795	83.1916	Harlan	6.9	4.9	0.37	2.2	1.5	0.35	0.64	0.025

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KYHL029E	36.8505	83.1648	Harlan	16	3.6	5.3	2.3	1.1	0.43	0.47	0.025
KYHL030E	36.9242	83.0678	Harlan	6.0	5.0	0.20	2.4	1.3	0.32	0.34	0.030
KYHL031E	36.8807	83.0615	Harlan	6.2	5.2	0.12	2.6	1.6	0.39	0.56	0.030
KYHL032E	36.8859	83.0224	Harlan	4.4	3.8	1.0	2.0	1.2	0.30	0.30	0.030
KYHL033E	36.8683	83.0086	Harlan	4.5	4.4	0.14	2.2	1.3	0.32	0.60	0.030
KYHL034E	36.8672	82.9749	Harlan	4.3	3.4	0.77	1.8	1.1	0.29	0.25	0.025
KYHL035E	36.8774	82.9293	Harlan	4.5	4.9	0.40	2.4	1.5	0.37	0.73	0.030
KYHL036E	36.7490	83.4790	Harlan	4.0	3.9	0.061	2.1	1.1	0.27	0.35	0.030
KYHL037E	36.7519	83.4459	Harlan	5.5	4.8	0.099	2.5	1.5	0.37	0.37	0.030
KYHL038E	36.7240	83.4547	Harlan	14	5.9	0.099	3.5	1.7	0.43	0.32	0.040
KYHL039E	36.6922	83.3945	Harlan	3.3	2.8	0.055	1.6	0.87	0.18	0.23	0.020
KYHL040E	36.7081	83.3610	Harlan	6.6	3.5	0.099	2.2	1.1	0.24	0.37	0.025
KYHL041E	36.7191	83.3268	Harlan	2.5	4.1	0.094	1.4	1.3	0.22	0.45	0.020
KYJA001	37.5626	83.9647	Jackson	4.0	2.8	1.4	2.3	0.76	0.24	0.13	0.020
KYJA003	37.5035	83.9962	Jackson	2.9	1.2	0.028	0.94	0.27	0.061	0.020	0.010
KYJA004	37.4527	83.9702	Jackson	3.8	2.1	0.022	1.61	0.45	0.099	0.035	0.015
KYJA005	37.4665	83.9290	Jackson	2.8	1.0	0.017	0.93	0.21	0.044	0.020	0.010
KYJA006	37.4902	83.9605	Jackson	1.5	0.6	0.017	0.47	0.13	0.028	0.010	0.005
KYJA007	37.5045	83.9385	Jackson	2.9	1.0	0.050	0.93	0.23	0.061	0.015	0.010
KYJA008	37.5067	84.0364	Jackson	2.3	0.83	0.050	1.0	0.15	0.039	0.010	0.010
KYJA009	37.4786	84.0433	Jackson	2.6	1.1	0.028	0.97	0.18	0.039	0.015	0.010
KYJA009F	37.4786	84.0433	Jackson	3.3	1.0	0.039	1.1	0.12	0.052	0.005	0.016
KYJA010	37.4603	84.0189	Jackson	2.5	1.0	0.044	0.96	0.20	0.044	0.015	0.010
KYJA011	37.3132	84.0227	Jackson	11	5.6	0.099	6.1	1.3	0.31	0.11	0.045
KYJA012	37.2734	84.0304	Jackson	6.9	4.7	0.099	4.9	1.1	0.26	0.12	0.065
KYJA013	37.2892	84.0542	Jackson	8.1	5.3	0.077	4.9	1.2	0.29	0.11	0.055
KYJA013F	37.2892	84.0542	Jackson	5.2	1.6	0.050	2.0	0.23	0.12	0.011	0.027
KYJA014	37.3184	84.0715	Jackson	4.2	2.4	0.066	2.7	0.50	0.11	0.055	0.030
KYJA015	37.3401	84.1012	Jackson	1.0	0.53	0.011	0.37	0.11	0.022	0.010	0.005

Sample #	Latitude	Longitude	County	As ppm	Al %	Ca %	Fe %	K%	Mg %	Na %	P %
KYJA016	37.3519	84.0644	Jackson	1.9	0.92	0.017	0.80	0.17	0.039	0.010	0.010
KYJA017	37.3780	84.0455	Jackson	3.4	1.3	0.028	1.4	0.25	0.061	0.015	0.015
KYJA018	37.3872	84.0873	Jackson	1.4	0.78	0.011	0.50	0.16	0.028	0.010	0.005
KYJA018F	37.3872	84.0873	Jackson	2.8	0.73	0.044	0.88	0.10	0.041	0.005	0.021
KYJA019	37.4198	84.0357	Jackson	1.6	0.68	0.017	0.51	0.13	0.022	0.010	0.005
KYJA020	37.3874	83.9927	Jackson	2.9	2.0	0.028	1.6	0.39	0.094	0.030	0.015
KYJA021	37.3371	84.1241	Jackson	1.9	1.6	0.022	1.0	0.30	0.066	0.020	0.010
KYJA022	37.4351	83.9725	Jackson	5.0	2.1	0.044	2.5	0.39	0.088	0.035	0.020
KYJA023	37.3253	84.0471	Jackson	6.6	2.8	0.050	5.7	0.52	0.11	0.040	0.040
KYJA023F	37.3253	84.0471	Jackson	2.5	1.2	0.022	0.99	0.18	0.041	0.016	0.011
KYJA024	37.4224	83.9056	Jackson	4.9	3.7	0.57	4.3	0.82	0.21	0.070	0.035
KYJA025	37.4396	83.8734	Jackson	6.9	4.5	0.28	3.7	1.1	0.29	0.14	0.035
KYJA026	37.4536	83.9025	Jackson	9.1	5.4	0.12	4.3	1.2	0.30	0.085	0.040
KYJA027	37.4016	83.8881	Jackson	4.1	2.6	0.22	2.2	0.57	0.12	0.050	0.020
KYJA028	37.5210	84.1590	Jackson	4.1	3.6	0.20	4.3	0.71	0.20	0.040	0.035
KYJA029	37.5464	84.1416	Jackson	2.5	2.5	0.061	1.4	0.57	0.12	0.055	0.015
KYJA030	37.3928	83.8699	Jackson	3.2	2.1	0.15	1.6	0.45	0.14	0.050	0.025
KYJA031	37.4588	84.0886	Jackson	2.9	1.2	0.039	1.1	0.21	0.050	0.015	0.010
KYJA032	37.4332	84.0910	Jackson	2.3	0.91	0.022	0.73	0.17	0.039	0.015	0.010
KYJA033	37.4857	84.1115	Jackson	3.2	1.3	0.033	1.7	0.20	0.055	0.015	0.015
KYJA034	37.4865	84.1356	Jackson	4.4	2.6	0.86	3.4	0.53	0.19	0.030	0.030
KYJA034F	37.4865	84.1356	Jackson	3.1	0.86	0.31	1.1	0.14	0.11	0.005	0.016
KYJA035	37.4662	84.1672	Jackson	4.8	1.7	0.19	3.0	0.35	0.13	0.025	0.025
KYJA036	37.4323	84.1423	Jackson	5.9	2.8	0.37	2.7	0.55	0.15	0.030	0.025
KYJA037F	37.3892	84.1583	Jackson	2.9	1.8	0.033	0.99	0.47	0.077	0.030	0.010
KYJA038F	37.4948	84.1807	Jackson	4.4	2.4	0.16	1.4	0.60	0.18	0.070	0.020
KYJA039F	37.5127	84.1019	Jackson	5.1	2.9	0.53	1.6	0.68	0.20	0.070	0.020
KYJA040F	37.5514	84.1008	Jackson	3.5	1.8	0.22	1.0	0.42	0.16	0.053	0.016

Sample #	Latitude	Longitude	County	As ppm	Al %	Ca %	Fe %	K%	Mg %	Na %	P %
KYJA041F	37.3534	83.8817	Jackson	3.1	2.0	0.039	1.2	0.51	0.093	0.063	0.016
KYJA042F	37.3432	83.8262	Jackson	4.4	2.2	0.028	1.7	0.59	0.093	0.18	0.016
KYJA044F	37.3342	83.8399	Jackson	3.9	2.4	0.039	1.5	0.66	0.11	0.17	0.016
KYJA045F	37.3570	83.9583	Jackson	5.4	2.5	0.044	1.8	0.61	0.11	0.079	0.021
KYJA046F	37.3818	83.9314	Jackson	4.8	2.5	0.077	1.7	0.53	0.10	0.053	0.021
KYJA047F	37.3502	83.9820	Jackson	2.8	1.8	0.12	0.97	0.42	0.093	0.058	0.016
KYJA048F	37.3260	83.9854	Jackson	6.7	2.4	0.077	2.3	0.53	0.10	0.058	0.021
KYJA049F	37.2896	83.9687	Jackson	6.6	4.3	0.18	2.5	1.0	0.23	0.14	0.032
KYJA050F	37.2666	83.9603	Jackson	3.8	2.9	0.050	1.7	0.74	0.15	0.17	0.021
KYJA051F	37.5478	84.0331	Jackson	4.8	3.1	0.11	1.5	0.67	0.13	0.053	0.021
KYJA052F	37.2660	83.9443	Jackson	4.1	3.3	0.061	1.9	0.88	0.17	0.19	0.027
KYJA053F	37.3088	83.9267	Jackson	6.6	2.7	0.039	2.1	0.71	0.11	0.20	0.021
KYJA054F	37.3394	83.9460	Jackson	3.5	2.0	0.039	1.2	0.48	0.088	0.068	0.016
KYJA055F	37.3068	83.8961	Jackson	3.7	2.6	0.033	1.4	0.72	0.11	0.17	0.021
KYJA056F	37.3339	83.8819	Jackson	2.1	0.77	0.055	0.91	0.10	0.067	0.005	0.016
KYJO036F	37.8598	82.7373	Johnson	2.6	1.6	0.033	1.5	0.30	0.13	0.042	0.021
KYJO037F	37.8807	82.7247	Johnson	1.8	0.6	0.028	1.1	0.08	0.10	0.005	0.016
KYJO038F	37.8809	82.6974	Johnson	2.0	1.5	0.022	1.4	0.29	0.11	0.021	0.027
KYJO039F	37.8477	82.7948	Johnson	4.7	1.3	0.308	1.7	0.22	0.18	0.016	0.027
KYJO040F	37.8298	82.7778	Johnson	1.4	0.85	0.039	0.77	0.12	0.082	0.005	0.016
KYJO041F	37.7951	82.7767	Johnson	2.5	0.88	0.050	1.1	0.11	0.13	0.005	0.021
KYJO042F	37.7887	82.7127	Johnson	1.3	3.2	0.028	0.95	1.5	0.12	0.43	0.016
KYKN001	37.2978	83.0171	Knott	4.3	2.7	0.022	1.8	0.86	0.14	0.12	0.021
KYKN002	37.3009	82.9900	Knott	2.6	2.4	0.12	1.3	0.85	0.13	0.26	0.016
KYKN003	37.3033	83.0287	Knott	3.6	3.0	0.039	1.7	0.99	0.17	0.14	0.016
KYKN004	37.3479	83.0262	Knott	1.7	3.3	0.044	1.4	1.2	0.18	0.32	0.021
KYKN005	37.3336	83.0781	Knott	2.6	2.7	0.055	1.0	0.98	0.16	0.25	0.016
KYKN006	37.3661	83.0857	Knott	2.6	2.8	0.061	1.3	1.1	0.16	0.28	0.021
KYKN007	37.3620	83.1097	Knott	1.5	1.6	0.017	0.64	0.63	0.072	0.10	0.011

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KYKN008	37.3179	82.9294	Knott	2.9	3.2	0.055	1.7	1.0	0.18	0.28	0.021
KYKN009	37.2797	82.9238	Knott	3.7	4.5	0.094	2.5	1.4	0.33	0.45	0.038
KYKN010	37.2884	82.8788	Knott	2.7	3.0	0.050	1.4	0.94	0.16	0.47	0.016
KYKN011	37.2614	82.8473	Knott	2.5	2.9	0.044	1.3	0.97	0.15	0.39	0.016
KYKN012	37.2605	82.8792	Knott	5.6	4.2	0.077	2.9	1.2	0.29	0.31	0.032
KYKN013	37.2671	82.9327	Knott	3.5	3.0	0.65	1.7	1.1	0.18	0.18	0.021
KYKN014	37.2246	83.0224	Knott	5.3	2.6	0.039	1.6	0.82	0.14	0.17	0.016
KYKN015	37.3975	82.9407	Knott	2.1	1.9	0.028	0.94	0.75	0.098	0.16	0.011
KYKN016	37.4466	82.9913	Knott	0.9	2.2	0.033	0.87	0.93	0.11	0.28	0.016
KYKN017	37.4575	83.0307	Knott	0.9	1.5	0.017	0.51	0.70	0.062	0.16	0.011
KYKN018	37.4726	83.0613	Knott	2.1	2.4	0.028	0.83	0.97	0.11	0.22	0.011
KYKN019	37.5067	83.0646	Knott	2.2	2.3	0.033	0.96	0.99	0.11	0.18	0.016
KYKN020	37.3879	82.9647	Knott	2.0	1.8	0.028	0.91	0.70	0.10	0.10	0.011
KYKN021	37.2445	83.0267	Knott	5.0	3.5	0.028	2.4	1.2	0.22	0.22	0.032
KYKN022	37.2605	82.9838	Knott	5.5	4.5	0.072	2.6	1.3	0.30	0.33	0.032
KYKN023	37.2246	82.9560	Knott	3.7	3.5	0.050	2.1	1.1	0.22	0.29	0.021
KYKN024	37.2257	82.9267	Knott	4.5	4.0	0.055	2.5	1.1	0.24	0.23	0.027
KYKN025	37.1941	82.9811	Knott	3.7	2.8	0.050	2.0	0.81	0.17	0.12	0.021
KYKN026	37.2409	82.9130	Knott	3.5	3.3	0.11	3.9	1.0	0.24	0.29	0.043
KYKN027	37.2634	83.0890	Knott	8.2	3.3	0.028	2.3	1.0	0.20	0.14	0.021
KYKN028	37.2733	83.0957	Knott	4.9	2.6	0.077	1.7	0.84	0.15	0.079	0.016
KYKN029	37.3256	83.0981	Knott	1.8	1.9	0.033	0.80	0.77	0.088	0.19	0.011
KYKN030	37.2934	83.0808	Knott	11	2.3	0.23	1.7	0.73	0.14	0.079	0.021
KYKN031	37.3279	83.0198	Knott	1.8	1.9	0.028	1.0	0.75	0.098	0.17	0.016
KYKN032	37.3538	82.9725	Knott	4.1	3.4	0.050	1.4	1.3	0.20	0.44	0.016
KYKN033	37.3437	82.9307	Knott	2.2	3.1	0.044	1.4	1.2	0.17	0.36	0.021
KYKN034	37.3681	82.8874	Knott	1.5	1.8	0.028	0.84	0.72	0.093	0.18	0.011
KYKN035	37.3810	82.8763	Knott	3.4	4.2	0.061	2.2	1.3	0.27	0.42	0.027
KYKN037	37.3205	82.8646	Knott	2.4	2.2	0.033	1.0	0.78	0.12	0.24	0.016

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KYKN038	37.3512	82.8415	Knott	2.2	2.6	0.044	1.5	0.92	0.17	0.28	0.021
KYKN039	37.3961	82.8490	Knott	3.1	2.8	0.055	1.4	0.99	0.18	0.27	0.021
KYKN040	37.3842	82.8069	Knott	3.0	2.5	0.11	1.5	0.81	0.15	0.31	0.016
KYKN041	37.4193	82.7913	Knott	1.8	2.2	0.033	1.2	0.81	0.13	0.32	0.016
KYKN042	37.3512	82.7729	Knott	2.5	3.0	0.13	1.7	1.0	0.20	0.38	0.021
KYKN043	37.3123	82.7686	Knott	2.4	2.9	0.099	1.4	1.0	0.17	0.41	0.016
KYKN044	37.2875	82.7809	Knott	3.1	3.3	0.055	1.7	1.1	0.18	0.45	0.021
KYKN045	37.2824	82.7942	Knott	2.0	2.6	0.039	1.4	0.89	0.15	0.35	0.016
KYKN046	37.3289	82.9864	Knott	2.7	2.8	0.039	1.5	0.97	0.16	0.34	0.021
KYKN047	37.3296	82.8408	Knott	2.6	3.0	0.050	1.4	1.1	0.18	0.38	0.021
KYKN048	37.3047	82.8259	Knott	2.7	2.7	0.039	1.4	0.88	0.16	0.28	0.016
KYKN049	37.2828	82.7480	Knott	1.4	<0.005	0.044	1.1	1.0	0.13	0.47	0.016
KYKN051	37.3917	83.0207	Knott	1.8	2.3	0.022	1.1	0.91	0.12	0.17	0.011
KYKN052	37.4022	83.0286	Knott	1.6	1.5	0.022	0.65	0.62	0.072	0.11	0.011
KYKN053	37.4082	83.0491	Knott	1.7	1.9	0.039	0.93	0.90	0.088	0.19	0.011
KYKN054	37.3859	83.0557	Knott	1.5	1.7	0.022	0.91	0.80	0.077	0.15	0.011
KYKN055	37.3799	83.1024	Knott	1.4	1.8	0.022	0.75	0.81	0.082	0.15	0.011
KYKN056	37.4107	82.8513	Knott	2.6	2.1	0.033	1.3	0.75	0.12	0.18	0.016
KYKN057	37.4127	82.9407	Knott	1.0	1.1	0.028	0.50	0.49	0.052	0.08	0.005
KYKN058	37.4228	82.9844	Knott	1.8	1.5	0.022	0.82	0.64	0.072	0.13	0.011
KYKN059	37.4356	82.8819	Knott	1.8	1.9	0.028	1.1	0.78	0.10	0.18	0.011
KYKN060	37.4574	82.9158	Knott	2.1	2.0	0.033	1.1	0.75	0.11	0.23	0.016
KYKN061	37.4618	82.9569	Knott	0.9	1.9	0.022	0.56	0.90	0.077	0.21	0.011
KYKN062	37.4905	83.0384	Knott	1.0	1.2	0.017	0.70	0.48	0.057	0.08	0.011
KYKN063	37.4269	83.1013	Knott	1.3	1.3	0.017	0.61	0.56	0.052	0.08	0.005
KYKN064	37.4281	83.0668	Knott	1.6	1.8	0.028	0.78	0.75	0.093	0.16	0.011
KYKO003E	36.9683	83.9974	Knox	5.3	5.2	0.14	2.4	1.4	0.29	0.18	0.040
KYKO004E	36.9592	83.9446	Knox	11	6.9	0.15	4.1	1.8	0.49	0.34	0.065
KYKO005E	36.9040	83.9333	Knox	4.2	4.0	0.21	2.1	1.1	0.24	0.30	0.030

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KYKO006E	36.9124	83.8910	Knox	5.2	4.0	0.26	2.2	1.1	0.24	0.30	0.030
KYKO007E	36.9565	83.8901	Knox	4.7	6.0	0.17	2.8	1.6	0.39	0.40	0.045
KYKO008E	36.9842	83.8888	Knox	3.8	5.0	0.13	2.4	1.4	0.30	0.53	0.040
KYKO009E	36.8606	83.8393	Knox	2.4	10	0.089	3.7	3.1	1.0	0.29	0.025
KYKO010E	36.8900	83.8249	Knox	7.3	3.4	0.047	1.6	1.1	0.17	0.40	0.025
KYKO011E	36.8321	83.7551	Knox	5.5	8.6	0.52	3.6	2.5	0.70	0.30	0.055
KYKO012E	36.8710	83.7298	Knox	5.8	6.1	0.11	3.1	1.7	0.36	0.32	0.050
KYKO013E	36.8719	83.6816	Knox	4.0	7.1	0.15	3.3	2.1	0.47	0.23	0.050
KYKO014E	36.8983	83.6756	Knox	3.6	3.7	0.10	2.2	1.2	0.23	0.21	0.030
KYKO015E	36.9394	83.6489	Knox	4.0	3.8	0.094	2.0	1.2	0.23	0.31	0.030
KYKO016E	36.9354	83.5985	Knox	4.8	4.9	0.077	2.7	1.6	0.30	0.18	0.035
KYKO017E	36.9108	83.5944	Knox	5.7	4.3	0.37	2.4	1.4	0.30	0.17	0.030
KYKO018E	36.9116	83.7262	Knox	3.4	5.5	0.11	3.5	1.6	0.34	0.39	0.050
KYKO019E	36.9069	83.7575	Knox	2.2	5.0	0.12	2.2	1.4	0.28	0.39	0.040
KYKO020E	36.9442	83.7291	Knox	5.2	3.0	0.059	1.5	0.95	0.15	0.36	0.020
KYKO021E	36.9742	83.7118	Knox	3.9	4.4	0.089	2.9	1.3	0.29	0.43	0.030
KYKO022E	36.8730	83.7857	Knox	4.0	3.8	0.065	2.2	1.1	0.22	0.38	0.030
KYKO023E	36.9552	83.7945	Knox	5.7	3.9	0.11	2.2	1.1	0.21	0.41	0.030
KYKO024E	36.9495	83.8469	Knox	5.2	4.6	0.14	2.8	1.2	0.27	0.30	0.045
KYKO025E	36.9902	83.7958	Knox	4.7	5.1	0.27	3.2	1.5	0.39	0.58	0.045
KYKO026E	36.9923	83.8406	Knox	6.1	5.3	1.5	2.9	1.5	0.45	0.57	0.045
KYKO031E	36.8848	83.9972	Knox	12	7.5	0.12	3.6	2.0	0.51	0.32	0.050
KYKO032E	36.8675	83.9441	Knox	4.5	4.2	0.73	2.0	1.2	0.26	0.46	0.030
KYKO033E	36.8286	83.9436	Knox	4.1	3.9	0.089	2.0	1.1	0.22	0.28	0.030
KYKO035E	36.7674	83.9685	Knox	3.3	3.5	0.065	1.8	1.1	0.19	0.34	0.030
KYKO036E	36.8000	83.9078	Knox	2.8	4.5	0.11	2.1	1.4	0.34	0.31	0.030
KYKO037E	36.7330	83.9040	Knox	4.1	5.1	0.083	2.3	1.6	0.36	0.14	0.035
KYKO038E	36.7796	83.8899	Knox	4.3	5.7	0.12	2.6	1.7	0.36	0.34	0.040
KYKO039E	36.8092	83.8222	Knox	5.5	5.3	0.19	2.6	1.6	0.34	0.33	0.040

Sample #	Latitude	Longitude	County	As ppm	Al %	Ca %	Fe %	K%	Mg %	Na %	P %
KYKO040E	36.7689	83.8180	Knox	5.1	5.0	0.11	2.7	1.5	0.35	0.28	0.035
KYLU001	37.2471	84.1979	Laurel	2.6	1.7	0.063	0.89	0.43	0.077	0.055	0.010
KYLU002	37.2852	84.1878	Laurel	2.4	1.5	0.029	0.87	0.38	0.061	0.025	0.010
KYLU003	37.2524	84.1437	Laurel	2.2	2.2	1.2	0.98	0.56	0.18	0.040	0.015
KYLU005	37.2605	84.0834	Laurel	10	5.0	1.0	3.0	1.3	0.37	0.12	0.040
KYLU006	37.2269	84.1169	Laurel	2.5	2.2	0.040	0.93	0.54	0.094	0.10	0.010
KYLU007	37.2330	84.0514	Laurel	9.6	7.1	0.16	3.3	1.9	0.48	0.19	0.050
KYLU008	36.9825	84.0685	Laurel	5.1	3.2	0.063	1.8	0.73	0.17	0.075	0.030
KYLU009	36.9905	84.0035	Laurel	7.1	4.4	0.092	2.6	1.1	0.21	0.21	0.035
KYLU010	37.0034	83.9540	Laurel	3.6	4.2	0.052	1.7	1.2	0.20	0.34	0.030
KYLU011	37.0286	83.9570	Laurel	4.4	5.9	0.29	2.8	1.7	0.38	0.34	0.050
KYLU012	37.0470	83.9111	Laurel	4.6	3.7	1.1	1.6	0.93	0.19	0.20	0.030
KYLU013	37.0616	83.9419	Laurel	5.9	6.2	0.84	2.9	1.7	0.40	0.36	0.045
KYLU014	37.0876	83.9095	Laurel	4.7	2.9	0.069	1.4	0.81	0.14	0.16	0.025
KYLU015	37.1051	83.9478	Laurel	12	6.6	0.76	4.0	1.8	0.48	0.17	0.050
KYLU016	37.1386	84.0069	Laurel	7.7	3.5	0.11	2.5	0.89	0.17	0.19	0.030
KYLU017	37.1782	84.2269	Laurel	6.0	4.8	0.13	1.9	1.2	0.22	0.12	0.040
KYLU018	37.1395	84.2557	Laurel	11	7.4	0.27	2.7	1.9	0.36	0.090	0.030
KYLU019	37.1250	84.2069	Laurel	3.6	3.5	0.092	1.7	0.80	0.15	0.065	0.030
KYLU020	37.0976	84.1410	Laurel	5.1	3.8	1.8	1.8	0.88	0.23	0.060	0.020
KYLU021	37.1228	84.1248	Laurel	3.3	3.6	0.23	1.4	0.89	0.17	0.090	0.020
KYLU022	37.0858	84.1759	Laurel	4.5	4.6	0.14	2.4	1.2	0.29	0.10	0.035
KYLU023	36.9689	84.1691	Laurel	2.3	2.8	0.098	1.4	0.59	0.12	0.060	0.025
KYLU024	37.0003	84.1875	Laurel	3.0	3.7	0.086	1.4	0.83	0.17	0.080	0.025
KYLU025	37.0045	84.1326	Laurel	1.7	1.5	0.086	0.80	0.39	0.066	0.040	0.010
KYLU026	37.0435	84.1144	Laurel	3.8	2.3	6.2	1.5	0.59	0.23	0.070	0.025
KYLU027	37.0315	84.1687	Laurel	4.1	4.9	0.098	2.7	1.3	0.22	0.13	0.035
KYLU028	37.0413	84.2579	Laurel	5.2	4.0	0.046	1.8	1.0	0.18	0.10	0.020
KYLU029	36.9602	84.3468	Laurel	12	9.2	0.086	4.1	1.7	0.47	0.085	0.045

Sample #	Latitude	Longitude	County	As ppm	Al %	Ca %	Fe %	K%	Mg %	Na %	P %
KYLU030	36.9897	84.3265	Laurel	4.0	3.3	0.092	1.3	0.69	0.15	0.085	0.025
KYLU031	36.9619	84.2733	Laurel	3.4	3.4	1.3	1.5	0.97	0.29	0.085	0.020
KYLU032	37.0373	84.0622	Laurel	3.8	2.9	0.14	1.4	0.75	0.13	0.085	0.025
KYLU033	37.0512	84.0173	Laurel	3.8	4.8	1.4	1.8	1.2	0.26	0.26	0.030
KYLU034	37.0895	84.0031	Laurel	5.7	3.7	0.13	2.0	1.1	0.18	0.13	0.030
KYLU035	37.1875	84.0541	Laurel	10	8.1	0.12	3.3	2.0	0.51	0.16	0.045
KYLU036	37.2169	84.0237	Laurel	8.2	5.1	0.18	3.0	1.3	0.31	0.21	0.040
KYLU037	37.2359	83.9581	Laurel	5.3	5.1	0.12	2.4	1.3	0.29	0.26	0.040
KYLU038	37.1923	83.9559	Laurel	5.2	4.6	0.21	2.3	1.2	0.26	0.27	0.035
KYLU039	37.1559	83.9700	Laurel	8.0	5.3	0.20	2.6	1.3	0.31	0.31	0.040
KYLU040	37.1812	84.0094	Laurel	11	7.7	0.26	3.4	2.0	0.53	0.17	0.040
KYLW004F	37.9586	82.7516	Lawrence	4.1	6.1	0.086	2.3	1.8	0.40	0.28	0.025
KYLW008F	37.9971	82.9931	Lawrence	6.6	5.1	0.086	2.1	1.6	0.28	0.48	0.035
KYLW024F	37.9318	82.6096	Lawrence	2.1	3.3	0.046	1.1	1.6	0.14	0.22	0.020
KYLE001	37.5676	83.5670	Lee	5.9	3.2	0.12	3.5	0.86	0.18	0.17	0.038
KYLE002	37.5650	83.5936	Lee	11	6.4	0.094	4.7	1.7	0.47	0.28	0.064
KYLE003	37.5322	83.5900	Lee	12	6.3	0.11	4.6	1.7	0.48	0.37	0.059
KYLE004	37.5266	83.5796	Lee	6.2	4.0	0.061	3.3	1.1	0.28	0.33	0.038
KYLE005	37.5391	83.5717	Lee	9.0	4.3	0.050	3.5	1.1	0.29	0.31	0.043
KYLE006	37.5735	83.6843	Lee	8.6	4.3	1.3	4.1	1.1	0.26	0.12	0.043
KYLE007	37.5631	83.6617	Lee	16	3.6	1.3	2.8	1.0	0.21	0.19	0.032
KYLE008	37.5584	83.6145	Lee	6.1	3.2	0.33	2.8	0.91	0.19	0.21	0.032
KYLE009	37.5218	83.6122	Lee	6.5	3.5	0.67	2.9	1.0	0.23	0.31	0.043
KYLE010	37.6110	83.5344	Lee	2.8	1.8	0.18	1.4	0.60	0.088	0.15	0.016
KYLE011	37.6284	83.5331	Lee	3.9	2.3	0.055	1.6	0.62	0.14	0.079	0.016
KYLE012	37.6082	83.5643	Lee	3.0	2.3	0.050	1.4	0.81	0.12	0.28	0.021
KYLE013	37.6243	83.5554	Lee	5.5	1.6	0.12	1.8	0.50	0.062	0.063	0.016
KYLE014	37.6340	83.6040	Lee	6.6	2.5	0.74	3.1	0.69	0.13	0.11	0.032
KYLE015	37.5168	83.7160	Lee	4.1	1.7	0.31	1.9	0.39	0.077	0.074	0.016

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KYLE016	37.5222	83.7127	Lee	5.8	2.5	6.5	3.1	0.60	0.19	0.074	0.032
KYLE017	37.5209	83.6936	Lee	8.4	5.0	0.13	4.7	1.3	0.31	0.18	0.050
KYLE018	37.5286	83.6777	Lee	6.5	2.9	0.061	3.0	0.83	0.19	0.20	0.033
KYLE019	37.5103	83.7460	Lee	5.7	3.1	0.099	2.9	0.79	0.19	0.14	0.033
KYLE020	37.5354	83.7743	Lee	11	4.0	0.16	3.9	0.94	0.24	0.11	0.039
KYLE021	37.5547	83.7621	Lee	8.6	4.7	0.039	3.5	0.99	0.24	0.070	0.039
KYLE022	37.5044	83.7644	Lee	13	4.9	0.088	4.5	1.2	0.34	0.12	0.044
KYLE023	37.4991	83.8440	Lee	9.2	3.7	0.061	4.0	0.85	0.19	0.070	0.039
KYLE024	37.4966	83.8027	Lee	9.4	4.5	0.34	5.4	1.0	0.26	0.085	0.055
KYLE025	37.5397	83.8107	Lee	16	5.0	0.20	4.9	1.1	0.30	0.065	0.044
KYLE026	37.5292	83.8165	Lee	8.3	4.6	0.17	5.3	1.0	0.25	0.060	0.050
KYLE027	37.5097	83.8265	Lee	11	6.2	0.072	5.3	1.3	0.33	0.075	0.050
KYLE028	37.5334	83.8964	Lee	7.5	5.5	0.165	2.6	1.4	0.29	0.11	0.033
KYLE029	37.5855	83.6803	Lee	21	5.9	0.066	5.8	1.4	0.34	0.11	0.061
KYLE030	37.6249	83.6695	Lee	1.5	0.37	0.033	0.28	0.10	0.011	0.005	0.006
KYLE031	37.6356	83.7058	Lee	9.0	3.9	0.077	3.9	0.95	0.16	0.090	0.033
KYLE032	37.6667	83.6978	Lee	3.1	2.0	0.237	1.3	0.49	0.12	0.025	0.017
KYLE033	37.6728	83.7253	Lee	2.8	0.67	0.066	0.59	0.16	0.039	0.025	0.006
KYLE034	37.6937	83.6987	Lee	2.3	0.67	0.077	0.63	0.18	0.033	0.025	0.006
KYLE035	37.6930	83.7402	Lee	1.1	0.28	1.2	0.30	0.07	0.022	0.025	0.006
KYLE036	37.6685	83.7570	Lee	0.6	0.23	0.033	0.20	0.06	0.011	0.010	0.006
KYLE037	37.6705	83.7672	Lee	0.9	0.32	0.011	0.31	0.07	0.011	0.005	0.006
KYLE038	37.6512	83.8019	Lee	1.1	0.32	0.022	0.45	0.07	0.017	0.010	0.006
KYLE039	37.6334	83.8068	Lee	3.3	0.60	0.50	0.73	0.14	0.033	0.010	0.006
KYLE040	37.5649	83.7305	Lee	17	4.8	0.050	5.1	1.1	0.26	0.085	0.050
KYLE041	37.5770	83.7551	Lee	5.7	1.9	0.055	1.9	0.40	0.088	0.040	0.022
KYLE042	37.5586	83.7777	Lee	8.8	4.3	1.7	4.1	0.89	0.25	0.055	0.039
KYLE043	37.6055	83.8072	Lee	2.6	0.56	0.028	0.44	0.13	0.022	0.010	0.006
KYLE044	37.5800	83.7134	Lee	5.7	3.2	0.26	2.1	0.79	0.17	0.10	0.028

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KYLE045	37.6250	83.7344	Lee	4.9	4.9	0.28	3.1	1.6	0.38	0.28	0.044
KYLE046	37.6481	83.6495	Lee	2.1	0.58	0.18	0.61	0.15	0.028	0.010	0.006
KYLE047	37.5876	83.6386	Lee	9.0	2.6	0.072	3.2	0.72	0.14	0.11	0.033
KYLE048	37.6342	83.7732	Lee	2.3	0.71	0.022	0.59	0.18	0.033	0.015	0.006
KYLE049	37.5863	83.5991	Lee	7.0	3.6	0.061	3.1	1.1	0.24	0.32	0.033
KYLE050	37.6763	83.6331	Lee	15	3.3	0.072	4.9	0.85	0.15	0.10	0.039
KYLE051	37.6997	83.6806	Lee	1.6	0.80	0.072	0.62	0.23	0.050	0.15	0.006
KYLE052	37.5766	83.8183	Lee	4.9	2.2	0.13	2.5	0.49	0.13	0.045	0.028
KYLE053	37.5919	83.8600	Lee	15	7.0	1.3	3.9	1.6	0.36	0.11	0.055
KYLS001E	36.9446	83.3945	Leslie	5.8	3.7	0.29	2.3	1.1	0.24	0.080	0.028
KYLS002E	37.253	83.3632	Leslie	3.0	3.2	0.23	1.6	1.2	0.20	0.37	0.028
KYLS003E	37.2295	83.3715	Leslie	3.8	4.0	0.061	1.5	1.3	0.18	0.40	0.022
KYLS004E	37.1907	83.3646	Leslie	5.1	5.1	0.099	2.5	1.5	0.38	0.44	0.028
KYLS005E	37.1396	83.4343	Leslie	4.3	3.7	0.11	1.7	1.4	0.23	0.40	0.033
KYLS006E	37.1565	83.5071	Leslie	5.3	5.3	0.11	2.8	1.6	0.38	0.47	0.033
KYLS007E	37.1832	83.4767	Leslie	3.6	3.9	0.21	2.0	1.3	0.23	0.38	0.028
KYLS008E	37.2448	83.4614	Leslie	3.6	3.8	0.25	1.7	1.3	0.23	0.24	0.022
KYLS009E	37.2672	83.4336	Leslie	3.0	3.4	0.044	1.7	1.1	0.18	0.39	0.022
KYLS010E	37.1394	83.3821	Leslie	5.7	4.6	0.52	2.4	1.5	0.35	0.57	0.039
KYLS011E	37.0421	83.4163	Leslie	6.1	4.2	0.12	2.3	1.4	0.28	0.18	0.039
KYLS012E	37.0014	83.4454	Leslie	3.8	4.0	0.088	2.0	1.3	0.27	0.38	0.028
KYLS013E	36.9547	83.4538	Leslie	5.5	4.4	0.30	2.8	1.3	0.30	0.15	0.033
KYLS014E	36.9215	83.4465	Leslie	3.4	3.6	0.050	1.8	0.98	0.16	0.055	0.022
KYLS015E	36.9060	83.4736	Leslie	3.1	3.1	0.17	1.6	0.96	0.16	0.040	0.022
KYLS016E	36.9522	83.5065	Leslie	4.7	3.5	0.099	2.1	1.0	0.20	0.045	0.028
KYLS017E	37.0152	83.5056	Leslie	2.8	2.2	0.033	1.3	0.81	0.11	0.29	0.017
KYLS018E	37.0515	83.5118	Leslie	3.0	3.0	0.066	1.5	1.0	0.18	0.30	0.022
KYLS019E	37.0849	83.5389	Leslie	3.7	3.4	0.066	1.8	1.1	0.20	0.43	0.033
KYLS020E	37.0902	83.4145	Leslie	3.4	3.3	0.15	1.6	1.3	0.20	0.27	0.022

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KYLS021E	37.0751	83.3914	Leslie	3.2	3.0	1.4	1.7	1.1	0.22	0.28	0.022
KYLS022E	37.0488	83.3694	Leslie	3.1	3.6	0.061	1.7	1.3	0.24	0.28	0.028
KYLS023E	37.0072	83.3555	Leslie	3.0	2.5	0.039	1.5	1.0	0.14	0.18	0.022
KYLS024E	36.9903	83.3279	Leslie	4.7	3.5	0.094	1.9	1.2	0.24	0.32	0.033
KYLS025E	36.9743	83.2711	Leslie	4.4	3.7	0.088	1.9	1.3	0.24	0.10	0.028
KYLS026E	37.1850	83.4269	Leslie	5.7	3.9	0.25	2.1	1.2	0.28	0.45	0.033
KYLS027E	37.1351	83.3002	Leslie	3.8	3.2	0.30	1.8	1.1	0.21	0.27	0.022
KYLS028E	37.1022	83.2991	Leslie	4.4	ins	ins	ins	ins	ins	ins	ins
KYLS029E	37.0543	83.2966	Leslie	3.8	3.3	0.088	1.8	1.2	0.17	0.055	0.022
KYLS030E	37.0520	83.2514	Leslie	4.0	3.1	0.099	1.7	1.3	0.21	0.050	0.033
KYLS031E	37.0497	83.2052	Leslie	2.3	2.6	0.094	1.2	1.1	0.15	0.060	0.017
KYLS032E	37.0733	83.2202	Leslie	2.5	2.9	0.072	1.6	1.1	0.17	0.21	0.022
KYLS033E	37.0961	83.2682	Leslie	8.0	4.0	0.11	2.7	1.3	0.29	0.26	0.033
KYLS034E	37.1325	83.2522	Leslie	11	2.0	0.039	1.9	0.57	0.077	0.070	0.017
KYLS035E	37.1713	83.2671	Leslie	5.2	4.5	0.13	2.2	1.5	0.30	0.36	0.033
KYLS036E	37.2109	83.3226	Leslie	3.4	3.9	0.11	1.8	1.4	0.22	0.54	0.028
KYLS037E	37.2301	83.4063	Leslie	2.9	3.3	0.13	1.7	1.1	0.19	0.54	0.033
KYLT001E	36.9971	82.8985	Letcher	4.5	5.1	0.59	2.4	1.6	0.37	0.54	0.033
KYLT002E	37.0068	82.8767	Letcher	3.5	4.5	0.099	2.2	1.4	0.32	0.60	0.033
KYLT003E	37.0345	82.8425	Letcher	4.3	4.6	0.17	2.1	1.5	0.33	0.49	0.028
KYLT004E	37.0294	82.8004	Letcher	5.3	5.4	0.23	2.7	1.6	0.40	0.41	0.039
KYLT005E	37.0424	82.7640	Letcher	6.1	6.1	0.14	3.3	1.8	0.42	0.66	0.045
KYLT006E	37.1391	82.7450	Letcher	4.5	5.5	0.36	2.2	1.7	0.40	0.67	0.030
KYLT007E	37.1700	82.7554	Letcher	9.0	5.8	0.51	2.6	1.8	0.42	0.70	0.040
KYLT008E	37.2175	82.7448	Letcher	4.6	5.6	0.17	2.8	1.7	0.40	0.96	0.040
KYLT009E	37.2245	82.7912	Letcher	5.4	5.8	0.55	2.4	1.8	0.45	0.69	0.035
KYLT010E	37.2522	82.7743	Letcher	2.9	4.2	0.20	1.7	1.4	0.24	0.80	0.025
KYLT011E	37.2513	82.7387	Letcher	3.9	6.6	0.13	2.6	1.9	0.47	0.62	0.040
KYLT012E	37.2119	82.6859	Letcher	5.4	5.6	0.32	2.5	1.6	0.38	0.73	0.045

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KYLT013E	37.1952	82.6213	Letcher	5.1	4.9	0.20	1.9	1.5	0.32	0.75	0.030
KYLT014E	37.2261	82.6276	Letcher	4.5	5.4	0.34	2.2	1.7	0.37	0.92	0.035
KYLT015E	37.1601	82.6811	Letcher	4.2	5.3	0.20	2.2	1.5	0.35	0.61	0.035
KYLT016E	37.1386	82.7953	Letcher	7.3	7.4	0.32	2.7	2.1	0.52	0.53	0.030
KYLT017E	37.1771	82.8035	Letcher	5.4	6.1	0.26	2.6	1.8	0.46	0.67	0.040
KYLT018E	37.1295	82.8540	Letcher	6.0	5.4	0.14	2.4	1.6	0.37	0.81	0.035
KYLT019E	37.1397	82.8902	Letcher	5.5	7.1	0.21	3.1	2.0	0.55	0.71	0.040
KYLT020E	37.1679	82.8605	Letcher	4.9	5.3	0.77	2.2	1.6	0.39	0.81	0.030
KYLT021E	37.2285	82.8549	Letcher	5.9	5.3	0.17	2.4	1.6	0.34	0.67	0.030
KYLT022E	37.2506	82.8297	Letcher	3.9	4.3	6.7	1.6	1.3	0.48	0.50	0.025
KYLT023E	37.2095	82.8825	Letcher	5.8	6.2	0.20	2.6	1.9	0.47	0.82	0.030
KYLT024E	37.1768	82.9246	Letcher	5.1	7.4	0.88	2.8	2.2	0.57	0.53	0.040
KYLT025E	37.1575	82.9809	Letcher	4.8	5.5	0.42	2.5	1.6	0.42	0.41	0.030
KYLT026E	37.1635	83.0218	Letcher	2.7	3.1	0.43	1.5	1.0	0.20	0.29	0.025
KYLT027E	37.1345	83.0090	Letcher	4.5	5.2	0.31	2.3	1.5	0.37	0.53	0.030
KYLT028E	37.1214	82.9480	Letcher	12	6.2	0.13	2.4	1.8	0.42	0.58	0.035
KYLT029E	37.1049	82.9631	Letcher	4.6	5.2	0.12	2.5	1.5	0.37	0.70	0.035
KYLT030E	37.0928	82.9235	Letcher	4.1	4.7	0.12	2.1	1.4	0.30	0.72	0.025
KYLT031E	37.0320	83.0311	Letcher	3.9	3.8	0.45	1.7	1.5	0.23	0.085	0.020
KYLT032E	36.9871	83.0756	Letcher	6.0	5.4	0.25	2.3	1.7	0.38	0.18	0.030
KYLT033E	36.9825	83.1204	Letcher	3.1	3.4	0.081	1.5	1.3	0.17	0.065	0.020
KYLT034E	37.0026	83.0117	Letcher	3.6	4.5	0.48	2.1	1.4	0.33	0.36	0.025
KYLT035E	37.0447	82.9017	Letcher	6.6	5.7	0.12	2.6	1.6	0.40	0.53	0.040
KYLT036E	37.0740	82.8767	Letcher	4.8	5.1	0.18	2.4	1.6	0.33	0.98	0.030
KYLT037E	37.0993	82.8373	Letcher	4.8	5.5	0.13	2.4	1.6	0.36	0.71	0.035
KYLT038E	37.0841	83.0238	Letcher	5.5	4.4	0.21	2.4	1.4	0.29	0.47	0.030
KYLT039E	37.0524	82.9528	Letcher	6.3	6.5	0.61	3.2	1.9	0.47	0.78	0.050
KYLT040E	37.0651	82.7864	Letcher	3.0	3.4	0.069	1.8	1.0	0.20	0.34	0.025
KYLT041E	37.0759	82.7289	Letcher	1.9	2.5	0.37	1.1	0.73	0.17	0.17	0.020

Sample #	Latitude	Longitude	County	As ppm	Al %	Ca %	Fe %	K%	Mg %	Na %	P %
KYMG001F	37.7913	83.0778	Magoffin	3.0	3.5	0.083	1.6	1.1	0.20	0.61	0.030
KYMG002F	37.7704	83.0883	Magoffin	3.1	4.0	0.050	1.7	1.2	0.22	0.49	0.025
KYMG003F	37.8104	83.1192	Magoffin	5.0	4.8	0.088	2.7	1.4	0.29	0.65	0.035
KYMG004F	37.8466	83.1354	Magoffin	3.0	3.8	0.077	1.8	1.3	0.20	0.69	0.030
KYMG005F	37.8241	83.1657	Magoffin	3.6	4.2	0.083	1.9	1.3	0.25	0.46	0.025
KYMG006F	37.7955	83.1486	Magoffin	5.5	5.4	0.20	2.8	1.6	0.40	0.50	0.040
KYMG007F	37.7620	83.1198	Magoffin	2.4	3.6	0.066	1.5	1.3	0.19	0.68	0.025
KYMG008F	37.7727	83.0317	Magoffin	2.4	4.0	0.072	1.5	1.4	0.21	0.84	0.025
KYMG009F	37.8026	82.9759	Magoffin	3.4	4.3	0.23	2.0	1.3	0.25	0.64	0.030
KYMG010F	37.8066	83.0122	Magoffin	3.2	3.9	0.12	1.7	1.3	0.21	0.69	0.025
KYMG011F	37.8270	83.0139	Magoffin	ins	3.4	0.088	1.4	1.2	0.17	0.68	0.025
KYMG012F	37.8331	83.0569	Magoffin	3.8	4.4	0.077	1.8	1.5	0.25	0.65	0.030
KYMG013F	37.8286	83.0901	Magoffin	6.3	5.9	0.12	2.8	1.7	0.42	0.51	0.040
KYMG014F	37.8676	83.0860	Magoffin	2.4	4.0	0.061	1.7	1.5	0.22	0.61	0.030
KYMG015F	37.8638	83.0298	Magoffin	ins	2.9	0.050	1.2	1.1	0.14	0.40	0.025
KYMG017F	37.7735	83.2389	Magoffin	1.1	1.6	0.028	0.70	0.64	0.083	0.22	0.010
KYMG018F	37.7766	83.1870	Magoffin	6.3	5.5	0.083	3.4	1.6	0.35	0.35	0.040
KYMG019F	37.8043	83.1897	Magoffin	3.6	4.7	0.072	2.1	1.4	0.27	0.60	0.030
KYMG020F	37.6441	83.1613	Magoffin	1.9	2.0	1.1	1.0	0.70	0.13	0.21	0.015
KYMG021F	37.6336	83.1227	Magoffin	4.6	6.2	0.17	2.6	1.8	0.45	0.29	0.040
KYMG022F	37.6669	83.1241	Magoffin	ins	4.0	0.083	1.9	1.4	0.22	0.52	0.045
KYMG023F	37.7402	83.0344	Magoffin	3.9	4.6	0.083	2.3	1.4	0.29	0.73	0.035
KYMG024F	37.7436	83.0079	Magoffin	6.8	6.2	0.17	3.1	1.9	0.47	0.67	0.045
KYMG025F	37.7677	82.9597	Magoffin	3.8	4.3	0.083	2.1	1.4	0.28	0.60	0.030
KYMG026F	37.7500	82.9619	Magoffin	2.5	4.0	0.094	1.7	1.4	0.23	0.65	0.030
KYMG027F	37.7612	82.9850	Magoffin	4.2	4.7	0.10	2.4	1.5	0.33	0.51	0.030
KYMG028F	37.7028	83.0113	Magoffin	6.9	5.8	0.12	3.4	1.7	0.43	0.61	0.040
KYMG029F	37.6995	82.9663	Magoffin	5.9	9.2	0.20	2.5	2.5	0.59	0.25	0.030
KYMG030F	37.6795	83.0004	Magoffin	5.0	6.1	0.13	3.0	1.9	0.47	0.53	0.045

Sample #	Latitude	Longitude	County	As ppm	Al %	Ca %	Fe %	K%	Mg %	Na %	P %
KYMG031F	37.5161	82.9316	Magoffin	3.5	2.7	0.059	1.1	0.91	0.17	0.33	0.020
KYMG032F	37.5176	82.9407	Magoffin	5.2	4.8	0.15	3.1	1.5	0.33	0.78	0.055
KYMG033F	37.5487	82.9280	Magoffin	6.0	5.8	0.14	3.0	1.9	0.50	0.72	0.055
KYMG034F	37.5736	82.9174	Magoffin	3.3	4.0	0.065	1.9	1.5	0.20	0.44	0.025
KYMG035F	37.5932	82.9283	Magoffin	2.8	4.6	0.077	1.9	1.6	0.23	0.43	0.025
KYMG036F	37.5662	82.9968	Magoffin	3.5	1.9	0.065	0.86	0.70	0.11	0.21	0.020
KYMG037F	37.5545	82.9679	Magoffin	ins	2.6	0.053	1.3	0.88	0.17	0.25	0.020
KYMG038F	37.5311	82.9859	Magoffin	4.6	2.2	0.047	1.1	0.77	0.13	0.26	0.020
KYMG039F	37.7095	83.2369	Magoffin	3.3	3.8	0.077	1.7	1.3	0.22	0.49	0.030
KYMG040F	37.7367	83.2009	Magoffin	2.6	4.2	0.077	1.7	1.5	0.22	0.73	0.030
KYMG041F	37.7358	83.1653	Magoffin	5.2	5.9	0.15	3.1	1.8	0.46	0.68	0.045
KYMG042F	37.7106	83.1786	Magoffin	4.5	4.3	0.094	1.9	1.4	0.31	0.65	0.035
KYMG043F	37.6691	83.2022	Magoffin	4.2	5.4	0.12	2.5	1.6	0.36	0.42	0.045
KYMG044F	37.6651	83.2265	Magoffin	4.1	5.4	0.083	2.2	1.7	0.35	0.28	0.030
KYMG045F	37.6854	83.1497	Magoffin	3.0	4.5	0.11	1.6	1.6	0.25	0.40	0.030
KYMG046F	37.7050	83.1484	Magoffin	3.1	5.4	0.11	2.0	1.8	0.31	0.77	0.030
KYMG047F	37.6945	83.1174	Magoffin	5.4	5.7	0.13	3.0	1.7	0.39	0.64	0.045
KYMG048F	37.6733	83.0798	Magoffin	2.6	3.5	0.14	1.2	1.3	0.17	0.57	0.035
KYMG049F	37.7005	83.0791	Magoffin	2.7	4.2	0.094	1.6	1.4	0.23	0.65	0.035
KYMG050F	37.7132	83.0422	Magoffin	4.0	4.5	0.23	2.3	1.4	0.31	0.56	0.035
KYMG051F	37.6298	83.0609	Magoffin	3.1	4.2	0.15	1.9	1.4	0.23	0.30	0.035
KYMG052F	37.6153	83.0629	Magoffin	2.4	2.8	1.3	1.4	1.1	0.15	0.18	0.020
KYMG053F	37.6413	83.0455	Magoffin	3.9	4.8	0.22	2.0	1.5	0.33	0.51	0.040
KYMG054F	37.6618	83.0328	Magoffin	5.7	5.1	0.14	2.1	1.6	0.30	0.63	0.040
KYMG055F	37.6049	83.0360	Magoffin	2.2	3.5	0.11	1.3	1.5	0.18	0.24	0.040
KYMG056F	37.6636	82.9712	Magoffin	4.7	4.9	0.64	2.4	1.5	0.31	0.58	0.035
KYMG057F	37.6394	82.9467	Magoffin	5.0	5.2	0.10	2.3	1.7	0.35	0.55	0.040
KYMG058F	37.6414	82.9599	Magoffin	3.7	4.2	0.053	2.4	1.4	0.22	0.50	0.030
KYMG059F	37.6317	82.9975	Magoffin	3.6	4.6	0.16	2.1	1.5	0.30	0.56	0.045

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KYMG060	37.5767	82.9692	Magoffin	4.4	3.2	0.047	1.7	1.1	0.19	0.20	0.020
KYMG060F	37.5767	82.9692	Magoffin	5.8	5.9	0.094	2.7	1.8	0.41	0.39	0.035
KYMG061	37.6033	82.9572	Magoffin	2.6	2.3	0.030	1.2	0.90	0.11	0.20	0.015
KYMG061F	37.6033	82.9572	Magoffin	3.4	4.2	0.059	1.8	1.5	0.20	0.43	0.025
KYMG062	37.6084	82.9910	Magoffin	2.6	2.8	0.041	1.3	0.98	0.14	0.12	0.015
KYMG062F	37.6084	82.9910	Magoffin	3.3	4.8	0.071	1.8	1.5	0.26	0.23	0.025
KYMG063	37.7210	83.0816	Magoffin	2.6	2.2	0.21	1.1	0.86	0.12	0.21	0.015
KYMG063F	37.7210	83.0816	Magoffin	4.0	4.5	0.27	1.9	1.5	0.29	0.64	0.030
KYMG064	37.7388	83.1230	Magoffin	1.9	3.0	0.041	1.4	1.1	0.16	0.35	0.015
KYMG064F	37.7388	83.1230	Magoffin	3.0	4.1	0.053	1.6	1.4	0.22	0.61	0.020
KYMG065	37.7594	83.1664	Magoffin	1.9	2.3	0.035	0.91	0.93	0.12	0.23	0.015
KYMG065F	37.7594	83.1664	Magoffin	3.5	4.4	0.089	1.7	1.5	0.25	0.56	0.035
KYMG066	37.7375	83.2233	Magoffin	2.7	2.4	0.047	1.6	0.86	0.12	0.27	0.020
KYMG066F	37.7375	83.2233	Magoffin	4.5	4.3	0.094	2.6	1.4	0.25	0.56	0.035
KYMT001	37.8932	82.5636	Martin	0.8	1.3	0.012	0.48	0.67	0.050	0.10	0.005
KYMT002	37.9209	82.5678	Martin	0.7	1.0	0.012	0.28	0.54	0.028	0.035	0.005
KYMT003	37.9025	82.5320	Martin	1.1	1.2	0.012	0.56	0.59	0.055	0.075	0.005
KYMT004	37.9453	82.5598	Martin	1.4	1.4	0.023	0.62	0.66	0.066	0.080	0.010
KYMT005	37.9478	82.5225	Martin	0.9	1.3	0.017	0.44	0.62	0.050	0.055	0.005
KYMT006	37.9307	82.5046	Martin	2.5	3.2	0.063	1.6	1.1	0.21	0.13	0.022
KYMT007	37.9098	82.4837	Martin	1.4	1.6	0.017	0.62	0.72	0.072	0.12	0.010
KYMT008	37.8789	82.4941	Martin	0.6	1.4	0.017	0.47	0.74	0.055	0.14	0.005
KYMT009	37.8824	82.5488	Martin	1.8	1.2	0.028	0.51	0.63	0.055	0.11	0.005
KYMT010	37.8563	82.5643	Martin	1.4	1.5	0.017	0.57	0.72	0.061	0.14	0.005
KYMT011	37.9006	82.5864	Martin	2.3	1.5	0.017	0.72	0.71	0.066	0.063	0.005
KYMT012	37.8786	82.6000	Martin	2.3	1.8	0.028	0.71	0.79	0.077	0.11	0.010
KYMT013	37.8607	82.6372	Martin	2.7	1.2	0.011	0.53	0.63	0.055	0.058	0.010
KYMT014	37.8450	82.6572	Martin	<0.6	1.0	0.011	0.48	0.44	0.044	0.058	0.005
KYMT015	37.8479	82.5994	Martin	2.1	1.6	0.022	0.53	0.87	0.066	0.18	0.010

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KYMT015F	37.8479	82.5994	Martin	2.4	4.4	0.066	1.6	1.7	0.24	0.66	0.030
KYMT016	37.8286	82.6076	Martin	2.5	1.3	0.022	0.43	0.67	0.050	0.11	0.005
KYMT017	37.8058	82.6303	Martin	4.0	1.6	0.017	0.66	0.76	0.066	0.047	0.005
KYMT018	37.8472	82.5362	Martin	2.8	1.5	0.017	0.48	0.83	0.055	0.14	0.005
KYMT018F	37.8472	82.5362	Martin	1.8	3.9	0.050	1.1	1.7	0.15	0.66	0.020
KYMT019	37.8234	82.5740	Martin	2.9	1.2	0.011	0.51	0.59	0.050	0.074	0.005
KYMT020	37.7872	82.5777	Martin	3.6	1.7	0.017	0.74	0.76	0.072	0.13	0.010
KYMT021	37.7830	82.6162	Martin	2.6	1.3	0.017	0.43	0.64	0.050	0.10	0.005
KYMT022	37.7755	82.6349	Martin	2.7	1.1	0.011	0.42	0.50	0.044	0.058	0.005
KYMT023	37.7659	82.6005	Martin	2.8	1.3	0.017	0.54	0.66	0.055	0.074	0.005
KYMT024	37.7646	82.6082	Martin	2.1	1.4	0.31	0.69	0.71	0.088	0.074	0.010
KYMT025	37.8189	82.4980	Martin	3.6	1.5	0.15	0.59	0.69	0.077	0.14	0.010
KYMT026	37.8159	82.5115	Martin	3.2	1.5	0.017	0.51	0.75	0.055	0.19	0.010
KYMT027	37.7994	82.5280	Martin	1.9	1.4	0.017	0.49	0.66	0.061	0.12	0.005
KYMT028	37.7847	82.5100	Martin	0.9	1.4	0.022	0.40	0.78	0.061	0.15	0.005
KYMT029	37.7784	82.5302	Martin	1.2	1.3	0.017	0.55	0.64	0.055	0.074	0.005
KYMT030	37.8192	82.4530	Martin	1.9	1.9	0.028	0.91	0.80	0.12	0.13	0.010
KYMT031	37.8569	82.4624	Martin	1.4	2.1	0.022	0.75	0.97	0.088	0.24	0.010
KYMT031F	37.8569	82.4624	Martin	2.7	4.1	0.061	1.5	1.5	0.20	0.59	0.020
KYMT032	37.8583	82.4726	Martin	1.8	1.7	0.033	0.71	0.72	0.083	0.21	0.010
KYMT033	37.8805	82.4651	Martin	1.5	1.8	0.017	0.57	0.90	0.077	0.17	0.005
KYMT034	37.9012	82.4483	Martin	1.9	1.4	0.017	0.66	0.64	0.066	0.14	0.010
KYMT035	37.8797	82.4284	Martin	1.5	1.7	0.017	0.76	0.79	0.077	0.18	0.010
KYMT036	37.8335	82.4174	Martin	2.4	3.9	0.072	1.7	1.4	0.24	0.31	0.025
KYMT037	37.7890	82.3677	Martin	1.3	1.6	0.022	0.60	0.75	0.072	0.10	0.010
KYMT038	37.7618	82.3353	Martin	4.0	2.8	0.044	1.5	1.0	0.17	0.16	0.015
KYMT039	37.7977	82.4130	Martin	1.9	2.5	0.050	1.1	0.98	0.14	0.14	0.010
KYMT040	37.7838	82.4020	Martin	0.9	1.7	0.022	0.62	0.80	0.072	0.15	0.010
KYMT041	37.7694	82.3860	Martin	1.1	1.6	0.017	0.49	0.73	0.072	0.084	0.010

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KYMT042	37.7478	82.3854	Martin	1.4	1.7	0.022	0.68	0.75	0.077	0.10	0.010
KYMT043	37.7631	82.4159	Martin	1.2	1.3	0.017	0.54	0.64	0.055	0.13	0.005
KYMT044	37.7607	82.4421	Martin	1.1	1.6	0.011	0.50	0.74	0.061	0.074	0.005
KYMT044F	37.7607	82.4421	Martin	1.6	3.3	0.039	0.98	1.4	0.14	0.32	0.015
KYMT045	37.7147	82.4430	Martin	1.2	2.5	0.039	0.78	1.1	0.13	0.35	0.015
KYMT046	37.7027	82.4271	Martin	1.3	2.1	0.033	0.79	0.94	0.11	0.24	0.010
KYMT047	37.6984	82.4391	Martin	2.0	1.3	0.028	0.52	0.63	0.055	0.10	0.010
KYMT048	37.7203	82.4868	Martin	1.0	1.8	0.022	0.63	0.87	0.072	0.15	0.010
KYMT048F	37.7203	82.4868	Martin	2.2	4.4	0.061	1.4	1.8	0.20	0.59	0.025
KYMT049	37.7926	82.4466	Martin	1.2	1.9	0.022	0.70	0.83	0.083	0.16	0.010
KYMT050	37.7837	82.4764	Martin	1.1	2.0	0.022	0.71	0.84	0.094	0.22	0.010
KYMT051	37.7579	82.5040	Martin	1.6	2.1	0.028	0.72	0.95	0.11	0.16	0.010
KYMT052	37.7237	82.5192	Martin	1.3	1.7	0.017	0.69	0.76	0.072	0.10	0.010
KYMT053	37.7016	82.5037	Martin	1.4	2.3	0.033	0.92	1.0	0.12	0.22	0.015
KYMT054	37.6922	82.4843	Martin	0.9	1.7	0.017	0.82	0.77	0.066	0.11	0.010
KYMT055	37.7354	82.5453	Martin	0.7	1.8	0.022	0.49	0.91	0.072	0.13	0.010
KYMT056	37.7045	82.5490	Martin	1.1	2.1	0.022	0.79	0.91	0.088	0.18	0.010
KYMT057	37.7113	82.5707	Martin	1.1	1.6	0.022	0.58	0.81	0.072	0.18	0.010
KYMT058	37.7082	82.5660	Martin	0.9	1.3	0.017	0.39	0.71	0.055	0.12	0.005
KYMT059	37.7384	82.5705	Martin	1.1	2.1	0.024	0.74	1.0	0.091	0.19	0.011
KYMT060	37.7322	82.5844	Martin	0.8	1.2	0.022	0.47	0.64	0.055	0.063	0.005
KYMN019F	37.9538	83.5359	Menifee	4.3	1.8	0.046	1.4	0.53	0.094	0.075	0.015
KYMN020F	37.9162	83.6099	Menifee	7.5	3.9	0.098	2.0	1.0	0.24	0.065	0.025
KYMN021F	37.9862	83.6293	Menifee	7.2	3.4	0.13	2.1	1.1	0.28	0.37	0.020
KYMN022F	37.9903	83.6708	Menifee	18	6.2	0.12	2.8	2.1	0.59	0.41	0.020
KYMN023F	37.9570	83.6547	Menifee	9.2	3.3	0.17	2.3	0.97	0.28	0.29	0.015
KYMN024F	37.9406	83.7139	Menifee	9.4	3.6	0.22	2.2	1.0	0.29	0.21	0.020
KYMN025F	37.9904	83.7204	Menifee	19	4.9	0.075	3.0	1.6	0.42	0.40	0.020
KYMN026F	37.9702	83.7665	Menifee	37	5.7	0.075	5.0	1.8	0.46	0.41	0.040

Sample #	Latitude	Longitude	County	As ppm	Al %	Ca %	Fe %	K%	Mg %	Na %	P %
KYMN027F	37.9278	83.7561	Menifee	10	3.0	0.098	1.8	0.89	0.24	0.25	0.015
KYMN028F	37.9154	83.6730	Menifee	8.2	2.7	2.0	2.0	0.76	0.24	0.17	0.020
KYMN029F	37.9614	83.7113	Menifee	12	3.6	0.12	2.4	1.2	0.33	0.34	0.020
KYOR035F	37.2500	83.8000	Morgan	3.6	2.9	0.041	1.4	0.97	0.12	0.44	0.020
KYOR037	37.9424	83.4305	Morgan	1.6	0.97	0.018	0.75	0.25	0.044	0.035	0.010
KYOR038	37.9080	83.3911	Morgan	5.8	3.1	0.50	2.4	0.85	0.18	0.29	0.030
KYOR039	37.9000	83.3583	Morgan	6.0	3.1	0.041	2.3	0.83	0.17	0.26	0.025
KYOR039F	37.9000	83.3583	Morgan	6.4	3.8	0.053	2.1	1.1	0.20	0.45	0.025
KYOR040	37.8851	83.4566	Morgan	2.4	1.7	0.030	1.2	0.48	0.072	0.10	0.020
KYOR041	37.8599	83.3946	Morgan	4.5	2.5	0.035	1.7	0.78	0.14	0.27	0.020
KYOR041F	37.8599	83.3946	Morgan	5.1	3.8	0.053	2.0	1.1	0.20	0.59	0.025
KYOR042	37.8227	83.3997	Morgan	3.9	2.4	0.035	1.5	0.78	0.13	0.25	0.015
KYOR042F	37.8227	83.3997	Morgan	4.4	3.8	0.059	1.9	1.1	0.21	0.59	0.025
KYOR043	37.8017	83.3440	Morgan	4.0	2.8	0.041	1.9	0.76	0.16	0.27	0.025
KYOR044	37.8099	83.2886	Morgan	3.0	2.5	0.030	1.4	0.68	0.12	0.16	0.015
KYOR045	37.7626	83.2846	Morgan	1.0	1.4	0.018	0.55	0.67	0.061	0.15	0.010
KYOR046	37.8107	83.2266	Morgan	2.4	2.4	0.041	1.0	0.81	0.13	0.41	0.015
KYOR047	37.8518	83.2463	Morgan	4.0	3.1	0.053	1.6	0.99	0.18	0.13	0.020
KYOR048	37.8945	83.2736	Morgan	7.2	6.0	0.12	3.1	1.7	0.43	0.21	0.040
KYOR048F	37.8945	83.2736	Morgan	5.7	6.6	0.12	2.8	1.8	0.46	0.26	0.040
KYOR049	37.9220	83.3055	Morgan	8.2	4.1	0.065	3.4	1.1	0.27	0.27	0.040
KYOR050	37.8573	83.2935	Morgan	4.3	2.8	0.053	1.8	0.84	0.17	0.14	0.020
KYOR051	37.8461	83.3521	Morgan	4.1	2.6	0.041	1.5	0.80	0.15	0.22	0.020
KYOS001	37.4787	83.6538	Owsley	16	5.2	0.47	4.4	1.4	0.39	0.34	0.050
KYOS002	37.5135	83.6418	Owsley	4.2	3.0	4.7	1.9	0.94	0.21	0.28	0.020
KYOS003	37.5188	83.6533	Owsley	11	5.1	1.4	3.3	1.5	0.39	0.32	0.040
KYOS004	37.4867	83.6092	Owsley	6.9	3.1	0.065	2.0	0.92	0.21	0.28	0.025
KYOS005	37.4752	83.6163	Owsley	4.5	3.8	0.089	2.8	1.1	0.25	0.33	0.035
KYOS006	37.4647	83.5555	Owsley	2.1	2.3	0.047	1.1	0.87	0.11	0.18	0.015

Sample #	Latitude	Longitude	County	As ppm	Al %	Ca %	Fe %	K%	Mg %	Na %	P %
KYOS007	37.4435	83.6043	Owsley	13.8	5.4	0.083	3.4	1.6	0.44	0.36	0.040
KYOS008	37.4335	83.5628	Owsley	3.7	2.2	0.64	1.4	0.72	0.12	0.32	0.020
KYOS009	37.4203	83.5897	Owsley	4.6	2.8	0.047	2.0	0.80	0.17	0.32	0.025
KYOS010	37.4127	83.5555	Owsley	2.9	2.7	0.10	1.4	0.90	0.14	0.30	0.020
KYOS011	37.4447	83.6420	Owsley	4.8	3.0	0.053	2.3	0.86	0.20	0.31	0.030
KYOS012	37.4176	83.6407	Owsley	6.9	3.4	0.065	2.5	0.93	0.24	0.32	0.030
KYOS013	37.5090	83.7343	Owsley	5.9	2.5	0.16	1.9	0.64	0.14	0.17	0.020
KYOS013F	37.5090	83.7343	Owsley	4.4	3.1	0.12	1.7	0.85	0.17	0.30	0.025
KYOS014	37.4694	83.7172	Owsley	12	3.9	0.077	4.3	0.97	0.23	0.20	0.040
KYOS015	37.4409	83.7246	Owsley	13	5.0	0.077	3.7	1.3	0.34	0.29	0.045
KYOS016	37.4347	83.7608	Owsley	11	4.3	0.32	3.8	1.1	0.30	0.17	0.045
KYOS017	37.4441	83.7898	Owsley	6.6	2.3	0.041	2.1	0.58	0.13	0.18	0.020
KYOS018	37.4693	83.7672	Owsley	11	3.1	0.10	3.4	0.80	0.17	0.13	0.035
KYOS018F	37.4693	83.7672	Owsley	4.8	2.9	0.078	1.9	0.80	0.15	0.19	0.020
KYOS019	37.3615	83.6345	Owsley	6.4	3.7	0.11	2.0	1.1	0.25	0.23	0.030
KYOS020	37.3491	83.6276	Owsley	2.1	1.8	0.035	1.2	0.54	0.11	0.21	0.015
KYOS021	37.3331	83.6121	Owsley	2.7	2.6	0.077	1.4	0.81	0.15	0.36	0.020
KYOS022	37.3120	83.5907	Owsley	2.8	2.3	0.11	1.4	0.67	0.14	0.23	0.015
KYOS023	37.3090	83.5765	Owsley	7.6	3.7	0.053	2.1	1.1	0.23	0.26	0.020
KYOS024	37.3628	83.6089	Owsley	11	3.9	0.68	4.6	1.0	0.29	0.28	0.045
KYOS025	37.3678	83.5708	Owsley	4.9	2.9	0.047	1.6	0.85	0.19	0.24	0.020
KYOS026	37.3501	83.5723	Owsley	2.4	2.2	0.030	1.3	0.68	0.12	0.20	0.015
KYOS026F	37.3501	83.5723	Owsley	3.8	3.6	0.050	1.8	1.1	0.22	0.40	0.025
KYOS027	37.4185	83.6655	Owsley	6.8	3.7	0.70	2.6	0.94	0.22	0.15	0.030
KYOS028	37.4082	83.7144	Owsley	5.5	3.2	6.6	2.9	0.84	0.24	0.24	0.035
KYOS029	37.3757	83.6948	Owsley	2.7	1.5	0.76	1.2	0.45	0.094	0.13	0.010
KYOS030	37.3882	83.7294	Owsley	9.5	5.3	0.11	3.7	1.4	0.41	0.28	0.045
KYOS031	37.4083	83.7723	Owsley	12	5.1	0.089	4.1	1.3	0.37	0.23	0.049
KYOS032	37.4715	83.7973	Owsley	14	7.0	0.11	4.0	1.8	0.52	0.17	0.050

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KYOS032F	37.4715	83.7973	Owsley	7.0	3.0	0.050	1.4	0.81	0.22	0.10	0.020
KYOS033	37.4098	83.8005	Owsley	12	3.7	5.9	5.9	0.85	0.25	0.11	0.055
KYOS034	37.4376	83.8291	Owsley	8.9	6.3	0.095	3.4	1.6	0.35	0.18	0.045
KYOS035	37.3704	83.7927	Owsley	7.9	4.6	0.062	3.6	1.2	0.28	0.20	0.035
KYOS036	37.3678	83.7394	Owsley	11	3.2	1.1	5.2	0.80	0.23	0.16	0.045
KYOS037	37.3711	83.7656	Owsley	8.4	4.0	0.35	3.4	1.1	0.27	0.26	0.045
KYOS038	37.4776	83.6853	Owsley	13	5.0	0.078	7.0	1.2	0.32	0.19	0.070
KYOS039	37.4962	83.6928	Owsley	13	6.1	0.71	5.3	1.6	0.45	0.22	0.055
KYOS040	37.4380	83.6844	Owsley	15	7.4	0.13	5.0	2.0	0.60	0.35	0.060
KYOS041	37.3610	83.6959	Owsley	6.2	4.0	0.095	2.7	1.1	0.28	0.31	0.050
KYOS042	37.3560	83.7179	Owsley	5.3	2.7	0.034	2.2	0.77	0.15	0.16	0.020
KYOS043	37.3572	83.7692	Owsley	9.9	5.7	0.22	4.1	1.5	0.39	0.24	0.050
KYOS044	37.2736	83.5284	Owsley	1.7	1.3	0.022	0.74	0.48	0.055	0.05	0.010
KYOS044F	37.2736	83.5284	Owsley	2.6	2.9	0.062	1.4	1.1	0.14	0.20	0.020
KYOS045	37.2803	83.5572	Owsley	1.9	2.1	0.050	1.5	0.61	0.12	0.21	0.015
KYOS046	37.4865	83.8591	Owsley	8.1	1.8	0.40	2.9	0.34	0.083	0.020	0.020
KYPR001	37.3447	83.4840	Perry	7.4	3.8	0.078	2.7	1.1	0.27	0.17	0.030
KYPR002	37.3236	83.5311	Perry	2.2	1.5	0.022	1.2	0.42	0.077	0.055	0.015
KYPR003	37.2968	83.5360	Perry	4.4	1.5	0.017	0.94	0.51	0.072	0.050	0.010
KYPR004	37.3080	83.4975	Perry	3.5	3.1	0.12	2.3	0.92	0.28	0.27	0.030
KYPR005	37.3412	83.4434	Perry	7.8	4.7	1.6	3.0	1.4	0.35	0.30	0.035
KYPR006	37.3628	83.4620	Perry	5.2	5.2	0.11	2.6	1.5	0.37	0.26	0.030
KYPR007	37.2796	83.5055	Perry	1.2	0.84	0.017	0.50	0.29	0.039	0.035	0.005
KYPR008	37.2629	83.4913	Perry	1.1	0.87	0.017	0.42	0.35	0.033	0.035	0.005
KYPR009	37.3032	83.4418	Perry	2.4	2.5	0.062	1.3	0.76	0.15	0.15	0.020
KYPR010	37.3174	83.4220	Perry	3.1	2.3	0.045	1.4	0.77	0.14	0.19	0.015
KYPR011	37.3181	83.3456	Perry	3.2	2.4	0.045	1.9	0.74	0.15	0.11	0.020
KYPR012	37.3611	83.3401	Perry	2.5	1.7	0.022	1.1	0.61	0.083	0.10	0.010
KYPR013	37.3121	83.3918	Perry	1.5	1.2	0.022	0.57	0.51	0.050	0.08	0.005

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KYPR014	37.3023	83.3681	Perry	2.9	2.3	0.028	1.5	0.80	0.14	0.16	0.015
KYPR015	37.2920	83.3439	Perry	2.1	1.9	0.034	1.1	0.62	0.11	0.10	0.015
KYPR016	37.2720	83.3214	Perry	4.2	2.2	1.2	1.6	0.72	0.14	0.10	0.020
KYPR017	37.2661	83.2974	Perry	1.8	1.6	0.022	0.78	0.64	0.083	0.10	0.010
KYPR018	37.2512	83.2761	Perry	4.9	2.4	0.056	1.6	0.81	0.18	0.13	0.020
KYPR019	37.2372	83.3150	Perry	2.4	1.9	0.045	1.1	0.77	0.11	0.17	0.015
KYPR020	37.2674	83.2525	Perry	5.7	5.1	0.33	2.8	1.5	0.38	0.25	0.035
KYPR021	37.2073	83.2736	Perry	2.5	2.1	0.028	1.1	0.84	0.12	0.12	0.015
KYPR022	37.2299	83.2545	Perry	3.5	1.9	0.51	1.4	0.62	0.14	0.10	0.015
KYPR023	37.2019	83.2412	Perry	2.7	2.0	0.062	1.1	0.71	0.13	0.12	0.015
KYPR024	37.1950	83.2095	Perry	3.1	1.8	2.5	1.2	0.7	0.12	0.10	0.010
KYPR025	37.2431	83.2268	Perry	3.4	1.8	0.60	1.3	0.62	0.11	0.07	0.015
KYPR026	37.2139	83.2137	Perry	3.7	2.0	0.028	6.5	0.85	0.12	0.11	0.020
KYPR027	37.2566	83.2139	Perry	4.5	4.7	0.090	2.2	1.5	0.34	0.28	0.030
KYPR028	37.2908	83.2246	Perry	5.0	2.8	0.067	1.6	1.0	0.19	0.15	0.025
KYPR029	37.2874	83.2586	Perry	2.1	2.0	0.017	1.2	0.71	0.099	0.10	0.015
KYPR030	37.3079	83.2930	Perry	4.5	2.7	0.86	1.9	0.84	0.18	0.20	0.025
KYPR031	37.3118	83.2406	Perry	2.4	2.0	0.039	1.2	0.74	0.099	0.085	0.015
KYPR032	37.3240	83.3070	Perry	2.8	2.7	0.039	1.5	0.95	0.14	0.17	0.015
KYPR033	37.3846	83.2812	Perry	4.7	3.2	0.056	1.7	1.1	0.19	0.20	0.025
KYPR034	37.3826	83.2699	Perry	5.9	3.8	0.084	2.3	1.3	0.27	0.19	0.030
KYPR035	37.3912	83.2443	Perry	2.3	1.7	0.022	0.79	0.73	0.083	0.10	0.010
KYPR036	37.3772	83.2412	Perry	3.9	2.3	0.045	1.5	0.84	0.14	0.090	0.015
KYPR037	37.3453	83.2397	Perry	4.4	2.6	0.050	2.6	0.76	0.13	0.080	0.015
KYPR038	37.3455	83.2139	Perry	9.9	11	0.073	5.4	1.7	0.35	0.11	0.045
KYPR039	37.3280	83.2206	Perry	3.8	2.9	0.056	1.4	0.97	0.15	0.11	0.015
KYPR040	37.3966	83.2317	Perry	3.3	4.1	0.202	1.8	1.5	0.24	0.20	0.020
KYPR041	37.4266	83.2172	Perry	3.0	2.3	0.034	1.2	0.9	0.13	0.17	0.015
KYPR042	37.4049	83.1993	Perry	3.0	2.2	0.028	1.3	0.82	0.12	0.14	0.015

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KYPR043	37.3958	83.1735	Perry	4.5	2.7	0.078	1.6	0.96	0.18	0.15	0.015
KYPR044	37.3731	83.1855	Perry	3.2	2.3	0.022	1.6	0.79	0.13	0.13	0.015
KYPR045	37.3964	83.1320	Perry	4.3	3.2	0.073	2.2	1.1	0.23	0.10	0.025
KYPR046	37.3542	83.1477	Perry	3.5	4.9	0.12	2.1	1.6	0.36	0.19	0.030
KYPR047	37.3496	83.1290	Perry	2.6	2.1	0.017	1.4	0.69	0.12	0.090	0.015
KYPR048	37.3118	83.1217	Perry	4.4	2.4	0.034	2.2	0.82	0.13	0.070	0.020
KYPR049	37.3056	83.1426	Perry	3.9	2.6	0.056	1.6	0.94	0.15	0.10	0.015
KYPR050	37.3257	83.1901	Perry	1.7	1.3	0.11	0.72	0.59	0.061	0.055	0.010
KYPR051	37.3348	83.1781	Perry	5.5	4.8	0.11	2.3	1.5	0.35	0.14	0.030
KYPR052	37.3029	83.1761	Perry	2.9	2.4	0.045	1.2	0.95	0.14	0.15	0.015
KYPR053	37.2726	83.1575	Perry	1.8	1.4	0.022	0.63	0.64	0.066	0.060	0.010
KYPR054	37.2524	83.1331	Perry	6.0	2.6	0.062	1.8	0.96	0.18	0.090	0.025
KYPR055	37.2510	83.1617	Perry	7.0	2.1	0.15	1.5	0.89	0.15	0.10	0.020
KYPR056	37.2134	83.1175	Perry	4.3	3.3	0.078	2.0	1.0	0.23	0.26	0.025
KYPR057	37.2063	83.0884	Perry	20	5.9	0.11	4.3	1.7	0.44	0.33	0.035
KYPR060	37.1924	83.0262	Perry	5.1	4.4	0.056	3.0	1.3	0.27	0.23	0.025
KYPR061	37.1710	83.0557	Perry	4.8	3.4	0.039	2.1	1.2	0.22	0.16	0.025
KYPR062	37.1777	83.0709	Perry	3.0	2.6	0.039	1.3	0.92	0.16	0.17	0.015
KYPR063	37.1743	83.1119	Perry	3.4	2.3	0.028	1.4	0.70	0.15	0.13	0.015
KYPR064	37.1726	83.1755	Perry	4.8	2.6	0.017	2.7	1.1	0.16	0.10	0.025
KYPR065	37.1625	83.1919	Perry	3.5	2.4	0.066	1.2	0.86	0.15	0.10	0.015
KYPR066	37.1342	83.2043	Perry	3.3	2.9	0.055	1.4	1.0	0.19	0.14	0.015
KYPR067	37.1565	83.1470	Perry	3.8	2.1	0.16	1.1	0.77	0.12	0.090	0.015
KYPR068	37.1437	83.1684	Perry	2.0	1.3	0.022	0.69	0.46	0.072	0.065	0.010
KYPR069	37.1178	83.1484	Perry	2.4	1.8	0.022	0.75	0.70	0.094	0.11	0.010
KYPR070	37.1879	83.1635	Perry	5.3	2.0	0.055	1.3	0.80	0.12	0.075	0.020
KYPR071	37.1328	83.0997	Perry	3.8	4.2	0.072	2.2	1.3	0.31	0.33	0.025
KYPR072	37.1437	83.0540	Perry	5.2	3.0	0.044	2.1	0.88	0.20	0.20	0.020
KYPR073	37.1007	83.0580	Perry	6.7	5.7	0.12	2.8	1.7	0.44	0.35	0.030

Sample #	Latitude	Longitude	County	As ppm	Al %	Ca %	Fe %	K%	Mg %	Na %	P %
KYPR074	37.0773	83.0558	Perry	5.9	6.4	0.18	3.0	1.9	0.51	0.40	0.040
KYPR075	37.0591	83.0744	Perry	3.0	1.9	0.028	0.96	0.75	0.11	0.04	0.010
KYPR076	37.1158	83.1066	Perry	4.7	3.3	0.055	1.7	1.1	0.22	0.24	0.020
KYPR077	37.0961	83.0862	Perry	2.5	2.9	0.050	1.3	1.1	0.19	0.23	0.015
KYPR078	37.0569	83.1060	Perry	2.2	2.1	0.033	1.1	0.77	0.11	0.070	0.015
KYPR079	37.0888	83.1306	Perry	2.6	2.2	0.033	1.1	0.84	0.13	0.14	0.015
KYPR080	37.0747	83.1433	Perry	3.1	2.4	0.033	1.4	0.79	0.15	0.060	0.015
KYPR081	37.0486	83.1619	Perry	2.1	1.4	0.16	0.75	0.57	0.066	0.040	0.010
KYPR082	37.0359	83.1340	Perry	3.1	4.0	0.099	1.7	1.3	0.26	0.10	0.020
KYPR083	37.0155	83.1122	Perry	2.1	1.6	0.028	0.68	0.5	0.072	0.025	0.010
KYPR084	37.0325	83.0840	Perry	2.4	1.7	0.094	0.87	0.59	0.083	0.030	0.010
KYPR085	37.2260	83.1164	Perry	5.1	1.7	0.044	1.2	0.59	0.094	0.060	0.015
KYPR086	37.1477	83.1119	Perry	3.2	3.1	0.039	1.4	1.2	0.17	0.19	0.015
KYPR088			Perry	4.3	2.6	0.039	1.4	0.76	0.15	0.16	0.015
KYPI001	37.5571	82.5439	Pike	3.6	3.0	0.088	1.3	1.2	0.16	0.46	0.015
KYPI002	37.6609	82.5827	Pike	4.2	2.7	0.34	1.3	1.1	0.17	0.26	0.020
KYPI003	37.6443	82.5729	Pike	2.4	2.0	0.022	0.89	0.92	0.09	0.19	0.010
KYPI004	37.6214	82.5092	Pike	2.7	2.7	0.033	1.4	1.0	0.16	0.33	0.015
KYPI004F	37.6214	82.5092	Pike	3.3	5.3	0.091	2.3	1.6	0.33	1.0	0.030
KYPI005	37.5836	82.4714	Pike	3.4	2.9	0.044	1.1	1.2	0.16	0.48	0.015
KYPI006	37.6126	82.4974	Pike	2.5	3.2	0.039	1.4	1.2	0.17	0.31	0.015
KYPI007	37.6131	82.5525	Pike	2.0	2.2	0.033	0.88	0.90	0.11	0.29	0.015
KYPI008	37.5916	82.5278	Pike	2.4	2.4	0.033	0.92	1.0	0.12	0.33	0.015
KYPI009	37.5833	82.5480	Pike	1.9	2.0	0.039	0.90	0.84	0.099	0.26	0.010
KYPI010	37.6225	82.4075	Pike	2.4	2.7	0.055	1.1	1.1	0.15	0.21	0.015
KYPI011	37.6411	82.4360	Pike	3.1	2.7	0.061	1.2	0.97	0.15	0.18	0.015
KYPI012	37.6696	82.4458	Pike	2.3	1.9	0.022	0.78	0.79	0.10	0.14	0.010
KYPI013	37.6551	82.4916	Pike	1.4	2.2	0.028	0.78	0.90	0.11	0.27	0.010
KYPI014	37.6670	82.5210	Pike	2.7	2.9	0.050	1.1	1.2	0.17	0.37	0.015

Sample #	Latitude	Longitude	County	As ppm	Al %	Ca %	Fe %	K%	Mg %	Na %	P %
KYPI015	37.6799	82.5632	Pike	2.0	2.2	0.033	0.99	0.94	0.12	0.31	0.010
KYPI016	37.6287	82.3447	Pike	3.2	2.7	0.039	1.1	1.0	0.15	0.31	0.015
KYPI017	37.6495	82.3644	Pike	2.3	2.5	0.028	1.0	1.0	0.14	0.26	0.010
KYPI018	37.7204	82.3395	Pike	10	3.2	1.4	1.5	1.1	0.24	0.34	0.015
KYPI018F	37.7204	82.3395	Pike	11	5.0	1.4	2.5	1.5	0.40	0.78	0.025
KYPI019	37.7285	82.3649	Pike	3.4	1.8	0.094	0.75	0.84	0.11	0.15	0.010
KYPI019F	37.7285	82.3649	Pike	4.6	4.0	0.080	1.7	1.6	0.20	0.57	0.025
KYPI020	37.6488	82.3311	Pike	3.6	3.0	0.050	1.4	1.1	0.17	0.21	0.015
KYPI021	37.6743	82.3416	Pike	3.7	3.3	0.055	1.3	1.1	0.20	0.45	0.020
KYPI022	37.6102	82.3765	Pike	2.4	2.3	0.072	0.89	0.96	0.12	0.19	0.015
KYPI023	37.5446	82.4422	Pike	2.9	2.8	0.044	1.2	1.0	0.16	0.42	0.015
KYPI024	37.4834	82.3538	Pike	3.3	3.1	0.044	1.4	1.0	0.19	0.37	0.015
KYPI025	37.4454	82.3577	Pike	6.6	4.2	1.4	2.0	1.3	0.42	0.41	0.025
KYPI046F	37.5501	82.4931	Pike	3.9	4.3	0.10	1.8	1.4	0.23	1.0	0.025
KYPI066	37.5485	82.5922	Pike	6.4	5.1	0.12	2.3	1.5	0.36	0.30	0.025
KYPI067	37.5458	82.5745	Pike	3.0	2.1	0.044	1.0	0.82	0.12	0.29	0.015
KYPI068	37.5433	82.5206	Pike	3.1	2.6	0.33	1.4	0.96	0.20	0.35	0.015
KYPI069	37.5200	82.5537	Pike	5.6	4.3	0.099	2.6	1.4	0.33	0.46	0.030
KYPI070	37.4603	82.5111	Pike	3.2	2.7	0.64	1.6	0.90	0.22	0.29	0.020
KYPI071	37.5148	82.4798	Pike	4.2	2.7	0.79	1.4	0.99	0.18	0.35	0.015
KYPI072	37.4822	82.4628	Pike	2.0	2.9	0.22	1.1	1.1	0.17	0.46	0.015
KYPI073	37.5278	82.4852	Pike	2.4	2.8	0.24	1.3	1.0	0.16	0.43	0.015
KYPI074	37.4892	82.4156	Pike	2.9	2.8	0.15	1.2	1.0	0.17	0.45	0.015
KYPI075	37.4498	82.4114	Pike	4.0	3.1	0.14	1.7	1.1	0.20	0.39	0.020
KYPI076	37.4998	82.4354	Pike	3.2	3.2	0.061	1.5	1.1	0.19	0.45	0.020
KYPI077	37.4346	82.4685	Pike	4.5	3.3	0.23	2.0	1.0	0.22	0.34	0.025
KYPI078	37.4314	82.4485	Pike	4.9	3.3	0.077	2.1	1.0	0.23	0.35	0.020
KYPI079	37.4049	82.3851	Pike	3.8	3.0	0.066	2.0	0.91	0.20	0.29	0.020
KYPI080	37.3976	82.4322	Pike	3.7	3.3	0.12	2.5	0.96	0.23	0.32	0.030

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KYPI081	37.3780	82.4315	Pike	4.8	3.3	0.088	2.5	1.0	0.23	0.32	0.030
KYPI082	37.3536	82.4265	Pike	4.7	2.6	0.12	1.4	0.84	0.17	0.26	0.015
KYPI083	37.3799	82.3923	Pike	4.6	3.1	0.11	1.9	0.95	0.21	0.32	0.020
KYPI084	37.3649	82.3669	Pike	33	6.1	0.15	2.5	1.7	0.39	0.27	0.025
KYPI085	37.4307	82.2715	Pike	3.3	3.3	0.666	1.8	1.0	0.25	0.41	0.025
KYPI086	37.3962	82.2400	Pike	3.2	3.2	0.077	1.7	0.99	0.22	0.36	0.020
KYPI087	37.3446	82.2575	Pike	4.4	2.8	0.11	1.4	0.90	0.17	0.30	0.015
KYPI088	37.3659	82.2160	Pike	6.4	3.5	0.066	2.2	1.0	0.23	0.30	0.025
KYPI089	37.3654	82.2627	Pike	6.5	3.9	0.22	2.3	1.2	0.27	0.30	0.020
KYPI090	37.3892	82.3058	Pike	6.4	3.2	0.40	2.1	0.93	0.24	0.28	0.023
KYPI091	37.3750	82.3228	Pike	3.6	2.9	0.16	2.0	0.87	0.18	0.22	0.025
KYPI092	37.4200	82.5462	Pike	4.6	3.9	0.077	2.4	1.2	0.27	0.44	0.025
KYPI093	37.4039	82.5376	Pike	5.0	3.3	0.061	2.4	0.95	0.23	0.31	0.025
KYPI094	37.3682	82.5160	Pike	2.5	2.4	0.083	1.5	0.80	0.15	0.29	0.015
KYPI095	37.3615	82.5330	Pike	2.8	4.0	0.099	2.0	1.4	0.27	0.57	0.025
KYPI096	37.3709	82.6300	Pike	7.5	4.1	0.083	2.6	1.3	0.28	0.40	0.030
KYPI097	37.3688	82.6534	Pike	10	3.4	0.16	2.7	1.1	0.24	0.28	0.020
KYPI098	37.2961	82.6820	Pike	3.1	3.5	0.055	2.0	1.2	0.25	0.34	0.015
KYPI099	37.3003	82.6903	Pike	2.0	3.0	0.044	1.3	1.1	0.17	0.40	0.015
KYPI100	37.2755	82.7122	Pike	1.7	2.6	0.044	1.2	0.92	0.14	0.36	0.015
KYPI101	37.2596	82.7224	Pike	2.5	3.6	0.055	2.1	1.1	0.22	0.38	0.025
KYPI102	37.2486	82.6681	Pike	2.5	3.0	0.05	1.5	1.0	0.18	0.48	0.015
KYPI103	37.2623	82.6543	Pike	4.3	3.8	0.077	2.4	1.1	0.27	0.40	0.025
KYPI104	37.2945	82.6474	Pike	1.9	2.7	0.1	1.3	0.93	0.17	0.41	0.015
KYPI105	37.3231	82.5989	Pike	2.6	2.7	0.039	1.5	0.91	0.17	0.30	0.015
KYPI106	37.3458	82.6538	Pike	2.1	2.4	0.044	1.2	0.92	0.13	0.37	0.015
KYPI107	37.3353	82.6545	Pike	1.6	2.0	0.039	0.9	0.83	0.11	0.30	0.010
KYPI108	37.2021	82.5850	Pike	1.6	2.3	0.138	1.1	0.87	0.14	0.27	0.015
KYPI109	37.2186	82.5964	Pike	1.5	2.3	0.32	1.1	0.86	0.14	0.29	0.015

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KYPI110	37.2475	82.5544	Pike	4.5	2.5	0.12	1.3	0.90	0.15	0.35	0.015
KYPI111	37.2571	82.5519	Pike	2.2	2.8	0.1	1.4	0.99	0.15	0.40	0.020
KYPI112	37.2851	82.5719	Pike	1.8	2.2	0.12	1.1	0.79	0.13	0.34	0.015
KYPI113	37.2754	82.6163	Pike	4.2	3.3	0.066	1.6	1.1	0.22	0.47	0.020
KYPI114	37.3992	82.5914	Pike	12	3.9	0.1	2.5	1.2	0.26	0.28	0.020
KYPI115	37.2484	82.6180	Pike	3.5	3.9	0.11	2.9	1.3	0.24	0.51	0.030
KYPI116	37.2632	82.6207	Pike	2.4	2.3	0.061	1.5	0.77	0.15	0.29	0.015
KYPI117	37.3059	82.5826	Pike	2.4	2.9	0.072	1.5	0.99	0.19	0.31	0.020
KYPI118	37.3817	82.5562	Pike	3.2	3.4	0.099	2.2	1.1	0.23	0.43	0.020
KYPI119	37.3478	82.5698	Pike	4.8	3.6	0.12	3.9	1.1	0.26	0.30	0.030
KYPI120	37.3193	82.5692	Pike	1.9	2.0	0.044	1.1	0.70	0.12	0.23	0.015
KYPI121	37.3947	82.4806	Pike	3.0	3.9	0.061	2.2	1.2	0.26	0.43	0.025
KYPI122	37.3232	82.3108	Pike	3.5	2.5	0.051	1.6	0.78	0.15	0.21	0.018
KYPI123	37.3161	82.3308	Pike	28	3.4	0.088	2.4	1.0	0.23	0.24	0.020
KYPI124	37.3360	82.3181	Pike	37	3.6	0.15	2.8	1.1	0.24	0.19	0.020
KYPI125	37.3460	82.3574	Pike	4.1	3.7	3.7	1.9	1.1	0.37	0.42	0.030
KYPI126	37.3202	82.4087	Pike	2.4	2.4	0.14	1.3	0.80	0.15	0.26	0.015
KYPI127	37.2952	82.4153	Pike	3.0	3.1	0.061	1.5	1.0	0.20	0.28	0.015
KYPI128	37.6819	82.4958	Pike	2.4	2.7	0.1	1.2	1.1	0.15	0.31	0.015
KYPI129	37.6828	82.5412	Pike	1.4	2.4	0.033	0.9	1.0	0.12	0.25	0.010
KYPI130	37.6641	82.5446	Pike	1.9	1.5	0.039	0.8	0.63	0.08	0.16	0.010
KYPI131	37.5776	82.3033	Pike	2.6	3.1	0.072	1.3	1.0	0.18	0.46	0.015
KYPI132	37.5853	82.3447	Pike	2.5	3.1	0.055	1.4	1.2	0.17	0.43	0.020
KYPI133	37.5246	82.2931	Pike	2.7	3.0	0.16	1.3	1.1	0.17	0.37	0.015
KYPI134	37.5384	82.2666	Pike	2.8	2.8	0.044	1.2	0.96	0.16	0.40	0.015
KYPI135	37.5514	82.2219	Pike	3.5	3.3	1.5	1.6	1.0	0.25	0.23	0.015
KYPI136	37.5262	82.2359	Pike	3.2	3.8	0.061	1.6	1.2	0.22	0.44	0.020
KYPI137	37.5301	82.1957	Pike	2.4	2.9	0.055	1.4	0.99	0.17	0.34	0.015
KYPI138	37.5761	82.1690	Pike	4.2	3.2	0.039	1.8	1.1	0.20	0.29	0.015

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KYPI139	37.6053	82.2630	Pike	3.1	2.7	0.066	1.5	0.85	0.17	0.25	0.020
KYPI140	37.6163	82.2230	Pike	3.0	3.0	0.066	1.4	0.98	0.17	0.37	0.025
KYPI141	37.3180	82.5346	Pike	2.5	2.8	0.083	1.4	1.0	0.17	0.40	0.015
KYPI142	37.3220	82.4952	Pike	2.6	2.6	0.20	1.2	0.89	0.17	0.34	0.015
KYPI143	37.2848	82.5199	Pike	2.5	2.3	0.25	1.5	0.74	0.17	0.24	0.015
KYPI144	37.2925	82.4938	Pike	2.6	2.5	0.083	1.3	0.82	0.15	0.31	0.015
KYPI145	37.3381	82.4640	Pike	1.4	1.9	0.033	0.92	0.68	0.11	0.22	0.010
KYPI146	37.3320	82.4781	Pike	1.8	2.1	0.15	1.2	0.71	0.12	0.23	0.015
KYPI147	37.6355	82.4534	Pike	1.3	2.3	0.033	0.95	0.96	0.12	0.20	0.015
KYPI148	37.6016	82.4266	Pike	3.2	3.8	0.072	2.0	1.2	0.25	0.14	0.020
KYPI149	37.6151	82.3181	Pike	9.5	4.6	0.061	2.7	1.4	0.26	0.47	0.025
KYPI150	37.6835	82.3646	Pike	1.7	2.7	0.050	1.1	1.1	0.15	0.26	0.015
KYPI151	37.6387	82.2259	Pike	3.5	3.2	0.072	1.5	1.1	0.20	0.38	0.020
KYPI152	37.6524	82.2373	Pike	8.4	5.2	0.061	3.0	1.6	0.35	0.50	0.030
KYPI153	37.7033	82.3120	Pike	13	3.8	0.033	2.0	1.3	0.22	0.37	0.020
KYPI154	37.5910	82.2109	Pike	1.8	2.3	0.033	0.94	0.87	0.12	0.30	0.010
KYPI155	37.5727	82.2412	Pike	2.0	2.9	0.055	1.1	1.0	0.15	0.32	0.015
KYPI156	37.7347	82.3322	Pike	5.5	2.6	0.033	1.2	1.0	0.14	0.22	0.010
KYPI157	37.6321	82.2679	Pike	7.9	4.2	0.12	2.0	1.3	0.28	0.34	0.020
KYPI158	37.6226	82.2774	Pike	3.7	3.3	0.23	1.7	1.1	0.23	0.31	0.020
KYPI159	37.5867	82.1529	Pike	4.4	3.2	0.044	1.9	1.0	0.21	0.30	0.020
KYPI160	37.6052	82.1873	Pike	5.8	4.4	0.072	2.2	1.4	0.28	0.47	0.025
KYPI161	37.2359	82.5197	Pike	3.5	3.2	2.5	1.5	1.0	0.31	0.34	0.019
KYPI162	37.2516	82.4958	Pike	4.1	3.9	0.59	1.9	1.2	0.28	0.47	0.020
KYPI163	37.2525	82.4532	Pike	7.7	3.0	0.25	1.7	0.92	0.19	0.34	0.020
KYPI164	37.2735	82.4497	Pike	2.4	3.0	0.34	1.6	0.99	0.20	0.40	0.020
KYPI165	37.2498	82.4329	Pike	4.7	2.3	0.46	1.6	0.68	0.16	0.25	0.015
KYPI166	37.2793	82.3960	Pike	1.7	2.4	0.34	1.1	0.81	0.14	0.29	0.010
KYPI167	37.2758	82.3690	Pike	7.8	1.7	6.5	1.6	0.51	0.32	0.07	0.010

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KYPI168	37.2979	82.3837	Pike	1.9	2.2	1.4	1.3	0.74	0.17	0.29	0.015
KYPI169	37.4236	82.5188	Pike	4.4	3.6	0.068	2.1	1.2	0.23	0.34	0.025
KYPI170	37.4540	82.4525	Pike	4.2	4.9	0.17	2.6	1.5	0.42	0.50	0.035
KYPI171	37.4581	82.3864	Pike	3.3	3.5	0.47	1.8	1.1	0.24	0.50	0.020
KYPI172	37.5669	82.1551	Pike	7.0	5.5	0.046	2.7	1.6	0.34	0.47	0.025
KYPI173	37.4495	82.1388	Pike	2.2	3.7	0.063	1.5	1.2	0.22	0.59	0.015
KYPI174	37.2154	82.5682	Pike	2.3	3.3	0.90	1.6	1.1	0.22	0.43	0.020
KYPI175	37.4438	82.5444	Pike	1.6	2.4	0.086	1.0	0.97	0.12	0.27	0.015
KYPI176	37.5066	82.5212	Pike	4.6	3.7	0.10	2.0	1.1	0.24	0.43	0.025
KYPO001	37.8438	83.6960	Powell	2.0	1.0	0.034	0.7	0.29	0.072	0.06	0.010
KYPO002	37.8570	83.7331	Powell	5.8	1.6	0.057	1.6	0.44	0.12	0.13	0.010
KYPO004	37.8812	83.7915	Powell	16	2.9	0.086	2.4	0.89	0.28	0.21	0.015
KYPO005	37.8678	83.8449	Powell	18	2.9	0.41	2.8	0.92	0.22	0.16	0.015
KYPO006	37.8591	83.8090	Powell	13	2.0	0.103	1.6	0.62	0.18	0.16	0.010
KYPO007	37.8728	83.7651	Powell	12	2.4	0.23	2.1	0.72	0.22	0.18	0.010
KYPO008	37.8904	83.8611	Powell	28	5.6	0.40	3.8	1.8	0.56	0.32	0.020
KYPO009	37.8858	83.8833	Powell	57	7.0	1.2	5.8	2.2	0.66	0.36	0.035
KYPO010	37.8646	83.8927	Powell	80	6.7	0.13	7.0	2.4	0.56	0.27	0.060
KYPO011	37.8999	83.9239	Powell	9.4	2.0	0.33	1.5	0.60	0.17	0.15	0.010
KYPO011F	37.8999	83.9239	Powell	9.4	3.6	0.22	1.9	1.2	0.31	0.38	0.015
KYPO012	37.8565	83.9799	Powell	89	7.0	1.0	10.2	2.1	0.82	0.12	0.13
KYPO013	37.8851	83.9874	Powell	56	7.8	0.33	6.9	2.3	0.57	0.14	0.090
KYPO014	37.9172	83.9725	Powell	56	6.4	0.029	8.9	2.0	0.42	0.14	0.10
KYPO015	37.9113	83.9439	Powell	42	3.9	0.051	3.3	1.3	0.37	0.25	0.015
KYPO016	37.8265	83.9330	Powell	98	6.6	0.04	10	1.9	0.43	0.12	0.15
KYPO016F	37.8265	83.9330	Powell	46	5.5	0.046	4.7	1.9	0.37	0.14	0.080
KYPO017	37.8101	83.9477	Powell	38	5.4	0.24	4.8	1.7	0.42	0.22	0.040
KYPO018	37.7857	83.8833	Powell	11	1.8	0.091	1.7	0.54	0.14	0.16	0.015
KYPO019	37.7704	83.8506	Powell	4.8	2.2	0.24	1.5	0.66	0.20	0.12	0.015

Sample #	Latitude	Longitude	County	As ppm	Al %	Ca %	Fe %	K%	Mg %	Na %	P %
KYPO020	37.8029	83.8611	Powell	7.3	3.3	0.57	2.1	1.0	0.31	0.22	0.015
KYPO020F	37.8029	83.8611	Powell	8.6	5.4	0.41	2.8	1.8	0.52	0.44	0.020
KYPO021	37.8281	83.8609	Powell	40	8.4	1.3	5.6	2.7	0.78	0.38	0.040
KYPO022	37.8310	83.8166	Powell	40	8.0	0.057	5.4	2.6	0.72	0.39	0.030
KYPO023	37.7965	83.7978	Powell	2.2	0.91	0.28	0.75	0.21	0.072	0.05	0.005
KYPO023F	37.7965	83.7978	Powell	5.9	3.5	0.37	2.1	1.1	0.27	0.33	0.020
KYPO024	37.7728	83.7922	Powell	4.0	1.6	0.080	1.3	0.29	0.094	0.05	0.010
KYPO025	37.7686	83.7804	Powell	0.8	0.46	0.029	0.22	0.15	0.022	0.02	0.005
KYPO026	37.8168	83.7741	Powell	3.3	1.6	18	1.1	0.51	0.25	0.11	0.015
KYPO026F	37.8168	83.7741	Powell	5.1	3.1	16	1.9	1.1	0.40	0.24	0.020
KYPO027	37.8068	83.7666	Powell	1.8	1.2	0.37	1.0	0.3	0.099	0.07	0.010
KYPO028	37.8310	83.7278	Powell	8.7	2.7	0.43	2.0	0.77	0.23	0.20	0.015
KYPO029	37.8164	83.6894	Powell	0.8	0.46	0.023	0.24	0.14	0.022	0.01	0.005
KYPO030	37.7874	83.7328	Powell	5.6	2.3	0.14	1.8	0.66	0.19	0.18	0.010
KYPO031	37.7619	83.7376	Powell	4.6	3.0	2.9	1.9	1.0	0.97	0.21	0.025
KYWH001	36.7496	84.2058	Whitley	5.7	5.8	0.051	2.4	1.3	0.28	0.13	0.020
KYWH002	36.7346	84.2224	Whitley	2.6	2.1	0.063	1.4	0.50	0.099	0.14	0.020
KYWH003	36.7046	84.2824	Whitley	4.0	2.4	0.040	1.9	0.60	0.12	0.18	0.025
KYWH004	36.7187	84.1743	Whitley	5.2	5.2	0.068	2.2	1.3	0.31	0.11	0.025
KYWH005	36.7429	84.2829	Whitley	1.0	1.2	0.023	0.51	0.30	0.1	0.074	0.005
KYWH006	36.6856	84.2312	Whitley	5.1	4.2	0.086	2.3	1.3	0.28	0.32	0.030
KYWH007	36.6204	84.2312	Whitley	5.2	5.7	0.17	2.7	1.5	0.41	0.25	0.040
KYWH008	36.6476	84.2395	Whitley	3.9	2.7	0.04	1.8	0.68	0.14	0.16	0.020
KYWH009	36.5957	84.1662	Whitley	7.0	6.3	0.19	3.4	1.8	0.53	0.28	0.050
KYWH010	36.6136	84.1431	Whitley	6.4	7.7	0.25	3.4	2.1	0.56	0.29	0.050
KYWH011	36.6598	84.1426	Whitley	7.3	4.9	0.15	2.9	1.3	0.33	0.29	0.040
KYWH012	36.6259	84.1938	Whitley	5.5	4.5	0.086	3.0	1.2	0.28	0.33	0.040
KYWH013	36.6614	84.1930	Whitley	4.9	4.0	0.080	2.5	1.0	0.23	0.28	0.035
KYWH014	36.6188	83.9558	Whitley	7.8	6.5	0.086	3.5	1.6	0.42	0.20	0.045

Sample #	Latitude	Longitude	County	As ppm	Al %	Ca %	Fe %	K%	Mg %	Na %	P %
KYWH015	36.6747	83.9581	Whitley	3.8	4.2	0.27	2.2	1.2	0.28	0.22	0.030
KYWH016	36.6767	83.9053	Whitley	4.2	4.8	0.103	2.6	1.3	0.31	0.27	0.035
KYWH017	36.6797	84.0232	Whitley	6.9	4.0	1.4	2.4	1.2	0.31	0.25	0.035
KYWH018	36.7112	83.9586	Whitley	4.0	4.6	0.13	2.5	1.3	0.28	0.26	0.035
KYWH019	36.6251	84.0376	Whitley	4.0	3.6	0.11	2.2	1.0	0.23	0.23	0.030
KYWH020	36.6834	84.0861	Whitley	2.9	3.0	0.22	1.6	0.83	0.18	0.25	0.020
KYWH021	36.7237	84.0490	Whitley	4.2	4.7	0.39	2.3	1.2	0.28	0.17	0.035
KYWH022	36.7144	84.0171	Whitley	3.1	3.1	0.051	1.5	0.92	0.16	0.31	0.020
KYWH023	36.7170	84.1268	Whitley	7.6	8.8	0.14	3.8	2.4	0.63	0.30	0.060
KYWH024	36.7439	84.1044	Whitley	5.9	7.2	0.14	3.3	2.0	0.52	0.36	0.050
KYWH025	36.7587	84.0610	Whitley	4.4	4.6	0.11	2.5	1.2	0.26	0.24	0.035
KYWH026	36.7761	83.9911	Whitley	3.6	3.5	0.063	1.7	0.91	0.18	0.19	0.025
KYWH027	36.7930	84.0189	Whitley	4.8	4.2	0.086	2.2	1.1	0.25	0.23	0.035
KYWH028	36.8032	84.0677	Whitley	4.5	4.3	0.22	2.3	1.2	0.26	0.33	0.035
KYWH029	36.8762	84.0880	Whitley	5.0	6.8	0.18	3.4	1.8	0.47	0.39	0.050
KYWH030	36.8421	84.0542	Whitley	4.5	4.9	0.11	2.6	1.3	0.30	0.42	0.040
KYWH031	36.8319	84.1154	Whitley	4.4	3.7	0.068	2.1	1.1	0.21	0.42	0.025
KYWH032	36.8010	84.1399	Whitley	5.7	4.3	0.19	2.5	1.0	0.26	0.16	0.035
KYWH033	36.7891	84.1903	Whitley	4.3	3.7	0.091	2.0	0.86	0.23	0.14	0.030
KYWH034	36.8288	84.2220	Whitley	2.4	2.8	0.057	1.3	0.68	0.13	0.13	0.020
KYWH035	36.8519	84.1929	Whitley	4.5	4.3	0.080	2.2	1.1	0.23	0.20	0.030
KYWH036	36.8809	84.1869	Whitley	3.1	3.2	0.034	1.6	0.79	0.15	0.11	0.020
KYWH037	36.9133	84.1197	Whitley	6.4	4.6	0.182	2.7	1.1	0.30	0.16	0.050
KYWH038	36.9424	84.1498	Whitley	2.9	2.6	0.068	1.3	0.60	0.12	0.13	0.020
KYWH039	36.9242	84.1743	Whitley	1.3	1.5	0.046	0.72	0.35	0.066	0.053	0.010
KYWH040	36.8871	84.2215	Whitley	2.5	2.2	0.051	1.2	0.53	0.11	0.063	0.015
KYWH041	36.9219	84.2404	Whitley	1.6	2.0	0.057	0.71	0.38	0.083	0.058	0.015
KYWH042	36.9343	84.2975	Whitley	1.7	3.1	0.063	1.4	0.87	0.17	0.15	0.020
KYWH043	36.8594	84.3000	Whitley	1.1	1.9	0.029	0.80	0.59	0.094	0.12	0.010

Sample #	Latitude	Longitude	County	As ppm	Al %	Ca %	Fe %	K%	Mg %	Na %	P %
KYWO001	37.7480	83.6260	Wolf	7.2	5.6	0.080	3.8	1.4	0.25	0.14	0.050
KYWO002	37.7531	83.6666	Wolf	2.0	1.1	0.041	0.80	0.32	0.050	0.026	0.010
KYWO003	37.7159	83.6673	Wolf	4.9	1.9	0.80	1.2	0.57	0.12	0.047	0.015
KYWO004	37.6621	83.5953	Wolf	1.4	1.7	0.03	0.70	0.56	0.099	0.042	0.015
KYWO005	37.6956	83.6145	Wolf	1.8	1.4	0.024	0.81	0.43	0.055	0.047	0.010
KYWO006	37.6915	83.2620	Wolf	1.6	1.6	0.035	0.69	0.63	0.072	0.19	0.010
KYWO007	37.7077	83.2736	Wolf	2.2	2.0	0.053	0.98	0.77	0.094	0.18	0.020
KYWO007E	37.7077	83.2736	Wolf	2.4	3.5	0.094	1.4	1.2	0.17	0.37	0.035
KYWO008	37.7225	83.2932	Wolf	1.7	2.1	0.089	1.0	0.79	0.099	0.21	0.015
KYWO009	37.7005	83.3100	Wolf	1.3	2.0	0.030	0.87	0.83	0.088	0.22	0.015
KYWO010	37.6984	83.3405	Wolf	1.3	1.7	0.035	0.63	0.69	0.072	0.21	0.010
KYWO011	37.7147	83.3505	Wolf	1.4	1.7	0.024	0.85	0.71	0.083	0.15	0.010
KYWO012	37.7388	83.3430	Wolf	2.2	2.2	0.030	1.2	0.83	0.11	0.22	0.015
KYWO013	37.7542	83.3514	Wolf	2.1	2.4	0.041	1.4	0.87	0.15	0.21	0.020
KYWO014	37.7291	83.5797	Wolf	12	5.0	0.083	3.4	1.3	0.29	0.25	0.035
KYWO015	37.6937	83.5538	Wolf	11	3.2	0.065	3.4	0.81	0.17	0.16	0.030
KYWO015E	37.6937	83.5538	Wolf	6.5	3.7	0.083	2.5	1.0	0.20	0.32	0.030
KYWO016	37.7181	83.5443	Wolf	14	4.5	0.059	4.3	1.2	0.24	0.31	0.040
KYWO017	37.7220	83.4988	Wolf	3.9	3.0	0.047	1.8	0.88	0.15	0.44	0.025
KYWO018	37.7203	83.4607	Wolf	3.6	2.7	0.041	1.5	0.88	0.14	0.29	0.020
KYWO019	37.6823	83.4734	Wolf	3.7	2.7	0.041	1.8	0.85	0.14	0.32	0.020
KYWO019E	37.6823	83.4734	Wolf	4.2	3.7	0.059	2.0	1.1	0.19	0.61	0.025
KYWO020	37.6888	83.4519	Wolf	6.5	3.0	0.041	2.1	0.89	0.17	0.34	0.025
KYWO021	37.6632	83.4640	Wolf	5.0	2.8	0.047	2.0	0.82	0.17	0.37	0.025
KYWO022	37.6355	83.4609	Wolf	4.1	2.9	0.136	1.8	0.87	0.17	0.35	0.020
KYWO023	37.6339	83.4903	Wolf	5.5	3.9	0.23	2.1	1.1	0.24	0.21	0.020
KYWO024	37.7581	83.4725	Wolf	6.2	3.4	0.047	2.1	0.94	0.18	0.33	0.025
KYWO025	37.7984	83.4918	Wolf	6.5	2.3	0.035	2.3	0.69	0.11	0.15	0.020
KYWO026	37.8188	83.5041	Wolf	25	3.2	2.8	7.0	0.81	0.18	0.16	0.050

Sample #	Latitude	Longitude	County	As ppm	Al %	Ca %	Fe %	K%	Mg %	Na %	P %
KYWO027	37.8171	83.5364	Wolf	3.7	1.9	0.065	1.5	0.48	0.083	0.04	0.015
KYWO028	37.8454	83.5057	Wolf	7.1	3.1	0.041	2.9	0.80	0.15	0.12	0.030
KYWO029	37.8235	83.4709	Wolf	5.6	2.7	0.041	2.6	0.74	0.15	0.21	0.025
KYWO031	37.7619	83.5355	Wolf	1.9	1.4	0.089	1.1	0.39	0.066	0.047	0.015
KYWO031E	37.7619	83.5355	Wolf	2.0	1.8	0.059	0.87	0.54	0.088	0.079	0.010
KYWO032	37.7836	83.5309	Wolf	4.8	1.6	0.21	1.4	0.52	0.072	0.12	0.015
KYWO033	37.8015	83.4468	Wolf	4.1	2.9	0.053	2.1	0.81	0.17	0.35	0.025
KYWO034	37.8146	83.4089	Wolf	3.6	3.3	0.059	2.2	0.95	0.19	0.32	0.020
KYWO034E	37.8146	83.4089	Wolf	4.7	4.5	0.083	2.5	1.3	0.26	0.55	0.030
KYWO035	37.8130	83.3929	Wolf	8.5	4.0	0.065	3.0	1.2	0.29	0.25	0.035
KYWO036	37.7949	83.3887	Wolf	10	4.0	0.077	3.6	1.1	0.24	0.30	0.040
KYWO037	37.7585	83.3918	Wolf	1.8	2.3	0.047	1.2	0.87	0.11	0.20	0.020
KYWO039	37.7550	83.4963	Wolf	1.4	1.6	0.041	0.78	0.66	0.072	0.17	0.015
KYWO040	37.7209	83.4321	Wolf	2.6	2.2	0.041	1.3	0.71	0.11	0.24	0.015
KYWO041	37.6970	83.4250	Wolf	2.5	2.5	0.047	1.7	0.77	0.13	0.21	0.020
KYWO042	37.7261	83.3786	Wolf	1.5	2.2	0.041	1.3	0.8	0.099	0.22	0.015
KYWO045	37.6943	83.5168	Wolf	4.1	3.1	0.047	2.1	0.95	0.17	0.34	0.020
KYWO046	37.6631	83.5344	Wolf	8.9	4.0	0.16	3.3	1.1	0.24	0.24	0.035
KYWO047	37.6487	83.4881	Wolf	6.1	3.0	0.053	2.2	0.87	0.18	0.34	0.025
KYWO048	37.8077	83.6113	Wolf	2.8	3.2	0.041	0.74	0.89	0.11	0.17	0.015
KYWO049	37.8030	83.5973	Wolf	1.9	0.87	0.018	0.43	0.26	0.039	0.021	0.005
KYWO050	37.8000	83.6223	Wolf	1.4	0.60	0.035	0.44	0.21	0.033	0.021	0.005
KYWO051	37.7281	83.6100	Wolf	19	7.5	0.24	5.0	2.1	0.48	0.33	0.045
KYWO052	37.7454	83.5830	Wolf	4.0	1.8	0.024	1.6	0.46	0.077	0.063	0.015
KYWO053	37.6989	83.5911	Wolf	5.6	10	0.17	4.7	2.8	0.73	0.22	0.040

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYBE001E	0.32	417	97	15	50	15	22	45	41	608	5
KYBE002E	0.24	302	99	9	29	8	13	43	28	359	3
KYBE003E	0.33	448	84	15	52	14	21	40	43	506	4
KYBE004E	0.29	389	84	19	47	36	22	37	58	423	5
KYBE005E	0.35	379	83	9	38	9	14	39	29	323	4
KYBE006E	0.25	260	70	10	29	10	12	33	20	351	3
KYBE007E	0.22	221	79	7	13	3	9	34	16	287	<2
KYBE008E	0.24	255	80	9	18	5	12	35	21	300	2
KYBE009E	0.25	341	76	12	34	12	14	33	31	421	3
KYBE010E	0.22	270	75	9	28	6	11	31	22	326	3
KYBE011E	0.32	393	93	13	42	11	18	41	37	586	4
KYBE012E	0.14	142	49	6	12	56	7	22	13	196	<2
KYBE013E	0.20	213	59	9	33	4	9	26	20	485	<2
KYBE014E	0.16	129	52	6	24	3	4	20	12	292	<2
KYBE015E	0.26	289	83	11	31	6	12	37	24	397	3
KYBE016E	0.33	341	84	15	46	11	16	35	35	685	4
KYBE017E	0.28	295	70	14	39	8	15	32	28	774	3
KYBE018E	0.29	294	85	12	24	9	14	38	29	502	3
KYBE019E	0.10	88	38	4	16	<2	<4	15	9	171	<2
KYBE020E	0.14	108	52	7	24	2	6	22	11	276	<2
KYBE021E	0.26	253	61	10	32	7	13	30	25	449	3
KYBE022E	0.31	373	85	18	47	13	17	40	37	744	5
KYBE023E	0.26	340	64	13	44	17	18	31	42	500	4
KYBE024E	0.32	381	85	14	42	13	20	39	33	563	4
KYBE025E	0.25	308	73	10	38	9	16	32	33	424	3
KYBE026E	0.31	384	89	11	44	9	17	40	35	460	4
KYBE027E	0.23	268	73	8	29	5	13	32	25	275	3
KYBE028E	0.29	342	86	15	40	9	17	39	35	585	4
KYBE029E	0.26	331	81	12	39	8	17	37	30	536	5

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYBE030E	0.29	1310	92	11	56	17	20	43	62	281	6
KYBE031E	0.28	396	79	17	46	11	17	37	37	613	5
KYBH001	0.15	233	46	9	29	6	12	21	19	460	3
KYBH002	0.18	240	55	8	19	5	11	26	19	392	<2
KYBH003	0.20	278	63	8	22	8	12	29	18	297	2
KYBH004	0.17	280	70	8	29	7	12	30	23	418	3
KYBH005	0.21	277	72	9	43	8	13	32	22	386	3
KYBH006	0.24	316	74	10	33	10	15	36	29	469	3
KYBH007	0.17	242	52	8	24	8	12	23	20	320	2
KYBH008	0.13	197	53	5	14	2	8	21	10	227	<2
KYBH009	0.18	238	67	8	21	5	11	28	18	318	<2
KYBH010	0.13	176	46	6	5	4	7	18	12	192	<2
KYBH011	0.08	131	36	4	9	2	5	12	8	196	<2
KYBH012	0.08	139	33	4	5	<2	6	11	7	174	<2
KYBH013	0.16	240	73	7	14	7	9	31	14	214	<2
KYBH014	0.059	116	46	3	4	<2	<4	17	6	126	<2
KYBH015	0.14	216	54	6	17	6	7	20	13	193	<2
KYBH016	0.17	244	64	10	51	5	10	24	16	473	<2
KYBH017	0.11	249	43	7	8	4	8	16	13	204	<2
KYBH018	0.14	229	63	7	12	3	9	26	14	214	<2
KYBH019	0.37	543	125	16	66	20	25	53	51	925	6
KYBH020	0.094	181	42	6	11	2	7	15	10	275	<2
KYBH021	0.089	196	43	5	13	3	6	16	10	262	<2
KYBH022	0.14	224	45	7	16	3	7	17	12	277	<2
KYBH023	0.14	265	74	8	14	6	9	29	15	210	<2
KYBH024	0.12	213	45	7	17	4	9	21	15	198	<2
KYBH025	0.13	257	57	9	19	7	11	23	19	307	<2
KYBH026	0.35	488	98	19	53	16	23	44	48	1500	5
KYBH027	0.22	323	75	12	34	8	15	30	33	482	3

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYBH028	0.21	327	69	11	30	7	13	28	25	418	3
KYBH029	0.083	158	34	5	12	3	5	14	9	231	<2
KYBH030	0.094	204	42	6	8	2	7	17	10	220	<2
KYBH031	0.27	400	87	13	35	11	17	38	25	503	3
KYBH032	0.15	268	49	11	20	6	11	20	15	387	<2
KYBH033	0.11	163	41	7	9	7	8	14	11	270	<2
KYBH034	0.11	202	43	6	11	3	7	16	10	222	<2
KYBH035	0.094	175	61	4	4	2	7	23	8	185	<2
KYBH036	0.14	228	66	6	5	4	8	26	13	272	<2
KYBH037	0.059	143	32	3	<2	<2	<4	11	6	133	<2
KYBH038	0.10	201	48	4	10	<2	6	19	9	113	<2
KYBH039	0.19	260	63	13	23	8	10	23	16	489	<2
KYBH040	0.15	264	51	8	18	4	11	21	15	297	<2
KYBH041	0.10	183	39	6	4	2	6	12	9	263	<2
KYBH042	0.19	308	60	11	30	10	13	25	23	407	3
KYBH043	0.09	200	40	5	3	2	5	14	8	184	<2
KYBH044	0.18	228	55	7	7	5	11	21	31	229	2
KYBH045	0.13	193	44	5	7	3	7	18	11	182	<2
KYBH046	0.089	156	40	6	9	3	5	16	8	213	<2
KYBH047	0.10	192	46	6	11	4	7	16	11	252	<2
KYBH048	0.10	191	30	6	6	3	8	13	9	191	<2
KYBH049	0.11	182	40	12	10	5	8	15	12	423	<2
KYBH050	0.089	155	32	6	2	3	<4	12	8	457	<2
KYBH051	0.077	177	42	5	5	2	6	14	8	137	<2
KYBH052	0.12	222	40	7	5	3	7	14	12	233	<2
KYBH053	0.083	294	39	5	5	3	5	13	8	189	<2
KYBH054	0.089	159	41	4	3	<2	4	15	9	116	<2
KYBH055	0.12	165	86	4	2	<2	6	32	7	117	<2
KYBH056	0.053	112	25	3	<2	<2	<4	8	5	120	<2

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYBH057	0.12	200	46	8	15	5	7	15	15	389	<2
KYBH058	0.083	156	31	3	<2	<2	5	9	7	79	<2
KYBH059	0.077	145	35	5	3	<2	5	10	8	204	<2
KYBH060	0.059	139	33	5	2	<2	4	10	9	276	<2
KYBH061	0.11	160	37	11	14	6	8	14	14	425	<2
KYBH062	0.089	150	38	10	10	3	6	14	13	439	<2
KYBH063	0.14	252	49	7	24	4	10	16	17	224	<2
KYBH064	0.18	305	58	9	20	5	10	25	21	338	<2
KYBH065	0.12	191	44	5	14	4	8	16	19	161	<2
KYBH066	0.11	325	46	5	9	<2	6	17	22	193	<2
KYBH067	0.15	243	55	8	10	4	9	21	32	290	<2
KYBH068	0.12	235	64	6	3	3	7	26	12	203	<2
KYBH069	0.11	180	39	6	5	<2	8	14	13	258	<2
KYBH070	0.14	217	49	7	9	3	9	18	17	164	<2
KYBH071	0.12	199	57	8	18	5	10	19	30	265	<2
KYBH072	0.11	184	39	5	6	3	6	13	32	135	<2
KYBH073	0.15	239	60	7	28	5	10	23	43	281	<2
KYBH074	0.11	187	42	6	13	3	7	15	15	203	<2
KYBH075	0.14	217	52	9	15	12	11	18	23	287	<2
KYBH076	0.19	285	56	10	28	12	12	25	28	370	3
KYBH077F	0.25	368	85	8	36	9	15	40	27	357	4
KYBH078F	0.29	366	99	10	33	8	17	47	29	380	4
KYBH079F	0.24	334	95	7	29	7	12	42	22	354	3
KYBH080F	0.31	391	104	11	30	12	18	48	33	366	4
KYBH081F	0.22	315	86	7	17	8	14	38	23	307	4
KYBH082F	0.26	360	107	10	37	10	18	48	31	404	4
KYBH083F	0.25	354	79	12	31	10	16	37	27	581	3
KYBH084F	0.27	340	104	10	31	7	15	52	25	543	4
KYBH085F	0.24	357	84	9	34	9	18	39	29	378	4

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYBH086F	0.29	427	101	12	40	9	20	47	31	456	5
KYBH087F	0.25	339	106	9	20	5	14	46	24	337	3
KYBH088F	0.23	318	96	9	28	6	14	44	24	375	3
KYBH089F	0.27	364	99	9	38	8	17	43	29	349	5
KYBH090F	0.25	302	77	10	32	8	17	37	27	393	4
KYBH091F	0.28	364	98	13	38	9	18	47	38	491	4
KYBH092F	0.29	419	99	13	44	14	20	47	38	566	4
KYBH093F	0.24	354	110	8	35	8	16	47	30	377	4
KYBH094F	0.20	319	72	10	27	6	13	33	22	380	2
KYBH095F	0.24	329	104	9	27	6	17	47	27	413	3
KYBH096F	0.24	288	85	8	30	8	14	38	33	438	3
KYBH097F	0.22	319	109	12	44	7	16	47	28	576	3
KYBH098F	0.25	362	102	8	27	6	16	45	22	255	2
KYBH099F	0.28	343	96	9	28	8	17	41	26	284	2
KYBH100F	0.35	443	97	13	44	17	21	43	40	600	4
KYBH101F	0.25	340	86	10	35	14	17	37	31	438	3
KYBH102F	0.28	321	86	10	32	12	17	37	30	362	3
KYBH103F	0.28	337	90	11	36	9	18	40	33	467	3
KYBH104F	0.25	340	95	11	39	9	16	42	32	653	3
KYBH105F	0.24	283	114	9	38	6	13	49	27	432	3
KYBH106F	0.23	291	87	11	31	85	14	38	23	873	3
KYBH107F	0.22	273	93	9	37	9	15	39	23	371	2
KYBH108F	0.28	341	89	11	40	10	17	39	31	581	4
KYBH109F	0.25	298	75	10	33	7	14	35	29	396	3
KYBH110F	0.23	185	82	5	14	4	8	33	16	232	<2
KYBH111F	0.25	293	99	7	21	7	14	45	24	266	3
KYBH112F	0.25	327	75	9	35	8	16	33	29	382	3
KYCY001 E	0.18	224	77	7	11	4	9	26	20	306	2

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYCY002 E	0.21	277	69	10	11	7	12	28	27	416	2
KYCY003 E	0.19	248	83	9	33	6	12	32	30	385	<2
KYCY004 E	0.21	249	90	9	17	4	11	37	43	463	<2
KYCY005 E	0.21	276	70	9	19	6	12	27	51	403	2
KYCY006 E	0.20	293	85	11	17	7	14	34	29	526	3
KYCY007 E	0.20	279	77	10	25	6	13	31	26	337	2
KYCY008 E	0.22	324	87	12	32	12	14	34	35	671	3
KYCY009 E	0.19	278	74	10	27	8	12	30	31	456	2
KYCY010 E	0.27	386	90	14	29	14	17	35	51	538	3
KYCY011 E	0.25	372	94	12	22	11	16	36	47	398	3
KYCY012 E	0.24	293	90	10	28	6	14	35	51	366	3
KYCY013 E	0.25	336	86	11	29	6	13	37	56	393	3
KYCY014 E	0.19	286	76	10	28	8	12	30	22	395	<2
KYCY015 E	0.20	272	89	9	18	5	12	37	20	337	2
KYCY016 E	0.24	272	92	8	24	6	11	37	20	293	<2
KYCY017 E	0.22	301	80	9	15	5	12	33	19	333	2
KYCY018 E	0.24	322	135	11	21	6	13	49	21	370	<2
KYCY019 E	0.22	291	100	10	25	5	13	39	21	460	<2
KYCY020 E	0.24	281	81	14	48	10	15	30	30	468	2
KYCY021 E	0.24	277	82	15	36	9	15	29	28	718	2
KYCY022 E	0.18	232	72	13	34	9	13	28	24	397	<2
KYCY023 E	0.22	224	69	12	23	6	12	24	23	664	<2
KYCY024 E	0.21	199	86	8	13	3	8	31	15	444	<2
KYCY025 E	0.21	233	79	10	17	5	10	28	19	539	<2
KYCY026 E	0.20	248	74	9	19	6	11	27	19	305	<2
KYCY027 E	0.26	308	97	17	43	10	16	36	36	836	3
KYCY028 E	0.18	185	61	7	12	5	9	23	15	218	<2
KYCY029 E	0.23	321	97	13	35	8	15	37	29	549	2
KYCY030 E	0.21	262	78	12	36	8	14	29	25	354	3

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYCY031 E	0.24	295	113	11	31	6	15	44	22	376	3
KYCY032 E	0.21	273	92	9	15	5	12	34	19	248	<2
KYCY033 E	0.24	352	86	10	53	19	20	34	40	216	4
KYCY034 E	0.20	189	81	9	15	4	9	29	15	332	<2
KYCY035 E	0.20	197	74	11	25	5	10	26	18	385	<2
KYCY036 E	0.24	269	74	13	36	8	14	26	27	525	2
KYCY037 E	0.19	193	70	12	29	4	9	23	18	494	<2
KYCY038 E	0.22	230	86	10	35	6	13	32	25	318	<2
KYCY039 E	0.16	157	59	8	16	3	8	19	13	329	<2
KYCY040 E	0.16	166	64	8	26	3	8	22	13	319	<2
KYCY041 E	0.14	151	79	8	10	3	8	28	12	314	<2
KYCY042 E	0.25	315	77	14	41	7	15	37	30	594	3
KYCY043 E	0.24	273	115	10	20	6	13	60	23	401	3
KYCY044 E	0.21	271	63	9	19	6	12	35	21	300	3
KYCY045 E	0.24	271	82	10	25	7	12	44	23	375	3
KYES003	0.24	298	60	22	41	5	17	28	70	680	4
KYES004	0.17	213	57	18	44	3	11	26	36	595	3
KYES005	0.13	126	47	11	19	<2	7	23	23	386	2
KYES006	0.13	133	33	7	26	2	6	17	19	242	<2
KYES007	0.085	81	27	5	9	<2	<4	11	11	185	<2
KYES017F	0.24	253	63	21	35	13	13	32	30	436	23
KYES024F	0.27	306	68	17	39	11	13	35	42	359	5
KYES030F	0.21	299	77	26	42	45	17	35	28	1190	21
KYES034	0.16	187	50	12	35	5	10	22	33	386	3
KYES036	0.20	225	58	16	47	6	11	24	41	472	3
KYES037	0.18	228	40	9	30	3	8	18	28	328	2
KYES038	0.13	205	36	12	34	<2	9	16	26	370	2
KYES039	0.17	199	50	11	33	3	10	20	31	491	2
KYES040	0.12	144	34	9	17	<2	7	15	27	388	2

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYES041	0.055	133	17	3	9	<2	<4	7	9	145	<2
KYFO001	0.10	200	36	6	17	6	9	17	12	245	2
KYFO002	0.13	229	36	8	18	6	9	17	15	285	2
KYFO003	0.10	193	34	5	15	<2	8	17	10	219	<2
KYFO004	0.13	229	43	7	17	4	10	20	15	281	<2
KYFO005	0.13	227	32	8	21	8	9	16	16	389	<2
KYFO006	0.13	215	46	5	17	3	7	22	10	194	<2
KYFO007	0.12	235	34	6	16	7	9	17	13	235	<2
KYFO008	0.17	279	46	9	22	4	11	24	16	358	2
KYFO009	0.10	237	31	5	15	4	7	16	10	170	2
KYFO010	0.10	185	28	5	8	3	8	13	11	205	<2
KYFO011	0.12	246	30	7	28	6	8	18	14	210	<2
KYFO012	0.15	274	45	6	18	4	8	21	12	162	2
KYFO013	0.18	274	62	10	18	6	12	31	20	307	3
KYFO014	0.12	257	58	3	24	6	11	26	18	71	3
KYFO015	0.13	232	37	5	8	3	8	19	11	184	<2
KYFO016	0.12	224	28	6	5	3	7	16	12	165	<2
KYFO017	0.13	289	48	6	19	5	9	20	15	208	2
KYFO018	0.13	277	40	6	18	4	10	21	14	228	2
KYFO019	0.10	229	29	5	13	2	7	14	9	135	<2
KYFO020	0.11	229	32	7	34	6	10	16	12	157	3
KYFO021	0.15	273	49	10	23	11	13	21	21	367	3
KYFO022	0.13	235	39	8	17	4	9	19	15	286	2
KYFO023	0.12	220	40	8	15	6	9	19	15	299	<2
KYFO024	0.12	243	45	5	14	7	9	18	14	158	<2
KYFO025	0.12	190	57	4	6	3	7	27	9	125	<2
KYFO026	0.14	230	39	6	8	3	10	18	12	204	<2
KYFO026F	0.24	293	77	7	12	14	10	36	19	247	2
KYFO027	0.10	207	43	4	6	<2	8	20	10	140	<2

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYFO028	0.15	251	52	8	18	5	9	24	15	420	2
KYFO029	0.12	226	37	7	16	5	9	20	13	194	2
KYFO029F	0.24	355	84	8	29	11	11	39	24	312	3
KYFO030	0.15	246	33	6	18	7	11	19	15	252	3
KYFO031	0.12	214	30	6	5	3	7	14	11	188	<2
KYFO032	0.17	298	49	6	10	3	9	24	15	238	2
KYFO032F	0.23	368	91	6	29	6	11	42	19	285	2
KYFO033	0.12	225	37	5	5	<2	7	17	9	144	<2
KYFO034	0.13	283	44	6	6	3	9	23	11	195	2
KYFO035	0.061	154	16	3	<2	<2	5	9	9	61	<2
KYFO036	0.11	248	31	5	5	<2	8	14	11	170	<2
KYFO037	0.073	201	41	3	3	<2	6	22	7	116	<2
KYFO038	0.10	201	42	7	14	3	8	22	13	313	<2
KYFO039	0.16	281	44	10	6	6	10	23	17	306	3
KYFO040	0.15	265	40	8	8	6	10	22	17	316	3
KYFO041	0.16	301	42	8	11	5	11	21	16	268	3
KYFO042	0.15	232	42	6	5	6	9	21	13	186	2
KYFO043	0.12	253	32	5	4	4	9	20	12	136	3
KYFO044	0.10	220	26	4	6	5	6	14	14	217	2
KYFO045	0.12	236	32	8	12	4	9	17	15	326	2
KYFO045F	0.28	488	100	9	25	10	12	50	25	300	3
KYFO046	0.15	275	64	11	17	30	11	37	17	447	3
KYFO047	0.11	230	33	7	6	5	8	17	12	222	3
KYFO048	0.092	171	24	4	5	9	7	13	10	144	<2
KYFO049	0.10	188	27	4	9	2	9	14	10	72	2
KYFO050	0.13	256	53	6	6	10	9	27	11	275	3
KYFO051	0.17	214	55	7	10	8	9	27	19	174	2
KYFO051F	0.27	360	115	7	28	10	12	52	31	178	2
KYFO052	0.11	241	27	6	4	<2	8	15	11	218	2

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYFO053	0.085	232	36	5	5	4	6	14	11	190	<2
KYFO054	0.12	192	36	5	2	2	6	19	9	184	<2
KYFO055	0.10	205	29	6	3	2	6	13	9	215	<2
KYFO056	0.17	268	53	8	14	6	12	26	18	312	3
KYFO057	0.15	255	52	8	13	3	9	21	16	305	2
KYFO058	0.18	297	52	8	17	6	10	23	19	318	2
KYFO060	0.13	286	49	6	17	5	8	22	15	262	2
KYFO061	0.12	183	18	6	5	3	7	12	11	188	<2
KYFO062	0.11	235	40	5	9	3	8	15	13	137	<2
KYFO063	0.10	184	39	5	17	2	6	18	11	198	<2
KYFO064	0.21	426	51	13	38	14	14	23	50	524	3
KYFO065	0.16	287	46	9	18	6	11	23	20	321	2
KYFO067	0.14	241	43	7	17	8	10	17	20	299	<2
KYFO068	0.22	388	60	14	29	12	14	31	25	481	3
KYFO069	0.17	300	54	12	28	9	11	27	23	423	3
KYFO070	0.14	261	43	7	19	6	9	17	17	292	2
KYFO071	0.17	258	48	8	15	4	8	22	16	220	2
KYFO072	0.10	191	38	5	4	3	5	14	10	168	<2
KYFO073	0.17	276	52	11	15	10	10	23	23	454	<2
KYFO074	0.12	231	33	10	8	6	6	16	17	410	<2
KYFO075	0.20	367	56	9	34	11	12	24	27	308	2
KYFO076	0.093	151	23	3	3	3	4	11	9	195	<2
KYFO077	0.075	146	20	3	4	2	<4	11	6	160	<2
KYFO078	0.093	182	23	4	3	4	<4	13	9	165	<2
KYFO079	0.052	141	20	3	6	<2	<4	10	6	136	<2
KYFO080	0.11	185	44	3	3	<2	<4	20	9	86	<2
KYFO081	0.13	237	47	6	9	5	8	24	15	165	<2
KYFO082	0.10	182	42	4	5	3	6	25	11	160	<2

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYFO083	0.23	383	60	19	39	16	16	29	36	856	3
KYHL001E	0.20	222	61	8	35	8	9	28	19	286	<2
KYHL002E	0.19	202	58	5	26	6	9	25	18	186	<2
KYHL003E	0.32	348	78	12	38	12	15	39	32	474	3
KYHL004E	0.17	150	51	7	37	30	5	21	11	204	<2
KYHL005E	0.35	400	87	14	53	11	19	42	35	573	4
KYHL006E	0.16	124	44	5	22	3	5	19	10	207	<2
KYHL007E	0.19	180	58	5	22	12	6	25	12	258	<2
KYHL008E	0.16	126	37	15	37	9	6	17	15	380	<2
KYHL009E	0.093	98	31	4	21	2	<4	12	8	220	<2
KYHL010E	0.25	398	85	10	28	8	15	41	26	314	3
KYHL011E	0.27	450	94	11	29	11	15	44	29	399	3
KYHL012E	0.25	391	71	13	38	16	17	37	38	437	3
KYHL013E	0.23	276	58	10	29	11	10	27	26	380	<2
KYHL014E	0.19	191	53	8	24	5	8	25	16	247	<2
KYHL015E	0.16	196	38	5	22	5	7	21	15	149	2
KYHL016E	0.24	257	65	14	36	9	11	30	28	560	2
KYHL017E	0.26	251	65	14	27	7	11	31	24	488	2
KYHL018E	0.20	206	51	5	16	3	7	22	14	254	<2
KYHL019E	0.23	328	89	7	11	7	11	44	18	268	2
KYHL020E	0.14	216	63	3	5	<2	6	29	8	74	<2
KYHL021E	0.27	301	75	11	20	9	10	34	25	348	2
KYHL022E	0.27	341	77	12	37	11	14	35	32	424	2
KYHL023E	0.26	374	79	12	78	12	16	37	40	485	4
KYHL024E	0.26	322	64	12	33	12	12	29	30	389	2
KYHL025E	0.23	320	66	10	15	8	12	34	24	426	2
KYHL026E	0.30	371	90	13	39	15	15	45	41	509	3
KYHL027E	0.26	370	95	12	34	10	15	45	29	486	3
KYHL028E	0.26	340	76	11	31	10	13	37	31	384	3

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYHL029E	0.20	255	53	10	23	18	11	26	29	340	3
KYHL030E	0.23	355	79	10	79	12	13	34	28	486	3
KYHL031E	0.26	367	67	12	33	10	13	33	31	430	4
KYHL032E	0.21	302	53	11	45	15	13	27	24	312	2
KYHL033E	0.24	313	65	10	30	7	12	28	27	353	3
KYHL034E	0.26	277	97	7	26	8	10	45	21	313	<2
KYHL035E	0.24	350	74	10	34	8	14	36	29	408	3
KYHL036E	0.22	268	68	9	31	8	11	32	29	339	2
KYHL037E	0.31	362	80	12	33	10	13	39	31	505	3
KYHL038E	0.31	541	83	16	45	14	17	41	47	522	4
KYHL039E	0.26	205	65	7	14	4	7	27	17	236	<2
KYHL040E	0.23	242	48	9	15	6	9	24	20	412	<2
KYHL041E	0.24	309	72	8	22	6	10	33	20	363	<2
KYJA001	0.15	162	45	9	18	4	9	19	24	438	<2
KYJA003	0.058	71	25	9	14	3	<4	11	12	803	<2
KYJA004	0.10	118	31	8	20	<2	7	12	20	710	<2
KYJA005	0.064	57	18	4	5	<2	<4	10	8	224	<2
KYJA006	0.035	35	17	<2	3	<2	<4	5	6	112	<2
KYJA007	0.058	57	20	5	4	<2	<4	8	8	315	<2
KYJA008	0.041	45	17	7	3	<2	<4	7	6	525	<2
KYJA009	0.058	51	24	6	18	2	<4	9	10	329	<2
KYJA009F	0.006	41	43	7	6	3	<4	20	12	454	<2
KYJA010	0.058	59	24	5	13	2	<4	8	10	385	<2
KYJA011	0.22	291	67	23	55	3	17	29	54	1270	4
KYJA012	0.25	263	68	22	53	<2	14	27	33	1490	3
KYJA013	0.26	311	77	29	42	3	15	33	44	2610	4
KYJA013F	0.011	86	52	13	9	4	6	23	19	1040	<2
KYJA014	0.15	161	53	13	19	<2	8	25	16	1040	2
KYJA015	0.036	30	23	3	11	<2	<4	7	5	126	<2

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYJA016	0.052	50	22	3	12	<2	<4	7	8	200	<2
KYJA017	0.070	68	25	5	9	3	4	10	11	339	<2
KYJA018	0.041	41	27	2	<2	<2	<4	9	5	97	<2
KYJA018F	0.006	31	56	4	8	2	<4	26	9	182	<2
KYJA019	0.035	37	24	2	2	<2	<4	9	5	109	<2
KYJA020	0.10	111	37	8	27	<2	5	15	17	475	<2
KYJA021	0.093	91	29	7	17	5	4	10	17	441	<2
KYJA022	0.093	107	30	9	21	<2	6	13	16	575	<2
KYJA023	0.13	140	43	16	42	<2	10	19	16	482	3
KYJA023F	0.011	54	32	4	5	6	<4	14	7	120	<2
KYJA024	0.16	226	56	16	35	4	11	22	26	999	3
KYJA025	0.22	246	70	17	38	4	12	30	32	829	3
KYJA026	0.27	255	58	21	131	10	17	28	41	1090	5
KYJA027	0.16	142	42	10	29	2	7	18	17	482	<2
KYJA028	0.17	169	54	21	42	<2	12	21	34	1180	3
KYJA029	0.17	158	44	8	29	3	7	20	25	551	<2
KYJA030	0.13	133	36	9	26	3	5	16	16	527	<2
KYJA031	0.064	59	21	8	20	<2	<4	10	11	612	<2
KYJA032	0.052	47	16	4	6	<2	<4	7	9	185	<2
KYJA033	0.058	63	34	24	11	3	<4	13	12	1230	<2
KYJA034	0.13	134	42	14	86	3	9	18	22	787	3
KYJA034F	0.006	43	26	6	10	8	<4	12	11	400	<2
KYJA035	0.10	81	32	10	25	3	7	15	13	502	<2
KYJA036	0.16	136	48	15	41	4	8	20	26	674	2
KYJA037F	0.15	107	51	5	30	2	5	22	17	189	<2
KYJA038F	0.23	187	54	11	31	5	6	25	21	974	2
KYJA039F	0.24	198	60	12	36	6	7	26	27	986	<2
KYJA040F	0.13	109	39	6	10	3	4	15	17	338	<2

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYJA041F	0.14	143	51	7	7	9	5	19	13	355	<2
KYJA042F	0.17	158	84	7	7	2	6	34	12	386	<2
KYJA044F	0.18	176	93	8	8	5	6	38	14	409	<2
KYJA045F	0.17	180	46	7	12	<2	6	23	17	427	<2
KYJA046F	0.16	160	51	9	15	3	6	18	19	512	<2
KYJA047F	0.14	126	48	5	6	6	5	17	12	310	<2
KYJA048F	0.15	161	55	10	15	5	7	20	17	879	<2
KYJA049F	0.23	240	63	10	34	6	12	27	31	539	3
KYJA050F	0.22	223	65	10	6	4	6	26	18	887	<2
KYJA051F	0.23	196	67	13	10	9	7	24	29	750	<2
KYJA052F	0.21	241	69	9	14	5	9	28	20	637	<2
KYJA053F	0.17	194	92	10	19	<2	6	40	15	794	<2
KYJA054F	0.15	137	54	5	24	2	6	22	14	292	<2
KYJA055F	0.18	203	64	8	11	4	7	30	15	412	<2
KYJA056F	0.006	40	67	5	6	<2	<4	34	7	217	<2
KYJO036F	0.011	78	71	7	4	3	5	39	11	281	<2
KYJO037F	0.006	30	102	5	7	3	<4	48	7	223	<2
KYJO038F	0.017	78	269	5	3	3	5	139	9	151	<2
KYJO039F	0.011	61	84	8	6	8	4	41	11	323	<2
KYJO040F	0.006	45	95	4	5	3	4	48	7	172	<2
KYJO041F	0.006	61	90	9	43	20	4	43	11	409	<2
KYJO042F	0.20	332	120	5	9	3	7	53	10	187	<2
KYKN001	0.12	214	36	6	17	5	7	16	15	205	<2
KYKN002	0.13	201	39	6	3	4	6	16	11	218	<2
KYKN003	0.15	239	48	10	7	4	9	19	15	413	<2
KYKN004	0.15	283	80	7	5	3	10	36	16	256	2
KYKN005	0.13	335	56	6	14	4	8	26	16	175	<2
KYKN006	0.14	242	48	7	17	4	7	20	13	279	<2
KYKN007	0.088	136	34	4	3	3	5	13	7	137	<2

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYKN008	0.13	249	54	7	19	5	8	22	15	308	<2
KYKN009	0.21	341	65	9	20	9	13	32	26	386	3
KYKN010	0.14	233	41	6	5	4	8	19	13	216	<2
KYKN011	0.13	238	39	8	11	4	7	18	13	324	<2
KYKN012	0.18	298	56	12	23	7	12	25	24	595	3
KYKN013	0.15	273	51	9	17	6	9	24	15	375	3
KYKN014	0.13	361	56	6	8	4	7	23	13	248	<2
KYKN015	0.10	179	38	4	5	2	4	13	9	180	<2
KYKN016	0.12	220	61	4	4	2	6	27	9	138	<2
KYKN017	0.077	178	31	3	<2	<2	<4	11	6	119	<2
KYKN018	0.12	241	46	6	8	3	6	20	11	305	<2
KYKN019	0.11	228	40	6	5	3	6	16	10	228	<2
KYKN020	0.094	179	28	5	10	3	7	12	10	166	<2
KYKN021	0.15	279	50	8	16	6	11	22	18	252	2
KYKN022	0.21	307	69	11	46	8	14	30	24	364	3
KYKN023	0.15	268	53	10	21	10	10	21	18	354	<2
KYKN024	0.17	1250	58	11	29	8	12	25	25	541	2
KYKN025	0.13	205	49	10	18	5	8	21	15	467	2
KYKN026	0.14	239	49	10	30	5	12	23	17	537	3
KYKN027	0.13	247	49	9	13	8	10	19	20	326	2
KYKN028	0.11	243	49	11	7	5	7	18	13	508	<2
KYKN029	0.077	185	40	4	<2	2	5	15	8	118	<2
KYKN030	0.083	222	36	9	10	4	9	12	11	355	<2
KYKN031	0.066	158	49	5	4	<2	4	23	8	197	<2
KYKN032	0.14	317	46	6	18	5	9	19	15	203	<2
KYKN033	0.14	287	53	6	7	3	9	24	12	195	<2
KYKN034	0.083	175	34	4	2	2	5	10	8	105	<2
KYKN035	0.18	313	50	10	19	6	12	24	20	385	2
KYKN037	0.11	196	41	6	4	3	7	15	10	218	<2

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYKN038	0.11	228	42	6	6	3	9	14	13	214	<2
KYKN039	0.12	250	44	6	10	5	9	20	14	234	<2
KYKN040	0.11	269	45	5	3	4	7	17	11	198	<2
KYKN041	0.10	186	36	6	3	3	6	14	9	188	<2
KYKN042	0.12	237	45	7	7	4	8	19	16	256	<2
KYKN043	0.12	241	41	6	5	3	8	16	14	218	<2
KYKN044	0.12	263	43	8	12	7	9	18	14	304	<2
KYKN045	0.10	206	35	5	3	<2	8	14	12	184	<2
KYKN046	0.11	239	35	6	7	3	8	15	12	263	2
KYKN047	0.12	259	41	6	6	3	8	19	14	221	<2
KYKN048	0.12	205	36	6	9	4	8	14	13	264	<2
KYKN049	0.094	246	37	5	4	2	7	16	10	152	<2
KYKN051	0.11	216	37	5	4	4	7	13	10	188	<2
KYKN052	0.061	146	25	4	4	<2	5	9	6	114	<2
KYKN053	0.088	205	29	4	28	2	5	12	7	135	<2
KYKN054	0.072	185	35	4	4	<2	5	15	7	162	<2
KYKN055	0.072	193	29	4	3	2	5	13	7	136	<2
KYKN056	0.094	191	35	6	4	4	6	13	10	241	<2
KYKN057	0.044	107	20	4	<2	<2	<4	8	5	114	<2
KYKN058	0.072	152	28	3	2	3	<4	10	7	106	<2
KYKN059	0.077	184	34	4	5	2	5	11	9	161	<2
KYKN060	0.094	173	35	5	4	4	5	14	9	152	<2
KYKN061	0.077	198	28	4	2	<2	5	12	7	66	<2
KYKN062	0.044	119	24	6	<2	<2	<4	9	6	237	<2
KYKN063	0.050	123	22	3	3	<2	<4	9	6	131	<2
KYKN064	0.077	182	40	5	<2	<2	5	17	8	103	<2
KYKO003E	0.32	380	81	16	42	9	16	40	33	808	4
KYKO004E	0.32	458	86	22	59	14	22	46	48	1600	6
KYKO005E	0.25	288	55	11	32	9	10	33	24	461	4

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYKO006E	0.24	275	72	14	19	7	10	36	24	420	3
KYKO007E	0.31	410	86	14	33	10	15	44	38	664	4
KYKO008E	0.25	352	64	13	32	9	12	40	27	562	4
KYKO009E	0.40	661	116	26	63	24	29	58	68	344	7
KYKO010E	0.19	262	62	6	13	4	8	33	17	206	3
KYKO011E	0.39	591	83	19	73	19	29	49	60	640	7
KYKO012E	0.31	441	84	15	40	12	15	47	36	721	5
KYKO013E	0.34	512	100	18	51	13	18	49	48	890	5
KYKO014E	0.22	271	85	10	24	5	11	44	23	320	3
KYKO015E	0.25	290	86	11	18	6	10	42	21	555	3
KYKO016E	0.26	354	71	14	26	9	14	36	30	683	4
KYKO017E	0.25	297	68	13	22	9	12	34	24	415	4
KYKO018E	0.28	384	92	14	36	9	16	46	32	379	5
KYKO019E	0.28	369	78	11	31	10	13	41	26	266	4
KYKO020E	0.17	218	67	7	14	3	5	33	14	238	2
KYKO021E	0.25	291	124	12	26	5	13	62	24	383	3
KYKO022E	0.27	265	97	10	17	5	10	53	19	375	4
KYKO023E	0.22	274	72	10	29	5	10	36	20	644	3
KYKO024E	0.25	316	88	15	38	8	13	44	27	646	4
KYKO025E	0.23	337	97	17	34	6	14	48	28	601	4
KYKO026E	0.25	347	89	14	32	10	14	43	30	631	4
KYKO031E	0.31	412	90	22	64	13	21	47	50	988	6
KYKO032E	0.21	279	82	19	30	8	10	41	19	1390	3
KYKO033E	0.17	267	59	15	29	6	9	30	21	853	3
KYKO035E	0.19	272	64	11	14	6	9	33	18	316	2
KYKO036E	0.27	327	75	13	22	9	12	38	26	454	3
KYKO037E	0.25	348	80	12	32	12	14	41	33	275	4
KYKO038E	0.30	378	79	16	41	12	18	40	34	591	4
KYKO039E	0.23	367	72	15	39	12	14	40	34	717	4

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYKO040E	0.27	362	84	14	39	10	15	40	30	431	4
KYLU001	0.12	113	45	7	15	2	5	14	11	344	<2
KYLU002	0.13	101	43	5	6	<2	6	15	9	137	<2
KYLU003	0.19	159	62	5	13	4	8	23	12	149	<2
KYLU005	0.23	301	77	18	47	14	14	37	35	1190	3
KYLU006	0.19	166	54	4	12	2	7	20	16	295	<2
KYLU007	0.35	435	96	21	71	13	20	42	54	1430	4
KYLU008	0.19	215	65	10	34	5	9	25	22	373	<2
KYLU009	0.27	310	105	13	25	5	13	47	28	420	3
KYLU010	0.27	348	95	8	20	5	13	46	25	281	3
KYLU011	0.29	416	89	15	38	11	17	40	32	973	3
KYLU012	0.20	250	96	7	14	5	12	41	15	182	2
KYLU013	0.34	469	103	16	36	11	19	45	36	778	4
KYLU014	0.23	235	89	8	18	5	9	44	14	161	2
KYLU015	0.32	420	93	22	65	15	21	43	46	758	4
KYLU016	0.24	267	72	14	34	4	10	33	23	826	2
KYLU017	0.35	374	82	14	43	7	13	33	35	508	3
KYLU018	0.35	384	91	10	45	10	19	44	57	274	4
KYLU019	0.27	256	52	9	23	4	9	27	29	556	<2
KYLU020	0.24	218	62	9	35	7	11	23	26	324	3
KYLU021	0.29	279	76	11	21	8	10	30	21	268	2
KYLU022	0.23	355	82	18	37	5	13	38	34	1150	2
KYLU023	0.20	204	69	8	27	3	9	24	15	220	<2
KYLU024	0.26	291	64	11	27	5	10	29	22	650	<2
KYLU025	0.13	112	48	4	12	3	6	17	8	164	<2
KYLU026	0.16	152	44	8	43	8	7	17	16	337	<2
KYLU027	0.29	402	81	12	49	3	15	33	37	345	3
KYLU028	0.33	296	76	12	27	5	11	31	28	195	3
KYLU029	0.39	386	107	17	98	13	26	50	82	740	5

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYLU030	0.24	290	60	8	36	5	9	25	22	589	<2
KYLU031	0.19	222	69	7	58	5	10	28	19	315	2
KYLU032	0.19	239	62	7	26	5	8	28	20	480	<2
KYLU033	0.23	330	78	9	20	6	13	36	26	447	2
KYLU034	0.30	339	81	8	28	5	12	37	27	567	3
KYLU035	0.37	484	110	23	53	17	23	51	64	1280	5
KYLU036	0.29	326	82	18	41	8	15	38	36	1000	3
KYLU037	0.27	378	92	15	30	8	14	43	32	797	3
KYLU038	0.26	304	85	14	27	7	13	40	29	755	3
KYLU039	0.28	363	92	15	52	9	15	46	35	867	4
KYLU040	0.32	422	104	20	76	15	22	46	59	753	5
KYLW004F	0.32	519	102	11	36	11	18	44	53	332	4
KYLW008F	0.27	387	116	8	25	10	15	55	33	307	3
KYLW024F	0.21	569	178	6	11	3	9	81	12	242	<2
KYLE001	0.13	202	46	11	11	5	9	19	21	633	3
KYLE002	0.24	372	76	20	39	9	19	35	50	1190	4
KYLE003	0.29	400	76	23	35	15	19	35	47	1380	4
KYLE004	0.18	261	57	12	22	6	12	22	24	645	2
KYLE005	0.17	257	54	13	23	7	13	23	27	740	3
KYLE006	0.17	239	56	20	39	7	12	23	31	1010	2
KYLE007	0.14	228	55	13	30	6	11	22	22	753	2
KYLE008	0.13	216	44	11	13	5	8	19	19	623	<2
KYLE009	0.13	247	55	10	68	9	11	20	21	538	2
KYLE010	0.066	149	33	7	3	2	5	11	9	381	<2
KYLE011	0.11	165	53	8	8	3	6	19	18	484	<2
KYLE012	0.088	198	46	6	5	3	6	16	10	306	<2
KYLE013	0.077	139	33	12	3	<2	5	12	10	681	<2
KYLE014	0.11	174	45	11	21	2	8	17	18	727	<2
KYLE015	0.094	107	35	8	7	<2	5	12	9	588	<2

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYLE016	0.10	139	66	10	11	5	10	14	15	553	<2
KYLE017	0.23	299	68	19	45	5	15	29	35	1190	3
KYLE018	0.13	270	37	8	13	5	9	16	18	463	<2
KYLE019	0.15	186	42	14	35	4	9	20	20	647	2
KYLE020	0.20	226	62	14	40	5	12	25	29	871	2
KYLE021	0.23	219	66	32	57	6	12	28	44	1340	3
KYLE022	0.22	294	64	18	42	5	16	29	38	1390	2
KYLE023	0.21	215	60	19	29	3	12	23	28	837	3
KYLE024	0.21	246	62	16	64	4	14	27	35	950	3
KYLE025	0.20	245	64	28	43	7	16	27	40	1570	3
KYLE026	0.20	261	63	18	65	7	13	25	39	1210	3
KYLE027	0.26	277	74	21	77	11	20	30	48	1120	4
KYLE028	0.35	374	77	12	58	9	15	35	46	945	3
KYLE029	0.29	308	75	27	53	8	19	30	51	2000	4
KYLE030	0.030	26	<5	<2	<2	<2	<4	4	3	38	<2
KYLE031	0.19	225	59	10	23	4	11	26	25	465	2
KYLE032	0.10	110	26	7	6	3	7	14	24	477	<2
KYLE033	0.036	43	10	2	2	<2	<4	6	9	74	<2
KYLE034	0.042	52	15	2	3	<2	<4	6	7	83	<2
KYLE035	0.024	235	<5	<2	2	<2	<4	4	3	28	<2
KYLE036	0.018	72	10	<2	<2	<2	<4	4	3	169	<2
KYLE037	0.024	24	<5	2	<2	<2	<4	3	4	90	<2
KYLE038	0.024	27	<5	2	5	<2	<4	6	4	113	<2
KYLE039	0.036	37	9	3	5	<2	<4	5	6	150	<2
KYLE040	0.21	231	57	20	64	5	14	26	40	1280	3
KYLE041	0.089	120	39	6	11	3	5	22	16	370	<2
KYLE042	0.21	195	49	13	51	9	14	23	41	603	3
KYLE043	0.030	38	13	3	<2	<2	<4	5	5	213	<2
KYLE044	0.18	191	50	8	30	6	9	22	25	364	<2

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYLE045	0.22	461	82	10	29	10	15	36	28	411	3
KYLE046	0.036	41	14	2	2	<2	<4	6	4	142	<2
KYLE047	0.11	165	49	10	12	<2	7	19	16	751	<2
KYLE048	0.042	45	19	2	<2	<2	<4	6	6	152	<2
KYLE049	0.14	233	48	9	23	5	11	20	22	596	<2
KYLE050	0.19	238	65	14	32	<2	12	26	24	826	2
KYLE051	0.042	53	21	2	5	<2	<4	8	8	31	<2
KYLE052	0.11	119	38	8	17	<2	6	15	20	518	<2
KYLE053	0.36	367	95	29	64	13	20	43	88	1700	4
KYLS001E	0.24	289	76	11	23	8	12	35	22	480	<2
KYLS002E	0.19	288	68	8	27	8	9	33	16	510	2
KYLS003E	0.21	308	84	8	22	4	9	34	16	441	2
KYLS004E	0.27	360	85	11	31	150	16	42	31	532	3
KYLS005E	0.24	438	144	6	9	7	10	60	19	275	2
KYLS006E	0.28	430	126	8	38	12	15	53	32	403	3
KYLS007E	0.24	296	158	7	19	5	12	67	18	314	2
KYLS008E	0.23	286	89	7	13	5	10	38	24	314	<2
KYLS009E	0.21	254	62	6	20	4	10	26	16	275	<2
KYLS010E	0.25	416	89	8	25	9	13	41	23	387	3
KYLS011E	0.25	386	85	9	37	9	12	39	24	472	3
KYLS012E	0.24	311	92	7	28	19	13	42	25	315	3
KYLS013E	0.23	314	83	11	48	7	13	39	27	507	3
KYLS014E	0.21	240	57	8	15	17	9	26	18	326	2
KYLS015E	0.21	278	69	10	23	5	9	35	18	489	<2
KYLS016E	0.26	305	82	8	26	7	11	36	19	288	2
KYLS017E	0.16	174	61	3	7	2	5	28	11	139	<2
KYLS018E	0.19	243	72	5	13	3	9	29	17	203	<2
KYLS019E	0.20	260	82	6	12	6	10	34	16	277	<2
KYLS020E	0.20	295	69	7	16	5	9	31	17	314	<2

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYLS021E	0.17	246	76	5	19	4	10	31	15	223	<2
KYLS022E	0.23	294	80	6	22	9	11	32	19	320	<2
KYLS023E	0.16	229	39	4	15	3	7	21	11	167	<2
KYLS024E	0.22	321	112	5	22	35	11	49	18	223	<2
KYLS025E	0.25	304	71	7	25	6	10	32	21	289	<2
KYLS026E	0.23	306	103	7	25	6	13	41	20	307	<2
KYLS027E	0.21	244	67	6	11	5	10	28	17	283	<2
KYLS028E	ins	ins	ins	ins	ins	ins	ins	ins	ins	ins	ins
KYLS029E	0.23	271	63	7	13	7	11	29	17	265	<2
KYLS030E	0.19	289	65	7	20	6	9	32	17	268	<2
KYLS031E	0.21	249	76	5	12	4	6	30	13	209	<2
KYLS032E	0.20	248	65	5	12	5	8	28	14	218	<2
KYLS033E	0.23	407	75	8	27	7	12	29	22	366	2
KYLS034E	0.14	169	39	7	17	<2	6	18	16	621	<2
KYLS035E	0.24	392	91	9	28	9	15	40	25	421	2
KYLS036E	0.19	309	92	7	11	5	9	39	18	277	<2
KYLS037E	0.20	270	105	5	8	3	9	44	13	228	<2
KYLT001E	0.26	388	107	11	22	11	14	46	31	404	3
KYLT002E	0.25	358	116	8	18	7	13	51	24	365	2
KYLT003E	0.26	345	117	7	36	7	13	49	25	288	2
KYLT004E	0.29	391	102	12	31	11	17	46	33	561	3
KYLT005E	0.26	441	94	15	42	18	17	44	30	609	5
KYLT006E	0.26	394	76	14	34	16	15	39	31	402	3
KYLT007E	0.25	480	92	13	46	20	16	44	32	442	3
KYLT008E	0.24	388	79	10	35	10	15	36	25	260	3
KYLT009E	0.29	461	80	13	41	13	18	41	31	450	4
KYLT010E	0.19	328	62	7	23	4	11	30	17	230	3
KYLT011E	0.32	497	101	13	46	14	19	52	34	435	4
KYLT012E	0.24	416	74	12	42	31	15	36	29	391	3

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYLT013E	0.22	462	82	10	33	9	12	38	23	396	3
KYLT014E	0.24	443	71	11	35	8	14	38	26	449	3
KYLT015E	0.24	381	67	10	34	8	14	38	33	199	3
KYLT016E	0.30	495	90	14	55	19	19	44	50	297	4
KYLT017E	0.30	460	125	14	45	15	17	67	36	296	4
KYLT018E	0.26	459	109	11	36	11	14	50	29	383	4
KYLT019E	0.31	566	99	16	50	18	20	50	41	461	4
KYLT020E	0.24	425	87	11	40	11	15	42	29	342	3
KYLT021E	0.27	476	96	11	34	9	14	45	27	409	3
KYLT022E	0.20	368	72	9	25	11	13	31	25	327	<2
KYLT023E	0.29	486	86	14	35	12	18	42	34	535	4
KYLT024E	0.29	566	100	14	47	17	21	45	47	463	4
KYLT025E	0.24	387	92	12	37	11	15	42	36	398	4
KYLT026E	0.20	263	143	6	15	4	8	63	15	267	2
KYLT027E	0.26	393	105	11	36	12	14	52	29	373	3
KYLT028E	0.27	492	99	12	42	16	18	50	34	396	4
KYLT029E	0.25	481	80	11	30	8	15	41	26	387	3
KYLT030E	0.21	378	73	11	23	7	15	35	22	369	3
KYLT031E	0.23	369	83	11	15	8	12	41	22	453	3
KYLT032E	0.29	404	87	13	35	12	15	43	60	487	3
KYLT033E	0.20	314	73	8	13	4	9	35	16	280	2
KYLT034E	0.23	363	88	11	26	7	12	39	23	357	3
KYLT035E	0.24	405	94	14	43	11	16	42	32	750	4
KYLT036E	0.21	364	78	11	28	6	13	34	21	321	2
KYLT037E	0.26	807	122	12	30	10	16	56	28	357	4
KYLT038E	0.25	355	112	11	33	7	13	53	22	351	3
KYLT039E	0.27	523	88	15	45	14	19	46	32	666	4
KYLT040E	0.20	248	66	8	21	4	10	28	16	283	2
KYLT041E	0.16	193	80	6	16	6	8	36	13	138	<2

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYMG001F	0.19	260	63	7	19	4	8	27	15	264	<2
KYMG002F	0.24	279	82	8	21	6	12	35	19	299	<2
KYMG003F	0.24	318	98	11	27	7	14	40	23	412	3
KYMG004F	0.16	280	114	7	14	4	8	49	15	315	2
KYMG005F	0.22	286	89	10	27	8	13	36	23	379	2
KYMG006F	0.27	351	102	13	39	10	17	47	30	469	3
KYMG007F	0.18	278	58	7	13	4	9	29	14	331	<2
KYMG008F	0.22	306	75	8	40	9	9	29	17	229	10
KYMG009F	0.23	341	88	9	27	9	12	38	22	376	<2
KYMG010F	0.21	351	91	7	13	5	10	41	18	268	<2
KYMG011F	0.20	304	85	6	15	5	8	36	15	223	<2
KYMG012F	0.22	319	90	11	27	6	11	37	22	546	2
KYMG013F	0.28	378	86	13	35	12	17	41	34	654	3
KYMG014F	0.22	346	130	7	15	5	10	59	23	355	<2
KYMG015F	0.23	251	109	5	9	4	9	42	11	179	<2
KYMG017F	0.13	142	45	3	3	<2	5	16	6	121	<2
KYMG018F	0.27	343	109	13	38	9	17	45	28	514	3
KYMG019F	0.26	328	135	9	21	6	14	57	25	359	<2
KYMG020F	0.11	153	47	5	16	5	7	16	9	209	2
KYMG021F	0.30	398	110	13	44	16	19	48	37	455	3
KYMG022F	0.29	311	398	8	54	7	13	179	22	345	<2
KYMG023F	0.24	326	94	9	28	6	11	45	22	413	3
KYMG024F	0.29	400	101	14	46	10	16	49	41	680	4
KYMG025F	0.20	320	89	10	20	5	12	40	21	350	3
KYMG026F	0.21	327	81	7	37	6	10	35	16	206	2
KYMG027F	0.26	323	79	11	20	8	11	33	28	539	3
KYMG028F	0.28	501	100	14	43	10	17	46	37	451	4
KYMG029F	0.43	542	105	10	70	18	27	53	66	293	6
KYMG030F	0.32	408	119	13	18	13	18	49	39	472	3

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYMG031F	0.12	199	71	7	14	4	6	32	14	604	<2
KYMG032F	0.24	346	158	9	30	6	13	73	23	197	3
KYMG033F	0.24	417	126	12	46	11	17	59	30	434	4
KYMG034F	0.22	355	90	8	22	4	11	40	18	357	2
KYMG035F	0.26	369	97	9	29	6	13	44	23	255	3
KYMG036F	0.13	160	74	4	7	4	5	31	8	107	<2
KYMG037F	0.14	204	48	7	18	4	7	24	13	301	<2
KYMG038F	0.13	179	76	4	9	3	6	35	10	127	<2
KYMG039F	0.21	298	83	7	18	3	8	36	17	229	<2
KYMG040F	0.22	328	102	7	21	4	9	47	17	320	2
KYMG041F	0.28	412	106	14	44	10	15	52	33	858	5
KYMG042F	0.22	294	80	8	38	6	10	39	22	232	3
KYMG043F	0.28	369	95	12	41	11	12	47	33	467	5
KYMG044F	0.27	361	91	12	35	13	15	44	33	601	4
KYMG045F	0.29	369	202	9	27	9	12	98	23	689	3
KYMG046F	0.26	376	101	9	33	5	11	50	24	370	3
KYMG047F	0.29	386	117	13	40	9	14	55	32	637	4
KYMG048F	0.23	300	211	7	19	5	6	102	13	207	2
KYMG049F	0.24	310	136	8	19	6	10	61	18	251	3
KYMG050F	0.21	313	117	12	35	16	9	60	23	498	4
KYMG051F	0.25	310	92	8	145	10	10	50	20	332	4
KYMG052F	0.23	230	101	6	21	9	5	44	13	216	3
KYMG053F	0.29	338	111	10	33	10	11	54	24	310	3
KYMG054F	0.28	394	107	9	30	11	13	54	23	238	4
KYMG055F	0.29	301	216	6	25	4	6	98	15	246	3
KYMG056F	0.24	351	100	10	35	9	10	49	24	316	4
KYMG057F	0.28	356	125	11	39	9	14	62	27	497	4
KYMG058F	0.26	308	143	11	29	5	9	71	19	581	4
KYMG059F	0.25	335	108	10	33	9	10	52	23	316	3

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYMG060	0.15	235	40	9	15	7	9	20	17	332	2
KYMG060F	0.31	433	118	14	42	17	12	58	34	595	4
KYMG061	0.12	183	45	6	13	3	6	19	11	137	<2
KYMG061F	0.26	333	103	8	19	6	9	52	19	209	3
KYMG062	0.14	203	45	8	19	5	7	19	15	241	<2
KYMG062F	0.29	331	124	11	35	11	12	57	28	298	3
KYMG063	0.10	183	50	6	15	3	5	21	11	239	<2
KYMG063F	0.25	337	78	9	27	7	11	37	23	470	3
KYMG064	0.15	254	47	9	16	4	6	20	14	335	<2
KYMG064F	0.26	305	80	9	22	5	9	40	19	289	3
KYMG065	0.10	194	47	6	6	2	5	21	9	296	<2
KYMG065F	0.29	353	127	10	33	6	11	63	19	557	3
KYMG066	0.12	186	67	6	8	3	5	31	9	225	<2
KYMG066F	0.23	302	156	10	30	4	10	67	19	391	3
KYMT001	0.042	138	30	3	6	<2	5	7	4	83	<2
KYMT002	0.030	125	20	<2	<2	<2	<4	5	3	56	<2
KYMT003	0.042	116	23	3	<2	<2	4	8	3	94	<2
KYMT004	0.065	157	38	5	<2	<2	<4	13	5	237	<2
KYMT005	0.065	142	26	2	<2	<2	5	8	5	85	<2
KYMT006	0.12	250	54	8	15	7	9	21	15	332	<2
KYMT007	0.054	142	27	3	8	<2	5	11	7	111	<2
KYMT008	0.036	143	15	3	3	<2	<4	9	4	95	<2
KYMT009	0.042	135	10	<2	3	<2	<4	7	5	91	<2
KYMT010	0.042	132	21	3	9	<2	<4	8	5	98	<2
KYMT011	0.054	142	21	5	7	<2	<4	9	5	258	<2
KYMT012	0.083	161	26	5	9	2	<4	14	8	496	<2
KYMT013	0.042	129	13	3	3	<2	<4	10	4	189	<2
KYMT014	0.036	106	16	3	6	<2	<4	10	4	136	<2
KYMT015	0.048	172	25	3	7	<2	<4	8	6	103	<2

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYMT015F	0.23	364	174	6	29	3	11	86	18	268	<2
KYMT016	0.048	145	16	<2	6	<2	<4	7	4	105	<2
KYMT017	0.054	136	30	6	4	3	4	8	6	138	<2
KYMT018	0.054	161	22	2	3	<2	<4	7	6	126	<2
KYMT018F	0.21	378	96	6	13	3	8	51	13	260	3
KYMT019	0.054	115	25	2	4	<2	<4	8	5	100	<2
KYMT020	0.060	154	23	4	9	<2	<4	10	6	135	<2
KYMT021	0.042	118	10	<2	4	<2	<4	7	5	67	<2
KYMT022	0.048	99	14	2	4	<2	<4	7	4	79	<2
KYMT023	0.048	130	25	4	4	<2	<4	7	5	189	<2
KYMT024	0.060	182	11	5	5	<2	5	10	6	352	<2
KYMT025	0.089	148	46	3	3	<2	<4	14	5	156	<2
KYMT026	0.054	148	27	2	12	<2	<4	8	6	78	<2
KYMT027	0.054	144	24	3	4	<2	<4	8	5	88	<2
KYMT028	0.048	170	31	<2	4	<2	<4	9	5	56	<2
KYMT029	0.054	131	32	5	7	<2	<4	7	5	266	<2
KYMT030	0.065	165	38	5	10	2	7	12	8	196	<2
KYMT031	0.077	192	46	4	9	2	<4	20	7	197	<2
KYMT031F	0.20	332	75	8	21	4	8	38	17	334	3
KYMT032	0.065	151	28	4	4	<2	4	9	7	156	<2
KYMT033	0.060	174	32	3	8	<2	<4	12	6	105	<2
KYMT034	0.054	129	<5	3	8	<2	<4	10	6	98	2
KYMT035	0.065	157	26	3	5	<2	<4	10	7	137	<2
KYMT036	0.15	302	41	9	28	6	8	26	20	440	3
KYMT037	0.060	162	22	3	5	<2	<4	10	6	123	<2
KYMT038	0.10	217	29	9	19	4	7	13	15	475	2
KYMT039	0.10	199	40	7	14	3	7	14	12	813	<2
KYMT040	0.054	157	21	3	5	<2	4	10	6	126	<2
KYMT041	0.054	152	17	3	5	<2	5	9	6	123	<2

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYMT042	0.077	148	26	4	5	<2	<4	10	5	231	<2
KYMT043	0.048	132	20	<2	6	<2	<4	10	5	103	<2
KYMT044	0.048	142	24	3	4	<2	<4	9	5	113	<2
KYMT044F	0.21	304	74	5	16	5	7	39	12	181	3
KYMT045	0.10	235	36	4	12	<2	4	18	9	139	<2
KYMT046	0.071	180	25	4	17	3	<4	12	8	163	<2
KYMT047	0.048	122	29	2	6	<2	<4	7	4	135	<2
KYMT048	0.065	172	5	4	6	<2	<4	11	7	189	2
KYMT048F	0.23	432	122	7	19	4	11	52	17	366	2
KYMT049	0.054	166	8	3	11	<2	<4	10	7	225	2
KYMT050	0.065	187	16	3	7	<2	<4	12	9	116	<2
KYMT051	0.077	190	21	4	7	<2	<4	14	10	107	2
KYMT052	0.054	152	14	4	8	<2	<4	10	7	178	2
KYMT053	0.083	221	14	4	15	4	4	12	9	210	<2
KYMT054	0.060	151	21	3	6	<2	<4	10	7	191	<2
KYMT055	0.10	195	25	2	4	<2	<4	14	6	102	<2
KYMT056	0.065	192	33	3	6	<2	5	10	8	106	<2
KYMT057	0.060	172	26	3	4	<2	<4	7	5	118	<2
KYMT058	0.042	159	12	2	5	4	<4	7	4	96	<2
KYMT059	0.085	212	55	4	15	<2	4	17	8	173	<2
KYMT060	0.048	132	25	3	6	<2	<4	11	4	118	<2
KYMN019F	0.12	138	69	6	33	<2	5	27	15	220	<2
KYMN020F	0.21	348	59	15	55	5	11	27	43	768	2
KYMN021F	0.25	279	58	11	15	3	9	31	30	353	3
KYMN022F	0.32	424	83	16	56	8	17	39	80	335	4
KYMN023F	0.21	265	66	12	17	2	9	29	29	561	3
KYMN024F	0.21	234	64	15	35	5	9	30	34	722	2
KYMN025F	0.28	374	74	18	28	4	12	36	53	454	3
KYMN026F	0.27	414	82	40	39	4	16	39	65	1300	5

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYMN027F	0.19	212	59	10	17	3	9	23	27	431	<2
KYMN028F	0.16	177	67	10	23	4	10	24	25	377	<2
KYMN029F	0.27	283	83	12	19	3	12	29	35	407	<2
KYOR035F	0.18	243	100	8	13	3	6	42	16	310	2
KYOR037	0.055	65	27	5	4	<2	<4	8	7	224	<2
KYOR038	0.14	196	53	12	25	5	7	26	18	586	2
KYOR039	0.15	199	53	12	16	4	7	25	21	658	2
KYOR039F	0.23	252	86	12	24	4	10	38	24	653	<2
KYOR040	0.12	125	38	8	7	<2	5	15	12	467	<2
KYOR041	0.13	175	47	9	9	3	7	20	15	464	<2
KYOR041F	0.21	259	84	10	19	5	8	40	21	563	2
KYOR042	0.12	175	41	8	8	3	7	16	14	334	<2
KYOR042F	0.22	267	98	9	15	5	9	43	21	397	2
KYOR043	0.12	174	41	9	13	4	6	19	15	362	2
KYOR044	0.15	160	46	7	10	3	6	18	13	281	<2
KYOR045	0.067	135	43	3	2	<2	<4	21	5	104	<2
KYOR046	0.12	177	38	4	6	2	5	17	10	180	<2
KYOR047	0.16	213	52	14	13	7	9	22	20	667	3
KYOR048	0.28	395	86	19	53	14	17	42	42	1050	4
KYOR048F	0.34	418	104	16	40	16	18	51	44	741	4
KYOR049	0.19	246	59	14	25	7	11	27	29	530	3
KYOR050	0.15	196	45	10	13	7	7	21	16	438	2
KYOR051	0.14	189	38	9	10	3	7	17	17	357	<2
KYOS001	0.21	298	81	18	44	11	15	32	34	593	3
KYOS002	0.13	208	43	10	17	6	9	18	17	412	2
KYOS003	0.23	299	70	18	37	9	15	28	36	760	4
KYOS004	0.15	206	50	8	17	5	8	21	16	310	2
KYOS005	0.18	233	59	11	25	13	11	26	22	357	3
KYOS006	0.12	186	46	5	10	2	6	19	10	355	<2

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYOS007	0.23	337	74	15	43	11	16	32	36	542	3
KYOS008	0.10	161	40	6	11	4	5	16	9	189	<2
KYOS009	0.11	175	39	8	11	6	6	20	14	248	2
KYOS010	0.13	196	47	7	19	3	8	21	12	275	2
KYOS011	0.14	183	65	8	14	5	7	29	16	292	2
KYOS012	0.15	209	44	10	26	5	11	24	20	442	2
KYOS013	0.13	154	47	10	25	4	7	19	14	455	<2
KYOS013F	0.21	202	79	9	31	4	8	38	17	409	2
KYOS014	0.18	211	65	16	41	4	11	27	23	667	3
KYOS015	0.20	366	72	20	47	10	13	30	35	1190	3
KYOS016	0.20	249	64	19	45	7	13	32	29	795	3
KYOS017	0.092	137	46	10	17	2	6	19	13	468	<2
KYOS018	0.15	188	60	15	37	6	9	25	19	657	2
KYOS018F	0.17	187	62	11	26	3	9	30	16	437	<2
KYOS019	0.17	249	61	10	28	6	10	28	21	386	3
KYOS020	0.085	115	34	5	9	<2	4	16	9	141	<2
KYOS021	0.15	175	67	5	11	2	7	27	11	165	<2
KYOS022	0.10	148	40	5	17	<2	6	17	11	219	<2
KYOS023	0.18	230	57	10	27	10	9	26	23	314	3
KYOS024	0.15	219	54	14	39	6	12	25	24	521	3
KYOS025	0.12	184	41	8	20	4	7	17	16	302	<2
KYOS026	0.11	151	52	7	7	3	6	23	12	198	<2
KYOS026F	0.20	246	73	9	23	6	9	38	18	257	3
KYOS027	0.21	200	63	12	38	6	11	27	23	485	3
KYOS028	0.15	167	44	11	20	7	10	21	18	457	<2
KYOS029	0.067	98	32	5	7	6	<4	11	7	137	<2
KYOS030	0.22	286	77	18	53	16	16	33	36	731	3
KYOS031	0.22	273	71	20	46	10	16	30	29	928	3
KYOS032	0.31	381	83	18	72	13	20	41	57	712	4

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYOS032F	0.14	170	35	7	30	5	10	19	23	265	<2
KYOS033	0.15	206	49	29	53	3	13	22	24	1800	4
KYOS034	0.34	384	96	16	68	7	19	48	49	509	5
KYOS035	0.21	249	60	18	39	5	15	27	27	993	3
KYOS036	0.13	164	54	12	36	4	11	22	20	648	3
KYOS037	0.22	500	49	14	38	15	13	32	24	520	5
KYOS038	0.19	258	56	23	41	4	18	29	30	899	4
KYOS039	0.24	336	72	30	68	11	21	37	45	1190	4
KYOS040	0.30	448	94	26	65	19	25	45	54	1190	4
KYOS041	0.18	241	55	12	22	6	11	24	23	405	3
KYOS042	0.12	154	34	12	13	3	8	16	14	404	2
KYOS043	0.26	339	68	19	52	8	16	35	40	954	4
KYOS044	0.061	99	22	5	17	34	4	11	6	221	<2
KYOS044F	0.21	234	122	7	22	6	8	59	14	284	2
KYOS045	0.11	128	40	6	8	21	5	22	9	194	<2
KYOS046	0.079	75	20	11	15	<2	6	10	10	278	<2
KYPR001	0.17	219	40	16	22	9	10	23	22	760	3
KYPR002	0.079	97	27	5	11	<2	<4	13	8	175	<2
KYPR003	0.073	104	16	7	4	<2	4	11	7	232	2
KYPR004	0.13	193	44	8	21	5	11	21	15	311	2
KYPR005	0.20	390	60	16	37	12	13	30	30	547	4
KYPR006	0.23	355	66	17	40	9	15	37	36	1590	4
KYPR007	0.037	65	23	2	5	<2	<4	8	4	113	<2
KYPR008	0.049	78	28	3	6	<2	<4	10	3	202	<2
KYPR009	0.14	194	52	8	19	3	9	18	15	376	<2
KYPR010	0.10	176	41	7	15	4	7	16	11	281	<2
KYPR011	0.10	167	45	8	19	8	9	20	14	285	<2
KYPR012	0.067	132	29	5	6	<2	7	12	7	182	<2
KYPR013	0.055	112	25	4	3	<2	5	9	5	218	<2

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYPR014	0.10	173	45	7	19	6	8	17	11	250	<2
KYPR015	0.085	142	34	6	11	3	6	14	10	216	<2
KYPR016	0.12	166	40	9	17	5	7	19	13	464	<2
KYPR017	0.079	144	37	5	9	9	6	14	8	234	<2
KYPR018	0.10	179	40	8	26	4	9	16	14	445	<2
KYPR019	0.073	160	28	6	6	3	7	12	8	237	<2
KYPR020	0.26	341	73	19	38	14	16	34	30	1810	3
KYPR021	0.092	177	40	5	12	3	8	15	10	343	<2
KYPR022	0.073	194	26	13	14	4	6	12	12	422	<2
KYPR023	0.079	149	28	19	21	4	6	13	10	673	<2
KYPR024	0.055	150	28	9	10	6	6	11	11	264	<2
KYPR025	0.061	131	34	11	12	4	7	12	10	623	<2
KYPR026	0.067	170	36	7	16	<2	11	12	9	71	<2
KYPR027	0.23	340	69	15	34	13	16	33	27	552	2
KYPR028	0.11	216	46	8	18	8	10	25	14	327	<2
KYPR029	0.085	154	32	14	6	6	9	10	12	348	<2
KYPR030	0.12	177	49	17	12	8	9	21	15	745	<2
KYPR031	0.10	160	32	8	8	4	6	16	11	307	2
KYPR032	0.12	205	38	11	20	4	6	19	15	620	<2
KYPR033	0.12	247	46	11	20	7	10	19	16	745	<2
KYPR034	0.16	280	54	15	29	58	12	23	21	639	3
KYPR035	0.073	161	28	5	4	<2	6	11	8	172	<2
KYPR036	0.10	172	30	11	13	4	8	14	12	538	<2
KYPR037	0.11	157	39	9	17	4	9	15	17	133	<2
KYPR038	0.28	365	94	17	55	63	24	44	80	104	7
KYPR039	0.14	244	36	10	20	5	8	17	17	309	<2
KYPR040	0.20	312	59	13	27	8	12	30	20	608	2
KYPR041	0.092	188	36	6	7	3	8	14	10	235	<2
KYPR042	0.10	172	31	7	8	3	6	13	10	208	<2

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYPR043	0.085	187	41	10	17	6	8	17	13	334	<2
KYPR044	0.092	153	26	8	16	19	8	12	12	219	<2
KYPR045	0.13	211	48	13	22	6	10	25	16	650	<2
KYPR046	0.25	369	69	14	36	12	17	34	26	571	3
KYPR047	0.10	148	37	10	7	3	8	15	10	409	<2
KYPR048	0.10	166	38	9	17	3	8	15	13	357	<2
KYPR049	0.12	193	41	10	9	4	8	16	14	461	<2
KYPR050	0.043	121	27	5	8	10	5	14	7	278	<2
KYPR051	0.18	318	54	13	38	13	14	28	28	376	3
KYPR052	0.11	201	49	6	9	4	9	20	12	210	<2
KYPR053	0.061	119	26	5	7	<2	6	9	6	193	<2
KYPR054	0.085	191	40	13	20	10	10	16	14	539	<2
KYPR055	0.073	164	30	7	14	5	8	16	10	316	<2
KYPR056	0.13	214	45	11	21	23	10	20	19	527	<2
KYPR057	0.24	395	62	15	48	76	20	32	37	463	4
KYPR060	0.17	272	54	15	34	13	14	25	31	561	3
KYPR061	0.13	234	43	12	22	5	10	19	16	809	<2
KYPR062	0.12	190	37	9	10	4	8	17	13	251	<2
KYPR063	0.10	152	37	8	16	3	9	18	11	321	<2
KYPR064	0.092	250	35	5	17	<2	10	14	12	87	<2
KYPR065	0.10	198	44	8	7	3	9	19	12	332	<2
KYPR066	0.12	225	57	9	13	4	9	21	16	242	<2
KYPR067	0.11	182	40	8	5	3	7	15	9	307	<2
KYPR068	0.064	116	41	4	2	<2	4	13	6	332	<2
KYPR069	0.10	142	32	4	2	<2	6	13	7	160	<2
KYPR070	0.088	155	35	7	5	4	7	12	9	215	<2
KYPR071	0.19	309	67	10	33	8	13	29	23	428	2
KYPR072	0.14	209	55	14	8	4	10	21	16	601	<2
KYPR073	0.24	408	79	13	42	11	18	36	35	553	3

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYPR074	0.27	465	89	15	43	13	20	42	42	1060	4
KYPR075	0.088	163	37	4	11	<2	6	13	9	209	<2
KYPR076	0.14	244	50	9	13	5	9	23	18	401	2
KYPR077	0.14	240	49	6	13	3	9	18	13	295	<2
KYPR078	0.10	189	46	5	6	4	8	15	9	251	<2
KYPR079	0.11	184	40	7	2	2	8	13	9	292	<2
KYPR080	0.11	176	42	7	15	3	8	15	12	322	<2
KYPR081	0.070	122	31	4	4	<2	6	10	6	280	<2
KYPR082	0.20	303	55	9	26	6	11	29	26	316	<2
KYPR083	0.076	117	32	5	7	<2	5	10	9	309	<2
KYPR084	0.088	145	40	4	5	<2	6	14	8	345	<2
KYPR085	0.070	143	34	7	12	2	6	11	9	376	<2
KYPR086	0.17	268	52	14	12	4	9	21	15	811	<2
KYPR088	0.12	174	38	8	9	4	9	15	15	319	<2
KYPI001	0.16	295	44	6	2	3	9	15	12	248	<2
KYPI002	0.11	233	41	7	7	4	8	16	12	221	<2
KYPI003	0.088	190	32	5	<2	<2	6	11	8	166	<2
KYPI004	0.12	222	39	7	<2	<2	8	16	11	234	<2
KYPI004F	0.26	384	99	9	23	5	13	43	25	468	2
KYPI005	0.14	249	44	8	3	4	8	19	12	274	<2
KYPI006	0.18	269	57	7	3	4	11	22	13	220	<2
KYPI007	0.064	189	34	4	3	<2	6	12	8	150	<2
KYPI008	0.070	223	29	5	3	<2	6	12	8	154	<2
KYPI009	0.070	183	25	4	2	<2	6	11	7	161	<2
KYPI010	0.12	234	39	7	13	3	10	17	12	250	<2
KYPI011	0.11	214	42	8	3	6	9	17	12	305	<2
KYPI012	0.082	175	26	4	2	<2	6	11	7	232	<2
KYPI013	0.082	195	31	4	<2	<2	7	11	7	108	<2
KYPI014	0.12	272	40	6	3	3	9	14	11	193	<2

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYPI015	0.082	199	32	4	3	<2	6	12	8	118	<2
KYPI016	0.10	213	39	5	3	7	8	17	11	191	<2
KYPI017	0.094	206	30	5	4	2	9	12	10	180	<2
KYPI018	0.12	241	48	10	10	7	10	20	19	336	<2
KYPI018F	0.27	372	74	14	41	32	12	33	32	522	3
KYPI019	0.088	251	43	4	<2	<2	5	16	6	116	<2
KYPI019F	0.25	359	179	6	24	5	10	82	17	219	<2
KYPI020	0.14	233	44	9	5	6	8	17	13	289	2
KYPI021	0.12	235	53	6	6	4	11	20	16	150	<2
KYPI022	0.082	209	33	6	5	2	7	15	8	169	<2
KYPI023	0.11	236	34	6	10	<2	8	17	12	228	<2
KYPI024	0.11	224	42	7	3	3	8	14	13	353	<2
KYPI025	0.16	318	63	13	7	15	13	27	24	387	<2
KYPI046F	0.22	329	89	7	9	4	11	38	17	279	<2
KYPI066	0.23	446	57	10	27	15	16	26	48	290	3
KYPI067	0.088	180	29	5	3	5	5	11	9	148	<2
KYPI068	0.094	198	42	6	5	4	7	17	12	202	<2
KYPI069	0.18	292	50	12	15	9	12	23	23	538	3
KYPI070	0.12	214	38	7	6	7	7	18	15	238	<2
KYPI071	0.12	247	41	7	6	4	6	19	14	270	2
KYPI072	0.12	238	38	6	5	3	8	16	12	233	2
KYPI073	0.11	221	29	6	4	3	6	14	12	243	<2
KYPI074	0.10	229	33	5	6	3	7	14	12	194	<2
KYPI075	0.13	233	36	9	5	4	8	15	15	318	2
KYPI076	0.13	235	36	6	4	5	9	16	15	263	<2
KYPI077	0.15	249	40	9	9	6	10	18	17	388	<2
KYPI078	0.15	243	40	10	21	3	10	20	17	443	3
KYPI079	0.14	216	48	8	23	3	9	20	17	365	3
KYPI080	0.13	238	36	8	23	4	10	19	19	463	4

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYPI081	0.13	221	32	8	13	3	10	19	18	439	4
KYPI082	0.11	183	27	5	8	<2	9	15	15	214	2
KYPI083	0.12	223	29	7	20	5	9	19	18	359	3
KYPI084	0.30	1530	63	11	51	24	21	32	69	310	5
KYPI085	0.14	232	42	7	16	4	10	19	19	269	2
KYPI086	0.13	221	37	6	11	<2	9	18	19	286	2
KYPI087	0.13	224	39	6	10	3	8	19	16	213	2
KYPI088	0.14	221	43	9	24	4	11	21	21	436	4
KYPI089	0.16	229	48	11	28	5	11	21	23	479	4
KYPI090	0.14	319	42	7	23	3	9	21	21	351	3
KYPI091	0.14	188	43	6	22	<2	9	24	18	326	3
KYPI092	0.16	280	27	11	10	3	10	21	21	486	3
KYPI093	0.15	229	32	8	14	4	10	22	19	328	4
KYPI094	0.10	180	22	5	8	<2	7	13	12	191	2
KYPI095	0.17	367	41	8	21	4	12	25	21	419	3
KYPI096	0.16	393	52	9	28	8	12	27	26	274	4
KYPI097	0.12	242	30	6	25	5	10	17	27	220	3
KYPI098	0.13	253	33	6	12	4	10	18	19	167	3
KYPI099	0.11	257	27	6	14	<2	8	16	13	219	3
KYPI100	0.10	209	24	5	9	<2	7	15	13	185	2
KYPI101	0.15	265	43	8	13	4	10	26	17	299	3
KYPI102	0.12	234	25	5	9	<2	8	16	14	226	3
KYPI103	0.14	329	45	10	27	6	13	25	22	404	3
KYPI104	0.10	219	25	5	6	<2	8	17	12	155	<2
KYPI105	0.11	190	31	5	14	<2	7	18	13	248	<2
KYPI106	0.094	223	31	5	7	<2	7	12	10	218	<2
KYPI107	0.076	193	26	4	<2	3	6	13	9	204	<2
KYPI108	0.088	187	29	4	11	3	7	13	12	172	<2
KYPI109	0.094	252	20	4	6	5	8	10	12	165	<2

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYPI110	0.11	200	29	5	14	<2	7	15	12	146	<2
KYPI111	0.12	243	34	5	8	<2	7	18	12	213	2
KYPI112	0.094	186	25	4	4	<2	7	13	11	173	<2
KYPI113	0.15	250	45	6	16	2	11	22	16	304	2
KYPI114	0.14	343	44	8	29	7	13	21	23	254	3
KYPI115	0.13	308	35	9	26	4	12	18	19	336	3
KYPI116	0.088	447	29	5	22	<2	6	15	12	244	2
KYPI117	0.12	228	30	5	13	3	8	17	16	232	2
KYPI118	0.15	256	44	9	19	3	12	20	18	385	2
KYPI119	0.15	437	38	11	41	<2	12	18	25	433	3
KYPI120	0.088	170	20	4	9	<2	6	14	10	161	2
KYPI121	0.18	292	50	9	18	3	11	24	20	343	3
KYPI122	0.10	344	32	8	15	<2	8	17	14	424	<2
KYPI123	0.15	288	32	12	27	5	10	18	27	491	4
KYPI124	0.15	1100	48	12	26	10	12	20	29	751	2
KYPI125	0.16	242	43	8	23	7	11	20	25	320	3
KYPI126	0.10	164	31	5	6	<2	7	16	13	205	<2
KYPI127	0.13	218	41	8	12	4	9	17	16	358	3
KYPI128	0.094	245	29	6	5	<2	7	14	11	256	2
KYPI129	0.10	231	20	4	6	<2	6	13	11	212	<2
KYPI130	0.053	145	7	3	2	<2	<4	8	7	162	<2
KYPI131	0.15	253	40	6	16	<2	8	20	16	307	3
KYPI132	0.12	269	40	6	16	<2	8	14	14	214	2
KYPI133	0.13	257	35	5	17	3	9	16	17	228	2
KYPI134	0.10	211	34	5	10	<2	7	16	13	212	<2
KYPI135	0.14	221	32	6	29	8	11	16	23	250	3
KYPI136	0.15	277	59	8	21	3	10	30	19	393	2
KYPI137	0.11	214	36	5	11	6	7	17	14	193	2
KYPI138	0.12	372	39	7	19	5	10	20	18	223	3

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYPI139	0.11	196	29	7	12	2	9	17	15	306	2
KYPI140	0.12	245	35	5	19	20	9	17	17	191	2
KYPI141	0.11	253	35	6	10	5	9	17	15	292	<2
KYPI142	0.11	213	23	5	12	4	8	14	14	234	<2
KYPI143	0.082	175	21	5	16	2	7	13	12	224	2
KYPI144	0.10	184	26	5	9	4	8	15	12	190	<2
KYPI145	0.070	137	20	4	10	<2	5	10	10	151	<2
KYPI146	0.082	164	41	4	13	<2	5	21	10	199	<2
KYPI147	0.11	230	48	4	4	2	6	18	10	152	<2
KYPI148	0.13	286	43	12	47	6	11	21	19	683	3
KYPI149	0.18	314	49	10	37	7	12	26	26	469	3
KYPI150	0.10	248	44	5	8	<2	8	17	14	235	<2
KYPI151	0.12	265	43	6	18	2	9	20	16	253	3
KYPI152	0.21	392	64	17	36	7	17	29	31	1240	3
KYPI153	0.15	295	39	5	21	3	12	21	20	157	3
KYPI154	0.082	180	23	4	7	<2	7	11	9	202	<2
KYPI155	0.10	254	32	5	17	<2	9	16	13	433	2
KYPI156	0.094	233	25	7	14	<2	9	14	15	340	2
KYPI157	0.18	368	48	9	30	8	13	22	29	324	3
KYPI158	0.14	254	29	7	24	7	10	18	19	350	2
KYPI159	0.12	214	42	7	23	2	10	17	16	290	3
KYPI160	0.19	346	47	15	27	6	12	26	27	799	3
KYPI161	0.13	230	41	7	21	8	9	18	18	298	2
KYPI162	0.14	270	61	9	26	8	10	28	20	339	2
KYPI163	0.14	194	40	6	26	5	7	18	15	208	2
KYPI164	0.16	202	59	6	11	5	9	28	15	222	<2
KYPI165	0.11	155	35	7	17	4	6	13	12	319	3
KYPI166	0.11	185	34	3	8	6	5	17	11	170	<2
KYPI167	0.084	144	28	5	13	8	6	10	15	179	3

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYPI168	0.084	160	53	4	6	3	7	24	11	231	<2
KYPI169	0.14	247	48	9	18	6	11	22	18	470	<2
KYPI170	0.20	346	57	11	51	10	13	28	27	555	3
KYPI171	0.14	258	57	7	17	7	9	23	17	307	<2
KYPI172	0.22	742	67	9	40	9	15	31	30	290	3
KYPI173	0.14	278	65	6	11	4	9	28	17	278	<2
KYPI174	0.16	249	69	6	19	6	9	27	16	257	<2
KYPI175	0.13	258	45	3	7	2	8	18	11	147	<2
KYPI176	0.14	255	55	9	15	6	10	25	19	409	<2
KYPO001	0.072	92	40	4	5	<2	<4	12	10	276	<2
KYPO002	0.10	104	36	6	12	<2	6	11	15	224	<2
KYPO004	0.16	189	48	12	17	4	10	19	36	351	<2
KYPO005	0.16	206	54	24	30	6	8	20	33	871	<2
KYPO006	0.13	132	46	8	22	3	6	16	26	244	<2
KYPO007	0.14	150	39	9	29	<2	8	16	27	248	<2
KYPO008	0.23	328	76	21	53	57	16	31	76	504	2
KYPO009	0.29	449	90	38	60	17	20	37	102	1030	4
KYPO010	0.28	485	81	42	77	30	22	37	54	1080	60
KYPO011	0.13	143	42	8	11	4	6	15	24	228	<2
KYPO011F	0.25	268	67	10	23	5	11	30	39	230	<2
KYPO012	0.25	399	115	81	84	75	22	49	46	1450	137
KYPO013	0.28	475	117	103	72	70	21	54	63	1730	78
KYPO014	0.26	377	75	11	75	29	23	37	42	144	125
KYPO015	0.18	391	52	24	27	12	10	23	50	669	3
KYPO016	0.25	436	82	11	92	33	27	42	30	133	215
KYPO016F	0.31	388	78	6	70	25	18	38	31	81	86
KYPO017	0.23	338	78	36	64	24	17	32	50	969	36
KYPO018	0.11	124	41	7	13	<2	5	15	19	281	<2
KYPO019	0.12	138	38	8	23	3	7	14	30	272	<2

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYPO020	0.17	211	47	10	31	3	10	23	36	309	<2
KYPO020F	0.28	358	85	16	35	4	15	39	60	378	3
KYPO021	0.37	482	110	36	74	15	22	44	136	1090	5
KYPO022	0.35	452	90	32	59	10	21	42	124	791	5
KYPO023	0.06	53	28	2	4	<2	5	7	9	145	<2
KYPO023F	0.27	237	88	11	40	4	10	35	32	363	2
KYPO024	0.11	86	41	8	15	4	6	12	16	531	<2
KYPO025	0.036	52	17	<2	<2	<2	<4	4	4	116	<2
KYPO026	0.10	125	29	5	15	9	6	8	14	297	<2
KYPO026F	0.21	247	54	7	35	12	9	24	28	395	2
KYPO027	0.10	76	42	5	9	<2	5	11	11	261	<2
KYPO028	0.16	176	58	11	30	3	7	25	28	321	<2
KYPO029	0.042	43	24	<2	2	<2	<4	6	4	123	<2
KYPO030	0.16	153	48	9	11	2	6	18	21	403	<2
KYPO031	0.13	186	45	7	17	50	10	18	22	456	<2
KYWH001	0.30	317	92	12	57	11	16	39	44	425	3
KYWH002	0.17	143	60	10	21	3	6	25	13	698	<2
KYWH003	0.17	167	66	7	29	3	7	28	14	354	<2
KYWH004	0.27	282	97	11	56	9	14	40	43	698	2
KYWH005	0.11	83	37	3	14	<2	<4	13	7	125	<2
KYWH006	0.26	303	96	13	32	6	14	39	26	505	2
KYWH007	0.31	384	98	16	50	15	17	43	40	591	3
KYWH008	0.18	184	53	12	25	4	9	22	18	632	<2
KYWH009	0.31	444	97	17	52	14	18	43	44	901	3
KYWH010	0.32	507	102	17	65	18	22	48	57	659	4
KYWH011	0.23	338	81	15	36	9	15	37	33	771	2
KYWH012	0.24	323	71	13	38	7	13	33	28	569	2
KYWH013	0.23	284	73	11	26	8	12	33	25	502	<2
KYWH014	0.32	418	102	28	57	21	18	44	60	1260	3

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYWH015	0.23	284	79	12	33	8	11	34	26	506	<2
KYWH016	0.27	339	89	14	36	11	14	40	33	533	2
KYWH017	0.20	291	81	13	47	16	10	37	29	534	<2
KYWH018	0.24	329	97	13	36	8	13	41	27	650	2
KYWH019	0.20	285	68	11	85	7	11	33	24	577	3
KYWH020	0.18	217	78	7	29	5	8	34	19	331	<2
KYWH021	0.26	335	77	13	44	9	13	37	35	1230	3
KYWH022	0.21	210	124	8	20	4	8	50	17	385	<2
KYWH023	0.36	593	113	18	77	18	26	52	63	677	5
KYWH024	0.29	492	98	17	62	14	21	48	51	1190	3
KYWH025	0.23	322	82	14	40	8	12	38	29	820	<2
KYWH026	0.16	260	65	10	29	6	9	29	23	683	<2
KYWH027	0.20	301	79	12	32	8	11	35	28	719	<2
KYWH028	0.24	306	87	16	30	9	11	37	25	1400	2
KYWH029	0.34	470	113	24	53	15	20	45	46	1630	3
KYWH030	0.28	344	90	16	55	10	13	37	29	774	2
KYWH031	0.22	268	74	11	21	5	9	31	21	495	<2
KYWH032	0.27	314	74	16	45	8	10	35	31	1380	2
KYWH033	0.23	236	71	10	35	7	9	29	27	605	<2
KYWH034	0.23	205	67	6	26	5	8	28	19	307	<2
KYWH035	0.27	306	91	12	37	7	12	35	30	656	2
KYWH036	0.25	226	62	7	33	4	8	25	24	345	<2
KYWH037	0.27	284	85	19	47	12	14	36	37	1110	2
KYWH038	0.22	187	60	6	29	5	8	24	17	587	<2
KYWH039	0.15	105	42	4	21	2	5	17	10	254	<2
KYWH040	0.17	161	50	6	16	9	8	20	16	230	<2
KYWH041	0.22	145	64	3	28	4	6	29	11	78	<2
KYWH042	0.21	237	88	7	36	6	8	39	22	434	<2
KYWH043	0.12	148	65	5	27	<2	6	24	13	210	<2

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYWO001	0.32	402	92	18	45	10	16	42	50	1100	4
KYWO002	0.060	77	17	3	17	<2	5	6	10	159	<2
KYWO003	0.10	129	27	6	23	4	5	14	19	392	<2
KYWO004	0.10	133	42	4	8	<2	5	19	10	184	<2
KYWO005	0.090	112	42	7	13	<2	<4	17	9	839	<2
KYWO006	0.10	133	49	2	7	<2	5	22	6	149	<2
KYWO007	0.12	173	31	4	13	2	6	15	9	154	<2
KYWO007E	0.23	290	112	6	21	4	9	47	16	237	2
KYWO008	0.13	178	58	4	12	2	6	20	10	240	<2
KYWO009	0.12	181	83	4	13	<2	6	30	8	157	<2
KYWO010	0.11	157	68	2	9	<2	5	27	7	232	<2
KYWO011	0.090	150	40	4	9	<2	5	13	7	236	<2
KYWO012	0.13	185	85	5	7	2	5	36	9	180	<2
KYWO013	0.13	196	115	5	9	3	8	47	11	266	<2
KYWO014	0.25	321	84	21	53	6	14	30	44	1230	4
KYWO015	0.15	192	52	16	33	5	9	20	23	894	2
KYWO015E	0.22	238	75	13	38	6	9	32	27	785	3
KYWO016	0.23	271	71	20	39	4	12	29	28	1360	3
KYWO017	0.17	215	70	7	22	3	7	31	15	376	<2
KYWO018	0.13	194	49	7	17	3	7	18	14	346	<2
KYWO019	0.14	182	39	6	15	2	6	20	14	234	<2
KYWO019E	0.19	235	76	8	27	4	9	32	20	302	<2
KYWO020	0.16	183	55	7	15	3	8	22	16	332	<2
KYWO021	0.14	174	48	7	19	3	8	17	15	291	<2
KYWO022	0.14	186	47	7	21	4	7	17	15	281	<2
KYWO023	0.22	248	64	10	35	6	9	27	25	737	2
KYWO024	0.14	212	65	10	15	4	9	27	21	476	<2
KYWO025	0.11	166	55	12	14	<2	5	25	15	527	<2
KYWO026	0.14	210	50	22	46	<2	10	22	22	1260	3

Sample #	Ti %	Ba ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Ga ppm	La ppm	Li ppm	Mn ppm	Mo ppm
KYWO027	0.13	119	33	7	17	<2	5	13	14	309	<2
KYWO028	0.14	185	70	15	19	3	11	25	24	617	2
KYWO029	0.12	180	50	10	17	2	9	18	17	600	<2
KYWO031	0.090	95	38	4	19	2	<4	14	9	161	<2
KYWO031E	0.084	128	49	5	11	<2	5	18	12	198	<2
KYWO032	0.10	125	38	6	17	4	6	13	12	250	<2
KYWO033	0.15	190	58	10	23	3	7	26	18	414	2
KYWO034	0.14	220	55	10	24	3	8	21	26	644	<2
KYWO034E	0.22	295	60	13	29	5	11	31	35	703	4
KYWO035	0.19	260	65	13	35	7	11	28	28	599	3
KYWO036	0.17	257	69	16	31	5	12	26	27	880	<2
KYWO037	0.12	217	53	5	17	3	6	21	12	318	<2
KYWO039	0.078	139	38	3	10	<2	5	13	9	211	<2
KYWO040	0.11	163	43	6	13	2	6	18	11	406	<2
KYWO041	0.10	176	61	6	9	2	7	23	12	349	<2
KYWO042	0.11	186	73	5	14	2	5	30	10	284	<2
KYWO045	0.15	200	54	11	23	4	9	22	19	564	<2
KYWO046	0.21	254	59	15	35	5	12	24	29	643	3
KYWO047	0.13	181	50	8	13	3	8	19	16	372	2
KYWO048	0.26	293	61	10	22	3	7	29	19	169	<2
KYWO049	0.048	64	22	2	6	<2	<4	8	9	128	<2
KYWO050	0.048	58	25	<2	5	<2	<4	12	5	159	<2
KYWO051	0.32	451	120	29	61	18	20	44	62	1650	4
KYWO052	0.10	127	26	8	19	<2	5	12	13	467	<2
KYWO053	0.42	510	100	21	71	16	29	48	104	677	6

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYBE001E	17	50	22	35	11	77	9	78	23	3	90
KYBE002E	13	45	14	19	7	52	11	50	17	2	54
KYBE003E	15	43	19	23	10	78	7	95	20	3	79
KYBE004E	17	48	33	30	12	104	11	81	24	2	103
KYBE005E	18	32	13	17	10	61	9	64	19	2	48
KYBE006E	13	31	11	20	6	43	<6	48	14	2	53
KYBE007E	11	38	11	13	5	34	9	41	14	2	36
KYBE008E	14	33	11	15	6	42	6	45	15	2	43
KYBE009E	14	32	15	28	7	69	9	57	15	2	68
KYBE010E	12	30	11	16	6	48	7	46	15	2	48
KYBE011E	18	40	18	22	11	74	8	75	21	3	81
KYBE012E	7	18	10	17	4	21	<6	29	14	1	33
KYBE013E	10	27	13	21	6	35	<6	42	10	2	44
KYBE014E	7	20	9	14	3	20	<6	25	9	1	29
KYBE015E	14	32	12	20	7	53	7	53	18	2	53
KYBE016E	18	29	20	23	9	65	<6	69	17	2	74
KYBE017E	16	30	20	18	8	54	8	58	14	2	62
KYBE018E	17	40	18	17	9	57	9	61	18	3	60
KYBE019E	5	18	8	9	2	14	<6	17	6	<1	28
KYBE020E	7	28	12	10	3	17	<6	22	8	1	50
KYBE021E	14	29	14	17	7	47	<6	52	15	2	56
KYBE022E	17	35	25	23	10	68	13	74	19	2	86
KYBE023E	11	40	23	22	10	116	8	74	17	2	76
KYBE024E	17	40	20	22	10	67	11	72	21	3	67
KYBE025E	14	32	16	22	8	54	<6	60	16	2	60
KYBE026E	17	42	17	18	10	65	11	72	19	3	65
KYBE027E	12	32	11	25	7	46	9	51	15	2	47
KYBE028E	16	42	19	20	9	55	13	71	19	3	71
KYBE029E	14	27	16	21	9	53	10	65	17	2	74

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYBE030E	17	34	17	25	12	80	11	93	20	3	83
KYBE031E	15	39	23	20	9	62	11	73	17	2	79
KYBH001	9	20	14	21	5	41	<6	42	10	2	65
KYBH002	10	27	12	16	5	42	<6	39	11	2	42
KYBH003	11	31	11	16	5	46	<6	38	16	2	38
KYBH004	10	35	14	20	6	53	<6	46	12	2	49
KYBH005	11	35	15	18	6	49	8	49	12	2	48
KYBH006	14	36	17	24	8	51	9	58	15	2	55
KYBH007	10	30	13	18	6	38	<6	42	11	2	47
KYBH008	7	29	8	11	3	31	<6	24	8	1	24
KYBH009	10	32	12	14	5	42	<6	41	10	2	39
KYBH010	6	24	8	10	4	28	<6	28	8	1	38
KYBH011	4	22	8	8	3	21	<6	20	5	<1	23
KYBH012	<4	16	6	8	2	21	<6	19	5	<1	21
KYBH013	9	36	12	13	5	40	6	32	11	1	35
KYBH014	<4	16	6	6	<2	17	7	15	4	<1	21
KYBH015	8	13	9	9	4	34	10	27	8	1	150
KYBH016	9	18	15	13	5	39	12	39	10	1	38
KYBH017	6	12	10	12	4	38	11	31	8	1	36
KYBH018	7	23	10	11	4	43	10	32	9	1	38
KYBH019	23	51	29	24	15	103	18	109	22	3	80
KYBH020	6	<9	8	7	3	28	8	22	5	<1	25
KYBH021	5	<9	7	8	3	35	8	22	6	<1	24
KYBH022	8	12	9	8	4	33	10	29	7	1	27
KYBH023	8	25	12	10	5	38	10	35	9	1	39
KYBH024	6	17	10	10	4	35	9	31	7	1	34
KYBH025	8	15	13	19	4	44	11	36	9	1	47
KYBH026	20	33	26	26	13	76	17	94	20	3	99
KYBH027	13	11	16	14	8	54	12	60	14	2	59

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYBH028	12	16	11	18	7	50	12	52	12	2	54
KYBH029	5	12	5	10	3	22	<6	21	6	<1	21
KYBH030	6	<9	5	10	3	33	11	26	7	<1	26
KYBH031	17	30	17	17	9	60	15	61	18	2	57
KYBH032	8	<9	11	12	5	43	10	38	9	1	39
KYBH033	5	10	8	9	3	105	<6	30	7	<1	29
KYBH034	6	13	8	8	3	33	10	22	6	<1	21
KYBH035	5	17	9	5	3	32	11	20	8	1	21
KYBH036	8	20	10	9	4	36	13	29	10	1	29
KYBH037	<4	13	6	5	<2	22	6	14	4	<1	15
KYBH038	6	15	7	5	3	33	9	19	7	1	20
KYBH039	11	23	13	16	5	39	14	42	11	2	38
KYBH040	9	19	11	10	5	45	10	35	8	1	34
KYBH041	5	12	8	5	2	29	10	20	5	<1	20
KYBH042	11	16	15	18	7	59	12	51	12	2	64
KYBH043	5	13	8	10	3	33	8	21	6	<1	27
KYBH044	9	11	11	10	6	44	9	42	10	2	42
KYBH045	7	13	6	8	3	32	9	25	8	1	24
KYBH046	5	<9	6	8	3	24	9	22	7	<1	23
KYBH047	6	16	6	9	3	29	8	24	6	<1	23
KYBH048	5	10	7	7	3	31	7	23	5	<1	22
KYBH049	6	17	9	11	4	32	9	34	7	1	31
KYBH050	5	<9	7	5	2	25	6	20	5	<1	17
KYBH051	<4	11	8	6	2	27	7	20	5	<1	23
KYBH052	8	13	8	8	3	33	10	25	6	1	63
KYBH053	4	<9	8	9	3	29	7	22	5	<1	24
KYBH054	5	17	7	5	2	26	8	17	5	<1	18
KYBH055	6	37	7	5	2	29	10	17	9	1	16
KYBH056	<4	<9	6	<4	<2	20	<6	13	3	<1	14

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYBH057	7	<9	10	7	4	34	9	28	6	1	28
KYBH058	5	11	8	5	2	27	8	15	5	<1	17
KYBH059	<4	11	8	5	2	23	<6	20	5	<1	22
KYBH060	<4	12	8	<4	<2	23	6	15	4	<1	17
KYBH061	6	22	17	8	3	32	9	26	8	1	37
KYBH062	5	16	10	9	3	27	7	24	5	<1	27
KYBH063	8	14	18	8	4	42	8	31	8	1	34
KYBH064	10	19	11	13	5	51	9	40	10	2	35
KYBH065	7	17	17	8	3	33	8	25	7	1	34
KYBH066	5	11	7	7	3	35	14	22	6	1	24
KYBH067	9	17	10	11	4	43	10	34	8	1	34
KYBH068	7	18	9	8	3	40	11	23	7	1	24
KYBH069	6	13	10	5	3	29	6	24	6	1	28
KYBH070	8	14	11	12	4	38	9	32	7	1	38
KYBH071	7	16	10	12	4	37	10	36	8	1	43
KYBH072	6	14	9	6	3	30	9	24	7	1	36
KYBH073	9	19	13	10	5	43	9	37	9	1	45
KYBH074	6	<9	10	9	3	34	8	28	6	1	30
KYBH075	8	17	12	12	5	38	8	39	8	1	45
KYBH076	12	22	15	21	6	60	12	52	12	2	80
KYBH077F	13	30	13	25	8	73	9	58	16	2	53
KYBH078F	15	43	15	23	9	67	14	58	19	3	58
KYBH079F	14	43	13	17	8	63	10	51	17	2	49
KYBH080F	17	44	19	25	9	73	8	64	20	3	86
KYBH081F	12	42	12	19	7	62	9	51	16	2	69
KYBH082F	13	47	15	24	9	66	14	63	19	3	73
KYBH083F	14	38	17	18	8	71	8	55	18	2	55
KYBH084F	15	51	13	22	8	58	9	53	19	2	55
KYBH085F	14	37	15	20	8	67	6	58	18	2	65

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYBH086F	18	44	18	21	10	70	11	67	20	3	67
KYBH087F	14	44	14	19	7	62	14	52	18	2	60
KYBH088F	13	46	13	16	7	59	10	50	17	2	48
KYBH089F	14	44	17	20	8	71	12	59	19	2	59
KYBH090F	13	34	16	18	7	68	8	58	15	2	61
KYBH091F	14	42	20	20	11	76	9	75	19	3	66
KYBH092F	17	48	20	27	11	76	15	76	19	3	81
KYBH093F	14	49	13	21	8	70	10	57	21	3	63
KYBH094F	10	37	15	28	7	75	<6	47	14	2	50
KYBH095F	13	49	18	16	8	63	13	57	18	3	55
KYBH096F	13	45	21	26	8	58	9	57	15	2	56
KYBH097F	13	53	20	20	8	60	13	59	17	2	60
KYBH098F	14	52	13	19	7	59	10	47	15	2	51
KYBH099F	17	50	16	20	8	64	8	54	16	2	55
KYBH100F	20	46	23	30	12	77	13	80	20	3	105
KYBH101F	14	38	18	31	9	71	9	62	16	2	72
KYBH102F	15	46	17	20	8	82	9	59	20	2	59
KYBH103F	15	45	20	19	9	74	10	62	18	3	60
KYBH104F	14	42	21	18	9	60	8	60	19	2	58
KYBH105F	14	53	17	26	7	52	11	54	17	2	47
KYBH106F	13	45	17	42	8	57	8	52	17	2	68
KYBH107F	12	49	19	16	7	52	10	47	16	2	46
KYBH108F	16	48	19	19	9	64	8	66	16	2	60
KYBH109F	14	30	18	21	7	57	6	53	15	2	53
KYBH110F	12	40	10	11	5	35	10	34	12	2	27
KYBH111F	14	52	15	15	7	58	11	48	16	2	45
KYBH112F	14	34	16	18	8	63	8	56	14	2	59
KYCY001 E	9	22	11	9	5	50	13	36	10	2	35

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYCY002 E	12	20	13	13	6	53	13	46	12	2	44
KYCY003 E	11	24	15	12	6	54	18	44	13	2	43
KYCY004 E	11	41	13	13	5	51	15	44	12	2	38
KYCY005 E	12	20	14	18	6	57	14	48	12	2	50
KYCY006 E	11	30	17	17	7	66	15	55	14	2	56
KYCY007 E	11	30	14	16	6	55	13	49	13	2	49
KYCY008 E	13	34	18	29	8	76	18	59	15	2	78
KYCY009 E	11	29	14	14	6	67	12	47	12	2	50
KYCY010 E	14	33	17	19	9	69	15	67	15	2	61
KYCY011 E	13	33	17	18	8	67	15	60	15	2	57
KYCY012 E	13	32	14	23	6	63	13	49	13	2	51
KYCY013 E	14	29	14	15	7	63	15	54	14	2	45
KYCY014 E	11	25	14	26	6	61	14	47	12	2	68
KYCY015 E	10	27	13	14	5	52	17	44	13	2	45
KYCY016 E	14	34	11	14	6	50	14	44	13	2	43
KYCY017 E	11	33	11	14	6	53	14	45	13	2	43
KYCY018 E	12	51	16	15	7	50	20	51	19	3	55
KYCY019 E	13	38	15	17	6	50	15	51	13	2	54
KYCY020 E	14	31	25	15	9	52	16	68	15	2	49
KYCY021 E	14	31	29	15	8	50	14	63	14	2	55
KYCY022 E	9	29	25	17	7	46	14	59	11	2	50
KYCY023 E	11	27	22	13	7	35	11	51	12	2	44
KYCY024 E	11	31	14	11	5	37	16	36	11	2	33
KYCY025 E	12	31	18	13	5	43	13	44	12	2	42
KYCY026 E	10	32	18	19	5	89	12	47	12	2	43
KYCY027 E	17	37	37	18	9	63	15	73	17	3	73
KYCY028 E	9	33	13	10	4	66	9	34	10	1	40
KYCY029 E	13	36	19	18	8	65	16	65	14	2	64
KYCY030 E	14	26	20	16	7	59	15	58	12	2	54

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYCY031 E	13	46	16	15	7	63	18	53	15	2	60
KYCY032 E	12	36	15	15	6	55	12	45	12	2	55
KYCY033 E	12	31	25	27	10	67	13	80	14	2	53
KYCY034 E	10	33	16	11	5	39	12	41	11	2	43
KYCY035 E	12	25	20	11	5	39	8	40	12	2	45
KYCY036 E	14	24	23	17	7	50	13	57	13	2	64
KYCY037 E	11	27	20	12	5	36	12	43	12	2	45
KYCY038 E	13	27	17	12	7	45	15	54	15	2	48
KYCY039 E	8	21	13	11	4	31	10	31	9	1	29
KYCY040 E	10	18	15	8	4	30	12	32	10	2	29
KYCY041 E	8	28	13	7	4	30	12	29	10	2	30
KYCY042 E	15	42	22	18	8	62	9	65	13	2	76
KYCY043 E	12	42	11	17	7	57	16	51	17	3	56
KYCY044 E	12	20	11	16	6	52	9	45	11	2	49
KYCY045 E	13	40	11	15	7	56	10	50	15	2	58
KYES003	11	26	32	25	9	43	6	101	11	2	82
KYES004	8	16	25	20	6	40	9	78	11	1	79
KYES005	6	21	17	15	4	26	<6	47	8	1	48
KYES006	7	22	13	33	4	22	<6	38	8	1	35
KYES007	<4	12	9	7	2	14	<6	21	6	<1	25
KYES017F	12	24	48	19	7	44	9	112	17	2	138
KYES024F	16	24	38	19	8	45	13	84	15	2	130
KYES030F	6	39	67	28	8	62	11	105	26	2	136
KYES034	8	34	21	15	5	35	11	64	9	2	53
KYES036	11	19	22	36	6	42	6	72	11	2	64
KYES037	9	22	15	13	5	36	<6	49	8	1	46
KYES038	7	15	18	16	4	41	<6	54	8	1	58
KYES039	9	24	16	15	5	39	7	55	9	1	49
KYES040	5	17	13	13	4	21	<6	44	7	1	42

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYES041	<4	<9	5	6	<2	19	<6	16	4	<1	15
KYFO001	7	18	10	12	4	39	<6	28	6	1	32
KYFO002	8	11	9	13	4	40	<6	32	7	1	48
KYFO003	6	16	7	8	3	35	<6	25	6	1	30
KYFO004	7	14	9	12	4	38	<6	33	8	1	40
KYFO005	7	21	11	15	4	87	<6	36	8	1	39
KYFO006	7	30	8	12	3	40	<6	23	9	2	28
KYFO007	7	13	9	16	3	43	<6	27	6	<1	44
KYFO008	10	28	10	15	5	52	7	36	9	1	38
KYFO009	5	22	6	12	3	48	<6	24	6	<1	30
KYFO010	6	17	7	10	3	36	<6	24	5	<1	31
KYFO011	7	24	10	12	4	47	<6	31	8	1	34
KYFO012	9	14	8	12	4	50	<6	28	8	1	31
KYFO013	9	30	12	20	6	47	8	44	11	2	42
KYFO014	7	16	11	16	4	45	<6	37	6	1	22
KYFO015	7	18	7	11	3	42	<6	24	8	1	33
KYFO016	6	<9	5	12	3	42	<6	24	6	<1	29
KYFO017	8	20	9	15	4	45	<6	34	8	1	44
KYFO018	9	23	9	14	4	52	<6	30	7	1	38
KYFO019	6	13	7	8	3	39	<6	21	5	<1	22
KYFO020	7	18	11	13	3	47	<6	25	6	1	43
KYFO021	9	27	12	16	6	50	<6	47	8	1	55
KYFO022	7	20	10	14	4	46	<6	36	7	1	53
KYFO023	5	13	11	15	4	42	<6	35	7	1	49
KYFO024	7	31	7	13	3	59	<6	27	7	1	28
KYFO025	6	37	6	32	3	37	<6	20	8	1	49
KYFO026	8	22	8	14	4	46	<6	30	7	1	33
KYFO026F	14	23	10	18	5	68	14	41	13	2	44
KYFO027	5	23	5	10	3	39	<6	21	7	1	25

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYFO028	8	22	9	13	4	43	6	32	8	1	34
KYFO029	7	23	8	12	4	44	<6	28	7	1	37
KYFO029F	15	38	16	20	8	75	10	49	14	2	53
KYFO030	8	16	9	32	4	47	<6	31	7	1	88
KYFO031	6	13	6	12	3	45	<6	26	6	1	29
KYFO032	9	21	8	13	4	56	<6	30	9	1	35
KYFO032F	14	35	19	18	5	73	15	39	14	2	42
KYFO033	6	19	7	10	3	39	<6	22	6	<1	36
KYFO034	6	25	6	13	3	51	<6	25	6	<1	24
KYFO035	<4	25	<3	7	<2	39	<6	14	3	<1	12
KYFO036	6	17	5	16	3	44	<6	20	5	<1	27
KYFO037	<4	18	<3	8	<2	36	<6	16	4	<1	17
KYFO038	6	15	8	10	3	37	<6	28	6	<1	30
KYFO039	9	11	7	15	5	52	6	38	7	1	38
KYFO040	8	13	7	20	5	60	7	35	9	1	36
KYFO041	10	12	9	16	4	66	<6	34	8	1	36
KYFO042	7	<9	5	14	4	51	6	28	8	1	34
KYFO043	7	<9	5	15	3	49	<6	25	6	<1	33
KYFO044	5	<9	6	17	3	53	<6	24	6	<1	35
KYFO045	6	<9	7	13	4	48	<6	31	8	1	37
KYFO045F	16	37	15	19	7	83	17	49	17	2	53
KYFO046	8	22	9	17	5	51	<6	39	9	1	42
KYFO047	5	10	6	13	3	43	<6	26	6	<1	32
KYFO048	4	10	3	12	2	80	<6	20	5	<1	24
KYFO049	5	<9	<3	13	3	36	<6	31	5	<1	26
KYFO050	7	18	6	26	4	53	11	28	9	1	30
KYFO051	8	17	8	12	4	35	7	31	9	1	28
KYFO051F	15	48	15	18	7	51	20	51	17	2	39
KYFO052	6	<9	3	9	3	42	<6	22	6	<1	23

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYFO053	4	<9	6	11	3	39	<6	23	5	<1	25
KYFO054	6	18	6	12	3	34	<6	22	8	1	27
KYFO055	5	16	6	9	2	32	<6	18	5	<1	18
KYFO056	9	28	11	15	5	47	<6	41	8	1	39
KYFO057	8	14	9	16	5	47	8	36	7	1	38
KYFO058	10	13	11	18	5	66	10	40	8	1	38
KYFO060	7	16	9	17	4	50	<6	31	6	1	49
KYFO061	6	<9	7	11	3	33	8	25	6	<1	23
KYFO062	6	<9	7	12	3	49	7	24	5	<1	35
KYFO063	5	10	9	14	3	41	8	24	5	<1	29
KYFO064	12	19	18	20	9	80	11	66	10	2	56
KYFO065	9	<9	17	81	6	52	8	46	8	1	45
KYFO067	8	11	10	13	4	73	8	31	8	1	32
KYFO068	12	16	17	20	8	68	9	57	12	2	51
KYFO069	10	11	14	18	6	54	10	48	10	2	47
KYFO070	8	16	9	17	4	62	8	33	7	1	34
KYFO071	8	<9	10	14	4	51	8	33	8	1	32
KYFO072	5	<9	7	10	3	33	<6	22	5	<1	26
KYFO073	10	19	20	19	6	56	9	44	10	2	54
KYFO074	6	21	22	22	4	54	8	30	7	1	71
KYFO075	12	20	15	16	7	63	14	55	10	2	38
KYFO076	5	<9	6	12	2	26	<6	18	4	<1	25
KYFO077	<4	<9	<3	11	<2	25	<6	14	4	<1	14
KYFO078	5	<9	4	14	2	29	<6	18	5	<1	20
KYFO079	<4	<9	5	8	<2	24	7	12	3	<1	13
KYFO080	6	13	4	9	2	30	7	17	6	<1	17
KYFO081	7	<9	7	13	3	58	8	28	6	<1	30
KYFO082	6	<9	7	11	3	31	<6	24	5	<1	25

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYFO083	13	30	22	25	9	66	14	71	14	2	65
KYHL001E	11	30	19	28	5	62	7	38	10	2	51
KYHL002E	10	16	12	14	5	38	9	40	9	1	26
KYHL003E	16	33	19	18	9	69	13	66	15	3	60
KYHL004E	9	28	30	103	3	49	9	24	8	1	146
KYHL005E	18	34	23	24	10	76	17	76	16	3	72
KYHL006E	8	10	9	12	3	18	7	22	7	1	27
KYHL007E	10	19	12	46	3	28	9	26	8	1	64
KYHL008E	9	14	14	22	4	27	7	28	7	1	23
KYHL009E	5	<9	10	12	<2	13	6	15	5	<1	21
KYHL010E	14	30	15	19	7	76	13	53	14	2	54
KYHL011E	16	26	17	35	8	76	19	58	17	2	64
KYHL012E	14	37	21	38	9	87	16	71	14	2	64
KYHL013E	13	20	15	27	6	124	9	50	12	2	50
KYHL014E	9	28	10	15	5	64	9	38	9	1	38
KYHL015E	9	12	12	13	4	31	8	37	8	1	41
KYHL016E	13	20	18	17	7	49	13	56	13	2	56
KYHL017E	14	23	19	16	7	45	12	50	11	2	45
KYHL018E	10	11	12	13	4	33	9	32	8	1	29
KYHL019E	12	33	11	18	6	48	15	41	13	2	40
KYHL020E	7	18	5	11	2	31	8	17	7	1	17
KYHL021E	14	33	14	16	7	72	12	51	12	2	40
KYHL022E	16	27	20	17	8	68	14	62	14	2	60
KYHL023E	14	32	27	20	9	81	13	70	13	2	63
KYHL024E	17	17	18	32	7	89	11	55	12	2	53
KYHL025E	13	23	17	18	7	62	13	52	13	2	49
KYHL026E	20	31	23	21	10	72	15	73	16	3	68
KYHL027E	15	32	17	22	8	74	15	62	15	2	58
KYHL028E	15	30	17	24	7	79	16	54	14	2	58

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYHL029E	10	30	24	33	5	166	9	46	12	1	69
KYHL030E	15	22	36	651	8	65	14	54	13	2	67
KYHL031E	14	12	15	23	8	73	16	64	14	2	58
KYHL032E	12	16	23	25	6	80	9	47	13	2	69
KYHL033E	15	21	14	19	7	72	13	51	12	2	50
KYHL034E	14	36	12	25	6	61	15	46	16	2	46
KYHL035E	14	24	16	22	7	77	8	55	13	2	65
KYHL036E	12	28	15	15	7	54	12	50	12	2	57
KYHL037E	18	25	18	40	8	70	13	63	15	2	57
KYHL038E	18	28	23	22	11	88	14	86	16	2	75
KYHL039E	13	17	9	10	5	38	11	37	11	2	34
KYHL040E	12	19	12	12	5	48	13	44	9	2	42
KYHL041E	14	21	13	15	6	56	11	40	12	2	34
KYJA001	7	19	20	15	5	43	8	50	10	1	60
KYJA003	<4	<9	15	7	2	14	<6	17	4	<1	23
KYJA004	4	<9	23	15	4	19	<6	33	6	1	36
KYJA005	<4	<9	10	9	<2	12	<6	16	4	<1	14
KYJA006	<4	10	7	5	<2	9	<6	9	2	<1	10
KYJA007	<4	<9	14	8	<2	12	<6	16	4	<1	18
KYJA008	<4	<9	16	5	<2	11	<6	13	4	<1	20
KYJA009	<4	<9	16	9	<2	13	<6	16	4	<1	25
KYJA009F	<4	17	16	10	<2	13	<6	16	5	<1	39
KYJA010	<4	<9	11	13	<2	11	<6	14	4	<1	17
KYJA011	11	16	39	30	10	44	12	86	13	2	70
KYJA012	12	14	34	27	8	40	13	78	11	1	75
KYJA013	13	28	45	33	10	47	13	83	15	2	129
KYJA013F	<4	28	21	11	3	21	7	27	7	<1	71
KYJA014	7	18	22	15	4	38	9	40	8	1	46
KYJA015	<4	<9	5	5	<2	8	<6	10	<2	<1	9

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYJA016	<4	<9	11	5	<2	11	<6	14	3	<1	14
KYJA017	<4	<9	18	10	2	13	<6	21	4	<1	25
KYJA018	<4	<9	6	6	<2	12	<6	10	3	<1	10
KYJA018F	<4	32	9	5	<2	11	<6	12	4	<1	22
KYJA019	<4	<9	8	6	<2	14	<6	9	2	<1	10
KYJA020	5	9	20	14	3	19	8	28	6	1	29
KYJA021	<4	<9	18	9	3	15	<6	23	4	<1	18
KYJA022	5	<9	26	11	3	22	<6	34	6	1	41
KYJA023	6	11	18	17	5	23	<6	65	8	1	58
KYJA023F	<4	18	7	6	<2	11	<6	17	3	<1	21
KYJA024	7	11	30	28	6	38	13	58	10	1	65
KYJA025	11	15	31	27	8	44	10	69	12	2	59
KYJA026	14	14	52	23	10	51	12	78	15	2	83
KYJA027	8	14	10	14	4	26	11	40	8	1	27
KYJA028	7	11	26	26	6	33	9	63	11	1	48
KYJA029	8	10	14	12	5	24	9	36	9	1	21
KYJA030	7	<9	11	12	4	23	10	31	6	1	31
KYJA031	<4	<9	18	8	<2	17	<6	17	4	<1	29
KYJA032	<4	<9	8	5	<2	10	<6	13	3	<1	15
KYJA033	<4	<9	34	8	2	13	6	20	9	<1	42
KYJA034	5	10	25	26	5	44	9	45	9	1	50
KYJA034F	<4	23	9	15	<2	15	<6	15	4	<1	39
KYJA035	<4	<9	11	17	3	15	7	35	8	1	30
KYJA036	8	<9	20	19	5	32	7	46	10	2	39
KYJA037F	7	14	11	10	3	20	9	23	10	1	18
KYJA038F	12	18	19	16	5	30	8	38	15	2	35
KYJA039F	11	22	19	20	5	37	9	46	15	2	43
KYJA040F	7	26	15	8	3	19	<6	28	9	1	32

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYJA041F	8	22	10	8	4	22	<6	28	8	1	30
KYJA042F	8	37	10	11	4	27	11	29	12	2	24
KYJA044F	8	36	10	10	4	29	11	32	14	2	27
KYJA045F	9	19	13	11	4	25	<6	37	9	2	31
KYJA046F	9	16	14	12	4	24	<6	37	8	1	33
KYJA047F	8	24	10	11	3	20	<6	25	7	1	22
KYJA048F	8	26	17	12	4	23	7	36	8	1	37
KYJA049F	10	32	20	17	8	40	<6	58	11	2	50
KYJA050F	12	28	18	11	5	31	7	38	10	2	38
KYJA051F	13	28	24	15	5	29	13	41	13	2	39
KYJA052F	12	38	17	11	6	36	7	43	11	2	40
KYJA053F	7	40	14	14	5	31	12	36	13	2	34
KYJA054F	9	27	10	9	4	23	<6	29	8	1	22
KYJA055F	10	27	11	11	4	31	7	33	10	2	26
KYJA056F	<4	31	7	8	<2	12	7	12	6	<1	24
KYJO036F	<4	35	7	8	2	17	10	22	9	1	33
KYJO037F	<4	52	7	5	<2	11	19	12	9	<1	29
KYJO038F	<4	127	7	8	3	17	47	21	23	2	30
KYJO039F	<4	32	12	15	3	25	12	22	10	1	44
KYJO040F	<4	53	9	6	<2	11	10	12	8	<1	25
KYJO041F	<4	47	13	11	<2	15	14	14	10	<1	51
KYJO042F	10	44	6	15	4	51	20	26	16	2	21
KYKN001	6	12	7	11	4	32	<6	36	8	1	31
KYKN002	7	15	6	10	3	33	<6	26	7	1	25
KYKN003	9	20	13	13	5	36	<6	37	8	1	44
KYKN004	9	36	6	11	4	44	8	32	9	1	33
KYKN005	9	24	7	12	4	40	6	31	8	1	31
KYKN006	9	18	8	11	4	38	9	29	9	1	30
KYKN007	5	15	5	7	2	21	<6	17	5	<1	20

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYKN008	8	28	8	13	5	40	9	36	8	1	37
KYKN009	12	21	13	16	7	58	<6	56	13	2	58
KYKN010	9	23	8	10	4	44	<6	29	7	1	30
KYKN011	8	23	9	12	4	41	<6	30	7	1	30
KYKN012	10	24	15	17	7	52	9	55	11	2	56
KYKN013	10	32	9	16	5	51	7	36	10	2	37
KYKN014	8	23	9	7	4	37	<6	30	7	1	29
KYKN015	6	21	6	9	3	27	<6	20	5	<1	23
KYKN016	7	31	6	9	3	35	7	21	8	1	22
KYKN017	5	18	5	7	<2	26	<6	13	4	<1	16
KYKN018	7	27	7	9	3	37	<6	25	7	1	24
KYKN019	6	28	10	8	3	34	<6	25	6	1	25
KYKN020	6	15	7	12	3	24	<6	21	5	<1	22
KYKN021	9	22	11	15	6	46	9	46	9	2	45
KYKN022	11	34	19	18	7	53	9	56	11	2	54
KYKN023	10	29	17	15	5	43	<6	44	8	1	47
KYKN024	10	30	15	16	7	51	7	55	9	2	53
KYKN025	7	28	10	13	5	37	<6	38	7	1	36
KYKN026	7	28	11	15	7	46	<6	54	12	2	61
KYKN027	8	20	10	13	5	40	<6	45	8	2	100
KYKN028	6	18	13	14	4	37	<6	35	7	1	37
KYKN029	5	21	6	9	2	29	<6	18	5	<1	19
KYKN030	5	15	12	10	4	36	<6	33	6	1	33
KYKN031	4	29	6	8	2	26	<6	19	4	<1	22
KYKN032	9	20	10	12	5	49	<6	36	9	2	30
KYKN033	9	29	10	11	4	46	<6	32	7	1	30
KYKN034	5	16	5	7	2	27	<6	18	5	<1	19
KYKN035	10	29	13	14	6	49	8	49	9	2	46
KYKN037	7	22	8	8	3	32	<6	23	6	1	24

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYKN038	7	20	9	11	4	35	<6	30	6	1	32
KYKN039	7	20	10	12	4	38	<6	32	7	1	33
KYKN040	6	17	8	8	4	34	<6	28	7	1	26
KYKN041	6	18	7	10	3	32	<6	23	5	<1	24
KYKN042	8	19	10	10	4	63	<6	33	7	1	38
KYKN043	7	19	9	11	4	58	<6	30	6	1	42
KYKN044	7	23	9	13	4	48	<6	34	6	1	36
KYKN045	6	12	7	8	3	35	<6	27	5	1	29
KYKN046	6	27	8	11	4	38	<6	30	6	1	37
KYKN047	8	22	9	11	4	42	<6	31	6	1	35
KYKN048	7	22	8	10	4	34	<6	30	5	1	29
KYKN049	6	22	8	10	3	45	<6	22	5	<1	27
KYKN051	7	22	7	9	3	31	<6	26	5	<1	23
KYKN052	<4	17	5	5	<2	21	<6	14	4	<1	19
KYKN053	5	14	4	10	2	30	<6	19	5	<1	22
KYKN054	5	23	3	7	<2	27	<6	17	4	<1	17
KYKN055	4	20	6	10	2	28	<6	17	4	<1	19
KYKN056	6	13	6	8	3	28	<6	25	6	<1	26
KYKN057	<4	11	<3	4	<2	17	<6	10	3	<1	12
KYKN058	4	18	5	7	<2	22	<6	14	4	<1	17
KYKN059	5	12	5	9	2	29	<6	21	4	<1	22
KYKN060	5	22	6	9	2	29	<6	20	5	<1	25
KYKN061	5	10	<3	7	<2	31	<6	15	4	<1	16
KYKN062	<4	14	3	6	<2	19	<6	12	3	<1	16
KYKN063	<4	12	3	5	<2	19	<6	12	3	<1	12
KYKN064	5	22	5	7	2	32	<6	18	5	<1	18
KYKO003E	19	31	20	23	9	65	11	68	15	2	68
KYKO004E	16	28	30	32	13	92	15	96	22	2	99
KYKO005E	13	14	12	22	7	63	10	51	14	2	52

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYKO006E	12	22	11	22	6	55	<6	51	13	2	52
KYKO007E	14	21	16	21	11	73	14	75	17	2	65
KYKO008E	14	15	9	22	7	63	12	55	16	2	56
KYKO009E	24	55	44	25	20	102	16	125	34	4	148
KYKO010E	9	17	6	17	4	49	13	35	11	1	35
KYKO011E	27	37	24	31	15	110	11	110	21	2	100
KYKO012E	17	31	14	23	10	71	15	74	18	3	71
KYKO013E	16	37	22	27	12	89	18	90	19	3	90
KYKO014E	12	37	10	17	6	48	10	44	14	2	49
KYKO015E	12	29	12	19	6	53	14	46	15	2	58
KYKO016E	13	28	15	22	8	59	6	60	14	2	63
KYKO017E	13	26	13	16	7	56	15	54	14	2	51
KYKO018E	15	34	17	27	9	68	11	71	17	3	75
KYKO019E	16	21	14	23	8	64	8	57	16	2	64
KYKO020E	8	23	5	13	4	42	10	31	11	2	32
KYKO021E	10	58	15	20	7	58	17	54	21	3	56
KYKO022E	15	31	7	19	6	50	15	47	17	2	42
KYKO023E	11	22	11	19	6	50	10	43	12	2	59
KYKO024E	14	35	14	27	8	61	15	61	15	2	76
KYKO025E	11	48	23	20	8	67	18	62	18	3	73
KYKO026E	13	23	18	29	8	85	12	63	16	2	76
KYKO031E	20	37	30	27	13	86	14	98	19	2	80
KYKO032E	11	31	17	24	6	70	9	50	13	2	58
KYKO033E	9	26	17	17	6	52	10	48	13	2	48
KYKO035E	10	20	15	15	5	51	12	40	14	2	49
KYKO036E	15	29	15	16	8	64	13	58	15	2	59
KYKO037E	14	18	15	20	9	68	10	68	17	2	60
KYKO038E	17	21	19	20	10	75	11	69	18	2	68
KYKO039E	14	38	17	24	9	81	10	65	16	2	74

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYKO040E	15	25	17	20	9	71	8	65	17	3	64
KYLU001	6	21	15	8	3	19	<6	22	7	<1	28
KYLU002	6	28	9	5	3	15	10	20	6	1	13
KYLU003	9	19	9	12	4	39	11	30	9	1	21
KYLU005	14	49	34	29	10	62	9	67	18	2	74
KYLU006	10	23	11	8	4	24	10	29	9	1	20
KYLU007	21	33	52	23	14	68	15	97	19	3	100
KYLU008	10	22	17	17	6	33	8	47	11	2	42
KYLU009	15	37	17	19	8	49	15	63	16	2	43
KYLU010	14	53	15	15	7	53	13	51	13	2	51
KYLU011	16	39	23	26	10	74	12	73	15	2	74
KYLU012	11	38	12	19	6	54	17	43	13	2	40
KYLU013	12	29	23	24	11	80	18	79	18	3	72
KYLU014	12	37	9	13	5	38	12	38	14	2	35
KYLU015	20	37	31	32	13	79	11	101	18	2	85
KYLU016	12	30	16	13	7	40	12	52	13	2	40
KYLU017	16	31	22	24	8	50	14	66	14	2	53
KYLU018	18	37	24	22	14	67	15	101	17	3	74
KYLU019	15	23	24	15	6	34	8	46	12	2	43
KYLU020	13	17	16	19	7	60	9	54	11	2	36
KYLU021	15	27	16	47	6	40	10	47	11	2	43
KYLU022	11	34	33	23	8	47	11	63	14	2	64
KYLU023	11	15	12	16	5	29	10	39	9	1	35
KYLU024	13	25	15	16	6	41	12	50	11	2	41
KYLU025	7	19	9	9	3	19	7	20	7	1	21
KYLU026	9	18	13	181	3	120	<6	34	9	1	75
KYLU027	14	35	21	20	9	51	14	69	12	2	48
KYLU028	17	36	16	14	7	40	14	56	11	2	31
KYLU029	22	52	49	27	17	109	17	118	24	3	69

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYLU030	13	19	13	18	5	35	12	45	10	1	37
KYLU031	9	31	18	35	6	49	9	43	10	1	57
KYLU032	11	23	17	20	5	35	10	42	11	2	38
KYLU033	13	37	16	23	7	69	11	56	14	2	44
KYLU034	16	32	14	15	8	49	13	61	13	2	43
KYLU035	22	49	41	22	16	72	19	114	23	3	82
KYLU036	12	24	31	23	10	51	14	71	16	2	63
KYLU037	16	34	26	17	9	52	12	67	16	2	57
KYLU038	11	38	26	23	8	51	16	61	14	2	57
KYLU039	18	49	26	25	9	56	14	71	16	2	60
KYLU040	18	34	44	24	14	69	19	110	19	3	79
KYLW004F	19	39	20	15	11	59	15	77	17	3	56
KYLW008F	17	46	15	18	8	63	19	58	18	3	51
KYLW024F	10	78	11	16	5	52	29	28	21	3	28
KYLE001	7	14	13	18	5	33	11	51	9	<1	50
KYLE002	12	31	32	29	12	62	12	99	15	2	85
KYLE003	17	39	31	32	12	67	15	96	15	2	96
KYLE004	10	25	18	16	7	45	10	57	10	2	60
KYLE005	9	32	21	20	7	43	7	61	10	1	61
KYLE006	8	32	28	32	8	56	10	69	12	2	65
KYLE007	8	37	16	18	6	53	<6	51	9	2	51
KYLE008	8	17	15	17	5	42	<6	45	8	2	53
KYLE009	7	21	17	277	6	50	<6	48	10	2	65
KYLE010	<4	20	9	9	2	25	<6	23	5	<1	24
KYLE011	6	25	16	10	4	22	<6	33	7	1	30
KYLE012	5	23	9	9	3	31	<6	25	6	1	30
KYLE013	4	21	8	11	3	19	<6	28	5	1	36
KYLE014	6	37	15	15	4	37	6	42	8	2	40
KYLE015	5	16	9	8	3	20	<6	28	5	1	25

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYLE016	6	63	31	7	5	116	<6	44	9	2	40
KYLE017	10	29	29	25	9	47	11	78	15	2	71
KYLE018	6	14	14	15	5	33	<6	44	9	1	48
KYLE019	7	17	15	16	6	34	<6	48	10	2	53
KYLE020	9	22	28	19	8	39	6	64	13	2	59
KYLE021	11	29	38	25	8	38	11	71	18	2	66
KYLE022	12	26	35	33	9	90	8	80	15	2	66
KYLE023	10	23	25	26	7	33	9	67	12	2	55
KYLE024	13	21	31	31	9	46	7	80	14	2	76
KYLE025	8	23	44	28	9	42	10	79	15	2	73
KYLE026	9	25	43	23	9	39	11	78	16	2	72
KYLE027	14	30	44	26	12	56	16	94	19	2	76
KYLE028	17	31	25	28	11	54	14	78	17	2	52
KYLE029	13	20	52	32	11	52	11	98	17	2	93
KYLE030	<4	13	3	<4	<2	7	<6	5	<2	<1	4
KYLE031	9	29	10	17	7	41	11	61	12	1	40
KYLE032	5	16	12	9	4	46	<6	30	7	<1	24
KYLE033	<4	<9	3	<4	<2	23	<6	10	3	<1	9
KYLE034	<4	<9	4	<4	<2	22	<6	10	3	<1	9
KYLE035	<4	<9	<3	<4	<2	40	<6	5	2	<1	5
KYLE036	<4	<9	<3	<4	<2	14	<6	4	<2	<1	6
KYLE037	<4	<9	<3	<4	<2	6	<6	5	<2	<1	8
KYLE038	<4	<9	4	<4	<2	13	<6	6	<2	<1	8
KYLE039	<4	<9	5	5	<2	15	<6	11	3	<1	10
KYLE040	9	13	39	25	9	38	7	78	15	2	73
KYLE041	<4	19	16	16	3	45	<6	27	6	1	28
KYLE042	10	<9	35	39	7	62	11	65	13	1	100
KYLE043	<4	<9	6	<4	<2	9	<6	8	3	<1	12
KYLE044	8	20	20	18	6	42	<6	43	11	2	47

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYLE045	12	31	20	17	8	70	9	65	16	2	65
KYLE046	<4	<9	4	<4	<2	14	<6	9	3	<1	9
KYLE047	4	23	15	15	4	26	8	40	8	1	37
KYLE048	<4	<9	6	4	<2	10	<6	11	3	<1	10
KYLE049	6	16	17	16	6	42	10	50	9	2	51
KYLE050	8	28	15	28	6	34	7	75	13	1	43
KYLE051	<4	12	4	<4	<2	58	<6	12	3	<1	10
KYLE052	4	14	22	13	4	21	<6	38	8	1	38
KYLE053	16	34	48	30	13	74	16	100	24	3	80
KYLS001E	12	34	18	14	6	53	7	51	14	2	60
KYLS002E	9	31	17	21	5	53	8	36	13	2	53
KYLS003E	12	31	9	16	5	57	11	36	12	2	36
KYLS004E	13	32	23	20	9	88	12	65	16	2	122
KYLS005E	12	61	9	17	6	56	21	43	20	3	41
KYLS006E	13	44	16	22	9	80	16	64	18	3	68
KYLS007E	11	64	10	15	6	54	23	45	19	2	40
KYLS008E	11	27	10	16	6	54	14	48	13	2	35
KYLS009E	12	22	9	16	5	47	8	36	11	2	35
KYLS010E	11	20	11	21	7	77	10	53	16	2	58
KYLS011E	14	35	14	17	7	55	11	54	15	2	53
KYLS012E	12	30	10	17	6	56	13	48	14	2	48
KYLS013E	10	37	19	17	7	55	10	57	15	2	61
KYLS014E	9	22	11	16	5	40	10	40	11	2	41
KYLS015E	10	26	18	13	5	40	11	40	12	2	52
KYLS016E	14	30	14	13	6	43	11	48	16	2	47
KYLS017E	7	25	6	9	3	35	6	24	10	1	27
KYLS018E	10	29	8	15	4	42	9	34	12	2	34
KYLS019E	9	41	10	15	5	48	11	38	12	2	42
KYLS020E	10	31	10	18	5	51	6	40	12	2	42

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYLS021E	10	19	8	15	4	71	9	34	13	2	34
KYLS022E	11	31	11	13	6	50	8	41	12	2	38
KYLS023E	7	23	8	11	3	36	<6	27	8	1	29
KYLS024E	11	42	9	13	5	48	15	39	18	3	37
KYLS025E	12	34	10	17	6	47	9	47	13	2	42
KYLS026E	11	44	11	15	6	63	13	47	15	2	46
KYLS027E	10	34	12	13	5	47	<6	39	11	1	37
KYLS028E	ins	ins	ins	ins	ins	ins	ins	ins	ins	ins	ins
KYLS029E	11	30	10	16	6	44	10	43	12	2	37
KYLS030E	9	38	9	14	5	42	12	39	13	2	33
KYLS031E	10	29	8	14	4	38	6	30	12	2	31
KYLS032E	9	25	8	13	4	41	9	33	11	2	36
KYLS033E	12	30	16	16	7	54	15	52	13	2	59
KYLS034E	7	18	9	12	4	26	<6	34	7	1	27
KYLS035E	12	37	20	15	7	64	8	55	16	2	83
KYLS036E	9	36	12	17	5	58	11	40	13	2	49
KYLS037E	9	45	10	15	5	53	10	35	14	2	41
KYLT001E	13	36	21	35	8	125	13	61	18	2	63
KYLT002E	12	48	14	22	7	66	15	52	17	3	48
KYLT003E	12	46	15	16	7	66	16	51	19	3	45
KYLT004E	15	44	19	22	9	72	11	68	18	3	68
KYLT005E	18	38	33	32	9	82	14	69	15	2	94
KYLT006E	15	27	23	24	8	82	11	60	14	2	91
KYLT007E	14	47	20	40	9	108	16	66	15	2	100
KYLT008E	13	35	15	15	8	78	12	57	12	2	62
KYLT009E	18	30	17	20	9	86	14	66	16	2	59
KYLT010E	10	27	11	16	5	67	14	37	10	2	42
KYLT011E	17	47	21	18	12	78	15	77	19	3	72
KYLT012E	14	40	18	74	8	102	13	57	14	2	120

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYLT013E	14	37	16	21	7	77	11	51	14	2	54
KYLT014E	15	32	13	19	7	104	13	56	14	2	52
KYLT015E	14	32	19	17	8	74	12	63	16	2	62
KYLT016E	16	33	23	26	12	107	17	87	18	3	93
KYLT017E	17	51	25	26	9	85	20	69	21	3	92
KYLT018E	17	48	17	19	8	79	19	58	19	3	66
KYLT019E	18	42	23	25	12	89	19	82	19	3	106
KYLT020E	14	45	16	16	8	90	14	57	15	2	55
KYLT021E	17	34	16	19	7	77	12	56	14	2	57
KYLT022E	11	40	16	16	6	160	14	43	13	2	47
KYLT023E	16	39	20	18	10	88	13	70	18	2	65
KYLT024E	16	38	23	30	12	107	18	86	18	3	98
KYLT025E	17	36	18	22	9	79	10	67	15	2	61
KYLT026E	9	55	10	16	5	46	25	34	18	2	39
KYLT027E	12	45	17	22	8	84	16	59	16	2	65
KYLT028E	13	46	20	20	10	84	20	72	17	2	63
KYLT029E	11	39	17	16	8	72	12	57	14	2	62
KYLT030E	12	40	15	14	7	64	12	50	11	2	48
KYLT031E	13	27	16	16	6	64	16	44	13	2	43
KYLT032E	16	39	17	17	9	72	16	67	15	2	58
KYLT033E	10	39	10	14	5	42	10	39	11	2	33
KYLT034E	12	35	15	17	7	62	11	51	14	2	48
KYLT035E	11	40	24	21	9	65	14	68	15	2	71
KYLT036E	11	32	18	15	7	71	11	50	12	2	58
KYLT037E	16	60	18	19	8	79	16	62	18	3	106
KYLT038E	13	57	16	27	7	59	17	51	17	2	52
KYLT039E	14	41	24	26	10	89	14	72	17	3	78
KYLT040E	10	34	15	15	5	44	13	36	12	2	46
KYLT041E	9	26	11	47	4	38	10	28	10	1	61

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYMG001F	11	36	12	13	5	51	11	35	10	2	40
KYMG002F	12	33	14	14	6	47	11	42	13	2	49
KYMG003F	16	45	18	18	7	57	12	54	16	2	57
KYMG004F	8	60	11	15	5	53	18	37	15	2	41
KYMG005F	13	35	15	36	7	47	8	48	13	2	54
KYMG006F	16	44	18	19	9	57	18	64	16	2	69
KYMG007F	9	27	11	14	4	49	9	34	12	2	36
KYMG008F	13	26	61	13	5	58	9	36	12	2	35
KYMG009F	13	33	12	21	6	64	13	46	16	2	49
KYMG010F	12	28	12	16	5	71	11	39	15	2	39
KYMG011F	11	38	10	13	4	63	13	31	13	2	32
KYMG012F	13	35	16	15	6	56	12	45	14	2	48
KYMG013F	13	36	23	19	10	66	13	74	17	3	67
KYMG014F	12	58	14	15	6	56	16	39	18	3	44
KYMG015F	12	51	9	12	4	41	14	29	17	2	30
KYMG017F	7	30	7	5	2	23	<6	17	8	1	18
KYMG018F	14	53	22	19	9	55	15	69	18	3	67
KYMG019F	15	57	18	16	7	55	17	52	19	3	47
KYMG020F	6	33	10	9	3	38	8	23	7	1	26
KYMG021F	17	58	25	20	11	66	17	78	18	3	72
KYMG022F	19	152	18	16	7	57	52	44	49	7	50
KYMG023F	15	49	14	15	7	57	13	49	16	2	43
KYMG024F	18	47	21	21	10	72	16	74	18	3	74
KYMG025F	10	45	13	15	6	52	15	47	14	2	47
KYMG026F	13	45	17	15	5	57	10	38	13	2	49
KYMG027F	14	45	18	14	8	58	10	55	15	2	50
KYMG028F	14	53	21	20	10	95	16	72	17	3	76
KYMG029F	25	48	21	18	17	77	18	116	19	3	58
KYMG030F	20	62	23	17	10	69	15	76	19	3	67

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYMG031F	6	33	13	9	4	35	10	29	10	1	34
KYMG032F	11	68	14	15	7	64	19	54	23	3	61
KYMG033F	16	70	25	17	9	71	15	68	20	3	71
KYMG034F	12	51	17	16	6	58	13	42	14	2	39
KYMG035F	15	44	16	19	7	61	14	51	14	2	47
KYMG036F	8	44	8	8	3	28	13	22	13	2	28
KYMG037F	8	40	12	10	4	35	8	31	10	1	33
KYMG038F	8	50	8	9	3	31	13	24	13	2	25
KYMG039F	12	44	11	11	5	50	14	37	13	2	40
KYMG040F	12	50	12	15	5	57	17	40	15	2	40
KYMG041F	19	40	18	20	9	70	22	68	19	3	68
KYMG042F	11	46	17	14	6	58	13	46	14	2	51
KYMG043F	17	52	15	16	9	64	13	61	18	2	56
KYMG044F	16	40	20	17	9	64	13	64	16	2	55
KYMG045F	18	97	13	17	7	56	28	49	24	3	46
KYMG046F	15	51	13	18	7	69	19	53	17	2	44
KYMG047F	16	37	19	19	9	68	20	65	19	3	75
KYMG048F	12	86	6	15	4	55	31	29	25	3	43
KYMG049F	13	53	10	14	6	56	20	40	19	2	48
KYMG050F	12	63	13	27	7	59	16	50	18	3	69
KYMG051F	15	61	22	15	6	51	15	45	16	2	68
KYMG052F	13	34	5	19	4	48	17	31	15	2	56
KYMG053F	18	43	12	17	8	62	16	53	20	3	54
KYMG054F	16	38	12	19	8	66	15	57	19	3	41
KYMG055F	16	82	8	14	6	50	26	36	29	4	32
KYMG056F	15	46	12	18	7	66	18	52	16	2	54
KYMG057F	18	49	15	17	8	64	22	56	21	3	57
KYMG058F	14	64	10	16	6	54	23	44	20	3	42
KYMG059F	15	45	11	14	7	61	14	53	19	3	49

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYMG060	8	16	12	11	5	43	7	37	8	1	38
KYMG060F	18	59	15	20	10	71	18	70	21	3	69
KYMG061	6	20	9	9	3	31	<6	24	6	<1	24
KYMG061F	15	36	9	16	6	57	17	42	16	2	40
KYMG062	8	11	11	13	4	32	6	32	8	1	34
KYMG062F	17	74	17	18	8	54	18	54	19	3	53
KYMG063	5	39	11	11	3	31	8	22	6	<1	34
KYMG063F	12	24	13	18	6	60	12	47	14	2	51
KYMG064	8	<9	9	15	4	39	10	31	8	1	30
KYMG064F	15	24	11	12	5	52	12	41	13	2	37
KYMG065	5	17	9	8	3	34	8	23	7	<1	23
KYMG065F	14	50	15	14	7	57	23	47	19	3	64
KYMG066	6	23	8	14	3	29	10	25	10	1	27
KYMG066F	13	47	13	15	6	52	21	46	19	3	48
KYMT001	<4	19	7	5	<2	20	<6	11	3	<1	13
KYMT002	<4	13	6	<4	<2	14	<6	8	2	<1	8
KYMT003	<4	22	5	5	<2	15	<6	11	3	<1	14
KYMT004	<4	20	7	5	<2	20	7	14	5	<1	14
KYMT005	<4	21	5	7	<2	18	<6	12	4	<1	14
KYMT006	6	44	14	12	5	35	<6	36	8	1	40
KYMT007	<4	13	4	8	<2	22	<6	13	4	<1	17
KYMT008	<4	10	<3	7	<2	22	<6	9	4	<1	11
KYMT009	<4	<9	<3	8	<2	20	<6	8	3	<1	10
KYMT010	<4	<9	<3	7	<2	22	7	12	3	<1	13
KYMT011	<4	14	3	9	<2	19	6	14	3	<1	19
KYMT012	4	11	4	7	2	23	<6	16	5	<1	20
KYMT013	<4	<9	<3	8	<2	17	<6	10	3	<1	13
KYMT014	<4	<9	3	5	<2	17	<6	9	3	<1	12
KYMT015	<4	<9	3	8	<2	28	<6	11	3	<1	13

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYMT015F	12	71	9	16	6	61	26	41	23	3	38
KYMT016	<4	<9	<3	5	<2	21	<6	9	3	<1	11
KYMT017	<4	14	9	8	<2	20	<6	15	5	<1	24
KYMT018	<4	15	4	8	<2	26	8	12	3	<1	13
KYMT018F	12	24	5	17	4	62	21	31	15	2	31
KYMT019	<4	10	5	5	<2	19	<6	11	3	<1	11
KYMT020	<4	<9	<3	8	<2	23	7	16	3	<1	16
KYMT021	<4	<9	<3	8	<2	19	<6	9	3	<1	11
KYMT022	<4	<9	<3	<4	<2	15	<6	9	2	<1	10
KYMT023	<4	17	4	5	<2	20	<6	11	3	<1	23
KYMT024	4	16	4	9	<2	23	<6	13	4	<1	28
KYMT025	5	24	5	9	<2	25	<6	15	4	<1	14
KYMT026	<4	19	5	6	<2	25	<6	10	4	<1	11
KYMT027	<4	14	5	7	<2	21	<6	11	3	<1	12
KYMT028	<4	<9	4	5	<2	23	<6	10	3	<1	11
KYMT029	<4	16	8	7	<2	19	<6	11	4	<1	17
KYMT030	<4	20	8	8	3	24	<6	21	4	<1	18
KYMT031	<4	18	5	10	2	32	6	18	6	<1	16
KYMT031F	11	19	5	17	5	55	12	37	13	2	33
KYMT032	<4	15	6	7	<2	26	<6	15	4	<1	19
KYMT033	4	19	5	7	<2	26	<6	14	4	<1	13
KYMT034	4	<9	<3	9	<2	20	<6	11	4	<1	13
KYMT035	<4	<9	<3	8	<2	25	<6	14	4	<1	15
KYMT036	9	17	10	15	5	48	<6	41	9	1	41
KYMT037	<4	<9	<3	10	<2	24	<6	13	3	<1	14
KYMT038	7	<9	7	17	4	32	<6	32	5	<1	29
KYMT039	5	21	9	10	3	33	6	25	6	<1	26
KYMT040	<4	<9	<3	8	<2	24	<6	14	4	<1	16
KYMT041	<4	<9	4	6	<2	22	<6	12	3	<1	13

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYMT042	<4	15	5	6	<2	24	<6	15	5	<1	16
KYMT043	<4	<9	<3	6	<2	20	8	9	3	<1	11
KYMT044	<4	<9	<3	7	<2	21	6	12	4	<1	13
KYMT044F	12	24	4	11	4	45	9	30	12	2	25
KYMT045	6	9	<3	11	2	39	<6	19	7	1	19
KYMT046	5	<9	5	7	<2	30	6	17	5	<1	16
KYMT047	<4	<9	4	7	<2	19	<6	10	3	<1	11
KYMT048	5	<9	<3	7	<2	28	<6	12	4	<1	15
KYMT048F	15	46	9	15	5	65	21	37	15	2	35
KYMT049	<4	<9	<3	10	<2	25	<6	14	4	<1	16
KYMT050	5	<9	<3	10	<2	29	<6	15	4	<1	15
KYMT051	5	<9	<3	8	<2	31	8	16	5	<1	16
KYMT052	<4	<9	<3	9	<2	23	<6	14	3	<1	13
KYMT053	5	<9	<3	12	2	32	<6	21	5	<1	20
KYMT054	<4	<9	<3	7	<2	22	<6	14	4	<1	12
KYMT055	6	16	<3	7	<2	28	<6	14	5	<1	13
KYMT056	<4	<9	5	8	2	29	<6	17	5	<1	16
KYMT057	<4	<9	<3	9	<2	26	<6	12	4	<1	12
KYMT058	<4	12	<3	8	<2	22	<6	10	3	<1	10
KYMT059	5	29	10	10	<2	31	7	18	7	<1	18
KYMT060	<4	14	3	5	<2	18	<6	10	3	<1	10
KYMN019F	6	26	12	8	3	18	7	28	10	2	26
KYMN020F	11	26	37	14	7	40	11	53	13	2	67
KYMN021F	13	11	17	17	6	34	13	70	12	2	56
KYMN022F	17	16	31	18	12	50	19	117	14	3	92
KYMN023F	10	25	18	13	6	32	11	69	12	2	51
KYMN024F	10	15	26	16	7	33	10	64	12	2	52
KYMN025F	15	20	25	17	8	45	15	101	13	2	79
KYMN026F	14	20	37	34	10	53	15	124	15	2	103

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYMN027F	10	32	20	11	5	27	8	57	10	2	52
KYMN028F	8	39	25	12	5	47	9	50	11	2	51
KYMN029F	14	42	26	15	7	34	13	78	12	2	62
KYOR035F	9	32	10	12	4	41	13	31	16	2	24
KYOR037	<4	<9	7	4	<2	11	<6	13	4	<1	13
KYOR038	8	16	12	14	5	39	6	42	10	2	39
KYOR039	8	16	16	15	5	34	9	44	9	1	36
KYOR039F	13	31	17	15	6	47	14	47	13	2	37
KYOR040	6	11	9	11	3	22	8	23	6	1	20
KYOR041	7	<9	10	12	4	32	<6	31	7	1	31
KYOR041F	11	17	14	15	6	49	12	43	15	2	38
KYOR042	6	11	10	11	3	30	6	28	7	1	26
KYOR042F	11	25	13	15	6	50	12	42	16	2	36
KYOR043	6	9	10	11	4	32	7	34	8	1	34
KYOR044	7	18	10	9	4	25	9	28	7	1	27
KYOR045	<4	11	5	6	<2	25	<6	12	5	<1	13
KYOR046	6	16	8	8	3	35	7	23	6	<1	24
KYOR047	8	<9	16	14	5	32	8	40	10	1	42
KYOR048	19	27	24	25	11	61	15	82	19	3	72
KYOR048F	18	41	26	23	12	68	16	83	20	3	73
KYOR049	9	17	20	18	7	42	10	60	12	2	58
KYOR050	7	12	12	15	4	29	8	37	8	1	39
KYOR051	7	<9	11	11	4	30	<6	33	7	1	31
KYOS001	11	39	29	26	9	62	11	78	13	2	105
KYOS002	7	<9	13	15	4	97	7	37	9	1	40
KYOS003	11	18	27	19	9	67	11	71	14	2	67
KYOS004	8	12	12	13	5	37	7	38	9	2	41
KYOS005	9	17	18	17	6	45	8	50	10	2	72
KYOS006	7	20	8	7	3	30	7	23	7	<1	23

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYOS007	16	29	23	22	10	64	13	75	13	2	72
KYOS008	5	<9	8	14	3	39	<6	24	6	<1	36
KYOS009	6	16	10	10	4	32	6	32	7	1	37
KYOS010	7	12	8	11	3	35	9	29	8	1	38
KYOS011	7	25	13	11	5	36	8	38	9	1	44
KYOS012	9	13	14	15	6	40	<6	47	9	2	55
KYOS013	8	<9	13	17	4	28	9	33	8	1	34
KYOS013F	11	34	13	15	5	38	12	37	13	2	35
KYOS014	9	11	22	20	6	41	13	60	12	1	68
KYOS015	9	21	31	21	9	54	14	69	14	2	74
KYOS016	9	20	30	21	8	47	10	66	13	2	62
KYOS017	4	16	14	11	4	24	8	33	8	1	31
KYOS018	7	11	16	16	6	31	8	54	10	2	43
KYOS018F	8	36	12	13	5	33	9	38	10	2	32
KYOS019	10	17	14	16	6	47	11	49	11	2	43
KYOS020	4	12	7	7	2	24	<6	20	5	<1	24
KYOS021	8	23	8	11	4	34	10	28	10	2	28
KYOS022	5	10	9	9	3	28	7	27	6	<1	28
KYOS023	10	<9	10	14	6	40	10	47	9	2	35
KYOS024	8	<9	22	19	7	50	14	61	11	1	67
KYOS025	7	<9	12	10	4	34	6	35	7	1	37
KYOS026	5	19	9	10	3	31	6	25	7	1	23
KYOS026F	10	35	11	13	5	45	9	41	12	2	37
KYOS027	11	19	22	18	6	44	11	52	11	2	41
KYOS028	8	10	16	16	5	120	11	45	10	1	44
KYOS029	<4	18	8	7	2	27	<6	19	5	<1	23
KYOS030	10	30	36	21	10	50	12	73	15	2	67
KYOS031	8	26	25	23	9	52	11	71	12	2	69
KYOS032	18	42	42	54	13	64	16	98	19	2	77

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYOS032F	7	38	15	37	6	29	<6	40	9	1	33
KYOS033	6	30	27	26	6	116	8	70	14	1	69
KYOS034	21	41	33	27	12	58	12	90	21	3	68
KYOS035	9	34	22	21	8	46	6	62	11	1	52
KYOS036	5	32	18	18	6	47	7	55	10	1	63
KYOS037	11	23	23	448	7	63	7	59	11	2	420
KYOS038	8	32	32	29	9	47	7	86	14	2	105
KYOS039	13	47	35	34	12	83	12	94	17	2	86
KYOS040	15	43	34	29	14	81	16	106	19	2	94
KYOS041	10	26	16	16	6	46	8	53	10	2	63
KYOS042	6	24	9	13	4	29	<6	39	6	1	31
KYOS043	13	37	26	26	11	58	14	80	15	2	95
KYOS044	<4	18	13	7	<2	16	<6	14	4	<1	30
KYOS044F	12	58	9	13	5	40	16	33	17	3	34
KYOS045	6	25	5	9	3	28	<6	25	5	<1	31
KYOS046	<4	20	9	12	3	18	<6	33	5	1	26
KYPR001	8	28	15	18	6	40	7	49	11	2	48
KYPR002	4	<9	4	8	2	18	<6	19	5	<1	21
KYPR003	<4	<9	4	9	2	18	<6	19	4	<1	18
KYPR004	7	13	9	13	5	37	<6	37	8	1	42
KYPR005	11	27	17	30	7	73	9	62	12	2	72
KYPR006	12	20	20	18	9	60	8	66	14	2	65
KYPR007	<4	16	6	<4	<2	12	<6	10	3	<1	13
KYPR008	<4	20	5	<4	<2	12	<6	10	3	<1	10
KYPR009	7	28	15	13	4	32	<6	31	7	1	31
KYPR010	5	22	10	9	3	29	<6	28	6	1	28
KYPR011	6	32	14	11	4	31	<6	32	7	1	41
KYPR012	<4	24	8	6	3	23	<6	21	4	<1	20
KYPR013	<4	14	6	5	<2	19	<6	12	3	<1	17

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYPR014	5	18	9	10	4	27	<6	29	6	1	40
KYPR015	<4	22	9	10	3	22	<6	23	5	<1	26
KYPR016	6	14	11	14	3	38	<6	30	7	1	56
KYPR017	4	23	9	6	2	22	<6	18	4	<1	21
KYPR018	5	26	12	13	4	32	<6	33	7	1	36
KYPR019	<4	15	8	6	2	26	<6	20	4	<1	24
KYPR020	13	28	26	21	9	64	11	66	15	2	86
KYPR021	4	40	9	7	3	28	<6	23	5	<1	31
KYPR022	<4	42	20	8	3	30	<6	23	5	<1	37
KYPR023	5	30	10	10	3	26	<6	25	6	<1	30
KYPR024	<4	43	15	8	<2	50	<6	19	8	<1	43
KYPR025	<4	46	19	9	3	28	<6	22	7	<1	46
KYPR026	<4	30	<3	10	3	26	<6	43	4	<1	24
KYPR027	15	60	21	16	8	62	9	58	14	2	63
KYPR028	6	30	13	12	5	50	<6	35	7	1	36
KYPR029	<4	32	9	9	3	23	<6	23	5	<1	25
KYPR030	6	38	21	11	4	43	<6	34	9	1	50
KYPR031	5	28	7	13	3	28	<6	25	5	<1	38
KYPR032	7	25	9	14	4	35	<6	30	7	1	42
KYPR033	7	21	16	15	5	46	6	37	7	1	46
KYPR034	10	24	19	15	6	47	<6	50	11	2	79
KYPR035	<4	16	7	8	2	22	<6	18	4	<1	18
KYPR036	5	20	13	9	4	32	<6	29	6	1	32
KYPR037	6	18	13	9	4	31	<6	33	8	1	40
KYPR038	18	51	43	49	16	79	14	101	33	4	127
KYPR039	8	14	23	11	4	46	<6	33	7	1	50
KYPR040	11	26	16	17	7	50	9	49	11	2	44
KYPR041	4	16	8	10	3	31	<6	26	6	<1	27
KYPR042	5	15	8	10	3	27	<6	26	5	<1	30

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYPR043	4	18	12	12	4	35	<6	32	6	1	31
KYPR044	5	18	9	9	3	27	<6	30	5	<1	29
KYPR045	7	28	15	13	5	47	10	40	8	1	44
KYPR046	16	29	19	19	9	61	12	62	13	2	56
KYPR047	5	17	8	8	3	25	<6	27	6	1	24
KYPR048	6	19	10	10	3	29	<6	34	7	1	44
KYPR049	6	22	14	12	4	43	<6	33	6	1	31
KYPR050	<4	21	8	7	<2	21	<6	14	4	<1	28
KYPR051	10	24	18	16	8	60	8	62	12	2	51
KYPR052	5	21	9	10	4	34	<6	27	7	1	26
KYPR053	<4	12	6	9	<2	19	<6	14	3	<1	17
KYPR054	4	19	17	12	4	38	<6	36	7	1	55
KYPR055	<4	21	11	11	3	33	<6	27	5	<1	29
KYPR056	7	24	14	14	5	40	<6	41	9	1	51
KYPR057	11	42	20	34	10	79	10	79	13	2	102
KYPR060	9	26	16	17	7	48	9	55	9	2	49
KYPR061	7	21	18	13	5	40	<6	41	8	1	46
KYPR062	6	19	11	12	4	31	<6	30	6	1	26
KYPR063	5	15	9	11	4	26	<6	30	5	<1	27
KYPR064	4	23	8	11	4	35	<6	34	5	1	25
KYPR065	5	32	15	9	4	32	7	28	7	1	33
KYPR066	7	26	12	11	5	34	9	36	8	1	33
KYPR067	6	29	10	8	3	30	<6	26	6	<1	27
KYPR068	<4	20	8	7	<2	18	6	15	4	<1	17
KYPR069	6	20	8	5	2	22	<6	18	4	<1	16
KYPR070	5	27	12	6	3	28	<6	26	5	<1	29
KYPR071	11	42	17	14	7	51	12	51	11	2	48
KYPR072	8	25	14	14	5	34	7	41	8	1	40
KYPR073	14	37	20	19	10	67	11	72	14	2	63

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYPR074	15	51	21	22	11	77	13	81	17	2	69
KYPR075	5	17	8	8	3	24	6	22	5	<1	21
KYPR076	8	25	10	12	5	39	9	41	8	1	35
KYPR077	7	20	10	10	4	36	<6	31	8	1	29
KYPR078	6	30	10	9	3	27	<6	23	6	<1	29
KYPR079	6	21	10	8	3	28	8	25	6	<1	26
KYPR080	6	17	11	9	4	26	7	29	6	<1	31
KYPR081	<4	19	7	6	<2	23	<6	16	4	<1	13
KYPR082	14	35	15	14	7	56	10	50	11	2	46
KYPR083	<4	9	8	5	2	20	<6	18	4	<1	20
KYPR084	5	28	8	7	3	21	6	20	5	<1	24
KYPR085	<4	16	10	7	3	23	<6	22	5	<1	36
KYPR086	10	30	23	14	4	40	<6	31	9	1	49
KYPR088	6	13	10	10	4	29	<6	32	7	1	32
KYPI001	10	14	9	10	4	52	<6	29	7	1	29
KYPI002	5	28	11	9	4	44	<6	27	7	1	27
KYPI003	5	19	8	7	2	29	<6	19	5	<1	18
KYPI004	6	32	9	10	3	38	9	27	6	<1	27
KYPI004F	13	32	17	15	7	77	14	53	16	2	50
KYPI005	8	32	11	10	3	47	<6	26	6	<1	26
KYPI006	10	31	12	12	4	43	8	33	8	1	31
KYPI007	<4	20	7	8	2	31	<6	19	5	<1	21
KYPI008	<4	20	8	8	2	37	<6	21	5	<1	22
KYPI009	4	23	6	7	2	30	<6	18	5	<1	19
KYPI010	6	27	10	12	4	35	<6	28	7	1	37
KYPI011	5	28	11	12	4	34	<6	28	8	1	30
KYPI012	5	23	7	7	2	25	<6	19	5	<1	26
KYPI013	4	17	6	8	2	31	<6	19	5	<1	20
KYPI014	7	19	9	10	4	43	<6	25	8	1	25

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYPI015	4	17	6	8	3	35	<6	19	6	<1	20
KYPI016	5	20	9	9	3	39	<6	26	6	<1	29
KYPI017	5	23	8	9	3	33	<6	24	5	<1	24
KYPI018	6	38	17	27	4	71	8	33	9	1	41
KYPI018F	14	42	25	67	7	102	11	53	17	2	66
KYPI019	5	23	7	8	2	31	<6	17	5	<1	16
KYPI019F	12	73	11	15	6	63	26	38	24	3	33
KYPI020	7	17	10	12	4	36	<6	33	7	1	34
KYPI021	7	31	10	9	4	45	8	33	8	1	30
KYPI022	4	9	5	9	3	32	<6	21	5	<1	24
KYPI023	6	20	9	9	3	43	6	25	6	<1	24
KYPI024	6	30	11	11	4	40	8	30	6	1	31
KYPI025	8	38	20	19	6	69	10	48	11	1	74
KYPI046F	12	28	11	24	5	74	10	38	12	2	42
KYPI066	15	31	17	19	8	73	10	67	10	2	51
KYPI067	5	<9	8	9	3	32	<6	21	5	<1	40
KYPI068	6	17	10	9	3	45	<6	27	6	<1	28
KYPI069	10	17	14	17	7	59	11	52	11	2	53
KYPI070	6	<9	9	12	4	56	<6	31	7	1	40
KYPI071	6	12	9	30	3	64	<6	28	7	<1	38
KYPI072	7	<9	7	13	3	49	<6	26	6	<1	26
KYPI073	6	<9	8	15	3	47	<6	26	6	<1	28
KYPI074	6	<9	7	10	3	47	6	26	6	<1	33
KYPI075	7	10	11	12	4	45	8	33	7	1	35
KYPI076	7	16	11	10	4	46	<6	32	7	1	61
KYPI077	8	10	12	21	5	45	8	39	7	1	43
KYPI078	7	<9	9	16	5	40	<6	40	7	1	38
KYPI079	8	<9	6	16	4	34	<6	38	7	1	35
KYPI080	6	<9	5	18	5	38	<6	42	8	1	64

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYPI081	7	<9	6	14	5	38	<6	42	8	1	39
KYPI082	6	<9	5	12	3	36	<6	29	5	<1	29
KYPI083	6	<9	6	13	4	46	7	34	6	<1	38
KYPI084	18	<9	16	27	11	95	14	78	14	2	61
KYPI085	7	<9	7	28	4	57	<6	36	7	1	46
KYPI086	7	<9	8	14	4	42	9	35	7	1	38
KYPI087	7	<9	6	12	4	40	<6	30	6	1	32
KYPI088	8	<9	10	14	5	40	7	43	8	1	44
KYPI089	9	<9	14	17	6	47	8	51	9	1	52
KYPI090	7	<9	10	21	5	47	7	39	7	<1	44
KYPI091	7	<9	5	15	4	53	<6	36	7	1	38
KYPI092	8	<9	7	16	6	50	7	48	8	1	43
KYPI093	8	<9	4	16	5	40	<6	43	8	1	46
KYPI094	5	<9	3	9	3	38	<6	26	5	<1	28
KYPI095	10	<9	9	20	5	77	6	42	9	1	60
KYPI096	9	<9	11	19	6	52	9	50	11	2	58
KYPI097	7	<9	8	14	5	42	10	45	9	1	46
KYPI098	7	<9	11	14	5	50	6	38	7	1	48
KYPI099	6	<9	<3	15	3	42	<6	29	6	<1	27
KYPI100	5	<9	<3	13	3	47	7	24	6	<1	28
KYPI101	8	<9	6	14	5	45	8	40	8	1	37
KYPI102	7	<9	<3	12	3	46	7	28	6	<1	27
KYPI103	8	<9	9	17	6	56	10	45	9	1	46
KYPI104	5	<9	4	13	3	42	<6	26	6	<1	31
KYPI105	6	<9	4	12	3	31	6	29	6	<1	27
KYPI106	6	<9	9	14	3	38	<6	23	5	<1	29
KYPI107	4	<9	6	8	2	35	<6	19	4	<1	25
KYPI108	5	<9	8	9	3	37	<6	23	5	<1	32
KYPI109	6	<9	6	13	2	41	<6	20	4	<1	37

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYPI110	6	<9	7	11	3	41	<6	25	6	<1	32
KYPI111	6	9	6	13	3	40	6	27	6	<1	44
KYPI112	6	<9	5	12	2	38	<6	22	5	<1	32
KYPI113	8	<9	7	14	4	44	7	34	8	1	35
KYPI114	8	<9	9	16	6	53	9	49	8	1	54
KYPI115	6	<9	8	17	5	58	<6	44	8	1	43
KYPI116	5	<9	11	12	3	37	<6	26	5	<1	37
KYPI117	6	<9	6	15	4	36	7	31	7	<1	57
KYPI118	8	<9	9	16	5	48	7	41	9	1	40
KYPI119	9	<9	17	19	5	59	8	52	9	1	60
KYPI120	5	<9	3	11	2	36	<6	21	5	<1	27
KYPI121	10	14	9	17	5	48	8	45	9	1	45
KYPI122	5	<9	10	11	3	31	<6	28	5	<1	33
KYPI123	8	<9	12	15	5	39	<6	42	8	1	57
KYPI124	9	13	15	17	6	46	7	47	10	1	53
KYPI125	10	18	9	13	5	115	9	42	9	1	49
KYPI126	5	<9	6	7	3	33	6	26	6	<1	24
KYPI127	8	<9	6	13	4	38	<6	34	7	<1	31
KYPI128	5	<9	<3	13	3	36	<6	24	5	<1	22
KYPI129	5	<9	<3	9	2	34	<6	21	5	<1	19
KYPI130	<4	<9	<3	7	<2	22	<6	13	4	<1	15
KYPI131	8	<9	<3	12	4	48	<6	31	8	1	30
KYPI132	7	<9	5	15	4	49	7	28	7	<1	36
KYPI133	7	<9	5	14	3	47	<6	29	6	<1	41
KYPI134	5	<9	5	11	3	37	<6	26	6	<1	28
KYPI135	8	18	9	13	5	68	<6	40	7	<1	40
KYPI136	8	16	8	14	5	50	10	39	8	1	31
KYPI137	6	<9	5	14	3	37	<6	28	6	<1	33
KYPI138	6	<9	6	12	4	42	7	37	7	1	39

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYPI139	6	<9	6	13	4	41	7	31	6	<1	35
KYPI140	8	<9	6	28	4	57	<6	31	7	<1	62
KYPI141	6	<9	7	11	3	46	8	27	6	<1	31
KYPI142	7	<9	7	13	3	42	<6	27	6	<1	37
KYPI143	5	<9	4	10	3	33	<6	28	6	<1	30
KYPI144	6	<9	6	8	3	39	<6	24	5	<1	27
KYPI145	<4	<9	<3	6	2	25	<6	18	4	<1	19
KYPI146	<4	<9	7	11	2	33	<6	21	5	<1	25
KYPI147	6	<9	5	11	3	32	<6	22	7	<1	27
KYPI148	8	9	16	17	6	43	8	47	10	1	43
KYPI149	9	<9	8	17	7	61	7	56	11	2	37
KYPI150	6	<9	8	12	3	36	8	26	6	<1	27
KYPI151	7	<9	6	15	4	44	<6	32	7	1	39
KYPI152	12	15	15	26	8	64	8	64	13	2	63
KYPI153	9	<9	7	14	5	52	8	41	7	1	30
KYPI154	<4	<9	4	10	2	31	<6	21	4	<1	22
KYPI155	6	<9	11	13	3	42	<6	26	5	<1	39
KYPI156	5	<9	5	12	3	36	<6	26	5	<1	24
KYPI157	11	12	11	15	7	58	11	51	9	1	49
KYPI158	8	<9	7	21	5	52	6	37	7	1	51
KYPI159	6	<9	9	12	4	35	<6	37	7	1	32
KYPI160	11	<9	19	19	6	64	8	49	10	1	62
KYPI161	8	<9	9	19	4	86	6	35	8	<1	40
KYPI162	9	26	12	15	6	68	10	43	9	1	41
KYPI163	8	16	10	10	4	39	9	35	8	1	38
KYPI164	9	10	11	14	4	49	6	33	9	1	42
KYPI165	6	24	11	12	3	37	7	30	6	1	30
KYPI166	7	<9	13	8	3	39	7	23	5	<1	23
KYPI167	5	<9	8	9	3	151	<6	39	6	<1	23

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYPI168	4	39	9	7	3	63	7	25	6	<1	23
KYPI169	7	16	13	27	5	46	<6	42	8	1	39
KYPI170	11	25	27	16	8	64	9	59	13	2	66
KYPI171	8	13	12	15	5	55	<6	36	8	1	37
KYPI172	13	24	14	16	9	69	12	65	11	2	43
KYPI173	9	16	10	12	5	49	10	36	9	2	29
KYPI174	8	23	11	71	4	82	<6	34	9	1	35
KYPI175	8	16	7	16	3	37	<6	22	8	1	22
KYPI176	8	18	13	14	5	51	6	41	9	1	39
KYPO001	4	17	9	6	<2	13	<6	19	4	<1	23
KYPO002	5	12	13	6	3	17	<6	33	5	1	31
KYPO004	9	15	22	14	6	24	9	64	8	2	65
KYPO005	8	21	22	16	5	36	9	68	9	2	42
KYPO006	7	17	15	10	4	19	<6	45	7	1	38
KYPO007	7	18	18	12	5	22	9	51	7	1	61
KYPO008	10	23	40	21	11	49	14	115	12	2	83
KYPO009	16	46	51	33	13	78	17	151	16	2	117
KYPO010	16	24	61	42	14	66	16	334	20	2	210
KYPO011	7	15	16	10	4	24	<6	41	6	1	49
KYPO011F	14	19	21	16	7	40	8	67	12	2	55
KYPO012	14	59	272	46	13	62	16	336	62	4	763
KYPO013	16	65	342	41	14	66	14	284	76	5	798
KYPO014	13	24	20	36	13	54	15	382	20	2	96
KYPO015	8	17	35	25	8	40	9	87	10	2	81
KYPO016	15	33	16	68	13	70	13	488	20	2	107
KYPO016F	20	26	17	37	12	59	12	311	18	2	71
KYPO017	13	28	91	34	11	52	12	256	21	2	306
KYPO018	6	13	15	10	3	19	<6	39	8	1	36
KYPO019	7	12	16	10	4	22	7	42	8	1	34

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYPO020	9	11	20	15	6	33	7	66	10	2	52
KYPO020F	13	35	31	18	10	51	12	101	16	3	75
KYPO021	22	33	54	33	16	82	19	174	17	3	119
KYPO022	18	27	44	36	15	66	14	166	15	2	130
KYPO023	<4	13	10	4	2	12	<6	19	4	<1	14
KYPO023F	14	17	21	16	7	38	11	64	14	2	56
KYPO024	6	20	13	11	3	17	<6	29	8	1	31
KYPO025	<4	11	7	<4	<2	8	<6	7	3	<1	8
KYPO026	5	14	10	8	2	174	7	29	9	<1	36
KYPO026F	9	28	17	14	5	162	10	56	14	1	56
KYPO027	5	13	12	6	3	18	<6	25	6	<1	19
KYPO028	9	15	17	17	5	29	7	55	9	2	46
KYPO029	<4	15	6	<4	<2	8	<6	6	3	<1	11
KYPO030	7	21	17	12	4	22	7	47	9	1	45
KYPO031	6	<9	20	10	5	47	<6	56	10	1	42
KYWH001	19	46	22	15	11	53	14	78	17	2	51
KYWH002	10	21	16	9	4	30	7	30	11	1	37
KYWH003	9	22	13	9	4	35	9	35	10	2	39
KYWH004	17	40	42	16	10	47	10	74	17	2	73
KYWH005	6	<9	8	5	<2	15	<6	14	5	<1	15
KYWH006	17	39	17	14	8	60	11	57	15	2	53
KYWH007	22	42	30	18	11	71	12	81	19	3	85
KYWH008	10	22	16	13	5	36	<6	39	10	2	36
KYWH009	16	39	27	20	12	94	15	88	20	3	90
KYWH010	20	45	30	29	15	105	16	106	21	3	105
KYWH011	11	35	24	22	9	61	9	71	15	2	85
KYWH012	14	33	23	19	8	59	11	63	14	2	70
KYWH013	12	30	18	20	7	51	11	56	14	2	53
KYWH014	24	52	42	27	13	84	14	94	26	3	120

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYWH015	13	20	20	16	7	57	11	56	14	2	61
KYWH016	14	41	22	18	9	64	14	66	17	2	66
KYWH017	13	38	21	26	7	86	9	56	15	2	102
KYWH018	15	39	21	19	8	65	13	58	16	2	63
KYWH019	12	36	22	16	7	51	11	51	14	2	58
KYWH020	10	48	14	13	5	45	11	37	12	2	41
KYWH021	15	43	20	22	9	61	7	66	13	2	75
KYWH022	11	74	13	10	5	45	15	38	16	2	35
KYWH023	20	54	34	30	16	107	17	115	22	3	111
KYWH024	16	54	29	22	13	97	14	94	19	3	101
KYWH025	10	47	21	18	8	60	10	61	14	2	62
KYWH026	9	42	17	13	6	48	7	47	11	2	43
KYWH027	12	45	19	15	8	56	12	57	14	2	51
KYWH028	12	49	19	17	7	64	12	55	13	2	73
KYWH029	20	52	35	24	13	89	16	92	20	3	99
KYWH030	18	46	25	20	8	70	13	64	15	2	64
KYWH031	12	40	16	15	6	51	10	45	13	2	52
KYWH032	15	38	23	22	8	53	11	63	14	2	60
KYWH033	12	33	20	19	7	42	10	54	12	2	47
KYWH034	13	36	13	11	5	36	7	39	11	2	31
KYWH035	16	47	23	17	8	54	12	61	14	2	47
KYWH036	15	30	17	13	6	35	8	46	10	2	32
KYWH037	16	46	29	54	9	56	8	70	15	2	91
KYWH038	12	31	12	14	5	33	8	37	9	1	36
KYWH039	8	24	7	5	3	21	<6	21	6	1	21
KYWH040	9	28	14	12	4	28	7	33	8	1	37
KYWH041	12	30	7	10	3	23	7	30	11	2	20
KYWH042	12	33	16	13	6	36	12	40	12	2	39
KYWH043	7	31	12	9	3	23	9	22	9	1	29

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYWO001	19	36	16	23	11	67	13	86	18	2	123
KYWO002	<4	9	7	6	<2	21	<6	13	4	<1	20
KYWO003	7	12	13	13	3	37	<6	25	8	<1	31
KYWO004	6	<9	8	8	2	22	9	19	7	1	20
KYWO005	5	<9	8	8	<2	17	7	18	5	<1	25
KYWO006	5	14	6	8	<2	23	<6	14	7	<1	15
KYWO007	8	<9	4	11	3	25	<6	20	8	1	23
KYWO007E	13	60	9	14	5	47	15	37	16	2	39
KYWO008	7	16	8	8	3	29	<6	21	10	2	26
KYWO009	8	31	7	8	2	31	6	18	10	1	24
KYWO010	7	29	7	7	2	24	11	16	10	1	17
KYWO011	5	17	7	7	2	23	6	18	7	<1	21
KYWO012	7	32	7	8	3	29	10	22	10	1	24
KYWO013	8	50	8	10	4	30	18	26	14	2	32
KYWO014	14	48	29	25	9	54	12	78	16	2	72
KYWO015	9	40	20	19	5	31	<6	51	10	2	51
KYWO015E	12	34	17	18	6	41	13	51	15	2	47
KYWO016	12	32	16	24	8	45	8	69	14	2	54
KYWO017	10	36	8	14	4	37	8	34	11	2	35
KYWO018	8	22	10	12	4	34	<6	30	9	1	34
KYWO019	8	32	10	12	4	31	<6	31	8	1	35
KYWO019E	11	41	15	14	5	46	10	40	13	2	50
KYWO020	8	29	10	13	4	34	6	34	9	1	37
KYWO021	8	34	12	13	4	34	<6	34	8	1	45
KYWO022	8	30	12	10	4	34	6	34	9	1	40
KYWO023	11	32	17	12	7	41	12	51	11	2	41
KYWO024	7	43	13	16	5	38	11	41	10	1	47
KYWO025	6	35	10	14	4	32	<6	36	8	1	31
KYWO026	6	63	20	24	6	56	6	69	11	1	62

Sample #	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Sc ppm	Sr ppm	Th ppm	V ppm	Y ppm	Yb ppm	Zn ppm
KYWO027	7	28	9	13	3	20	<6	28	6	<1	23
KYWO028	7	36	12	16	5	31	9	50	10	2	42
KYWO029	6	32	13	15	4	31	<6	39	8	1	45
KYWO031	4	27	7	7	2	25	<6	19	6	<1	22
KYWO031E	4	23	9	7	3	20	<6	22	6	<1	19
KYWO032	5	19	8	16	3	23	<6	24	7	1	21
KYWO033	8	34	11	13	4	35	8	37	10	2	39
KYWO034	8	34	12	12	5	37	<6	41	9	1	39
KYWO034E	12	20	13	18	7	50	9	53	13	2	55
KYWO035	10	32	13	19	7	50	10	57	11	2	113
KYWO036	8	41	18	19	7	44	<6	57	12	1	59
KYWO037	7	38	8	17	3	32	7	22	7	<1	49
KYWO039	5	24	9	7	<2	23	<6	17	5	<1	21
KYWO040	6	26	8	9	3	27	<6	24	8	1	28
KYWO041	6	32	10	8	3	29	<6	28	7	1	30
KYWO042	6	43	8	8	3	27	8	22	9	1	28
KYWO045	9	33	16	14	4	35	7	37	12	2	50
KYWO046	11	25	18	21	7	44	10	61	12	2	61
KYWO047	7	21	12	13	4	33	7	37	9	1	38
KYWO048	14	33	6	19	5	41	7	37	10	1	23
KYWO049	<4	23	7	<4	<2	12	<6	10	4	<1	10
KYWO050	<4	13	6	4	<2	12	<6	9	3	<1	14
KYWO051	15	50	27	35	14	76	17	115	21	3	91
KYWO052	5	24	10	9	3	18	<6	30	6	1	28
KYWO053	25	40	31	31	20	84	22	148	21	3	90

APPENDIX II--DEVONIAN SHALE AND COAL SEMIQUANTITATIVE XRF DATA

Analytical Methods

Semiquantitative concentrations of 14 elements were determined in the field with a portable X-ray fluorescence analyzer manufactured by the Niton Corporation. Analyses employing X-ray fluorescence (XRF) instrument such as the one used in this study are highly dependent on the geometry of the material being analyzed and the correction procedures used in the analyses. The scheme used in this study incorporated minimal, manufacturer supplied, correction procedures resulting in, at best, semiquantitative measurements. Further, the technique only measures surface compositions (x-ray penetration is generally less than 1 mm/0.04 in). Because flat surfaces are ideal for analyses, readings were generally taken along surfaces defined by bedding planes in the shale and cleats in the coal. Values below the detection limit are shown as <LOD. Detection limits were highly variable, depending on the element and sample analyzed. The error value reported is based on counting statistics and is an estimate of deviation for the concentration reported.

Devonian New Albany Shale and associated soils and salts

Sample #	Latitude	Longitude	Sample Description	transect (cm from edge)	Core depth (m)
01KY-01R	37°44'22.8"	83°59'18.1"	Partly weathered shale w/white rind		
01KY-02R	37°44'22.8"	83°59'18.1"	Less weathered darker shale		
01KY-03R	37°44'22.8"	83°59'18.1"	White weathering rind on shale		
01KY-04R	37°44'17.5"	83°59'18.6"	Red stained shale on bench in drainage		
01KY-05R	37°52'09.1"	83°56'46.0"	White powdery surface on weathered sh.		
01KY-06R	37°52'09.1"	83°56'46.0"	Shale beneath coating 01KY-05R		
01KY-07R	37°52'09.1"	83°56'46.0"	Red coating on shale (just below 01KY-06R)		
01KY-08R	37°52'09.1"	83°56'46.0"	Red material filling near vert. Fracture		
01KY-10R-A	37°52'44.4"	83°57'04.3"	Weathered reddish brown shale	258	
01KY-11R	37°52'44.4"	83°57'04.3"	Lt. brown Soil just to right of outcrop	-75	
01-KY-12R	37°52'44.4"	83°57'04.3"	Reddish soil about 175 m below 01KY-11R	-85	
01-KY-13R	37°52'44.4"	83°57'04.3"	Reddish soil halfway between 01KY11R-12R	-80	
01-KY-14R	37°52'44.4"	83°57'04.3"	20 cm pit at 01KY-12R--reddish soil	-75	
01-KY-15R-A	37°52'44.4"	83°57'04.3"	White coating on shale	203	
01-KY-15R-B	37°52'44.4"	83°57'04.3"	Red-brn. shale beneath coating 01KY-15R-A	203	
01-KY-10R-B	37°52'44.4"	83°57'04.3"	Shale beneath coating 01KY-10R-A	258	
01-KY-16R-A	37°52'44.4"	83°57'04.3"	Coating on shale	308	
01-KY-16R-B	37°52'44.4"	83°57'04.3"	Shale beneath coating 01KY-16R-A	308	
01KY-17R-A	37°52'44.4"	83°57'04.3"	Coating on shale	368	
01KY-17R-B	37°52'44.4"	83°57'04.3"	Shale beneath coating 01KY-17R-A	368	
01KY-18R-A	37°52'44.4"	83°57'04.3"	Coating on shale just before slump block(?)	443	
01KY-18R-B	37°52'44.4"	83°57'04.3"	Shale beneath 01KY-18R-A	443	
01KY-19R-A	37°52'44.4"	83°57'04.3"	Coating on shale just on slump block(?)	583	
01KY-19R-B	37°52'44.4"	83°57'04.3"	Fissle shale just on slump block(?)	583	
01KY-20R-A	37°52'44.4"	83°57'04.3"	Coating on shale near salt encrustations	663	
01KY-20R-B	37°52'44.4"	83°57'04.3"	Grayish, cemented(?) shale beneath 01KY-20R-A	663	
01KY-21R	37°52'44.4"	83°57'04.3"	Salts encrustation just above & left 01KY-20R	693	

Sample #	Latitude	Longitude	Sample Description	transect (cm) from edge)	Core depth (m)
01KY-22R	37°52'44.4"	83°57'04.3"	Lt. yellow salts left of 01KY21	958	
01KY-24R-A	37°52'44.4"	83°57'04.3"	Reddish saltish surface on shale	813	
01KY-24R-B	37°52'44.4"	83°57'04.3"	Shale beneath 01KY-24R-A	813	
01KY-25R-A	37°52'44.4"	83°57'04.3"	Coating on shale at left edge of slump block(?)	1063	
01KY-28R-A	37°52'44.4"	83°57'04.3"	Coating on shale	1613	
01KY-28R-B	37°52'44.4"	83°57'04.3"	Shale beneath 01KY-28R-A	1613	
01KY-29R	37°52'44.4"	83°57'04.3"	White weathering rind on disaggreg. sh. on bench		
01KY-30R	37°52'44.4"	83°57'04.3"	Red weathering rind on disaggred sh. on bench		
01KY-31R	37°52'44.4"	83°57'04.3"	red weathered shale on bench		
01KY-47R			Vert. py. vein in dk. grayish brn sh.-Sunbury		7.56
01KY-48R			Dark brn. pyritic sh.		7.82
01KY-49R			Pyrite nodules and banding in dk. brn. sh.		8.28
01KY-50R			Very dk. brn. pyritic sh.		8.31
01KY-51R			White weathering salts on pyrite in shale (from handling of core)		11.06
01KY-45R			Brec.? pyritized med. gry. material in v drk brn py. sh. (top Cleveland)		9.25
01KY-46R			Dk. brn. pyritic sh.		9.28
01KY-52R			Med. dk. brn. pyritic sh.		11.41
01KY-53R			Med. gry. lense of material variably sulfidized		11.45
01KY-54R			Pyritized lense in med. gry. brn. lam. sh.		19.95
01KY-55R			Med. brn. pyritic sh. (near bottom of Cleveland)		20.01
01KY-56R			Py. nodule (fine py in center) in dk. gry. brn. sh.-Three Licking		22.72
01KY-56R			Py. nodule (course py on edge) in dk. gry. brn. sh.-Three Licking		22.72
01KY-57R			Med. gry. br. sh.		22.78
01KY-58R			Med. gry. br. sh. near top of Huron		26.53
01KY-59R			Med dk. br. sh. middle of Huron		32.63
01KY-60R			Dk. gry. br. py. Huron sh.		38.73

Sample #	Latitude	Longitude	Sample Description	transect (cm)	Core depth (m)
				from edge)	
01KY-61R			Py. nodule in v. dk. brn Huron sh.		33.42
01KY-62R			Med gry. pyritic bands & nodules in dk. brn. Huron sh.		44
01KY-63R			Med. dk. brn. pyritic Huron sh.		43.75
01KY-64R			Med. brn. py. Huron sh.		48.42
01KY-65R			Med brnish gry. Hur/Duf mudstone/sh.		49.79
01KY-66R			Sulfidized nodule in Hur/Duf med. brnish gry. mudstone/sh.		52.99

<LOD = below limit of detection. LOD is variable for each sample and depends on counting statistics.

Sample #	Site Location	As ppm	As Error ppm	Co ppm	Co Error ppm	Cr ppm	Cr Error ppm	Cu ppm	Cu Error ppm
01KY-01R	Near Estill Cnty Middle School	<LOD	27	<LOD	230	<LOD	360	<LOD	120
01KY-02R	Near Estill Cnty Middle School	<LOD	28	<LOD	240	<LOD	410	<LOD	120
01KY-03R	Near Estill Cnty Middle School	<LOD	33	250	160	<LOD	440	<LOD	210
01KY-04R	Below Estill Cnty Middle School	<LOD	28	<LOD	470	660	400	150	83
01KY-05R	Clay City Outcrop 1 (south)	93	34	140	740	<LOD	1200	<LOD	200
01KY-06R	Clay City Outcrop 1 (south)	78	38	<LOD	840	<LOD	1000	<LOD	230
01KY-07R	Clay City Outcrop 1 (south)	220	39	2000	910	2100	1000	<LOD	200
01KY-08R	Clay City Outcrop 1 (south)	59	36	<LOD	860	<LOD	1100	<LOD	200
01KY-10R-A	Clay City Outcrop 2 (north)	<LOD	51	<LOD	930	<LOD	1100	<LOD	200
01KY-11R	Clay City Outcrop 2 (north)	<LOD	34	<LOD	470	<LOD	540	<LOD	110
01-KY-12R	Clay City Outcrop 2 (north)	41	21	<LOD	380	<LOD	480	<LOD	96
01-KY-13R	Clay City Outcrop 2 (north)	25	16	<LOD	260	<LOD	330	<LOD	77
01-KY-14R	Clay City Outcrop 2 (north)	42	24	<LOD	450	<LOD	590	<LOD	120
01-KY-15R-A	Clay City Outcrop 2 (north)	46	25	<LOD	510	<LOD	650	<LOD	130
01-KY-15R-B	Clay City Outcrop 2 (north)	<LOD	51	<LOD	350	<LOD	620	<LOD	180
01-KY-10R-B	Clay City Outcrop 2 (north)	<LOD	37	<LOD	290	<LOD	450	<LOD	140
01-KY-16R-A	Clay City Outcrop 2 (north)	31	18	<LOD	360	<LOD	450	<LOD	89
01-KY-16R-B	Clay City Outcrop 2 (north)	<LOD	84	<LOD	810	<LOD	1200	<LOD	380
01KY-17R-A	Clay City Outcrop 2 (north)	<LOD	53	<LOD	390	<LOD	690	<LOD	180
01KY-17R-B	Clay City Outcrop 2 (north)	<LOD	55	<LOD	860	<LOD	1000	<LOD	230
01KY-18R-A	Clay City Outcrop 2 (north)	<LOD	30	<LOD	230	<LOD	360	<LOD	100
01KY-18R-B	Clay City Outcrop 2 (north)	43	17	<LOD	240	<LOD	330	<LOD	78
01KY-19R-A	Clay City Outcrop 2 (north)	<LOD	35	<LOD	630	<LOD	750	<LOD	140
01KY-19R-B	Clay City Outcrop 2 (north)	49	30	<LOD	500	<LOD	680	<LOD	150
01KY-20R-A	Clay City Outcrop 2 (north)	<LOD	57	<LOD	590	<LOD	810	<LOD	240
01KY-20R-B	Clay City Outcrop 2 (north)	80	36	<LOD	680	<LOD	860	<LOD	200
01KY-21R	Clay City Outcrop 2 (north)	37	20	<LOD	540	<LOD	680	<LOD	140

Sample #	Site Location	As ppm	As Error ppm	Co ppm	Co Error ppm	Cr ppm	Cr Error ppm	Cu ppm	Cu Error ppm
01KY-22R	Clay City Outcrop 2 (north)	<LOD	51	<LOD	930	<LOD	1100	<LOD	210
01KY-24R-A	Clay City Outcrop 2 (north)	68	29	<LOD	660	<LOD	830	<LOD	180
01KY-24R-B	Clay City Outcrop 2 (north)	<LOD	46	<LOD	560	<LOD	840	<LOD	180
01KY-25R-A	Clay City Outcrop 2 (north)	43	20	<LOD	350	<LOD	450	<LOD	110
01KY-28R-A	Clay City Outcrop 2 (north)	42	17	<LOD	390	570	310	<LOD	92
01KY-28R-B	Clay City Outcrop 2 (north)	32	18	<LOD	360	<LOD	440	<LOD	90
01KY-29R	Clay City Outcrop 2 (north)	<LOD	19	<LOD	240	350	200	<LOD	64
01KY-30R	Clay City Outcrop 2 (north)	85	22	<LOD	690	900	520	<LOD	100
01KY-31R	Clay City Outcrop 2 (north)	60	22	<LOD	570	<LOD	680	<LOD	100
01KY-47R	Core DN8, Powell County, Clay City Quad.	3500	93	<LOD	840	<LOD	1000	<LOD	140
01KY-48R	Core DN8, Powell County, Clay City Quad.	140	19	<LOD	300	<LOD	360	<LOD	71
01KY-49R	Core DN8, Powell County, Clay City Quad.	330	29	660	330	<LOD	590	<LOD	95
01KY-50R	Core DN8, Powell County, Clay City Quad.	110	20	<LOD	330	<LOD	410	<LOD	76
01KY-51R	Core DN8, Powell County, Clay City Quad.	51	23	1600	660	<LOD	1100	<LOD	130
01KY-45R	Core DN8, Powell County, Clay City Quad.	160	34	2300	840	<LOD	1400	<LOD	170
01KY-46R	Core DN8, Powell County, Clay City Quad.	<LOD	15	200	130	260	170	<LOD	56
01KY-52R	Core DN8, Powell County, Clay City Quad.	<LOD	15	220	110	280	150	<LOD	53
01KY-53R	Core DN8, Powell County, Clay City Quad.	<LOD	24	<LOD	180	<LOD	360	<LOD	83
01KY-54R	Core DN8, Powell County, Clay City Quad.	100	29	1900	770	<LOD	1300	<LOD	210
01KY-55R	Core DN8, Powell County, Clay City Quad.	<LOD	17	<LOD	180	<LOD	240	<LOD	60
01KY-56R	Core DN8, Powell County, Clay City Quad.	500	55	4000	1300	5700	1400	<LOD	240
01KY-56R	Core DN8, Powell County, Clay City Quad.	500	57	4000	1300	3700	1400	<LOD	260
01KY-57R	Core DN8, Powell County, Clay City Quad.	<LOD	19	<LOD	240	530	210	<LOD	64
01KY-58R	Core DN8, Powell County, Clay City Quad.	60	14	410	180	440	210	<LOD	64
01KY-59R	Core DN8, Powell County, Clay City Quad.	18	12	250	120	<LOD	240	<LOD	59
01KY-60R	Core DN8, Powell County, Clay City Quad.	49	13	350	160	430	210	<LOD	63

Sample #	Site Location	As ppm	As Error ppm	Co ppm	Co Error ppm	Cr ppm	Cr Error ppm	Cu ppm	Cu Error ppm
01KY-61R	Core DN8, Powell County, Clay City Quad.	280	41	3300	1100	4500	1200	<LOD	210
01KY-62R	Core DN8, Powell County, Clay City Quad.	110	23	1300	420	1600	480	<LOD	110
01KY-63R	Core DN8, Powell County, Clay City Quad.	92	18	770	330	840	370	<LOD	85
01KY-64R	Core DN8, Powell County, Clay City Quad.	<LOD	16	340	140	290	170	220	52
01KY-65R	Core DN8, Powell County, Clay City Quad.	<LOD	22	<LOD	240	<LOD	380	<LOD	82
01KY-66R	Core DN8, Powell County, Clay City Quad.	<LOD	29	890	410	850	480	<LOD	99

<LOD = below limit of detection. LOD is variable for each sample and depends on counting statistics.

Sample #	Fe ppm	Fe Error ppm	Mn ppm	Mn Error ppm	Mo ppm	Mo Error ppm	Ni ppm	Ni Error ppm	Pb ppm	Pb Error ppm	Rb ppm
01KY-01R	6900	460	<LOD	600	13	6.5	270	120	<LOD	24	61
01KY-02R	7400	500	<LOD	650	14	7.0	<LOD	200	<LOD	26	57
01KY-03R	5700	480	<LOD	630	<LOD	11	<LOD	210	<LOD	29	30
01KY-04R	42500	1100	<LOD	1200	22	6.5	<LOD	250	<LOD	24	39
01KY-05R	120000	3100	<LOD	2800	120	13	<LOD	540	<LOD	36	<LOD
01KY-06R	50000	2100	<LOD	2300	120	16	<LOD	480	<LOD	42	72
01KY-07R	240000	4500	<LOD	3500	140	12	<LOD	650	<LOD	37	<LOD
01KY-08R	61000	2200	<LOD	2300	100	14	<LOD	470	<LOD	44	64
01KY-10R-A	76000	2500	<LOD	2400	72	13	<LOD	500	<LOD	42	70
01KY-11R	36000	1100	<LOD	1200	120	10	<LOD	260	54	20	130
01-KY-12R	26000	850	<LOD	1000	95	8.6	<LOD	210	35	17	160
01-KY-13R	18000	580	<LOD	660	81	6.9	<LOD	150	24	13	140
01-KY-14R	25000	1000	<LOD	1200	92	10	<LOD	240	<LOD	28	130
01-KY-15R-A	35000	1200	<LOD	1300	70	9.7	<LOD	300	<LOD	30	140
01-KY-15R-B	8400	770	<LOD	960	55	13	<LOD	320	<LOD	44	97
01-KY-10R-B	8500	630	<LOD	770	51	9.9	<LOD	210	<LOD	29	87
01-KY-16R-A	27100	830	<LOD	950	65	7.5	<LOD	200	23	15	130
01-KY-16R-B	23600	1900	<LOD	2100	99	21	<LOD	590	<LOD	70	86
01KY-17R-A	9700	870	<LOD	1100	54	13	<LOD	320	<LOD	45	90
01KY-17R-B	47000	2100	<LOD	2300	81	15	<LOD	470	<LOD	48	86
01KY-18R-A	8100	480	<LOD	590	64	8.1	<LOD	180	27	17	96
01KY-18R-B	15000	530	<LOD	630	60	6.5	<LOD	150	24	13	90
01KY-19R-A	60000	1600	<LOD	1700	72	9.4	<LOD	330	<LOD	29	93
01KY-19R-B	24000	1200	<LOD	1300	80	12	<LOD	300	<LOD	36	74
01KY-20R-A	20000	1300	<LOD	1500	67	15	<LOD	390	<LOD	47	59
01KY-20R-B	42000	1700	<LOD	1800	100	13	<LOD	410	<LOD	42	63
01KY-21R	44000	1300	<LOD	1400	20	6.7	<LOD	300	<LOD	22	<LOD

Sample #	Fe ppm	Fe Error ppm	Mn ppm	Mn Error ppm	Mo ppm	Mo Error ppm	Ni ppm	Ni Error ppm	Pb ppm	Pb Error ppm	Rb ppm
01KY-22R	70000	2500	<LOD	2400	51	12	<LOD	500	<LOD	41	<LOD
01KY-24R-A	56000	1700	<LOD	1800	50	9.3	660	260	<LOD	33	50
01KY-24R-B	27000	1300	<LOD	1500	59	12	<LOD	350	<LOD	35	83
01KY-25R-A	22000	780	<LOD	900	39	7.3	<LOD	210	24	16	85
01KY-28R-A	38000	920	<LOD	990	50	6.5	<LOD	210	<LOD	21	86
01KY-28R-B	30000	820	<LOD	920	52	6.6	<LOD	200	23	14	84
01KY-29R	22000	550	<LOD	630	170	7.3	<LOD	140	29	11	130
01KY-30R	103000	1900	<LOD	1800	190	11	<LOD	320	<LOD	23	59
01KY-31R	66000	1400	<LOD	1500	130	9.3	<LOD	300	35	17	79
01KY-47R	170000	2600	2600	1500	110	8.6	<LOD	410	208	28	39
01KY-48R	44000	730	<LOD	810	480	10	280	110	118	15	140
01KY-49R	96000	1300	<LOD	1300	330	9.7	<LOD	260	246	21	92
01KY-50R	47000	820	<LOD	890	400	10	210	120	153	17	120
01KY-51R	290000	3500	<LOD	2500	42	6	<LOD	470	81	20	<LOD
01KY-45R	320000	4700	<LOD	3300	240	12	<LOD	600	89	26	<LOD
01KY-46R	18000	420	<LOD	510	37	4.3	150	76	18	8.9	120
01KY-52R	16000	360	<LOD	440	38	3.9	120	68	18	8.4	120
01KY-53R	8000	390	1200	380	14	5.3	170	97	21	14	48
01KY-54R	280000	4100	<LOD	3100	170	11	<LOD	560	45	22	<LOD
01KY-55R	16000	410	<LOD	480	160	6.3	<LOD	110	30	9.9	130
01KY-56R	550000	9400	<LOD	5000	450	19	1000	630	<LOD	47	<LOD
01KY-56R	460000	8800	<LOD	5000	270	17	<LOD	930	<LOD	51	<LOD
01KY-57R	24000	540	<LOD	620	91	5.6	160	91	31	11	140
01KY-58R	30000	610	<LOD	680	84	5.6	<LOD	150	22	11	150
01KY-59R	16000	410	<LOD	480	66	4.9	<LOD	120	22	9.8	120
01KY-60R	25000	550	<LOD	630	59	5.1	150	93	28	11	110

Sample #	Fe ppm	Fe Error ppm	Mn ppm	Mn Error ppm	Mo ppm	Mo Error ppm	Ni ppm	Ni Error ppm	Pb ppm	Pb Error ppm	Rb ppm
01KY-61R	460000	7200	<LOD	4200	220	13	1300	530	<LOD	41	<LOD
01KY-62R	99000	1700	<LOD	1700	73	7.5	<LOD	320	25	16	25
01KY-63R	87000	1300	<LOD	1300	350	10	270	170	33	13	75
01KY-64R	22000	460	<LOD	530	44	4.1	370	88	28	9.3	98
01KY-65R	15000	510	820	440	18	5.4	<LOD	150	23	13	44
01KY-66R	110000	1700	<LOD	1700	<LOD	7.2	350	200	71	17	<LOD

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Sample #	Rb Error ppm	Se ppm	Se Error ppm	Sr ppm	Sr Error ppm	Zn ppm	Zn Error ppm	Zr ppm	Zr Error ppm
01KY-01R	9.9	<LOD	14	55	8.8	300	54	41	7.8
01KY-02R	10	<LOD	15	59	9.5	<LOD	64	46	8.5
01KY-03R	9.3	<LOD	15	66	11	2800	150	15	8.2
01KY-04R	9.2	<LOD	13	50	8.5	220	50	31	7.3
01KY-05R	19	<LOD	21	24	12	150	70	37	11
01KY-06R	18	<LOD	26	45	15	<LOD	120	65	15
01KY-07R	23	<LOD	20	53	12	320	72	25	11
01KY-08R	17	<LOD	22	42	14	<LOD	110	50	13
01KY-10R-A	18	<LOD	20	73	15	<LOD	110	62	14
01KY-11R	14	<LOD	14	60	9.4	<LOD	56	88	9.7
01-KY-12R	14	<LOD	13	49	8.4	<LOD	55	70	8.4
01-KY-13R	11	<LOD	10	44	6.7	<LOD	42	84	7.2
01-KY-14R	15	<LOD	15	45	9.9	<LOD	66	76	10
01-KY-15R-A	16	<LOD	15	47	10	<LOD	62	83	10
01-KY-15R-B	18	<LOD	24	46	14	<LOD	100	51	13
01-KY-10R-B	14	<LOD	18	40	11	<LOD	82	70	11
01-KY-16R-A	12	<LOD	11	51	8	<LOD	50	88	8.3
01-KY-16R-B	25	<LOD	35	<LOD	30	<LOD	200	48	20
01KY-17R-A	18	<LOD	23	46	15	<LOD	110	44	14
01KY-17R-B	20	<LOD	25	45	16	<LOD	130	44	15
01KY-18R-A	11	<LOD	14	41	8.4	<LOD	62	70	8.6
01KY-18R-B	9.2	<LOD	11	32	6.4	<LOD	43	82	7.0
01KY-19R-A	14	<LOD	15	42	9.9	<LOD	72	61	9.8
01KY-19R-B	15	<LOD	19	32	11	<LOD	90	59	12
01KY-20R-A	17	<LOD	25	31	15	150	94	42	14
01KY-20R-B	15	<LOD	21	44	13	<LOD	100	57	13
01KY-21R	11	<LOD	14	<LOD	11	370	63	<LOD	9.2

Sample #	Rb Error ppm	Se ppm	Se Error ppm	Sr ppm	Sr Error ppm	Zn ppm	Zn Error ppm	Zr ppm	Zr Error ppm
01KY-22R	16	<LOD	24	30	13	190	84	<LOD	17
01KY-24R-A	12	<LOD	18	36	11	250	71	29	9.5
01KY-24R-B	17	<LOD	22	54	13	<LOD	91	72	13
01KY-25R-A	11	<LOD	13	110	10	95	40	<LOD	14
01KY-28R-A	9.9	<LOD	11.1	53	7.5	<LOD	48	62	6.9
01KY-28R-B	9.8	<LOD	11.4	41	7.1	<LOD	48	79	7.2
01KY-29R	9.1	<LOD	8.7	35	5.4	<LOD	36	120	6.4
01KY-30R	11	<LOD	13.5	66	9.0	<LOD	51	110	9.4
01KY-31R	11	<LOD	12.9	53	8.5	<LOD	52	89	8.8
01KY-47R	12	33	17.7	240	13	170	49	<LOD	13
01KY-48R	8.9	19	6.5	69	5.8	200	29	71	5.5
01KY-49R	9.2	19	8.1	63	6.7	420	42	63	6.2
01KY-50R	9.0	13	6.6	79	6.4	140	30	70	5.9
01KY-51R	9.5	16	9.3	21	7.7	<LOD	59	<LOD	9.6
01KY-45R	15	39	13	63	11	86	52	26	9.5
01KY-46R	7.5	12	5.1	72	5.3	60	21	120	5.5
01KY-52R	6.8	21	5.1	64	4.7	98	21	98	4.8
01KY-53R	8.3	<LOD	12	290	12	<LOD	47	19	7.0
01KY-54R	15	20	12	95	11	2500	120	47	9.7
01KY-55R	8.0	<LOD	7.8	87	5.7	180	27	120	5.8
01KY-56R	17	<LOD	26	49	14	110	73	<LOD	18
01KY-56R	17	37	19	86	16	<LOD	110	<LOD	20
01KY-57R	9.0	<LOD	9	160	7.4	40	24	89	6.0
01KY-58R	9.1	<LOD	8.4	110	6.7	57	24	97	6.1
01KY-59R	7.7	9.2	5.5	86	5.8	110	24	81	5.3
01KY-60R	8.1	8.9	5.8	110	6.6	35	23	90	5.8

Sample #	Rb Error ppm	Se ppm	Se Error ppm	Sr ppm	Sr Error ppm	Zn ppm	Zn Error ppm	Zr ppm	Zr Error ppm
01KY-61R	15	28	15	100	14	130	64	<LOD	16
01KY-62R	8.8	<LOD	13	94	9.0	72	39	100	8.8
01KY-63R	8.9	<LOD	10	110	7.8	46	29	110	7.3
01KY-64R	6.7	15	5.2	55	4.8	450	35	70	4.7
01KY-65R	7.2	<LOD	9.9	99	7.9	48	31	84	7.2
01KY-66R	7.4	<LOD	12	78	8.1	<LOD	50	<LOD	8.4

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Pennsylvanian Coal

Sample #	Latitude	Longitude	Sample Description	Site Location	As ppm	As Error ppm
01-KY-32R	36°34'35"	83°39'20"	Pyrite on coal	Nally Hamilton-Long Fork Mine	21	9.1
01KY-33R	36°34'35"	83°39'20"	Pyrite nodule(?) in coal	Nally Hamilton-Long Fork Mine	310	31
01KY-34R	36°34'35"	83°39'20"	Pyrite layer in coal (0 cm bench sample)	Nally Hamilton-Long Fork Mine	1800	130
01KY-37R	36°34'35"	83°39'20"	Pyrite 76 cm from bench top; 20 cm below Ky-36)	Nally Hamilton-Long Fork Mine	170	49
01KY-38R	37°09'17"	82°38'00"	Coal in thrust -- Lee Formation?	Pine Mountain Trust Footwall	74	8.7
01KY-39R	37°09'17"	82°38'00"	Lower coal (higher S, cleaner relative to KY-38R)	Pine Mountain Trust Footwall	<LOD	8.7
01KY-40R	37°09'17"	82°38'00"	Grunge coal just right of 01KY-39R	Pine Mountain Trust Footwall	<LOD	35
01KY-41R			Taylor Coal--high S, thin seam around corner	Hindman road cut	41	25
01KY-42R			Taylor coal as above	Hindman road cut	58	21
01KY-42.5R	37°02'03"	83°04'13"	pyrite on coal	H5A-3 mine	75	12
01KY-43R	37°02'03"	83°04'13"	pyrite on corner of oblong block of coal	H5A-3 mine	490	47
01KY-44R	37°02'03"	83°04'13"	sulfide along cleat	H5A-3 mine	350	26

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Sample #	Co ppm	Co Error ppm	Fe ppm	Fe Error ppm	Mo ppm	Mo Error ppm	Pb ppm	Pb Error ppm	Rb ppm	Rb Error ppm
01-KY-32R	240	110	15000	350	<LOD	3.9	18	7.3	<LOD	4.2
01KY-33R	<LOD	720	120000	2000	<LOD	7.1	<LOD	25	<LOD	7.5
01KY-34R	2400	1500	320000	9000	35	14	100	53	<LOD	17
01KY-37R	2000	920	140000	4000	16	10	<LOD	49	<LOD	12
01KY-38R	<LOD	58	2600	120	3.8	2.2	18	5.8	26	3.1
01KY-39R	<LOD	53	1900	110	15	2.3	12	5.3	6.9	2.2
01KY-40R	<LOD	480	27000	1100	14	8.2	<LOD	31	120	15
01KY-41R	590	260	28000	860	11	5.8	130	22	14	6.7
01KY-42R	<LOD	330	26000	780	15	5.4	66	17	<LOD	8.0
01KY-42.5R	590	210	51000	750	<LOD	4.2	<LOD	12	<LOD	4.2
01KY-43R	1600	700	160000	3100	<LOD	9.2	<LOD	35	<LOD	10
01KY-44R	2500	540	270000	2800	<LOD	6.2	38	15	<LOD	6.2

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Sample #	Se ppm	Se Error ppm	Sr ppm	Sr Error ppm	Zn ppm	Zn Error ppm	Zr ppm	Zr Error ppm
01-KY-32R	9.7	4.4	74	4.7	<LOD	24	<LOD	3.9
01KY-33R	34	11	38	7.8	<LOD	53	<LOD	8.1
01KY-34R	120	37	<LOD	28	<LOD	150	<LOD	23
01KY-37R	57	22	<LOD	21	<LOD	110	<LOD	16
01KY-38R	6.9	3.5	65	3.7	<LOD	17	15	2.4
01KY-39R	6.9	3.3	25	3.0	<LOD	17	<LOD	2.7
01KY-40R	<LOD	15	45	11	97	54	82	11
01KY-41R	30	10	57	8.1	<LOD	48	45	7.6
01KY-42R	<LOD	12	33	6.9	<LOD	45	43	6.6
01KY-42.5R	13	5.3	39	4.6	31	20	<LOD	4.4
01KY-43R	82	18	31	10	<LOD	69	<LOD	11
01KY-44R	51	9.6	32	6.6	79	34	<LOD	7.5

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