Stibnite Gold Project
Phase 2 Geochemical Characterization Work Plan

Midas Gold Idaho, Inc.

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CHAPTER 1: INTRODUCTION

1.1 Purpose and Scope

Midas Gold Idaho, Inc. (MGII or Midas Gold) is currently conducting a geochemical characterization study for the Stibnite Gold Project (the Project) in central Idaho. The primary purpose of the study is to develop geochemical characterization data that will ultimately form part of the planning and impact assessment for the Project. Phase 1 of the characterization study involved the collection and analysis of a combined 704 samples representative of development rock, ore and mill tailings for static and kinetic geochemical testing. This also included an assessment of historical mining wastes from the Spent Ore Disposal Area (SODA) and Bradley waste rock and tailings material. The resulting dataset contains samples representative of both existing (i.e., historical) mine wastes in the Stibnite district in addition to future materials that will be extracted during the Stibnite Gold Project.

The results of the Phase 1 characterization study were provided to the U.S. Forest Service (USFS) in the 'Stibnite Gold Project Baseline Geochemical Characterization Report' dated May 1, 2017 (SRK, 2017). Following submission of the Geochemical Baseline report, SRK received the Request for Additional Information (RFAI) Number 9 (AECOM, 2017) dated May 24, 2017 which identified a number of potential data gaps in the Phase 1 characterization program. This was followed by a call with AECOM on July 26, 2017 to discuss the scope of the ongoing geochemical characterization program. SRK provided response to the RFAI #9 on June 22, 2017, which references the Phase 2 Geochemical Work Plan. A copy of this response is provided in Appendix A.

This Work Plan has been developed to outline the proposed activities for the Phase 2 geochemical characterization study. The Work Plan has been designed to address the potential data gaps identified in the Phase 1 characterization study, including gaps in development rock and ore spatial representativeness, mill tailings characterization, Bradley Dumps characterization and haul road and access road material characterization.

The results of the Phase 2 work will be summarized in an update to the Geochemical Baseline Characterization Report. In addition, results from Phase 1 and Phase 2 geochemical characterization will be incorporated into a site-wide water chemistry (SWWC) model currently in preparation.

CHAPTER 2: STUDY DESIGN COMPONENTS

The geochemical baseline study has been designed to characterize each of the planned mine components, including development rock storage facilities (DRSFs), tailings storage facility (TSF), the backfilled Yellow Pine pit and the West End and Hangar Flats pit lakes, as well as characterize historical mining wastes that include spent heap leach ore, tailings and historical waste rock.

The Phase 1 and Phase 2 characterization programs include samples of both ore and development rock, with a focus on development rock. For the Phase 1 characterization program, a total of 341 development rock samples and 87 ore samples were collected from within the proposed pit shells for static geochemical characterization testing (SRK, 2017). These samples are spatially and lithologically representative of material that will be extracted from the Yellow Pine, Hangar Flats and West End pits according to the geologic model and PRO.

Geochemical testing of mine waste materials provides a basis for assessment of the potential for metal leaching and acid rock drainage (ML/ARD), prediction of contact water quality (i.e., water that comes into contact with development rock, pit walls, or tailings), and evaluation of options for design, construction, and closure of the mine facilities. This work was designed to support the next phase of the project's potential advancement, including environmental assessment and permitting. The study design components and program design are summarized in Table 2-1.

Table 2-1: Study Design Components

Mine Component	Geochemical Question	Characterization Requirement	Program Design	Methods
Development Rock (Yellow Pine Pit, Hangar Flats Pit, West End Pit, EFSFSR Tunnel, Exploration Adit)	ML/ARD potential	Evaluation of the balance between acid generating and acid neutralizing minerals and controlling variables	Core and pulp sampling of each of the major material types (i.e., comprising greater than 1% of the final pit walls and/or development rock based on the existing exploration database)	Acid Base Accounting (ABA)[1], trace element analysis[2], Meteoric Water Mobility Procedure (MWMP)[3]
		Evaluation of metal leaching potential under future site conditions	Core and pulp sampling of each of the major material types	ABA, trace element analysis, MWMP
		Rate of depletion of sulfides and acid neutralizing minerals and correlation with bulk characteristics, including delay to onset of acidic conditions for Potentially Acid Generating (PAG) materials	Selection of samples representing the range of characteristics in each rock type for kinetic humidity cell testing (HCT)	Humidity cell tests[4], existing field data
		Understanding of mineralogy, including major and trace carbonates and sulfides and calibration to observed HCT results	Mineralogical testing and ABA of samples undergoing HCT and testing of final residues	ABA, X-Ray Diffraction (XRD), optical mineralogy
	Chemistry of Development Rock Storage Facility seepage	Water chemistry predictions	Use site-specific geologic, hydrogeologic, mine planning and geochemical characterization data that have been scaled to field conditions to develop a prediction of contact water for each of the DRSFs	Predictive geochemical modeling using PHREEQC
Historic Mining Waste (Development Rock, Spent Ore and Tailings)	ML/ARD potential	Evaluation of the balance between acid generating and acid neutralizing minerals and controlling variables	Core and pulp sampling of each of the major material types, defined utilizing the existing exploration database	ABA, trace element analysis, MWMP
		Evaluation of metal leaching potential under future site conditions	Core and pulp sampling of each of the major material types	ABA, trace element analysis, MWMP, existing data
		Rate of depletion of sulfides and acid neutralizing minerals and correlation with bulk characteristics and metal leaching	Samples representing the range of characteristics in each rock type were selected for kinetic or leach testing	Humidity cell tests, MWMPs, existing field data
		Understanding of mineralogy including major and trace carbonates and sulfides and calibration to observed HCT results	Mineralogical testing and ABA of samples undergoing HCT and testing of final residues	ABA, XRD, optical mineralogy
	Chemistry of seepage and runoff	Water chemistry predictions	Utilize existing seepage data and laboratory geochemical data to develop a prediction of water quality	Predictive geochemical modeling using PHREEQC
Future Mill Tailings	ML/ARD potential	Evaluation of the balance between acid generating and acid neutralizing minerals and controlling variables	Testing of bench scale and pilot plant materials representative of future tailings blends	ABA, trace element analysis

Mine Component	Geochemical Question	Characterization Requirement	Program Design	Methods
		Evaluation of metal leaching potential under future site conditions	Testing of bench scale and pilot plant materials representative of future tailings blends	ABA, trace element analysis, modified Synthetic Precipitation Leaching Procedure (SPLP)[5]
		Rate of depletion of sulfides and acid neutralizing minerals and correlation with bulk characteristics and metal leaching	Samples representing future tailings material will be selected for HCTs	Humidity cell tests
		Understanding of mineralogy including major and trace carbonates and sulfides and calibration to observed HCT results	Mineralogical testing and ABA of all samples undergoing HCT and testing of final residues	ABA, XRD, optical mineralogy
	Chemistry of seepage and runoff	Water chemistry predictions	Utilizing hydrogeologic, mine planning and geochemical characterization data, develop a prediction of water quality for the tailings facility	Predictive geochemical modeling using PHREEQC
Pit Lakes and Yellow Pine Backfilled Pit	Pit lake and Yellow Pine backfilled pit chemistry	Water chemistry predictions	Use site-specific geochemical characterization data generated through kinetic testing scaled to field conditions to develop a prediction of contact water chemistry	Predictive geochemical modeling using PHREEQC
	Potential for mercury methylation	Water chemistry predictions	Apply existing knowledge about the potential for mercury methylation in the project area and determine the potential for methylation in stratified pit lakes	Current and Previous studies[6]

[1] ABA using the modified Sobek method (Sobek et al., 1978) with sulfur speciation by hot water, hydrochloric acid, and nitric acid extraction

[2] Trace element analysis using four-acid digestion followed by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS) or ICP Atomic Emission Spectroscopy analysis (ICP-AES) to determine total chemistry for 48 elements plus mercury (ALS Chemex Method ME-MS61m)

[3] Nevada Meteoric Water Mobility Procedure (MWMP - ASTM E2242-02) and analysis of leachate (ASTM, 2013a)

[4] Humidity Cell Test Procedure ASTM 5744-13e1 and analysis of extracts (ASTM, 2013b)

[5] Synthetic Precipitation Leachate Procedure (SPLP) (USEPA, 1998) and analysis of leachate

6 The potential for mercury methylation is outside the scope of the Phase 2 geochemical characterization program, but has been assessed by previous studies, including the August 2016 assessment at Cinnabar Mine and the 2017 USGS study (Holloway et al., 2016, 2017a and 2017b). Data from these studies are currently being evaluated as part of AECOM's ongoing investigation into the potential for mercury methylation associated with the PRO.

CHAPTER 3: IDENTIFIED DATA GAPS

Following completion of the Phase 1 geochemical characterization program, a number of data gaps were identified, including:

- Development rock and ore sample representativity;
- Mineralogical analysis;
- Characterization of mill tailings material; and
- Haul road and access road material characterization.

Each potential data gap is presented in subsequent sections followed by a description of the Phase 2 work to address the data gap including objectives, sample collection methods and sample analysis methods.

CHAPTER 4: DEVELOPMENT ROCK AND ORE CHARACTERIZATION

4.1 Objectives

One of the primary goals in designing a geochemical characterization program is to ensure that representative samples of each main material type have been characterized. In addition, samples representing a range of geochemical characteristics for each main material type are selected to undergo kinetic testing with the goal of generating leachate chemistry representative of the development rock and ore associated with the deposits. MGII's exploration database contains multi-element data for 34 elements on approximately 46,000 assay intervals. This comprehensive database enables the evaluation of differences in key geochemical characteristics by lithology between ore bodies and between ore and development rock. This dataset was used to identify and select representative samples for more detailed characterization (i.e., leach tests and mineralogy) for Phase 1.

4.2 Sample Representativity Analysis

A statistical approach was used to assess the representativity of the existing (i.e., Phase 1) geochemical dataset in the context of the entire exploration database, identify potential data gaps and, where required, select additional samples for Phase 2 humidity cell testing. The approach included the following steps:

- Box and whisker plots (Appendix B) were generated for each lithology to show the range of sulfur, arsenic and antimony for each pit (Yellow Pine, Hangar Flats and West End) in the Phase 1 sample dataset ('Geochem') compared to the range observed in the exploration database ('Exploration'). Sulfur, arsenic and antimony are considered to be the main indicators of ARD and potential metals leaching for this project.
- The multi-element dataset includes measurements of calcium and magnesium which can be used as a surrogate to estimate neutralization potential. Box and whisker plots of surrogate NPR values were also generated to evaluate the neutralization potential for each of the lithologies in the Phase 1 sample dataset and humidity cell samples, compared to the range observed in the exploration database (Appendix B).
- The box and whisker plots show the minimum, maximum and mean values in sulfur, arsenic, antimony and surrogate NPR in addition to the 5th, 25th, 50th, 75th and 95th percentiles (P5, P25, P50, P75 and P95) for each dataset.
- The box and whisker plots were used to evaluate whether there is a significant difference between the sulfur, arsenic, antimony and surrogate NPR for the three pits and also between ore and development rock. The findings of this evaluation are summarized in Section 4.3.1 and Table 4-3.
- Data from the humidity cell testing conducted as part of the Phase 1 program (SRK, 2017) were plotted on the box and whisker plots (as an 'X') to evaluate the surrogate NPR, sulfur, antimony and arsenic content of the Phase 1 HCT samples in the context of the exploration database.

- If the Phase 1 humidity cell sample (or combination of multiple samples) was considered representative (i.e., within the 50th to 75th percentile range), no additional samples were selected for humidity cell testing as part of the Phase 2 study.
- If humidity cell testing was not undertaken for a particular lithology as part of the Phase 1 study and/or statistical evaluation of the Phase 1 sample showed it was biased high (over the 75th percentile) or biased low (near or below 25th percentile) within the context of the exploration database, additional sample(s) were selected for the Phase 2 study targeting the 50th to 75th percentile of sulfur arsenic and antimony concentrations.
- The number of humidity cells selected for each lithology was proportional to the calculated proportion of development rock that will be placed in the DRSFs or exposed in the final pit walls (Table 4-1). For material types that will comprise less than 1 percent of the development rock or pit walls, no samples were selected for the Phase 2 HCT program.

For the Phase 1 HCT sample selection, development rock and pit wall proportions were estimated from the logged intervals. Subsequent to the Phase 1 HCT program, an estimate of development rock tonnages and pit wall surface areas was made from the geologic model. The resulting proportion of development rock and pit wall rock is provided in Table 4-1 for each material type. These proportions were used to identify potential data gaps to be addressed by the Phase 2 HCT program. However, the material type proportions in Table 4-1 may change as the geologic interpretation of the deposit evolves.

The baseline geochemical characterization report separated the intrusive body in Yellow Pine and Hangar Flats into three distinct material types (i.e., alaskite, quartz monzonite and quartz monzonite-alaskite). Following further geological interpretation, MGII geologists recommended these three material types be grouped into one material type (i.e., intrusive). From a geochemical perspective, the alteration and sulfide content of the rock are the main controls on the potential for acid generation and metal leaching rather than the classification of the intrusive body (based on minor differences in quartz and feldspar composition) that may change as exploration activities continue.

The updated geological interpretation describes the intrusive as approximately 60% quartz-monzonite and 40% more felsic alaskite or granitic dikes; however, the intervals on which core is logged and analyzed in the exploration database do not distinguish between the two end members (quartz monzonite and alaskite), with the majority of intervals being logged as mixed quartz monzonite and alaskite. This results from the alaskite dikes not being thick enough to be logged as a distinctive lithologic interval. For this reason, the intrusive should be considered a mix of alaskite, quartz monzonite and quartz monzonite-alaskite. The granite intrusive body is distinguishable from the main intrusive (i.e., quartz monzonite with felsic alaskite or granitic dikes) within the Yellow Pine and Hangar Flats pits and is a separate intrusive unit in the geologic model.

Table 4-1: Proportions of Main Material Types by Pit

Material Type	Pit Location	Development Rock Proportion (%)	Pit Wall Proportion (%)
Granite	Yellow Pine	3.5	5.3
	Hangar Flats	<0.5	<0.5
	West End	14	10
Intrusive (quartz monzonite and alaskite)	Yellow Pine	73.6	65.3
	Hangar Flats	95	75.7
	West End	<0.5	<0.5
Calc-Silicate	Yellow Pine	2.2	4.2
	Hangar Flats	<0.5	<0.5
	West End	11	8.3
Carbonate	Yellow Pine	<0.5	0.6
	Hangar Flats	<0.5	<0.5
	West End	27	26
Quartzite	Yellow Pine	7.7	7.6
	Hangar Flats	<0.5	<0.5
	West End	33	40
Schist	Yellow Pine	0.6	1.1
	Hangar Flats	<0.5	<0.5
	West End	13	10
Breccia	Yellow Pine	2	1.7
	Hangar Flats	0.9	1.6
	West End	1.2	1.6
Gouge	Yellow Pine	1.8	1.5
	Hangar Flats	1.6	1
	West End	<0.5	<0.5
Diorite	Yellow Pine	<0.5	<0.5
	Hangar Flats	<0.5	<0.5
	West End	<0.5	<0.5
Rhyolite	Yellow Pine	<0.5	<0.5
	Hangar Flats	<0.5	<0.5
	West End	<0.5	<0.5

4.3 Additional Characterization Activities

4.3.1 Phase 2 Humidity Cell Testing

The number of development rock samples that were collected and tested as part of the Phase 1 characterization and humidity cell program is proportional to the amount of each lithology that would be encountered during mining (SRK, 2017). Based on the Phase 1 representativity analysis (Section 4.2), a few data gaps were identified for some of the material types including granite, intrusive, carbonate, breccia and gouge (Table 4-2). These material types require additional kinetic testing as part of the Phase 2 program to ensure full characterization of each major lithologic unit (i.e. units that comprise greater than 1% of the final pit walls and/or development rock). In addition, material types that have a higher potential for ARD but are limited in extent (e.g., breccia and gouge) have also been included in the Phase 2 humidity cell program. Although these material types will only comprise a small proportion (<2%) of development rock and final pit walls, geochemical characterization of these materials is important as they have the potential to dominate source-term leachate chemistry should acidic conditions develop. However, it is emphasized that the Phase 1 static and kinetic testwork results indicate the development rock is net neutralizing and none of the lithologies show a high risk for

ARD. Table 4-3 provides a summary of the samples that were selected to undergo Phase 2 HCT testing to address the identified data gaps as summarized in Table 4-2. These samples were collected from within the proposed pit shells of the Yellow Pine, Hangar Flats and West End pit and are thus considered spatially and lithological representative of material that will be extracted from these pits during operations. The box and whisker plots used to identify data gaps and select samples for kinetic testing are provided in Appendix B.

Table 4-2: Summary of Sample Representativity Analysis

Material Type	HCT Data Gap	Notes	Phase 1 HCTs	Phase 2 HCTs
Granite	Yes	Granite represents approximately 3.5% of development rock from Yellow Pine pit and 14% of development rock from West End pit – selected one sample to represent this material type	-	1
Intrusive	Yes	Previous samples did not capture the lower range of arsenic values - selected one sample to represent this range. Low grade ore may remain in the final pit walls and may be acid generating - selected one sample. Phase 1 development rock HCTs generated neutral leachate – selected one sample of development rock most likely to generate acidic chemistry	6	4
Calc-Silicate	No	-	2	-
Carbonate	Yes	Phase 1 sample contained high arsenic – selected one sample to represent average arsenic values	1	1
Quartzite	No	-	1	-
Schist	No	-	2	-
Breccia	Yes	This unit has a higher potential for acid generation and may represent a larger proportion of development rock in future models – selected one sample of development rock most likely to generate acidic chemistry	-	1
Gouge	Yes	This unit has a higher potential for acid generation and may represent a larger proportion of development rock in future models – selected one sample of development rock most likely to generate acidic chemistry.	-	1
Diorite	No	-	1	-
Rhyolite	No	-	1	-
		Total	14	8

Table 4-3: Development Rock and Ore Samples Selected for Phase 2 Kinetic Testing

Hole ID	From (m)	To (m)	Pit	Ore/ Development Rock	Lithology	Total S (%)	NPR	As (mg/kg)	Sb (%)	Rationale	Current Testwork Status (no. of weeks run to date)
MGI-16-414	143.87	146.91	YP	Development Rock	Granite	0.35	0.04	1,260	0.0082	P50 S, P75 As, PAG development rock	1
MGI-12-306	221	227	YP	Development Rock	Intrusive	1.16	0.87	2,620	0.0043	PAG development rock	28
MGI-11-64	31.39	39.01	YP	Development Rock	Intrusive	0.04	52	26.7	0.002	P25 S, P25 As	26
MGI-11-057	137.77	142.65	YP	Ore	Intrusive	0.74	0.43	2,580	0.0033	PAG ore	28
MGI-10-17	45.42	50.9	HF	Development Rock	Intrusive	0.04	23	85.3	0.0015	P25 S, P25 As	26
MGI-10-23	17.37	23.47	HF	Development Rock	Gouge	1.53	1.22	3,620	0.0063	P75 S, P95 As, PAG development rock	26
MGI-11-58	71.02	75.59	HF	Development Rock	Breccia	1.01	1.68	2,760	0.28	P95 S, P95 As	26
MGI-10-33	94.49	98.15	WE	Development Rock	Carbonate	0.01	1470	141	0.0043	P50 S, P50 As	28

NPR - Neutralization Potential Ratio
PAG =Potentially acid generating based on an NPR less than 1.5[1]

[1] The site-specific NPR criteria for identifying PAG material was developed based on the Phase 1 HCT results and may be modified based on the ongoing HCT program. A detailed explanation of the method used to define the site-specific NPR cut-off will be provided in the Phase 2 characterization report as well as the report being prepared for the SWWC predictive modeling. For geochemical modeling a sensitivity analysis on the PAG cut-off will be completed.

The samples listed in Table 4-3 have been submitted for kinetic testing using the same methodology as the Phase 1 program described in the geochemical baseline report (SRK, 2017). The kinetic testing procedure selected for this project consists of the standard HCT procedure designed to simulate water-rock interactions in order to predict the rate of sulfide mineral oxidation and therefore acid generation and metals mobility (ASTM D5744-13e1) (ASTM, 2013b). Under ASTM methodology, the test is carried out on material sized to pass a 6.3mm (0.25 inch) Tyler screen. The test follows a seven-day cycle during which air that is humidified and slightly above room temperature is introduced at the bottom of the column for three days of each cycle followed by three days of dry air. On the seventh day, the sample is rinsed with distilled water and the extracted solution is collected for analysis. Key parameters including pH, alkalinity, acidity, electrical conductivity, iron and sulfate are measured on a weekly basis to provide intermediate reference points between full analyses that are conducted less frequently. Major and trace element chemistry are measured on a weekly basis for the first four weeks of the test after which the frequency of analysis is reduced to every fourth week. Particle size distribution for the Phase 2 humidity cell samples will be determined in accordance with ASTM method E276-13 (ASTM, 2013c).

The list of parameters and the respective analytical reporting limits for the Phase 2 HCT program are consistent with the Phase 1 characterization program (Table 4-4). Constituents of interest for the Stibnite Gold Project were identified by HDR (MGII, 2017a) from a review of the Idaho aquatic standards, groundwater quality rules, EPA aquatic standards, several area wildlife criteria, and parameters associated with water quality limited 303(d) listed streams in the Stibnite Gold Project area (Table 4-5). Concentrations measured in HCT leachates only provide a qualitative comparison of potential leachate constituent concentrations with water quality standards and are not considered to be conclusive or to represent actual predictions of water quality. Therefore, the water quality guidelines listed in Table 4-5 are used purely to provide a frame of reference for the geochemistry testwork results (i.e., to identify potential constituents of concern) and are not considered directly applicable to the assessment of laboratory humidity cell data

The main objectives of the kinetic test program are to provide a prediction of acid generation potential of the samples and predict the rate of leaching of constituents under the accelerated weathering test conditions.

Geochemical reactions and reaction rates monitored throughout the testing include sulfide oxidation, depletion of neutralization potential, and mineral dissolution (INAP, 2014). The HCTs will be executed until the majority of the mineral reactions that can be predicted from mineralogy or static testing have been observed. Termination of the HCT testing will be assessed when the release rates of key constituents such as pH, sulfate, acidity, alkalinity and iron as well as dissolved metals and metalloids become relatively constant with time and there is no substantial change in the calculated release rate (INAP, 2014). The HCTs will be terminated upon approval of the USFS.

Table 4-4. Phase 2 Humidity Cell Testing Parameter List and Detection Limits

Parameter	Units	Laboratory	Analysis frequency	Analytical reporting limit
pH	s.u.	McClelland Laboratory	Weekly	N/A
Redox	mV			N/A
Total Fe	mg/L			0.1
Fe^{2+}	mg/L			0.1
Fe^{3+}	mg/L			0.1
Calcium	mg/L			0.2
Magnesium	mg/L			0.04
Acidity	mg/L as $CaCO_3$			10
Alkalinity	mg/L as $CaCO_3$	Wetlab	Weekly for the first four weeks, every 4th week thereafter	10
pH	s.u.			N/A
Alkalinity	mg/L as $CaCO_3$			1
CO_3	mg/L as $CaCO_3$			1
HCO_3	mg/L			1
OH	mg/L			1
Hardness	mg/L as $CaCO_3$			0.2
Aluminum	mg/L			0.045
Antimony	mg/L			0.0025
Arsenic	mg/L			0.005
Barium	mg/L			0.01
Beryllium	mg/L			0.001
Bismuth	mg/L			0.1
Boron	mg/L			0.1
Cadmium	mg/L			0.00015
Calcium	mg/L			0.5
Chloride	mg/L			1
Chromium	mg/L			0.005
Cobalt	mg/L			0.01
Copper	mg/L			0.003
Iron	mg/L			0.02
Fluoride	mg/L			0.1
Gallium	mg/L			0.1
Lead	mg/L			0.0007
Lithium	mg/L			0.1
Magnesium	mg/L			0.5
Manganese	mg/L			0.005
Mercury	mg/L			0.0001
Molybdenum	mg/L			0.02
Nickel	mg/L			0.03
Nitrate	mg/L as N			0.1
Nitrite	mg/L as N			0.05
Nitrogen, Ammonia	mg/L			0.05
Nitrogen, Total	mg/L			0.55
Nitrogen, Total Kjeldahl	mg/L			0.4
Phosphorus	mg/L			0.5
Potassium	mg/L			0.5
Scandium	mg/L			0.1
Selenium	mg/L			0.002
Silver	mg/L			0.0004
Sodium	mg/L			0.5
Strontium	mg/L			0.1
Total Dissolved Solids	mg/L			10
Sulfate	mg/L			1
Thallium	mg/L			0.0004
Tin	mg/L			0.1
Titanium	mg/L			0.1
Vanadium	mg/L			0.01
Zinc	mg/L			0.01

Table 4-5. Water Quality Guidelines

Parameter	Units	Strictest Potentially Applicable Surface Water Quality Criteria (MGII, 2017a)	Source
pH	s.u.	≥6.5, ≤9.0	IDAPA 58.01.02 Water Quality Standards. (Surface Water)[1]
Alkalinity	mg/L as $CaCO_3$	>20	USEPA Freshwater Aquatic Life Criteria[2]
Aluminum	mg/L	0.05	USEPA Secondary Drinking Water Standards[3]
Antimony	mg/L	0.0052	IDAPA 58.01.02 Water Quality Standards. (Surface Water)[14]
Arsenic	mg/L	0.01	IDAPA 58.01.02 Water Quality Standards. (Surface Water)[1]Idaho Domestic Water Supply Use[4]/USEPA Drinking Water MCL[5]
Barium	mg/L	2	USEPA Drinking Water MCL[5]
Beryllium	mg/L	0.004	USEPA Drinking Water MCL[5]
Boron	mg/L	120	IDAPA 58.01.02 Water Quality Standards. (Surface Water)[1]
Cadmium	mg/L	0.00025	USEPA Freshwater Aquatic Life Criteria[2]
Chloride	mg/L	230	USEPA Freshwater Aquatic Life Criteria[2]
Chromium, total	mg/L	0.1	USEPA Drinking Water MCL[5]
Copper	mg/L	0.009	USEPA Freshwater Aquatic Life Criteria[2]
Iron	mg/L	0.3	USEPA Secondary Drinking Water Standards[3]
Fluoride	mg/L	2	USEPA Secondary Drinking Water Standards[3]
Lead	mg/L	0.0025	IDAPA 58.01.02 Water Quality Standards. (Surface Water)[1]/USEPA Freshwater Aquatic Life Criteria[2]
Manganese	mg/L	0.05	USEPA Secondary Drinking Water Standards[3]
Mercury	mg/L	0.000012	IDAPA 58.01.02 Water Quality Standards. (Surface Water)[1]
Molybdenum	mg/L	0.6	IDAPA 58.01.02 Water Quality Standards. (Surface Water)[1]
Nickel	mg/L	0.052	I IDAPA 58.01.02 Water Quality Standards. (Surface Water)[1]/USEPA Freshwater Aquatic Life Criteria[2]
Selenium	mg/L	0.005	IDAPA 58.01.02 Water Quality Standards. (Surface Water)[1]/USEPA Freshwater Aquatic Life Criteria[2]
Silver	mg/L	0.0032	USEPA Freshwater Aquatic Life Criteria[2]
Total Dissolved Solids	mg/L	500	USEPA Secondary Drinking Water Standards[3]
Sulfate	mg/L	250	USEPA Secondary Drinking Water Standards[3]
Thallium	mg/L	0.000017	IDAPA 58.01.02 Water Quality Standards. (Surface Water)[14]
Vanadium	mg/L	0.835	IDAPA 58.01.02 Water Quality Standards. (Surface Water)[1]
Zinc	mg/L	0.12	IDAPA 58.01.02 Water Quality Standards. (Surface Water)[1]/USEPA Freshwater Aquatic Life Criteria[2]

[1] IDAPA 58.01.02 Water Quality Standards. (Surface Water) (IDAPA 2017)
2 US EPA National Recommended Water Quality Criteria for Aquatic Life, https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table
[3] US EPA National Primary Drinking Water Regulations, Secondary Standards, https://www.epa.gov/dwstandardsregulations
[4] IDAPA 58.01.02 Section 210, Numeric Criteria for Toxic Substances for Waters Designated for Domestic Water Supply Use, https://adminrules.idaho.gov/rules/2012/58/0102.pdf
[5] US EPA National Primary Drinking Water Standards, https://www.epa.gov/dwstandardsregulations

4.3.2 Phase 2 Mineralogy

The goal of mineralogical studies in the context of geochemical characterization is to investigate the speciation of sulfide, buffering silicate and carbonate minerals in the development rock samples, and assess their textural controls on acid generation and metal release. Current (i.e. Phase 1) and historical mineralogy studies can be utilized to understand the basic mineral composition of each lithology and alteration assemblage, and targeted mineralogical studies can be used to further understand observed leaching behavior of specific samples.

Historical mineralogy studies in the Stibnite region (e.g. Cooper 1944, 1951, Currier, 1935, and Lewis, 1984) focused on precious metals mineralization paragenesis, occurrence and association. Smitherman (1985) focused on the mineralogical characteristics of the intrusive, metasedimentary, volcanic and unconsolidated rock exposed in the Project area. Curtin and King (1974) focused on regional metal anomalies of the district. These studies as well as additional work performed by MGII (Appendix C) form the basis of the mineralogical interpretation for the Project. These interpretations are described in detail in the Prefeasibility Study (M3, 2014) and include ore mineralogy and development rock mineralogy by lithology.

Mineralogy was also completed on seven post-leach HCTs as part of the Phase 1 geochemical characterization program. For the Phase 2 program, the existing mineralogical data will be compiled and an evaluation of the data will be incorporated into the next update of the Baseline Geochemistry Report. To supplement the mineralogical information currently available for the project and better understand the mineralogical controls on acid generation and metal release, post-leach mineralogical analysis will also be conducted on all Phase 2 samples that undergo humidity cell testing.

Following termination of the HCTs, the post-leach material will be submitted for optical microscopy, XRD and SEM analysis using the same methods used for Phase 1 samples. These include:

- Optical microscopy using both transmitted and reflected light to identify the major, minor and trace minerals present in the samples and assess the textural development of these minerals
- Scanning Electron Microscopy to support the optical microscopy and allow semi-quantitative assessment of phase/mineral data as weight percent
- X-Ray Diffraction on powdered samples to quantify mineral phases identified in a sample

The results of this assessment will be incorporated into the updated Baseline Geochemistry Report.

CHAPTER 5: MILL TAILINGS CHARACTERIZATION

5.1 Objectives

Results from initial mill tailings studies were presented in the Baseline Geochemical Characterization report (SRK, 2017). Since that time, the process flowsheet has been revised and is currently undergoing further optimization studies. The goal of the Phase 2 sample collection is to geochemically characterize samples of each of the potential final tailings products, considering each of the possible future flowsheet scenarios.

No additional characterization is required for the historical Bradley tailings since any of this material that is encountered during mining will be removed and processed through the mill circuit. The onsite water quality data downgradient of the SODA facility and static test data available for the Bradley tailings under the SODA facility provide the information needed for the geochemical evaluation of the historical Bradley tailings.

5.2 Collection of Representative Samples

A general description of the milling process proposed for the project is provided in the Plan of Restoration and Operations (PRO) (MGII, 2016). The tailings that will be deposited in the TSF will consist of a mixture of tailings from the flotation and POX processes. The low-pH POX liquor generated from autoclaving concentrate will require pH adjustment prior to cyanidation by blending with a neutralizing agent (e.g., lime, limestone, flotation tailing). Following cyanidation, the POX tailings will undergo cyanide destruction and be comingled with flotation tailing and thickened prior to being hydraulically transported to the TSF.

The geochemistry of the future mill tailings will depend upon the oxidation state and source of ore, which will vary throughout the mine life. During the early to middle stages of the mine life, the majority of the ore will be sourced from Yellow Pine and Hangar Flats pits. Although some of the ore processed during this timeframe will consist of oxide ore, the majority of the ore processed in the mill will be sulfide ore. During later stages of the mine life the main ore source will be the West End pit. Ore from the West End pit generally has higher neutralization potential and will result in a lower proportion of POX tailings relative to flotation tailings in comparison to the Yellow Pine and West End ore. Due to the phasing of West End mining at the end of project life, the amount of POX tailings that will be generated over the life of the mine will decrease. Tailings from the West End deposit will form the topmost layers of the tailings in the TSF.

Mill optimization studies are currently underway including bench and pilot scale test. Samples representative of future mill tailings will be obtained from these tests as they become available in order to supplement the results of the Phase 1 tailings characterization as described in the Geochemistry Baseline Report (SRK, 2017). Variability that will be captured within the sampling includes the blends of different ore sources during the mine life (by oxidation, deposit and phase of mining) as defined by the metallurgical testing program and process design optimization.

5.3 Characterization Methods

All mill tailings samples will first undergo static testing including:

- Multi-element analysis using four-acid digest and ICP-MS analysis to determine total chemistry for 48 elements plus mercury (ALS Chemex Method ME-MS61m)
- ABA using the modified Sobek method (Memorandum No. 96-79) with sulfur speciation by hot water and nitric acid extraction (BLM, 1996)
- Total inorganic carbon (TIC) by Leco analysis
- Modified Synthetic Precipitation Leaching Procedure (SPLP) (USEPA, 1998) and analysis of leachate

Based on the results of static testing and following finalization of the process flowsheet expected at the end of 2017, the sample(s) representative of the final tailings product will undergo kinetic testing to determine long-term information about tailings weathering and metal leaching from tailings. Kinetic testing will consist of humidity cell testing to represent mill tailings material that will be unsaturated during the post-closure period. Saturated column tests will also be considered to represent tailings material that will be submerged within the TSF. This testing program will include mineralogical analysis of the post-leach test residue as described above.

The list of analytical parameters and respective detection limits for the SPLP and HCT testing will be consistent with the Phase 1 characterization program and as summarized in Section 4.3.1 and Table 4-4 above.

CHAPTER 6: HAUL ROAD AND ACCESS ROAD MATERIAL CHARACTERIZATION

6.1 Objectives

An assessment of the potential for geologic materials that will be exposed during haul road and access road construction associated with the project will be completed to determine the potential for acid generation and metal leaching from this material.

6.2 Characterization Methods

The geologic units that will be encountered during haul road construction at the Project site will be the same material types that were characterized as part of the baseline geochemical characterization program as described in the *Stibnite Gold Project Baseline Geochemical Characterization Report* (SRK, 2017). Therefore, no additional sample collection or testing is required for these materials. A review of the material types that will be encountered along the proposed haul road routes will be completed and provided in the Phase 2 baseline report, along with an evaluation of the potential for this material to generate acid and leach metals.

As described in the PRO (MGII, 2016, Section 7.1, Figure 7-1), site access improvements will include upgrades (widening/grading) of the existing Burntlog Road, extension of the Burntlog Road (Burntlog/Thunder Mountain Connector), and upgrade/extension of the Thunder Mountain Road. Geologic reconnaissance of the proposed upgrade/extension road corridor and adjacent 200-foot offset (400-foot wide corridor) was conducted in 2015 and presented in the Geologic and Soil Resources Baseline Study Addendum (MGII, 2017b). Surface exposure along much of the road alignment comprises colluvium/alluvium derived from underlying bedrock. Figure 9 of the Soil Resources Baseline Study Addendum indicates that the majority of bedrock in the vicinity of the road alignment (per Idaho Geologic Survey STATEMAP resources) comprises Late Cretaceous granodiorite and metamorphosed Cretaceous Granitoid Plutonic rocks with minor Late to Middle Proterozoic metasedimentary rocks. Figures 4 through 8 of the Soil Resources Baseline Study Addendum display outcrop occurrences along the road alignment corridor which are consistent with IGS STATEMAP geologic maps. These figures also indicate the scarcity of outcrop occurrences; much of the proposed road alignment is mantled with weathered alluvium/colluvium.

Disturbances associated with road construction/upgrades would occur primarily as cut/fill in this weathered, unconsolidated material. Based on these data, and because the rock types that occur in the proposed alignment of road extension/upgrade are similar to those that occur in the vicinity of the Stibnite Gold Project site, material characterization for geologic units that occur on the mine site may reasonably be extrapolated to rocks that occur in the road corridor. A geologic assessment of the lithologic units that will be intersected during access road construction will be provided in the Phase 2 baseline report.

CHAPTER 7: SUMMARY

In summary, the Phase 2 geochemical characterization program includes the following additional sample collection, analysis and evaluation activities:

- Eight additional samples were selected for HCT to fill gaps in sample representativity. These tests are currently ongoing for all eight HCTs.
- Existing mineralogical studies and Phase 2 HCT results (including post leach mineralogy) will be utilized to supplement the understanding of how mineralogy contributes to leachate chemistry.
- Mill tailings samples representing various possible flow sheets will undergo static testing (including ABA, multi-element analysis and modified SPLP). Following finalization of the flow sheet, sample(s) will be selected for HCT.
- Review of geology along haul road and access road routes to determine the potential for potential for acid generation and metal leaching from new road cuts.

This additional characterization work will address the gaps identified in the Phase 1 Geochemical Characterization program (SRK, 2017). The results of the Phase 2 work will be summarized in an update to the Geochemical Baseline Characterization Report. In addition, results from Phase 1 and Phase 2 geochemical characterization will be incorporated into the site-wide water chemistry model currently in preparation. A work plan for the SWWC and geochemical modeling is provided under separate cover.

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Appendix A
RFAI #9 Response

USFS/AECOM Request for Additional Information

RFAI-9a – Geochemistry

Midas RFAI Lead: Gene Bosley, Dale Kerner

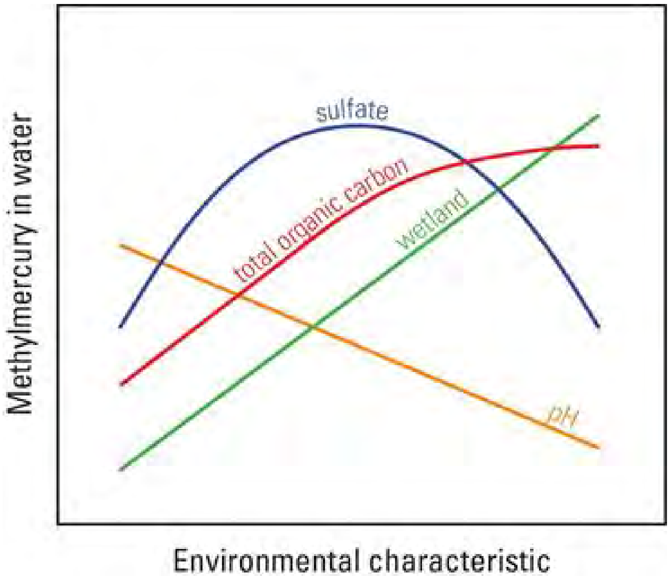
BC RFAI Lead: Brad Hart, Kelly Donahue

Other RFAI Lead: Amy Prestia (SRK)

RFAI Request and Response	
Item	**Response**
	On July 26, 2017, members of Midas Gold, Brown and Caldwell, SRK, ERM, the USFS and AECOM had a teleconference to discuss topics presented in RFAI-9A. This RFAI response references excerpts from that discussion where applicable.
1. Metal leaching and water quality a. Saturated leach columns may simulate site conditions for Bradley Tailings better than MWMP or humidity cell testing, and should be considered for future testing to determine long-term kinetic information about tailings weathering/metal leaching from tailings**. (lab work may be needed).** b. Results of the work described as part of the Phase 2 Geochemical Work Plan, including Phase 2 HCT results, are needed in order to assess the representativeness of the geochemistry data set in relation to metal leaching and water quality impacts.	1a. Bradley Tailings occur under the historic Spent Ore Disposal Area (SODA) facility in the Meadow Creek Drainage (see PRO, figure 4-2). As noted in the PRO Section 5.1.1, third bullet, Midas Gold will, "Clean up legacy tailings currently contaminating the Meadow Creek drainage by removing the tailings from their current location beneath the Spent Ore Disposal Area (SODA) in the Meadow Creek drainage and surrounding valley (see Section 9.1.4), then reprocess the tailings in the Midas Gold ore processing facility to recover residual antimony and gold (see Section 10.1.3). The reprocessed tailings will be stored in a modern, fully lined, properly engineered tailings storage facility (TSF) (see Section 11)." The discussion on July 26, 2017 clarified this proposed processing of historic tailings, and also noted that groundwater quality data from monitoring wells and seeps located downgradient of the SODA can be used to characterize impacts from SODA and Bradley Tailings leachate. In response, AECOM specialist Steve Rusak replied that no additional characterization of Bradley Tailings is necessary if the materials will be processed and resultant tailings stored in the TSF. 1b. The Phase 2 Geochemical Characterization Work Plan (prepared by SRK) is in review (anticipated delivery to USFS/AECOM end-August 2017). The Phase 2

	Work Plan will describe static test and multi-element data and will demonstrate that the range of samples collected are representative of mined open-pit material. Phase 2 geochemical characterization includes humidity cell testing that is in its 21st week (to validate static testing data). This information was presented on the teleconference on July 26, 2017, and AECOM agreed data adequacy will be determined upon review of the Phase 2 Geochemical Characterization Work Plan.
2. Acid Rock Drainage a. A demonstration of lag time calculations to onset of acid generation, based on HCT test results, should not be considered out of scope for the baseline geochemistry report. b. Assessment of impacts from materials anticipated to be disturbed/exposed as a result of construction of the haul roads and access road will not be possible until these materials have been characterized. **(field and lab work may be required)** c. If small dumps containing material from the Baily Tunnel were placed near the tunnel entrance, loading from the dumps will have to be included in the water quality model, and the material should be characterized. **(field and lab work may be required)** d. Results of the work described as part of the Phase 2 Geochemical Work Plan, including Phase 2 HCT results, are needed in order to assess the representativeness of the geochemistry data set in relation to potential impacts from ARD.	2a. In the teleconference meeting on July 26, 2017, SRK noted that they are waiting on Phase 2 geochemical characterization data to determine potential lag time for HCT cells that may go acidic. SRK noted that as of week 20 of testing, there were no observations of acid generation in any cells. Lag time specification will be defined as part of the Phase 2 program. AECOM's geochemistry resource specialist found this explanation sufficient. 2b. As described in the PRO (Section 7.1, Figure 7-1), site access improvements will include upgrades (widening/grading) of the existing Burntlog Road, extension of the Burntlog Road (Burntlog/Thunder Mountain Connector), and upgrade/extension of the Thunder Mountain Road. Geologic reconnaissance of the proposed upgrade/extension road corridor and adjacent 200-foot offset (400-foot wide corridor) was conducted in 2015 and presented in the Geologic and Soil Resources Baseline Study Addendum (Midas Gold, 2016). Surface exposure along much of the road alignment comprises colluvium/alluvium derived from underlying bedrock. Figure 9 of the Baseline Addendum report indicates that the majority of bedrock in the vicinity of the road alignment (per Idaho Geologic Survey STATEMAP resources) comprises Late Cretaceous granodiorite and metamorphosed Cretaceous Granitoid Plutonic rocks with minor Late to Middle Proterozoic metasedimentary rocks. Figures 4 through 8 of the Baseline addendum display outcrop occurrences along the road alignment corridor which are consistent with IGS STATEMAP geologic maps. These figures also indicate the scarcity of outcrop occurrences; much of the proposed road alignment is mantled with weathered alluvium/colluvium. Disturbances associated with road construction/upgrades would occur primarily as cut/fill in this weathered, unconsolidated material. Based on these data, and because the rock types that occur in the proposed alignment of road extension/upgrade are similar to those that occur in the vicinity of the Stibnite Gold Project site, material characterization for geologic units that occur on the mine site may reasonably be extrapolated to rocks that occur in the road corridor. With regard to the concern mentioned on the July 26, 2017 teleconference that these disturbed

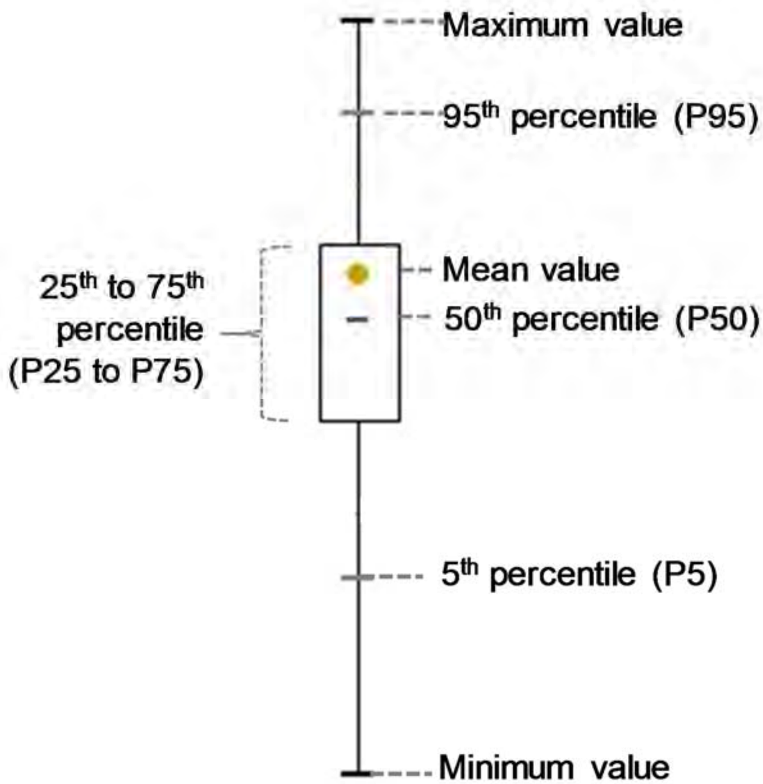
	materials may be acid-generating, Midas Gold notes that the current geochemical characterization of materials on the mine site have not been demonstrated to be acid-generating. Midas Gold suggests that confirmation of this (to be included in the Phase 2 geochemical testing) will be sufficient to demonstrate that minimally disturbed, weathered materials within the road corridor will likewise not be acid-generating. 2c. Midas Gold does not propose to move historic mine waste materials that occur near the Bailey Tunnel entrance. Samples of this material have been characterized and are included in existing baseline study reports. Furthermore, Bailey tunnel was through materials that have been characterized as part of the Yellow Pine Pit resource drilling and geochemical testing. On the July 26, 2017 teleconference, Midas Gold clarified these points and AECOM's representative agreed that sufficient information is available for adequate description/assessment in the EIS document. 2d. Phase 2 Geochemical Characterization Work Plan will be provided to AECOM to address this concern. AECOM agreed data adequacy will be determined upon review of the Phase 2 Geochemical Characterization Work Plan.
2. Potential for Mercury Methylation a. The response does not appear to understand the relationship between total mercury and methylmercury. For example, concentrations of total mercury in the rock are very poor predictors of the potential for methylmercury formation: **Figure 1.** Relation between methylmercury in surface water and the environmental characteristics used as explanatory variables in this model. (Pritz and others, 2014; Figure 3; also http://wi.water.usgs.gov/mercury/NPSHgMap.html) "Mercury concentration in rocks" is not even a factor on this table, and is typically not even considered as part of methylmercury models.	3a/b. Based on the discussion during the July 26, 2017 conference call, Midas Gold understands that AECOM has expertise in evaluating the potential for mercury methylation and furthermore has stated that their observations of site conditions suggest that a mercury methylation issue at the site is highly unlikely. Midas Gold requests that AECOM proceed with this analysis.

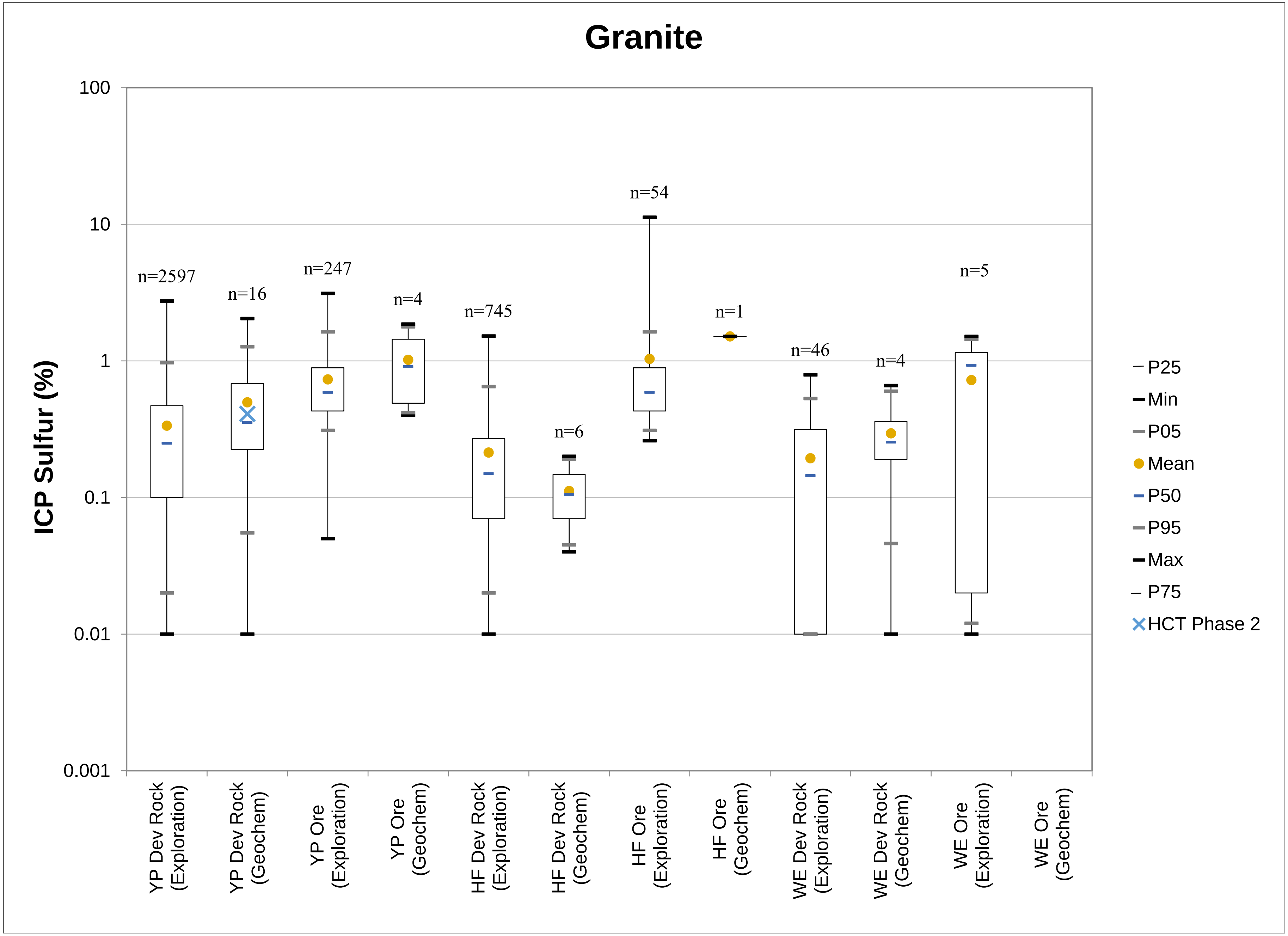


b. Any changes to concentrations of methylmercury as a result of the proposed action would depend upon several variables, including: anoxic environments; presence of sulfate-reducing or iron-reducing bacteria to facilitate the methylation process; bioavailability of mercury to participate in methylation reactions; the nutrient status of the environments where mercury methylation could occur (the concentrations and bioavailability of organic carbon and inorganic nitrogen and sulfur); as well as the relative rates of mercury demethylation, which occurs naturally through both photochemical and biological processes (Pritz and others, 2014; Marvin-Dipasquale and Oremland 1998; Zhang and Hsu-Kim 2010). An estimate needs to be made of the current rates of both methylmercury formation, and demethylation, and the changes to those rates as a result of the proposed action. It is possible that the needed data has already been collected and can be used. Alternately additional data may need to be collected. This is a highly-specialized field, and Midas might consider hiring someone with specific expertise.

Appendix B
Box and Whisker Plots

Key for Box and Whisker Plots





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n=6
n=54
n=1
n=46
n=4
n=5
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
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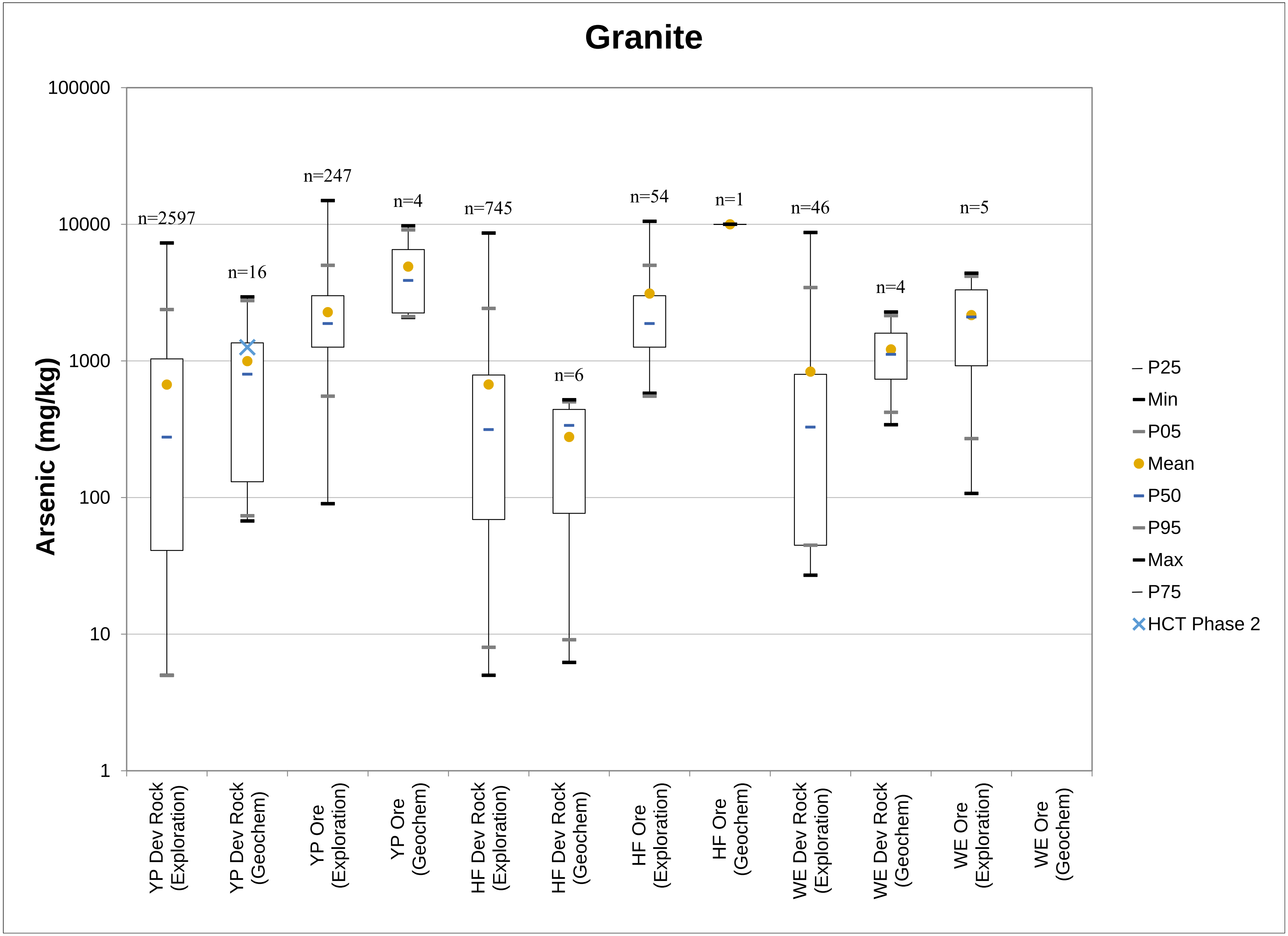
Max
P75
HCT Phase 2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n=5
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
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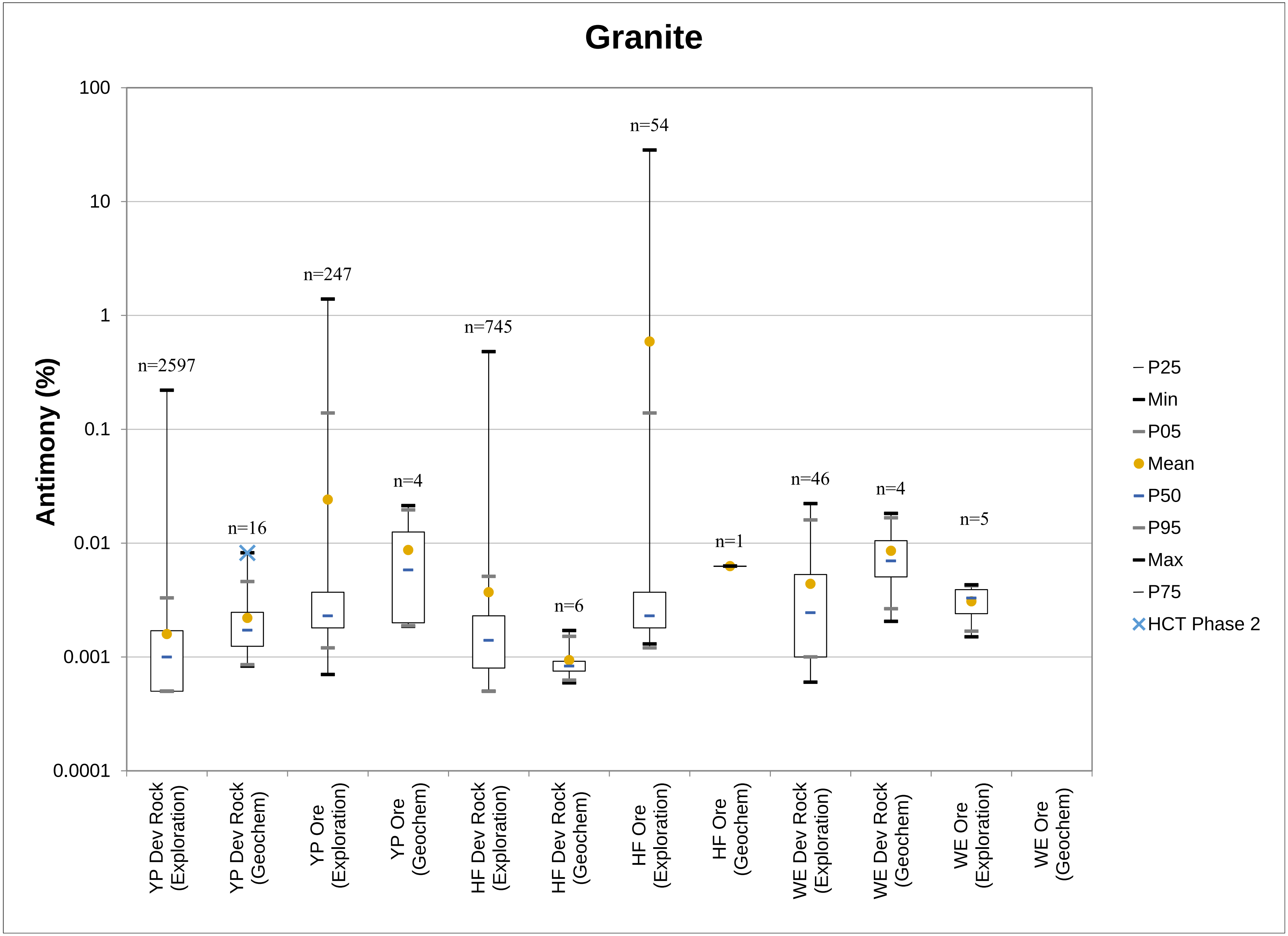
HCT Phase 2



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n=5
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
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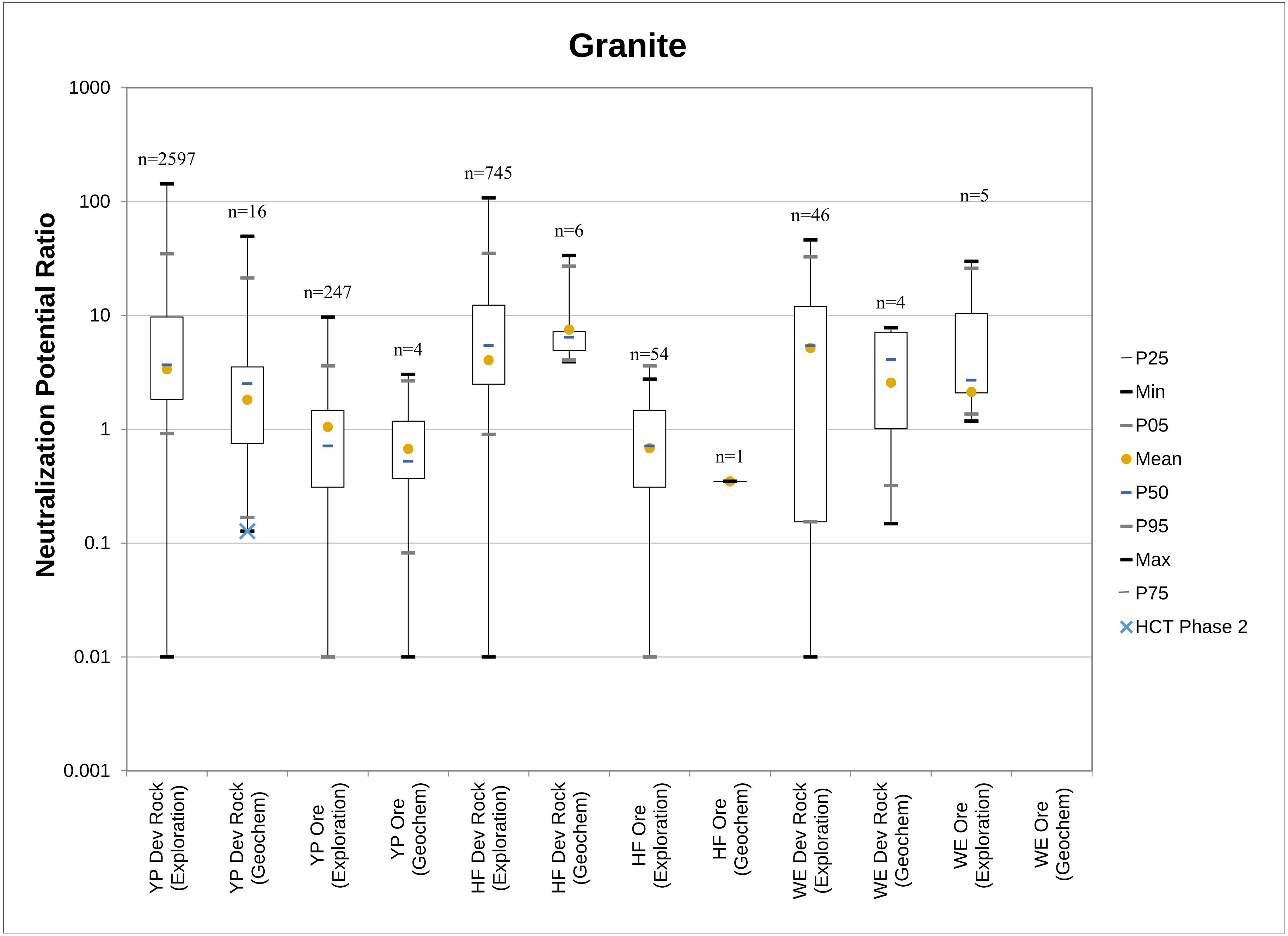
HCT Phase 2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YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
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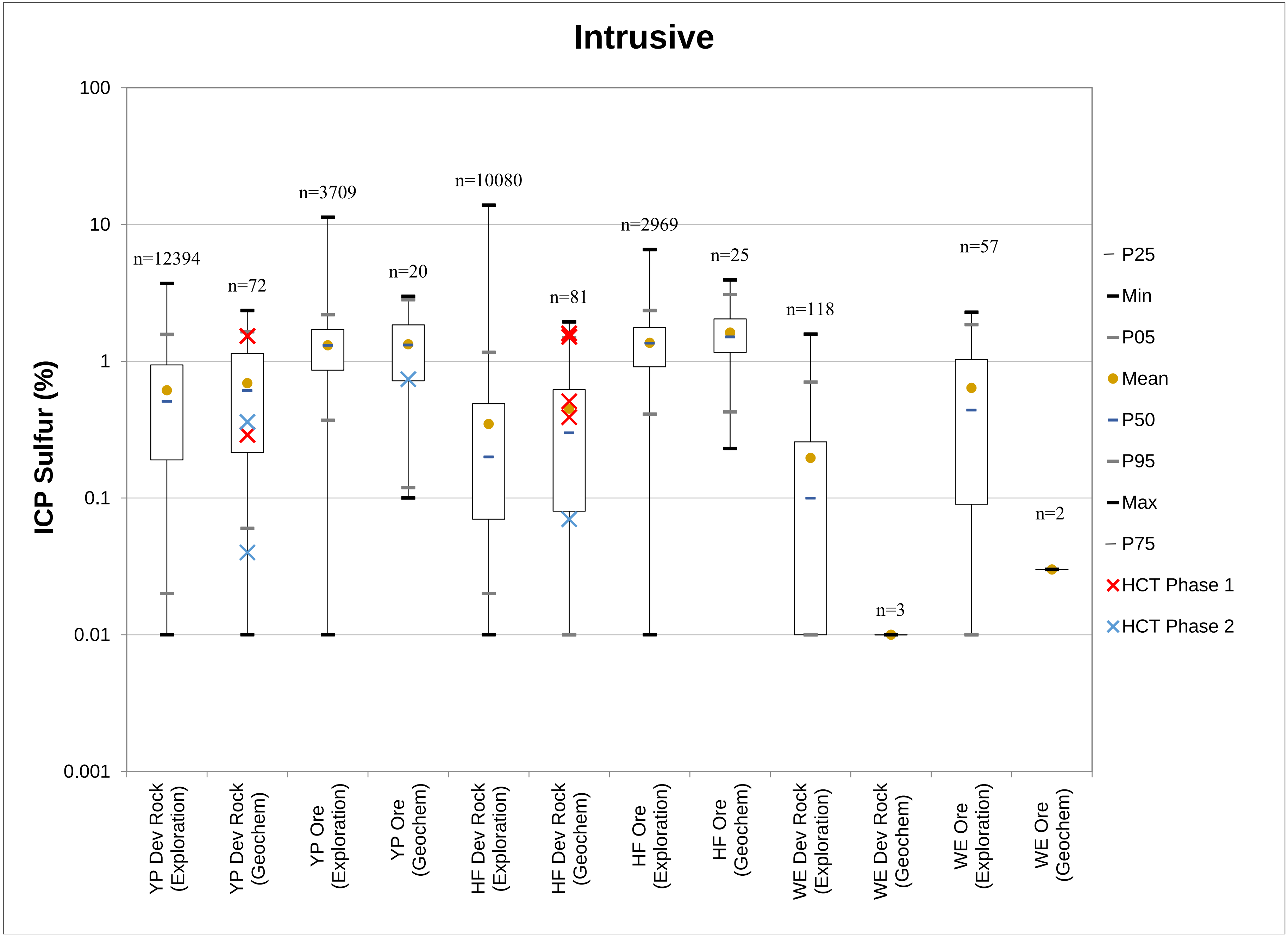
HCT Phase 2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YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
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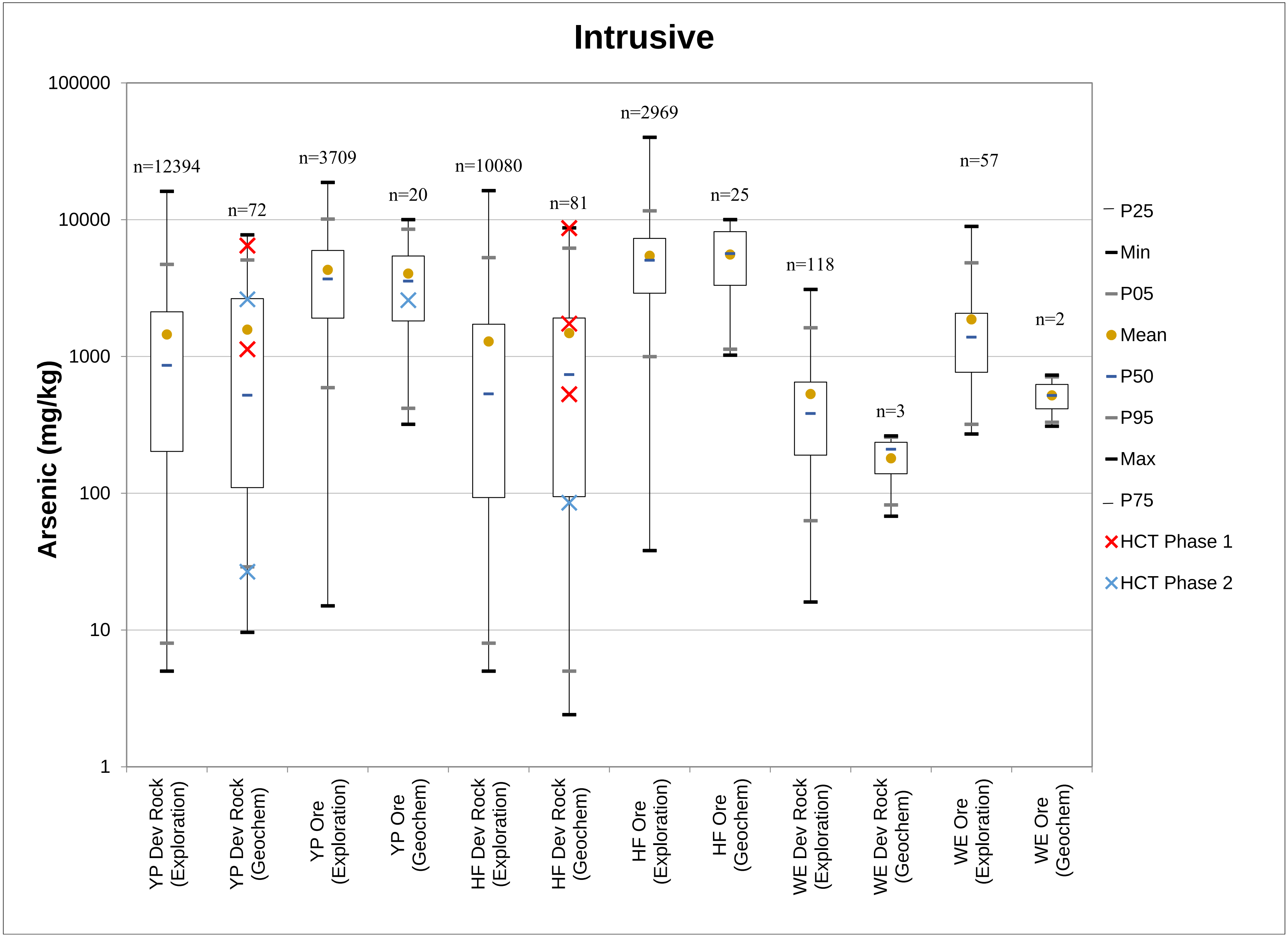
HCT Phase 1
HCT Phase 2



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n=2
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
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Mean
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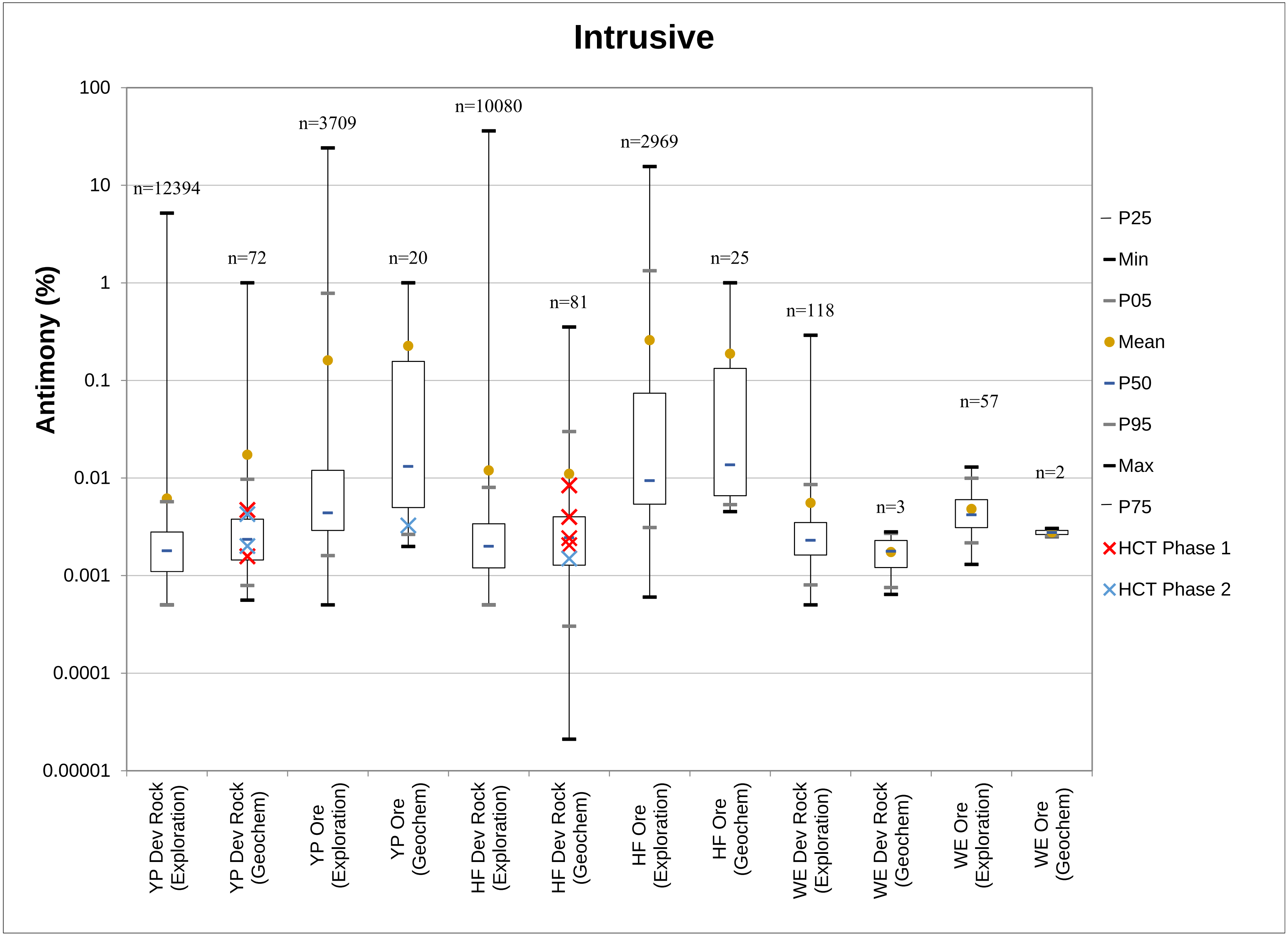
HCT Phase 1
HCT Phase 2



Intrusive
Antimony (%)
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HCT Phase 1
HCT Phase 2
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
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HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
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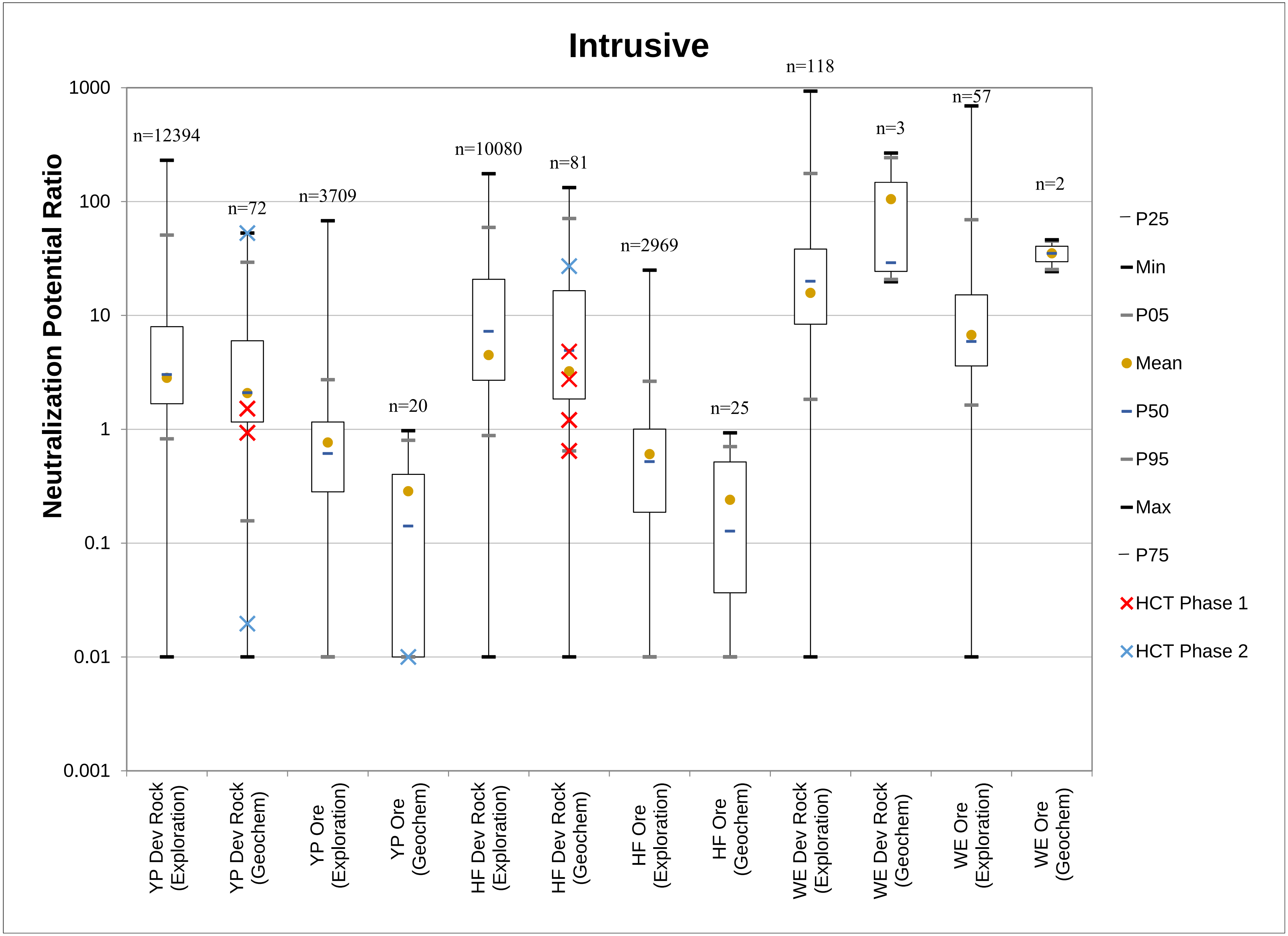
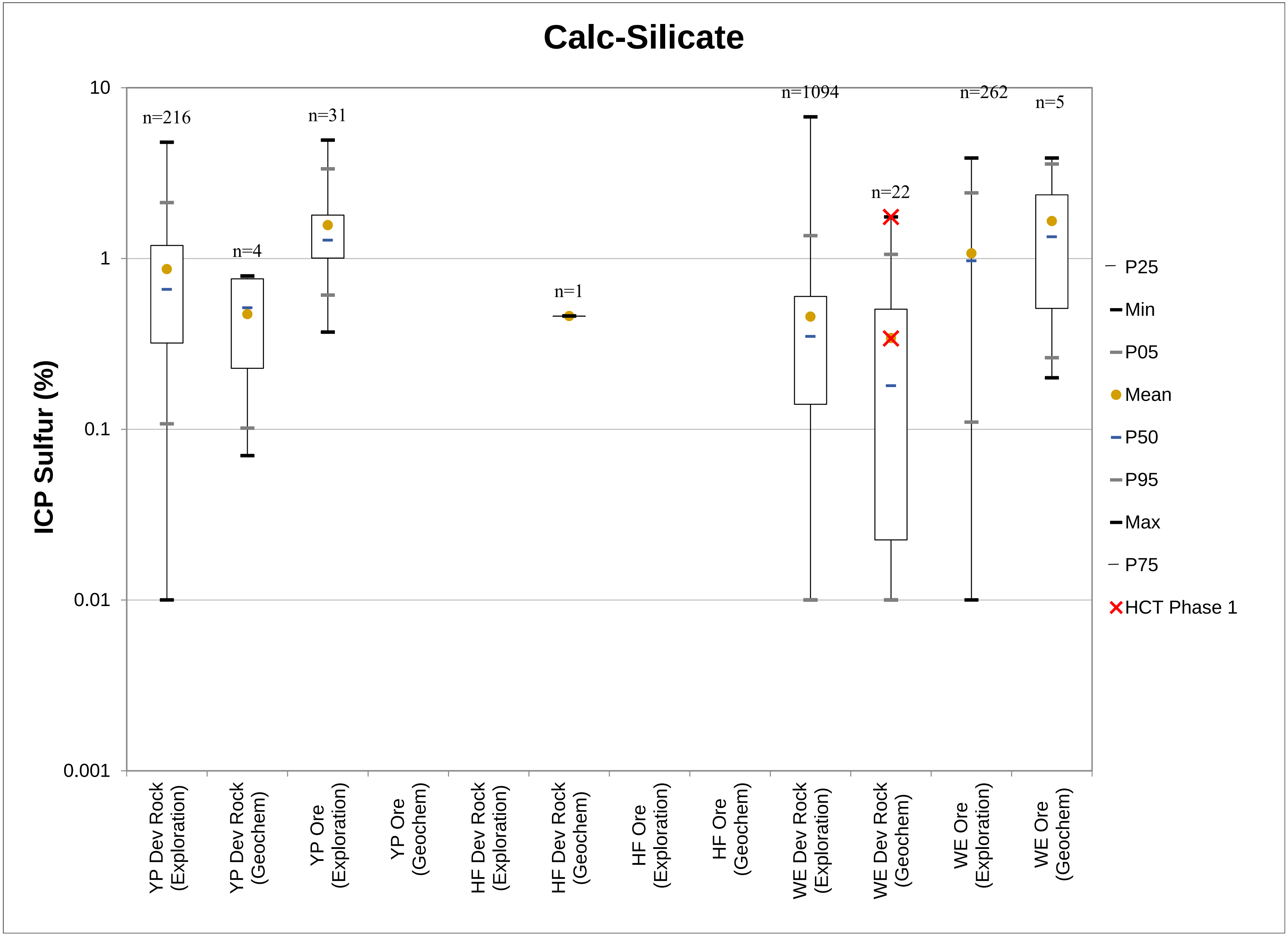
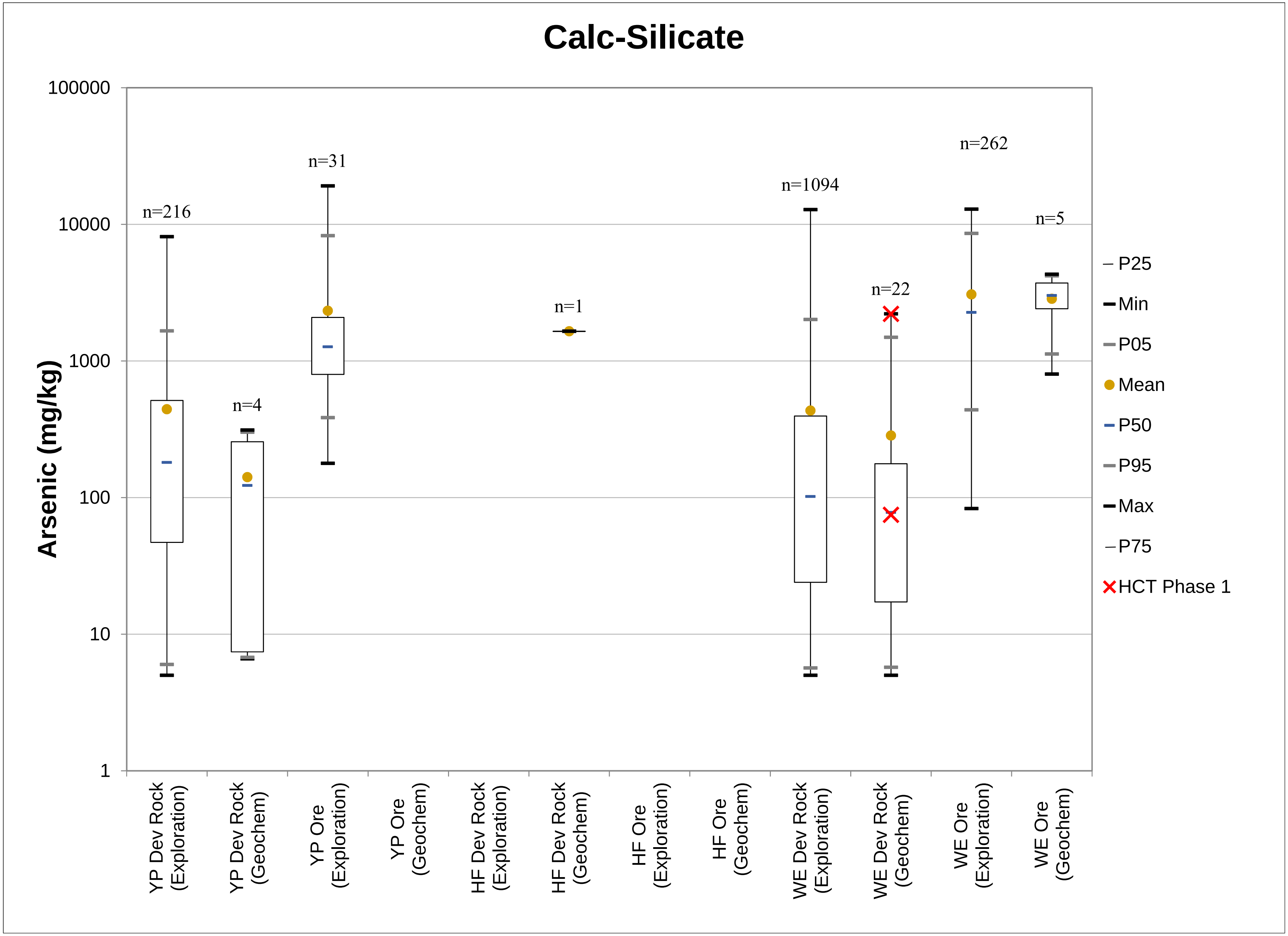
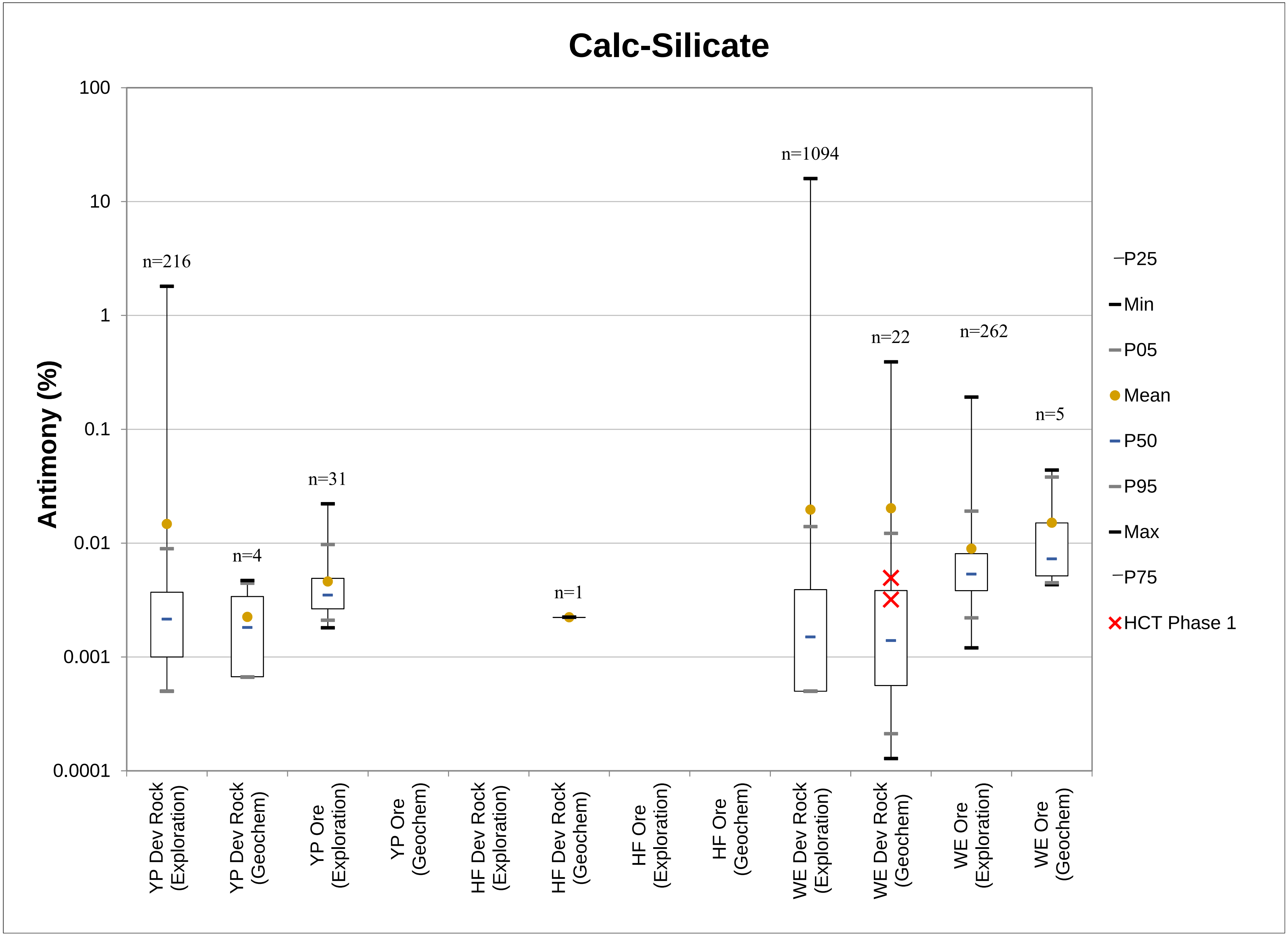
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)


Intrusive
Neutralization Potential Ratio
1000
100
10
1
0.1
0.01
0.001
n=12394
n=72
n=3709
n=20
n=10080
n=81
n=2969
n=25
n=118
n=3
n=57
n=2
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1
HCT Phase 2

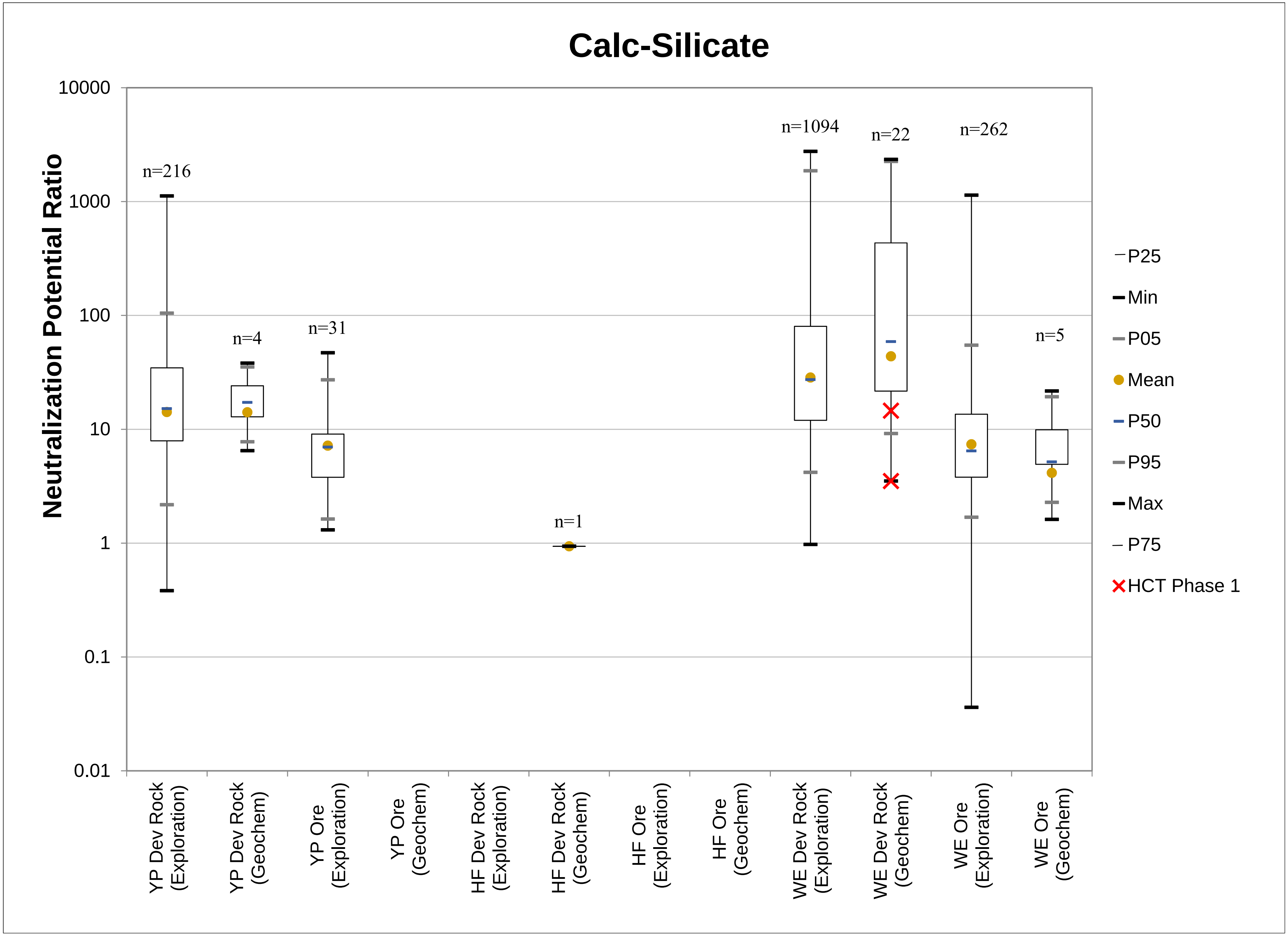


Calc-Silicate
ICP Sulfur (%)
10
1
0.1
0.01
0.001
n=216
n=4
n=31
n=1
n=1094
n=22
n=262
n=5
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1

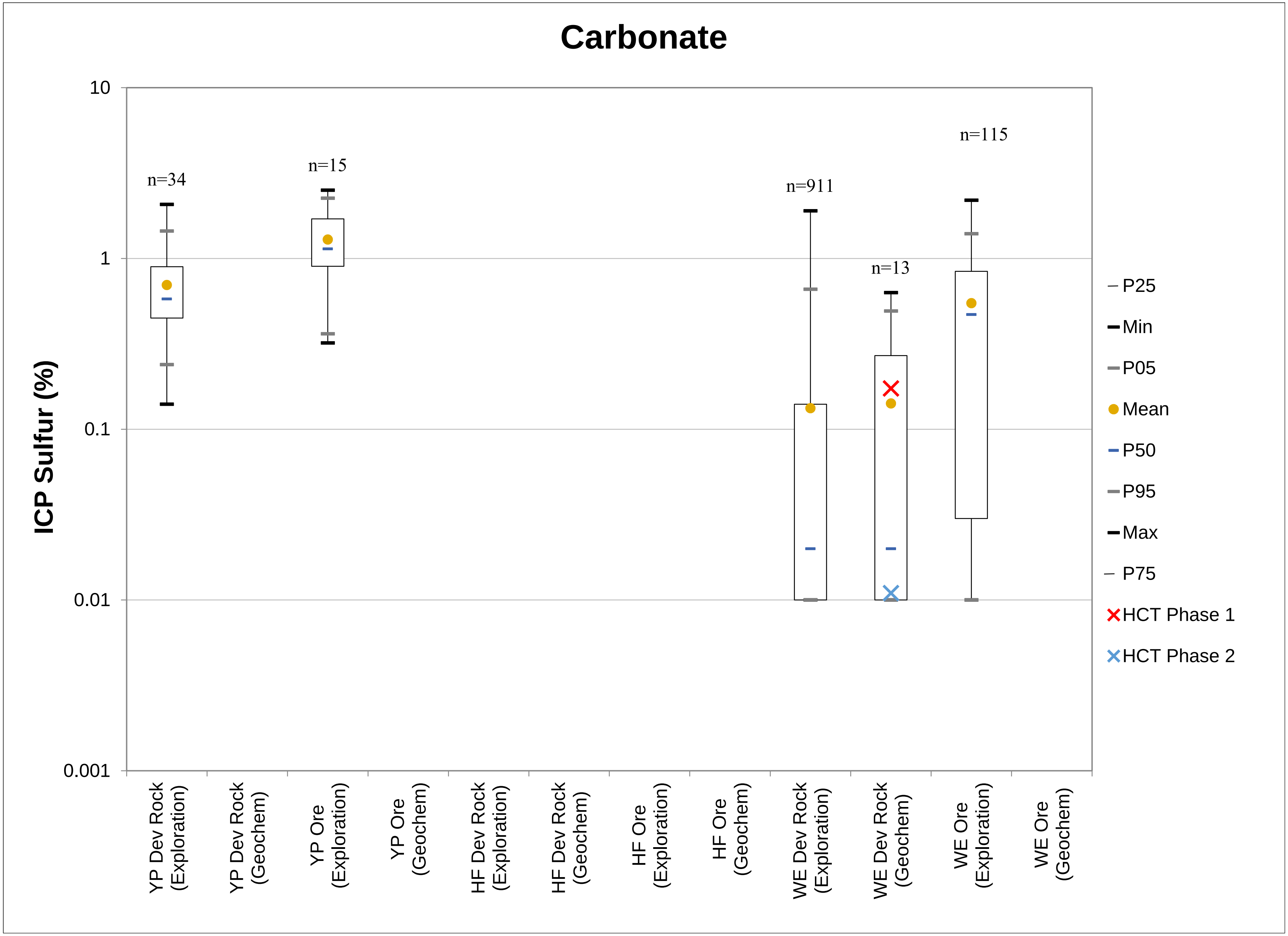

Calc-Silicate
Arsenic (mg/kg)
100000
10000
1000
100
10
1
n=216
n=4
n=31
n=1
n=1094
n=22
n=262
n=5
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1



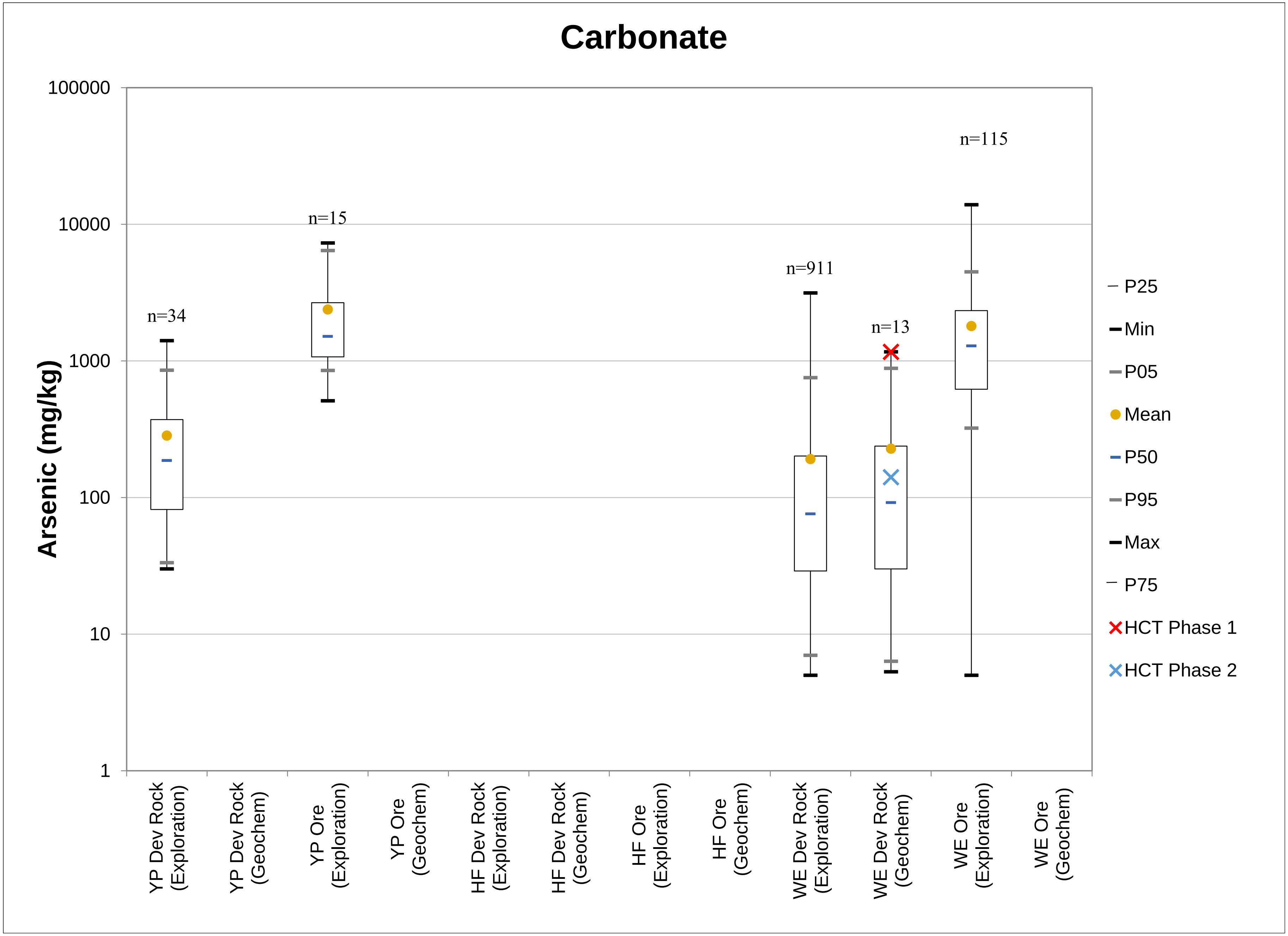
Calc-Silicate
Antimony (%)
100
10
1
0.1
0.01
0.001
0.0001
n=216
n=4
n=31
n=1
n=1094
n=22
n=262
n=5
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1



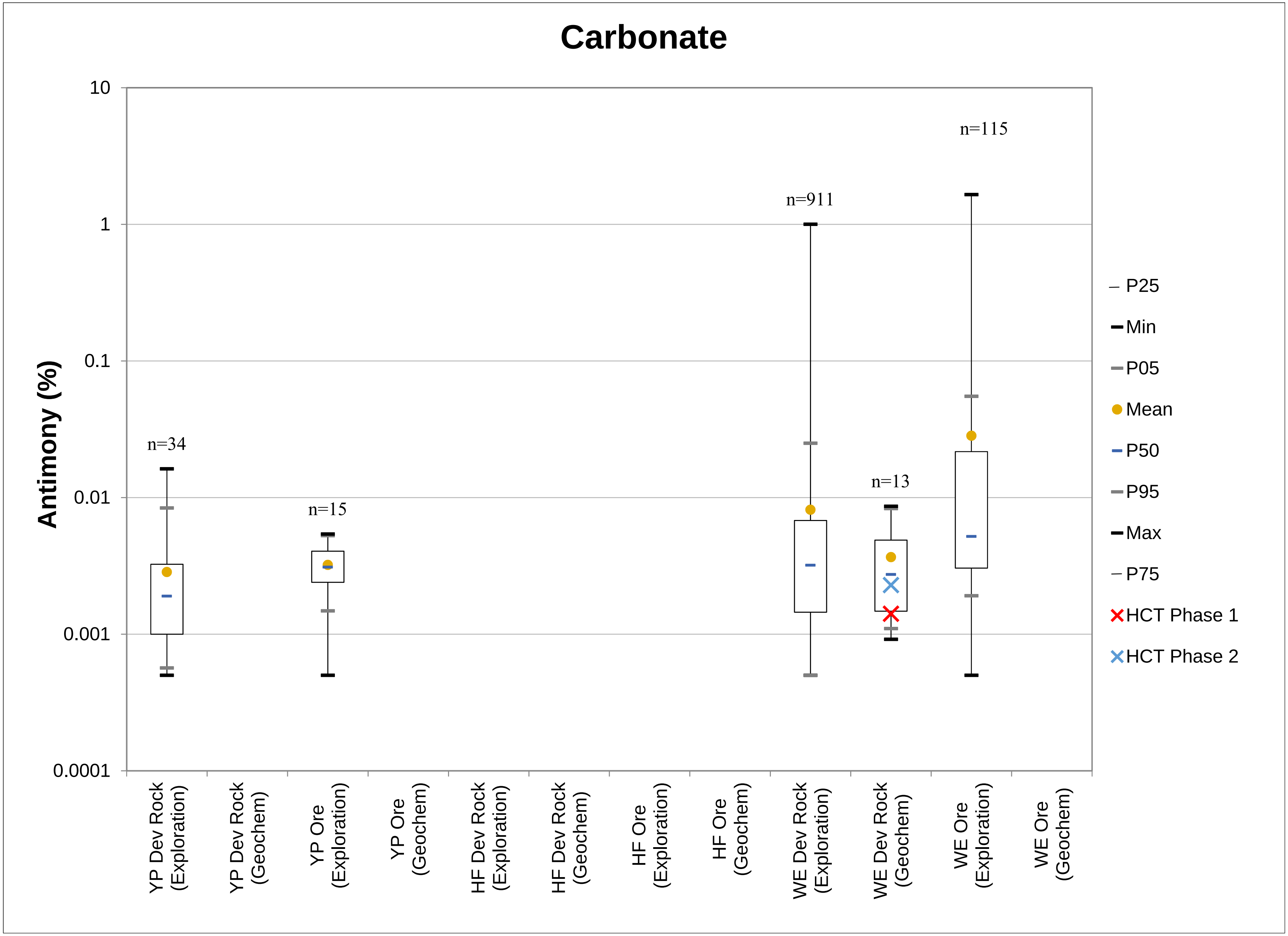
Calc-Silicate
Neutralization Potential Ratio
10000
1000
100
10
1
0.1
0.01
n=216
n=4
n=31
n=1
n=1094
n=22
n=262
n=5
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1

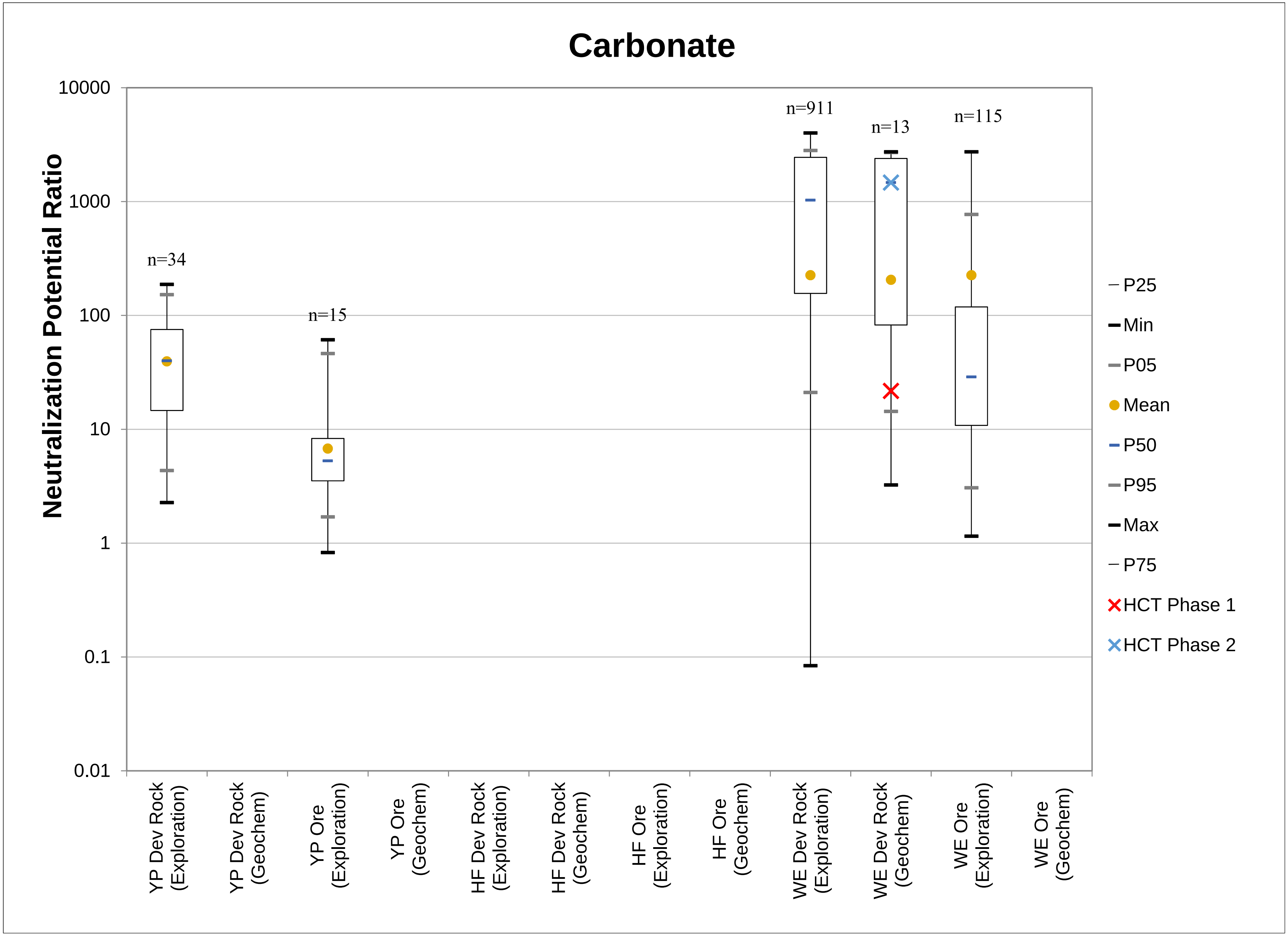


Carbonate
ICP Sulfur (%)
10
1
0.1
0.01
0.001
n=34
n=15
n=911
n=13
n=115
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1
HCT Phase 2

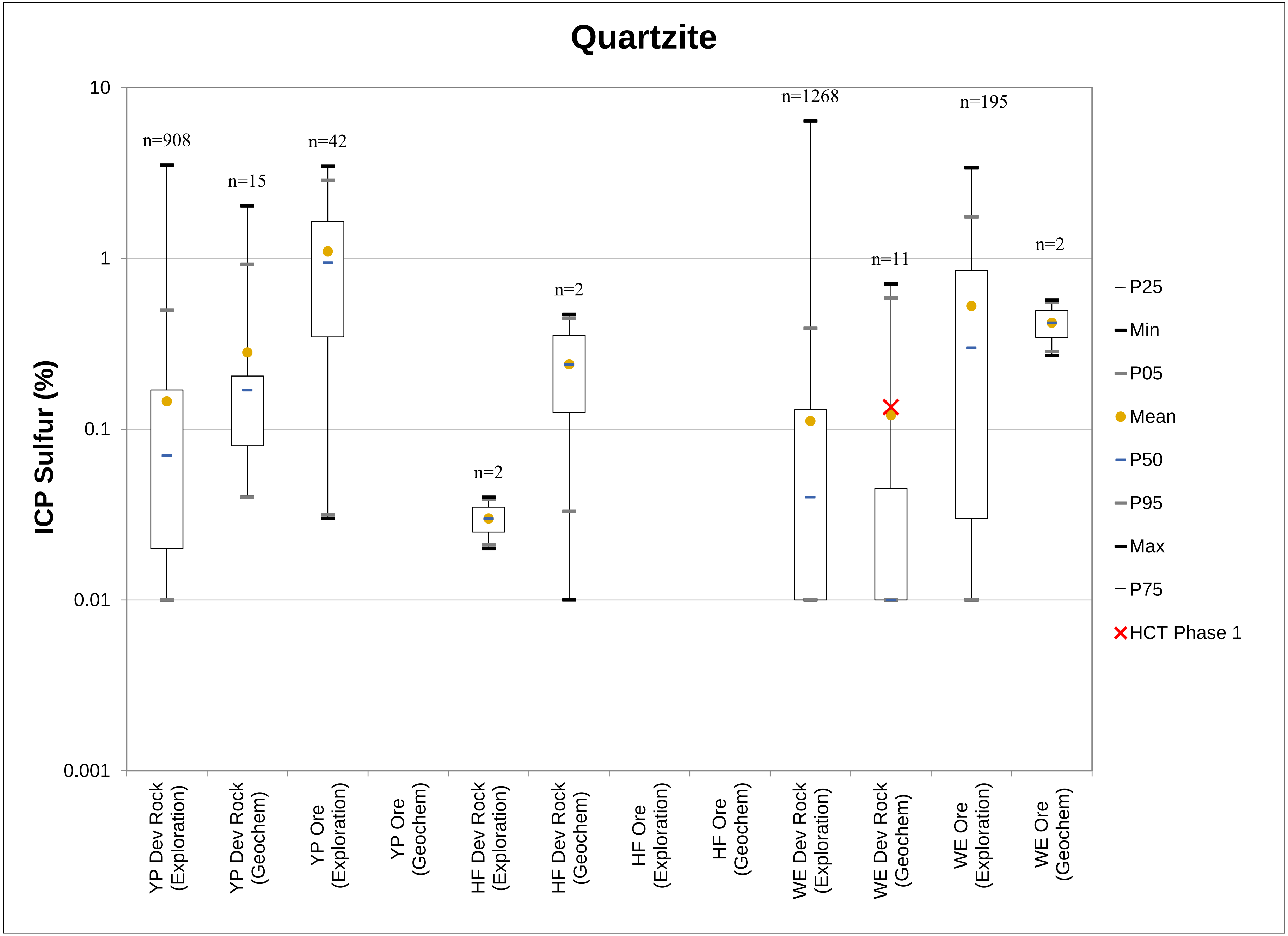


Carbonate
Arsenic (mg/kg)
100000
10000
1000
100
10
1
n=34
n=15
n=911
n=13
n=115
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1
HCT Phase 2

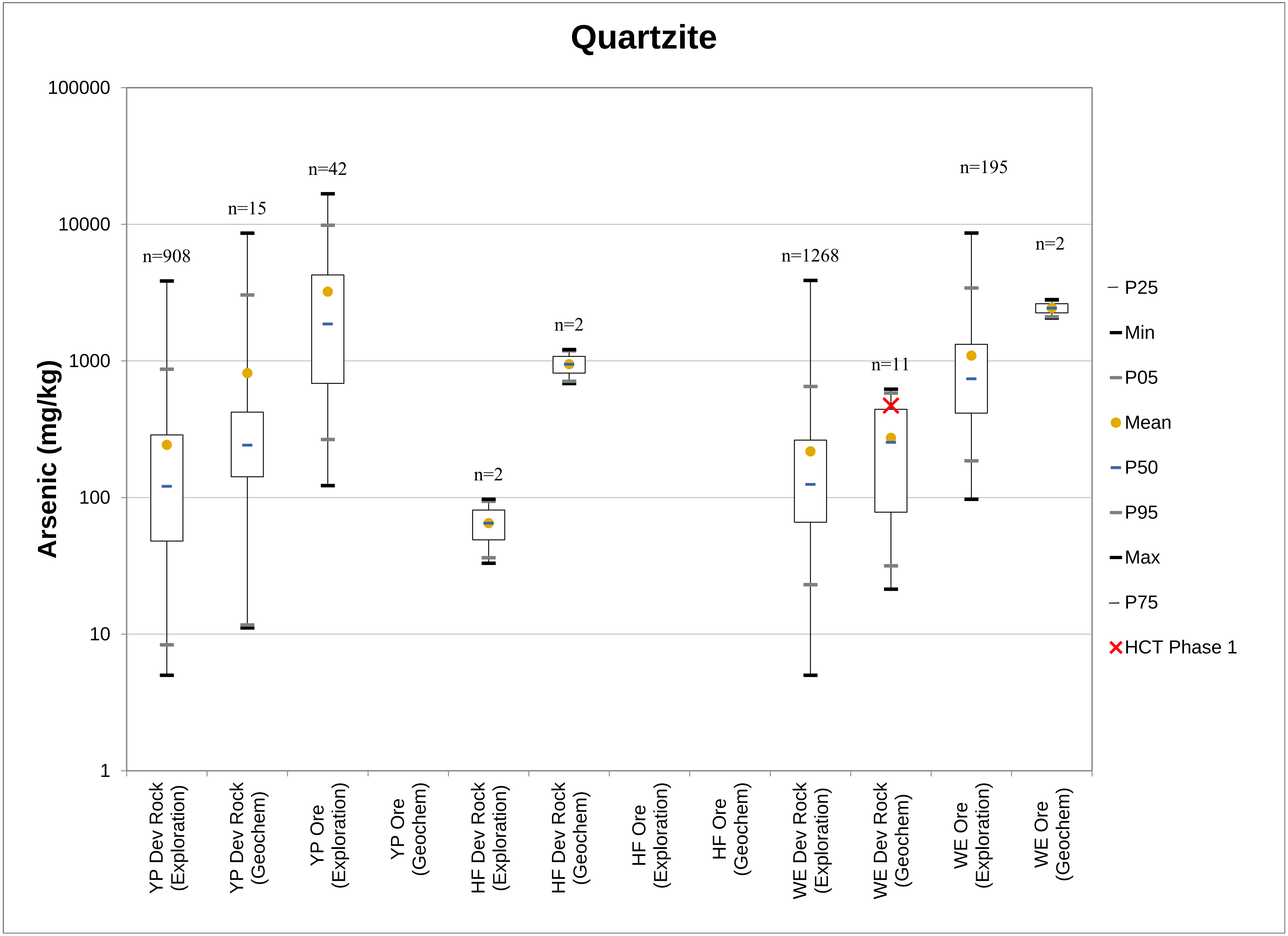

Carbonate
Antimony (%)
10
1
0.1
0.01
0.001
0.0001
n=34
n=15
n=911
n=13
n=115
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1
HCT Phase 2
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)

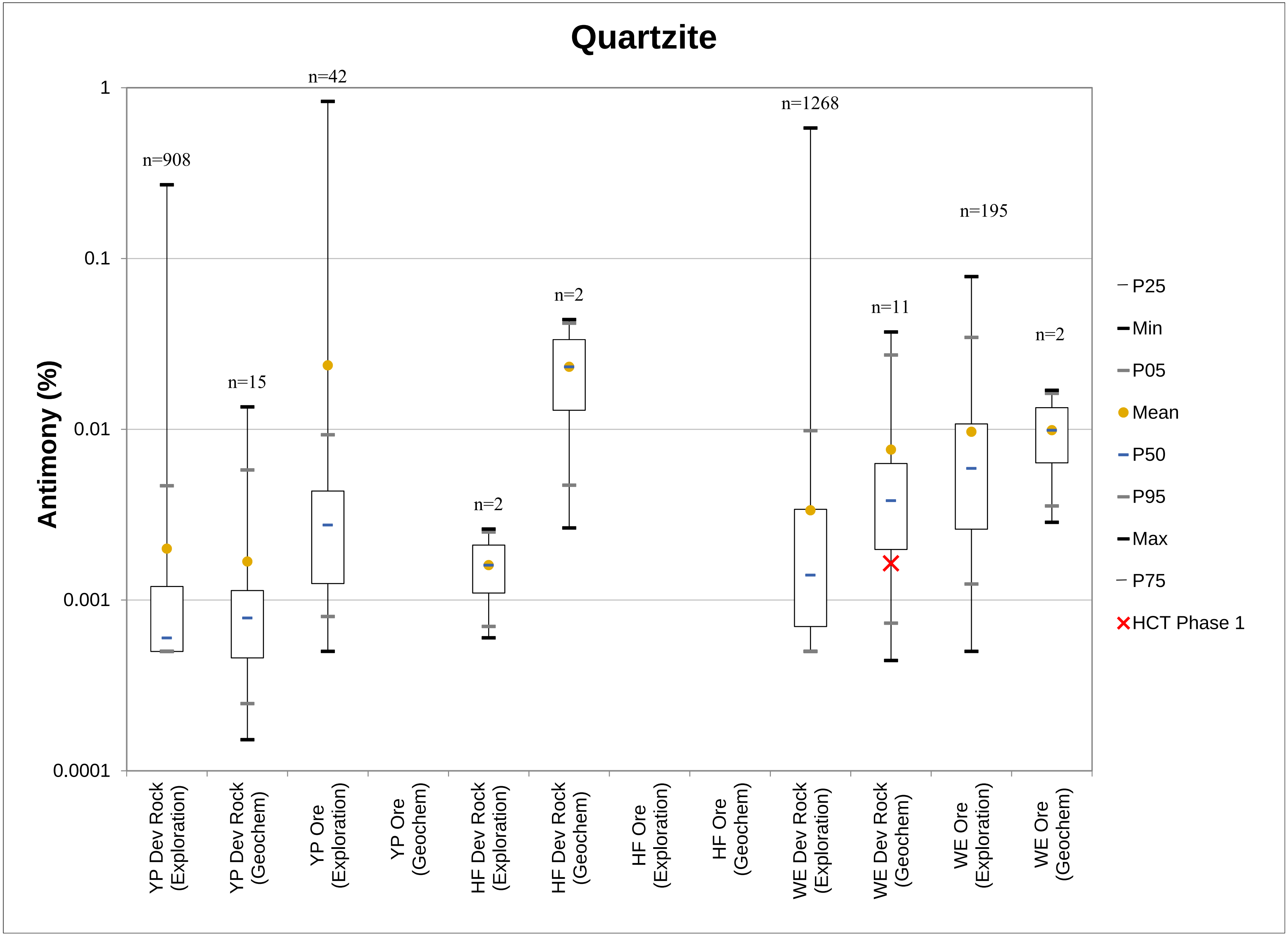


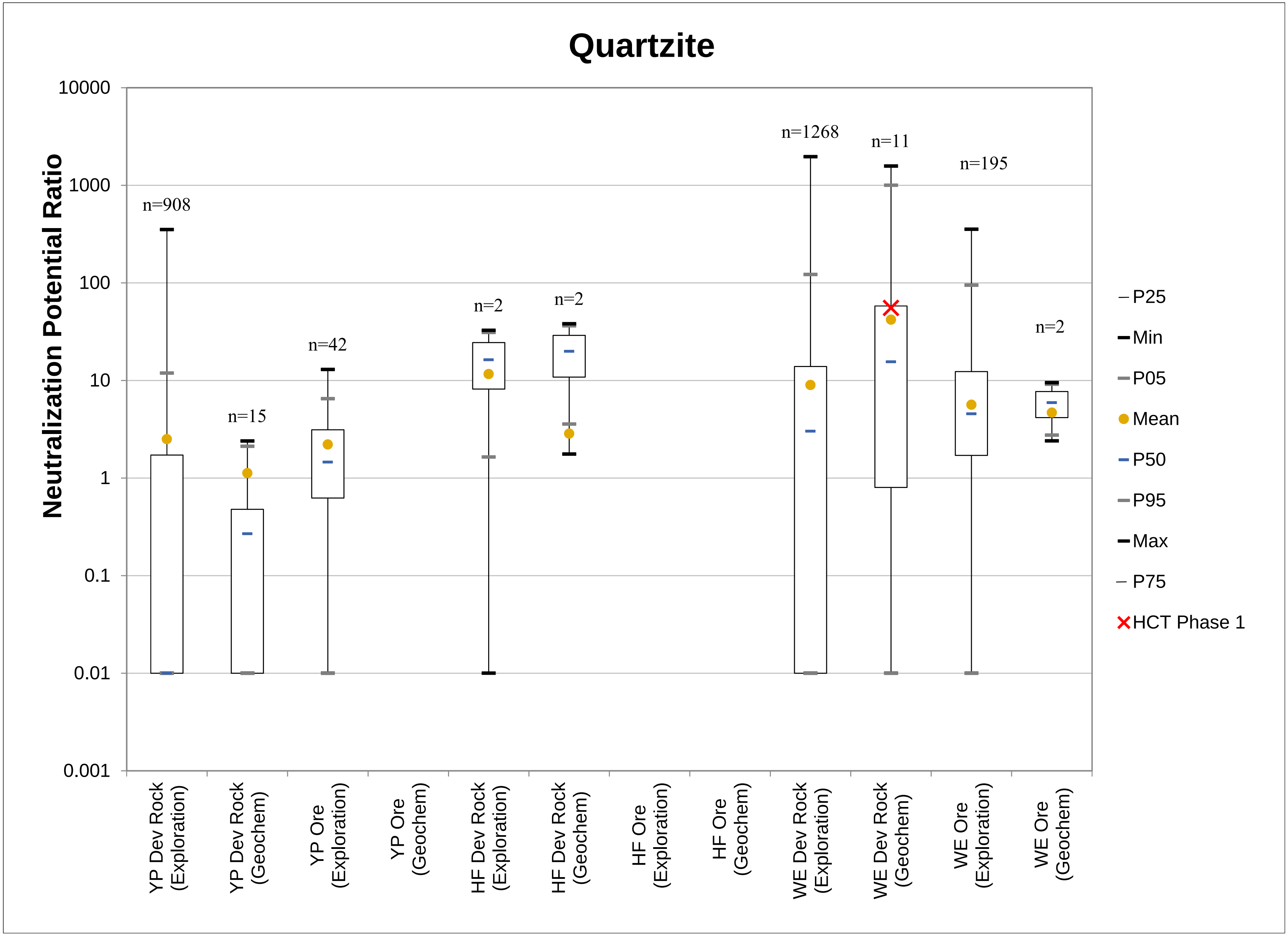
Carbonate
Neutralization Potential Ratio
10000
1000
100
10
1
0.1
0.01
n=34
n=15
n=911
n=13
n=115
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1
HCT Phase 2



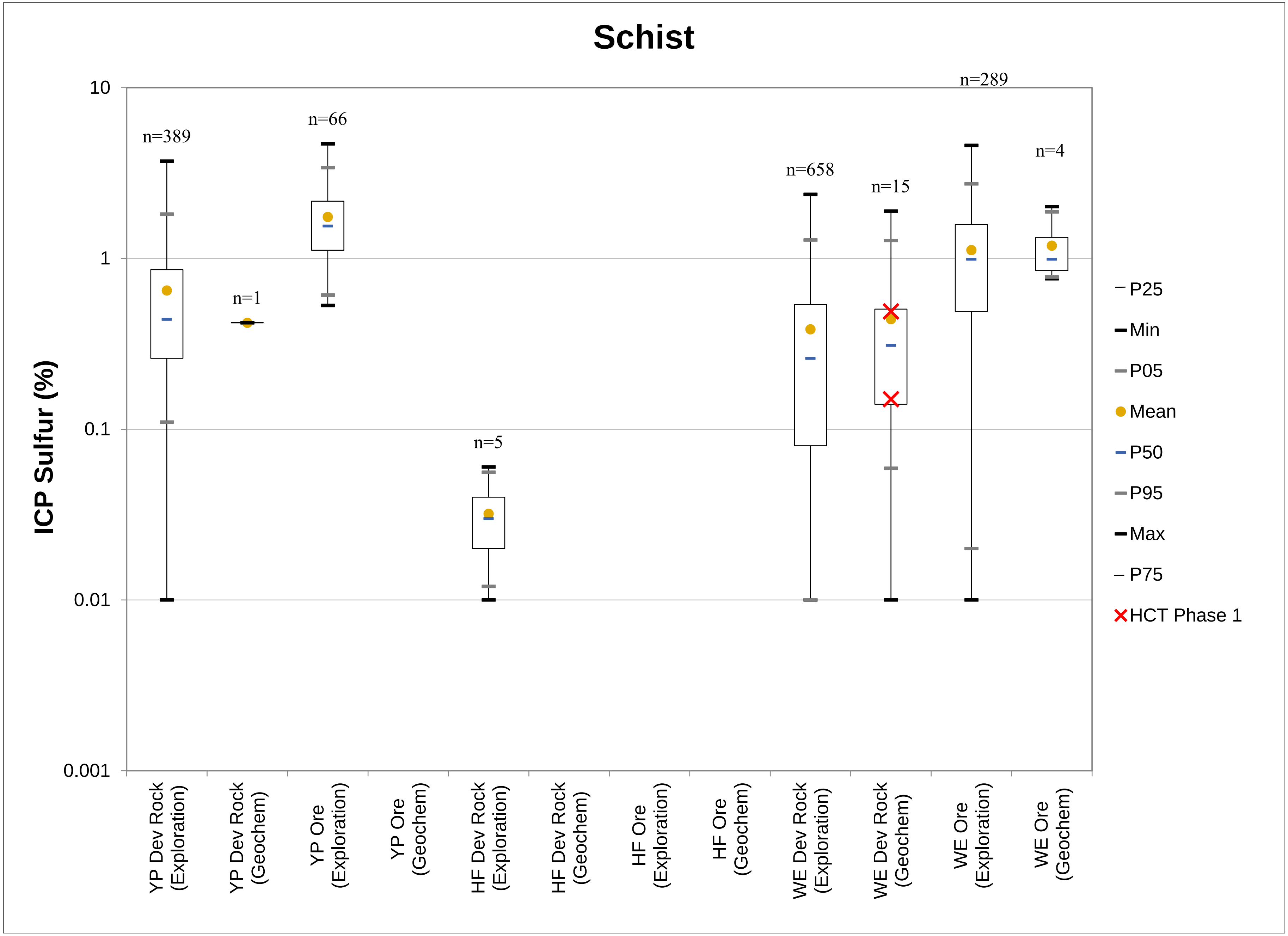
Quartzite
ICP Sulfur (%)
10
1
0.1
0.01
0.001
n=908
n=15
n=42
n=2
n=2
n=1268
n=11
n=195
n=2
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1

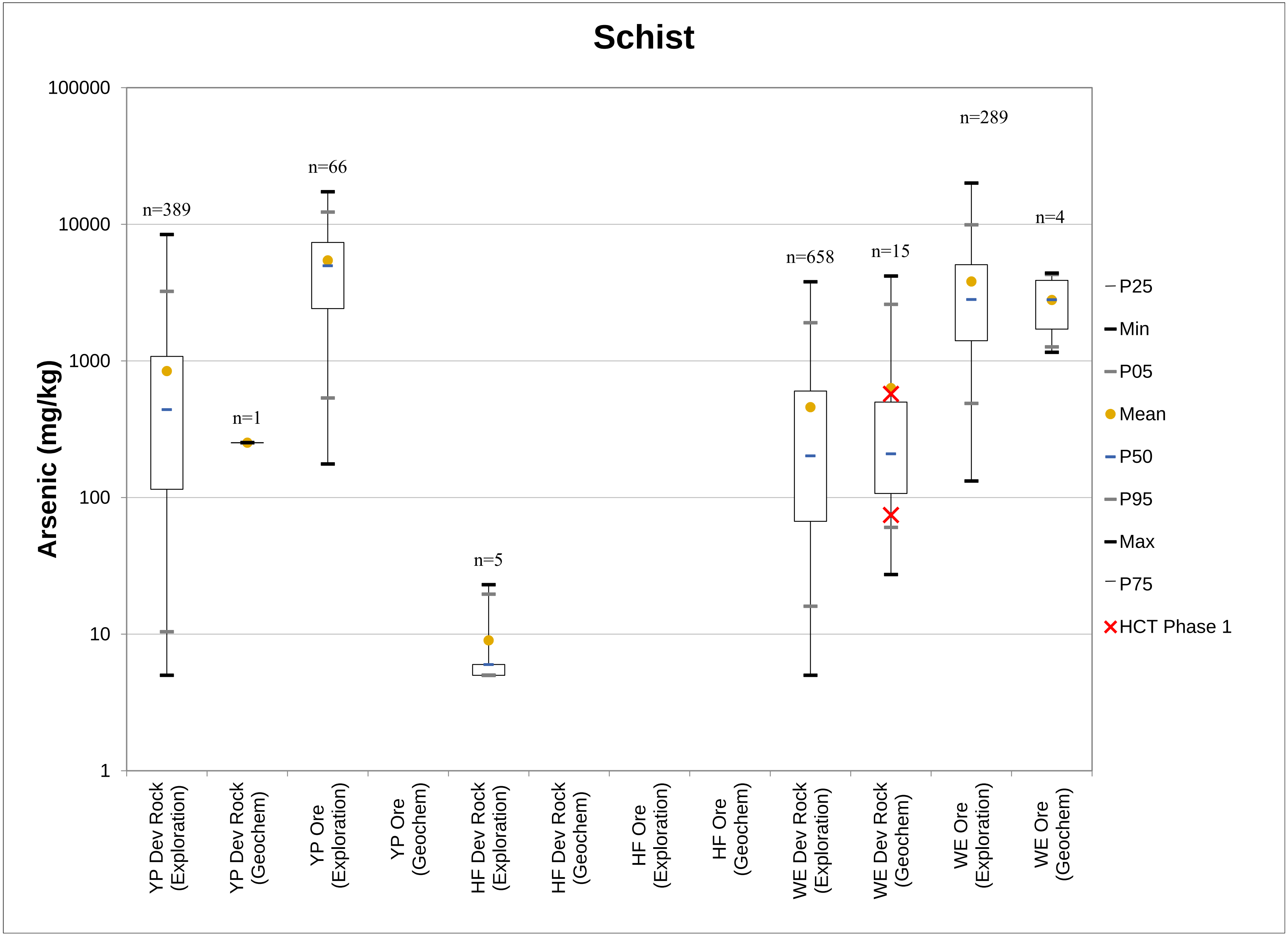

Quartzite
Arsenic (mg/kg)
100000
10000
1000
100
10
1
n=908
n=15
n=42
n=2
n=2
n=1268
n=11
n=195
n=2
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1


Quartzite
Antimony (%)
1
0.1
0.01
0.001
0.0001
n=908
n=15
n=42
n=2
n=2
n=1268
n=11
n=195
n=2
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1

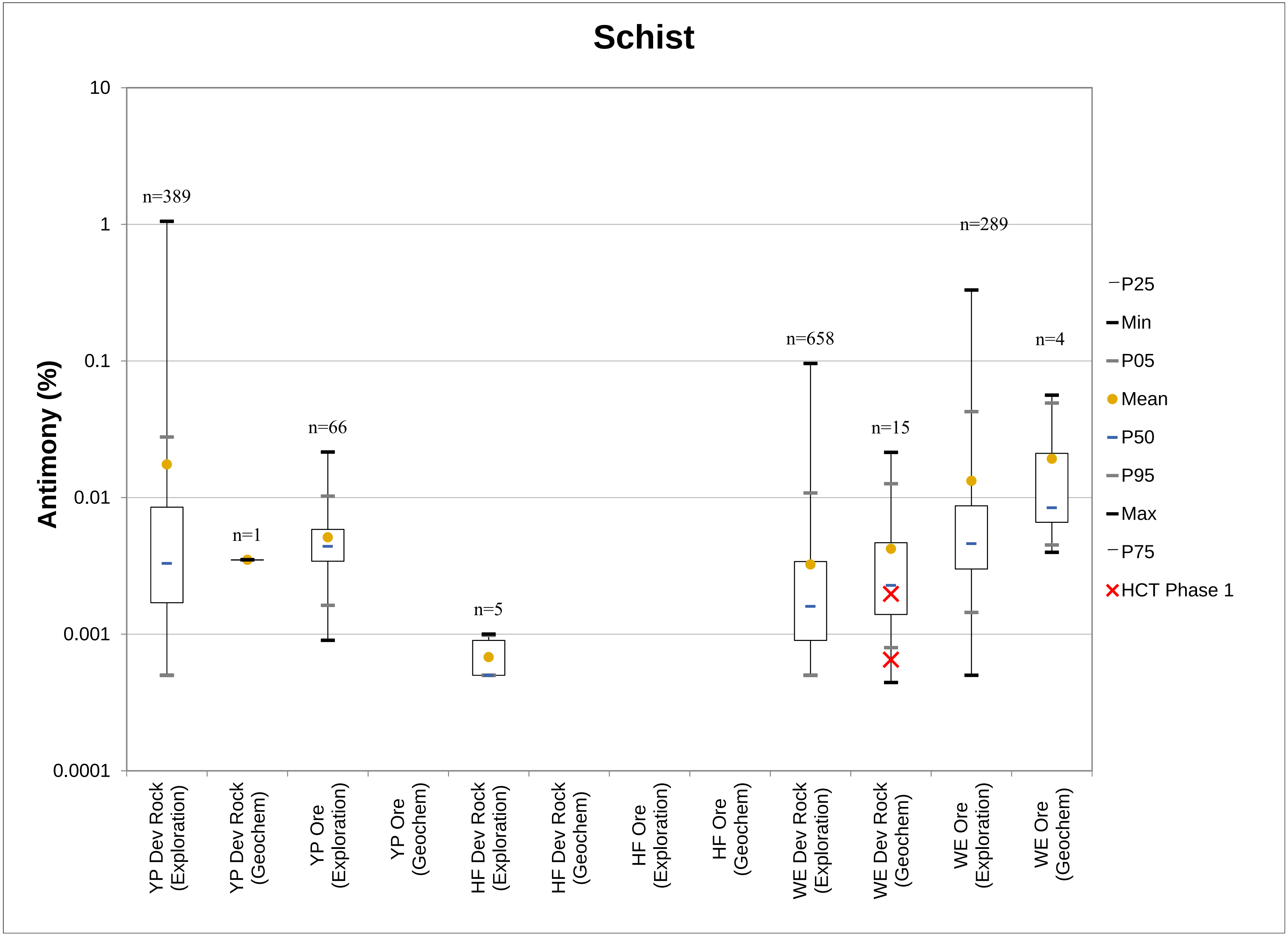


Quartzite
Neutralization Potential Ratio
10000
1000
100
10
1
0.1
0.01
0.001
n=908
n=15
n=42
n=2
n=2
n=1268
n=11
n=195
n=2
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1

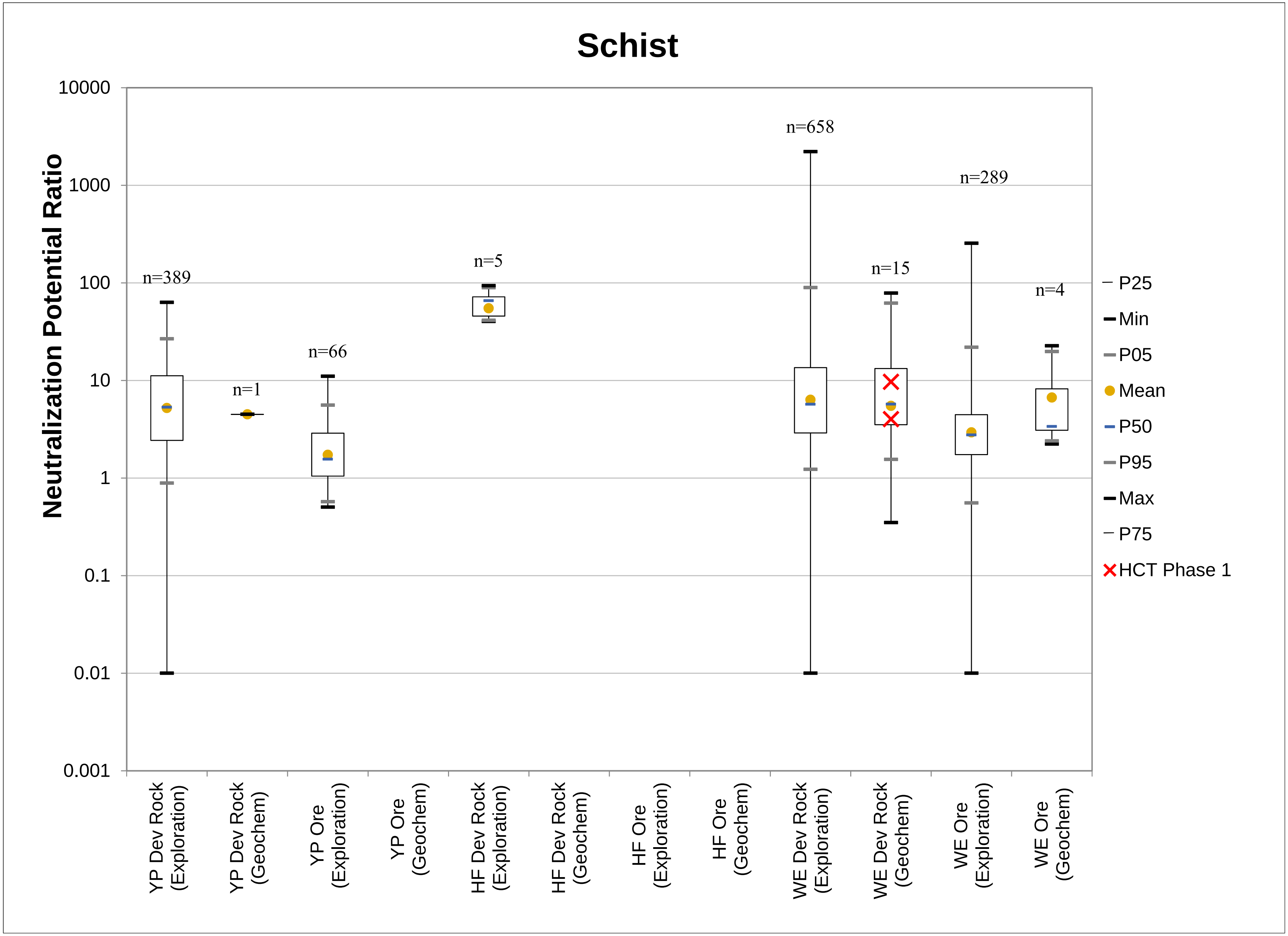

Schist
ICP Sulfur (%)
10
1
0.1
0.01
0.001
n=389
n=1
n=66
n=5
n=658
n=15
n=289
n=4
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1



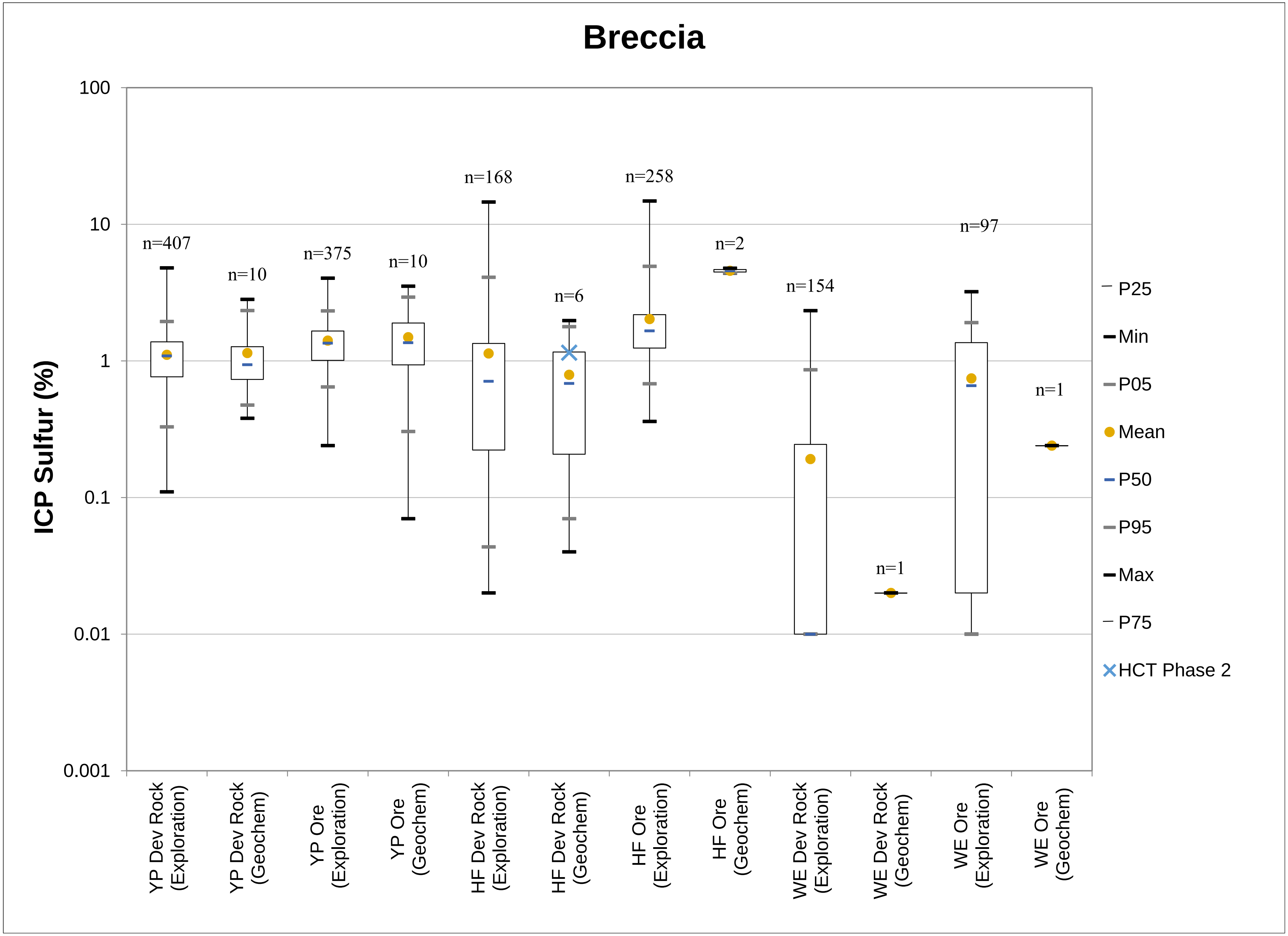
Schist
Arsenic (mg/kg)
100000
10000
1000
100
10
1
n=389
n=1
n=66
n=5
n=658
n=15
n=289
n=4
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)



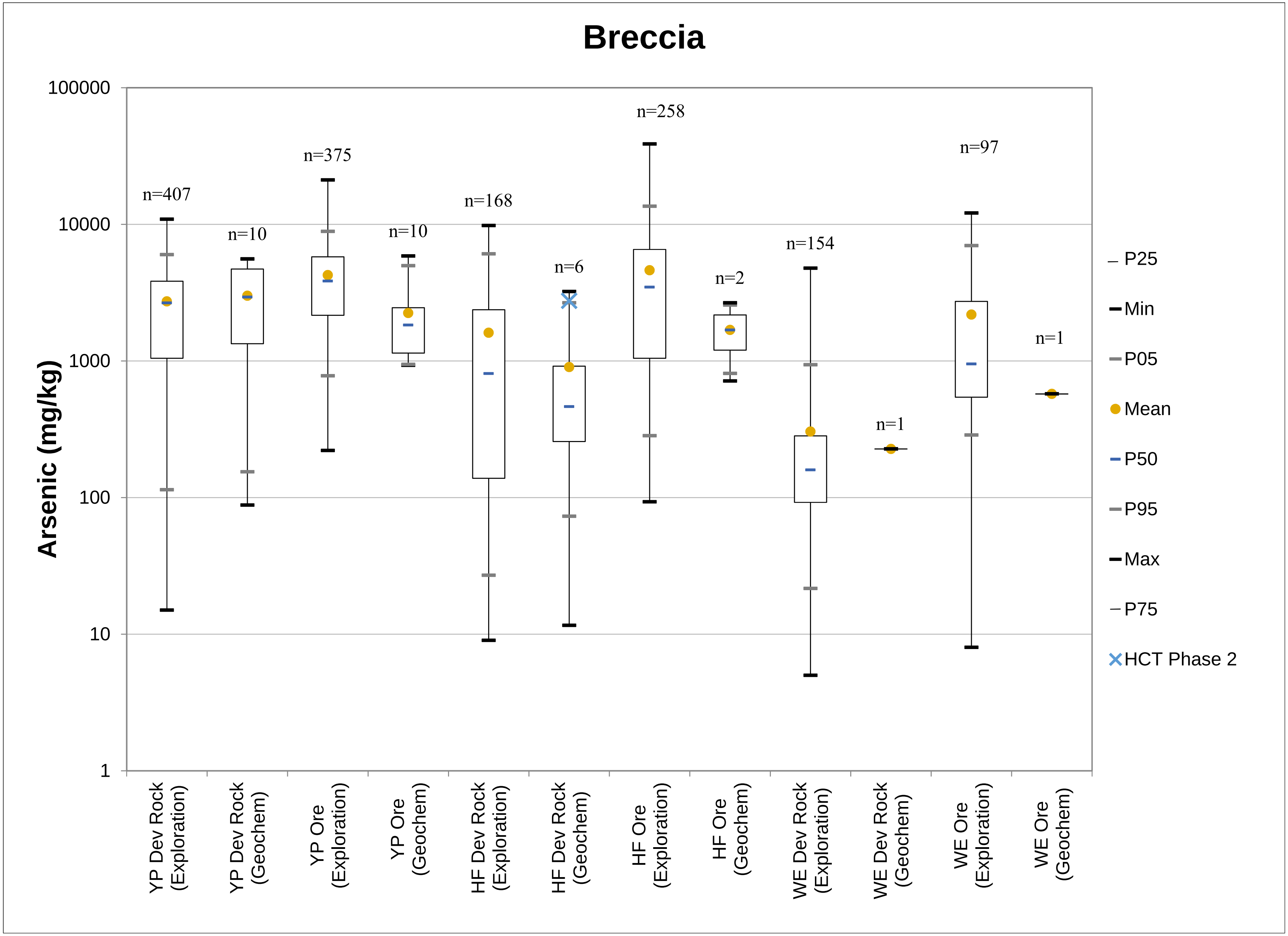
Schist
Antimony (%)
10
1
0.1
0.01
0.001
0.0001
n=389
n=1
n=66
n=5
n=658
n=15
n=289
n=4
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1



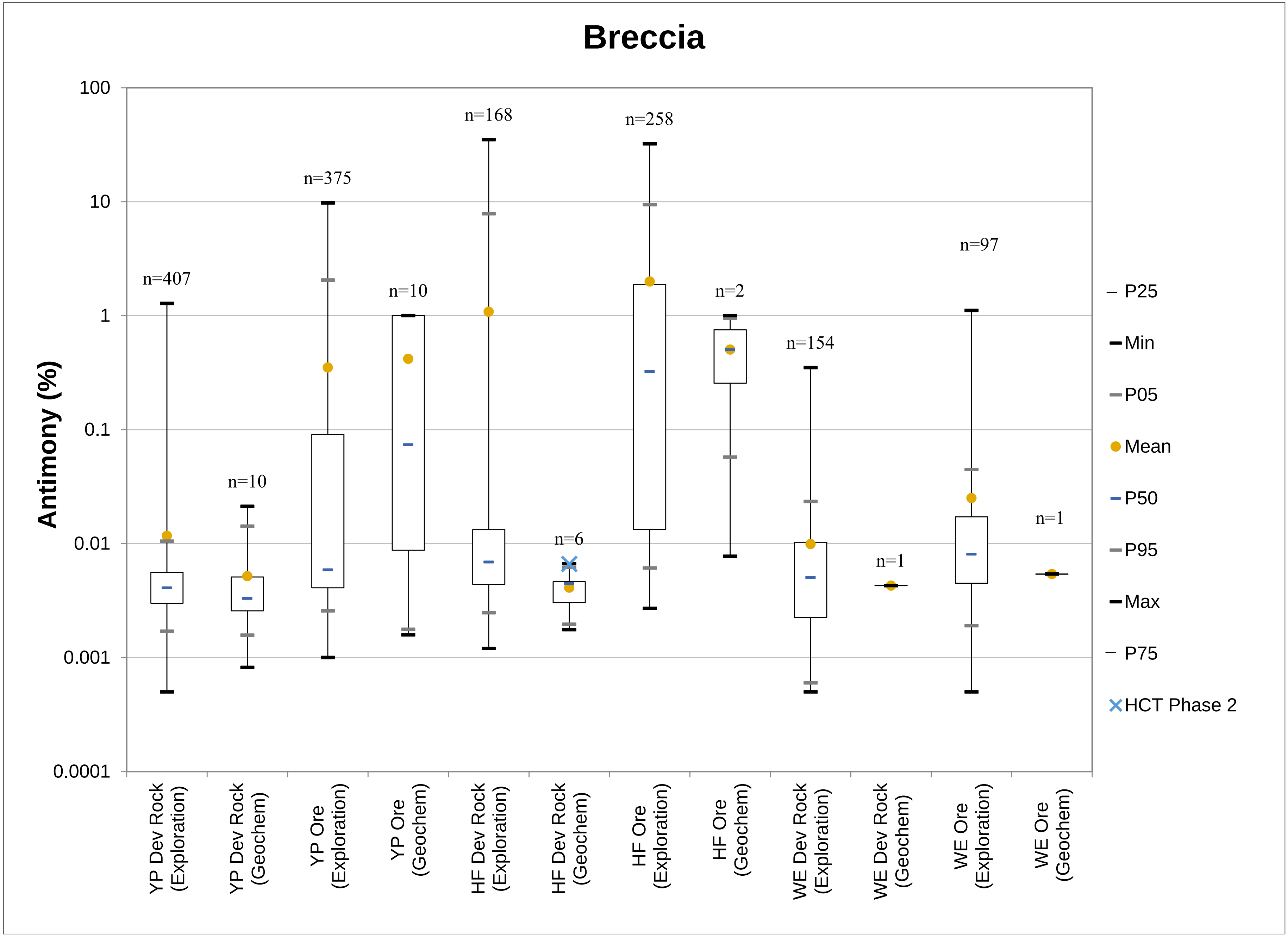
Schist
Neutralization Potential Ratio
10000
1000
100
10
1
0.1
0.01
0.001
n=389
n=1
n=66
n=5
n=658
n=15
n=289
n=4
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1



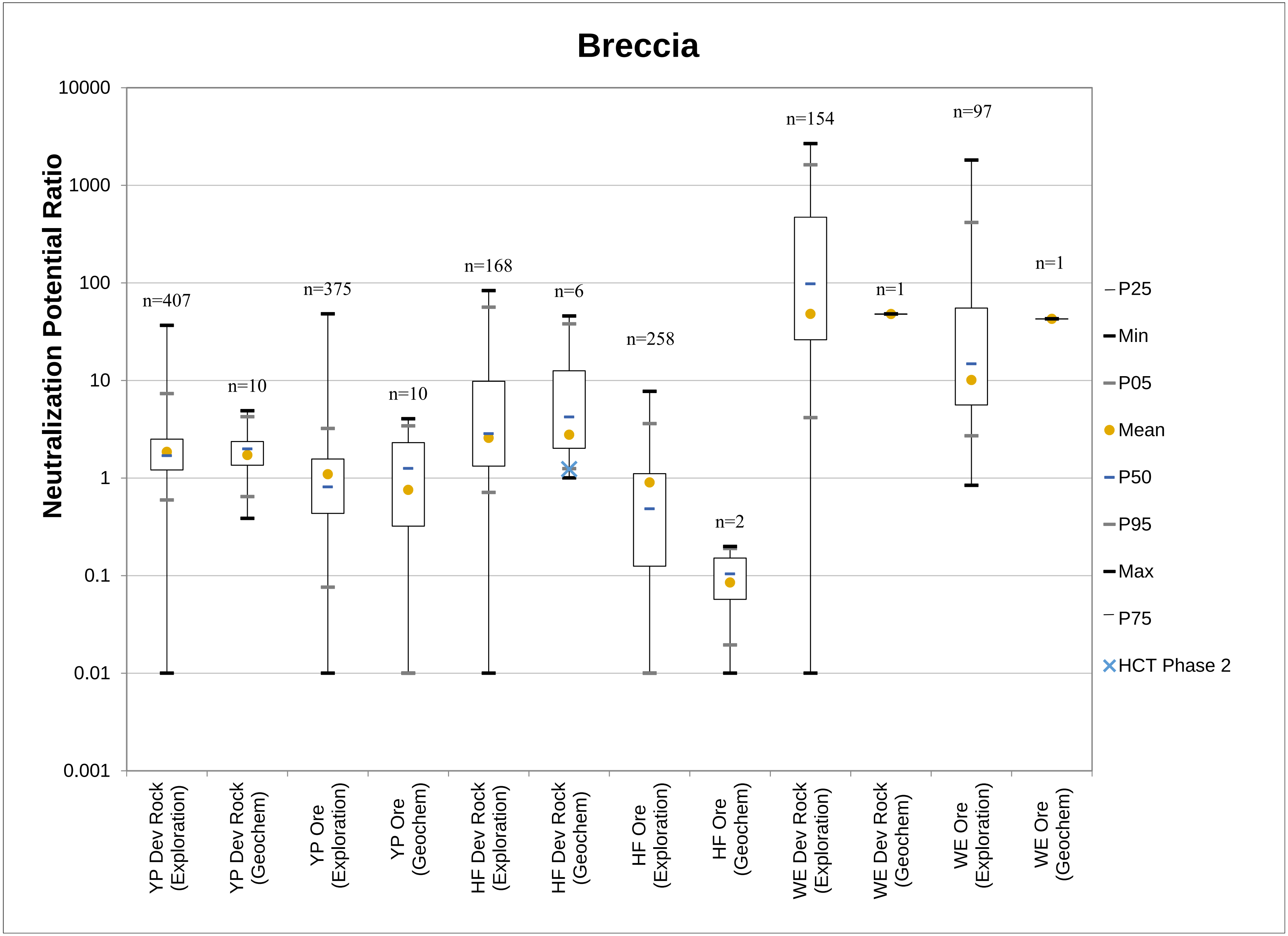
Breccia
ICP Sulfur (%)
100
10
1
0.1
0.01
0.001
n=407
n=10
n=375
n=10
n=168
n=6
n=258
n=2
n=154
n=1
n=97
n=1
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 2

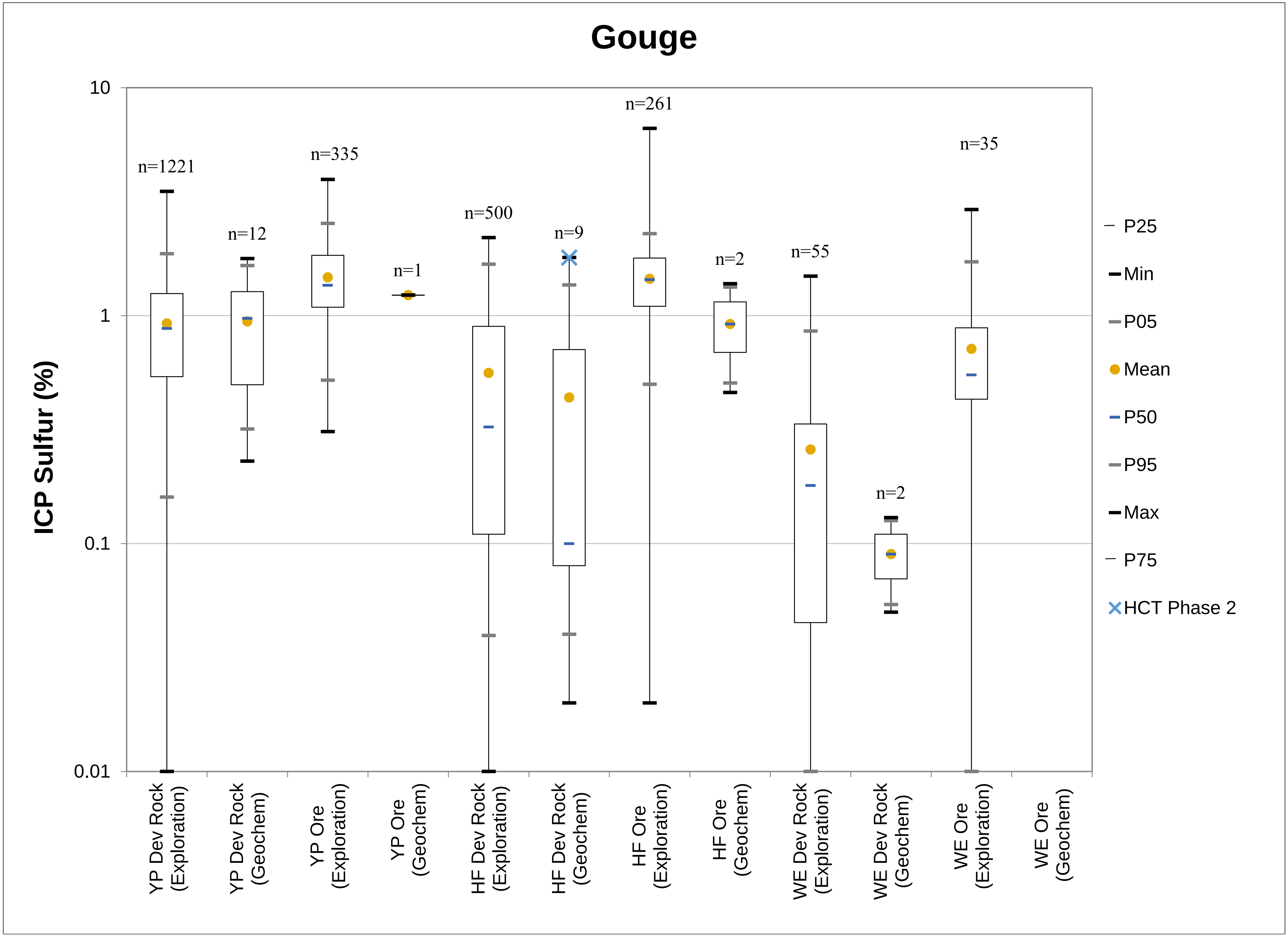


Breccia
Arsenic (mg/kg)
100000
10000
1000
100
10
1
n=407
n=10
n=375
n=10
n=168
n=6
n=258
n=2
n=154
n=1
n=97
n=1
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 2

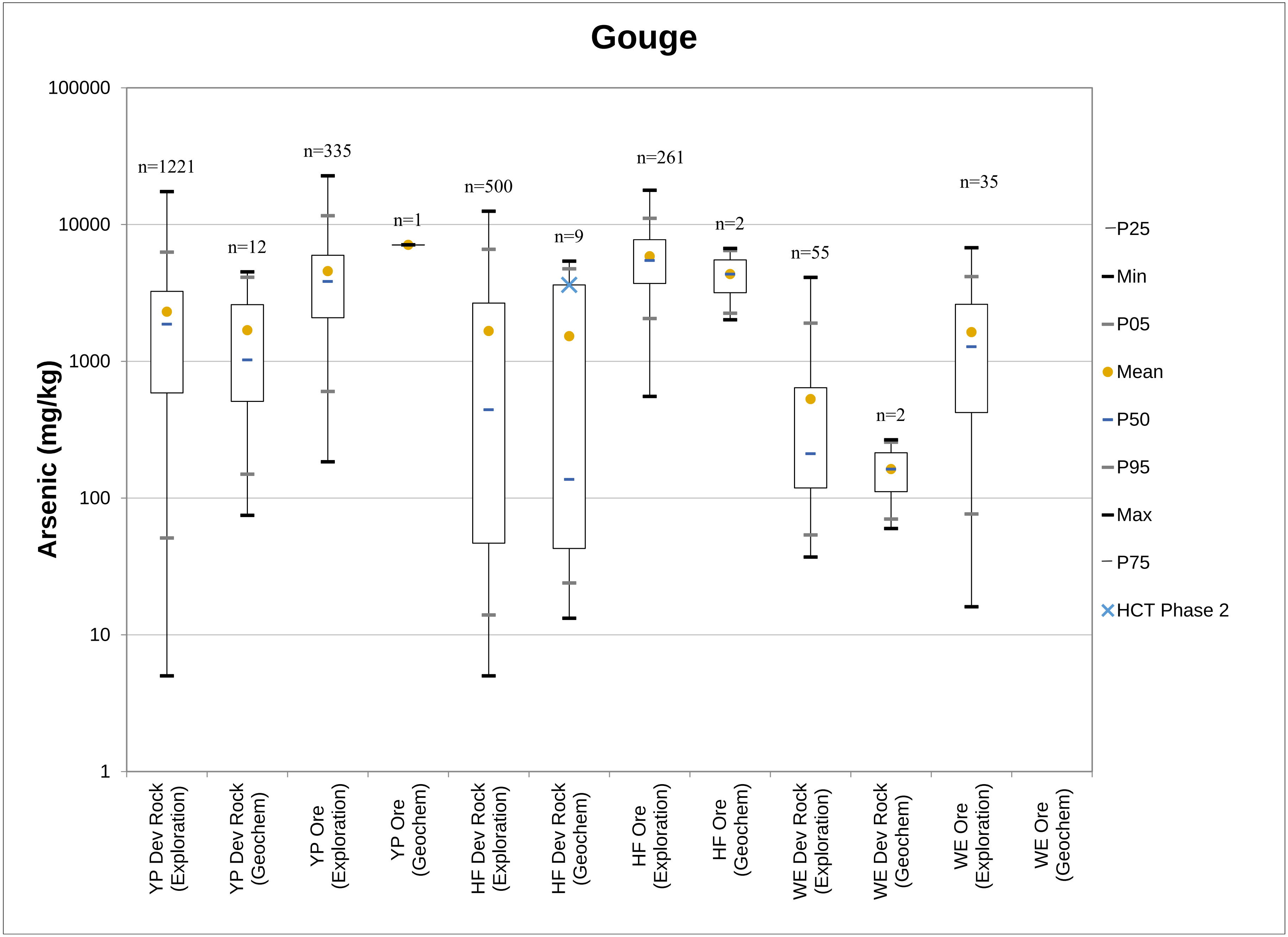


Breccia
Antimony (%)
100
10
1
0.1
0.01
0.001
0.0001
n=407
n=10
n=375
n=10
n=168
n=6
n=258
n=2
n=154
n=1
n=97
n=1
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 2

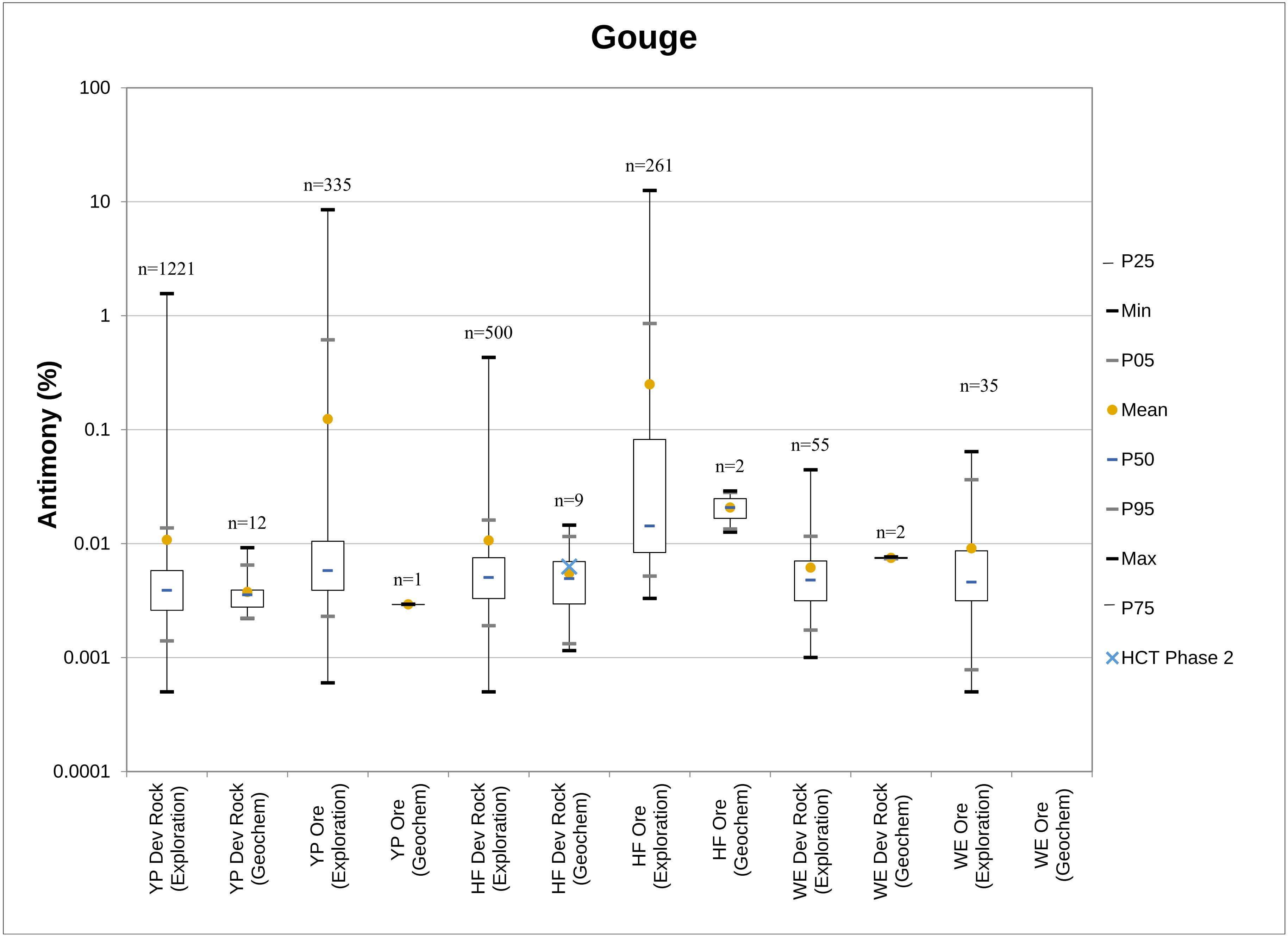

Breccia
Neutralization Potential Ratio
10000
1000
100
10
1
0.1
0.01
0.001
n=407
n=10
n=375
n=10
n=168
n=6
n=258
n=2
n=154
n=1
n=97
n=1
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 2



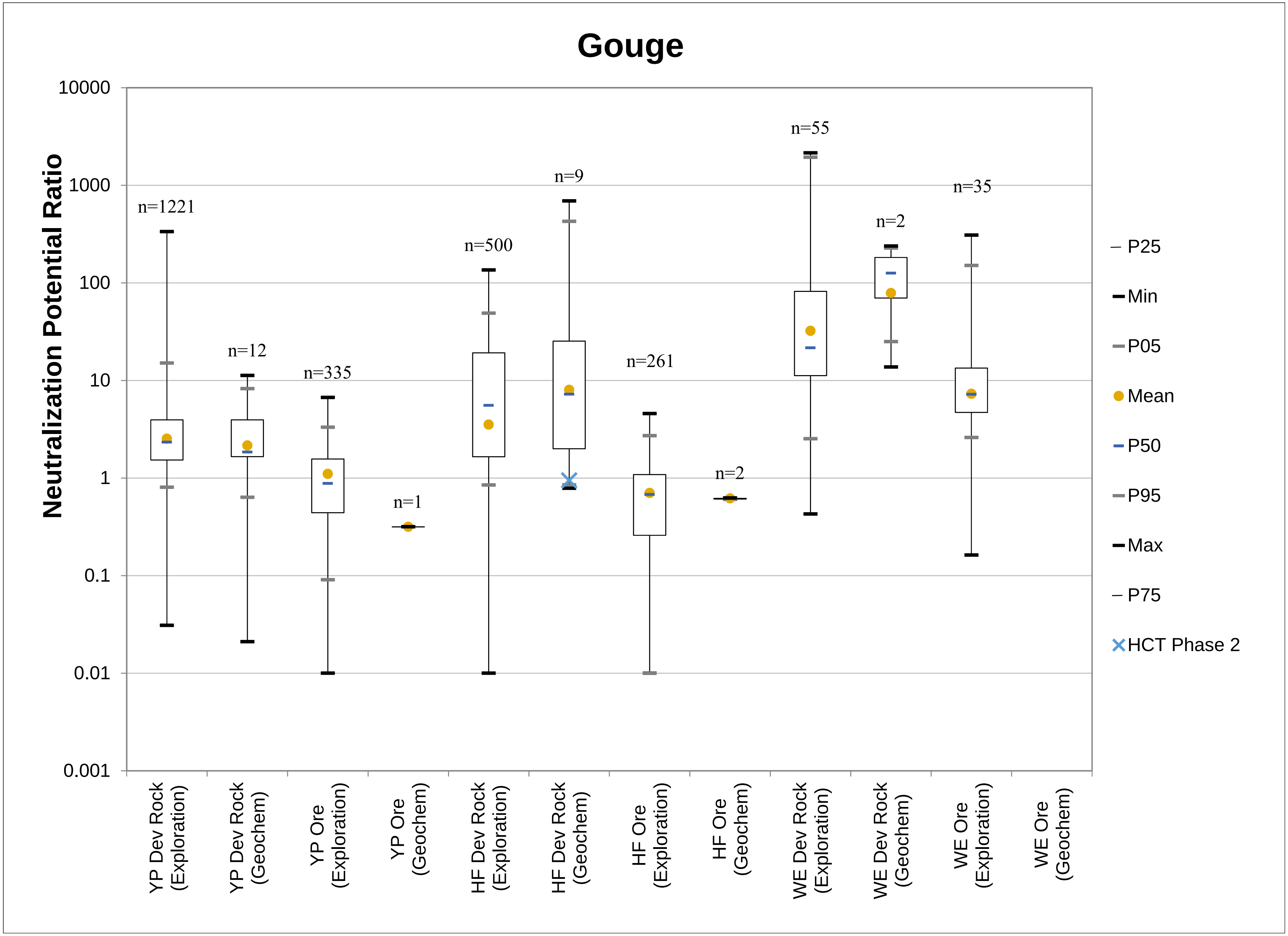
Gouge
ICP Sulfur (%)
10
1
0.1
0.01
n=1221
n=12
n=335
n=1
n=500
n=9
n=261
n=2
n=55
n=2
n=35
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 2

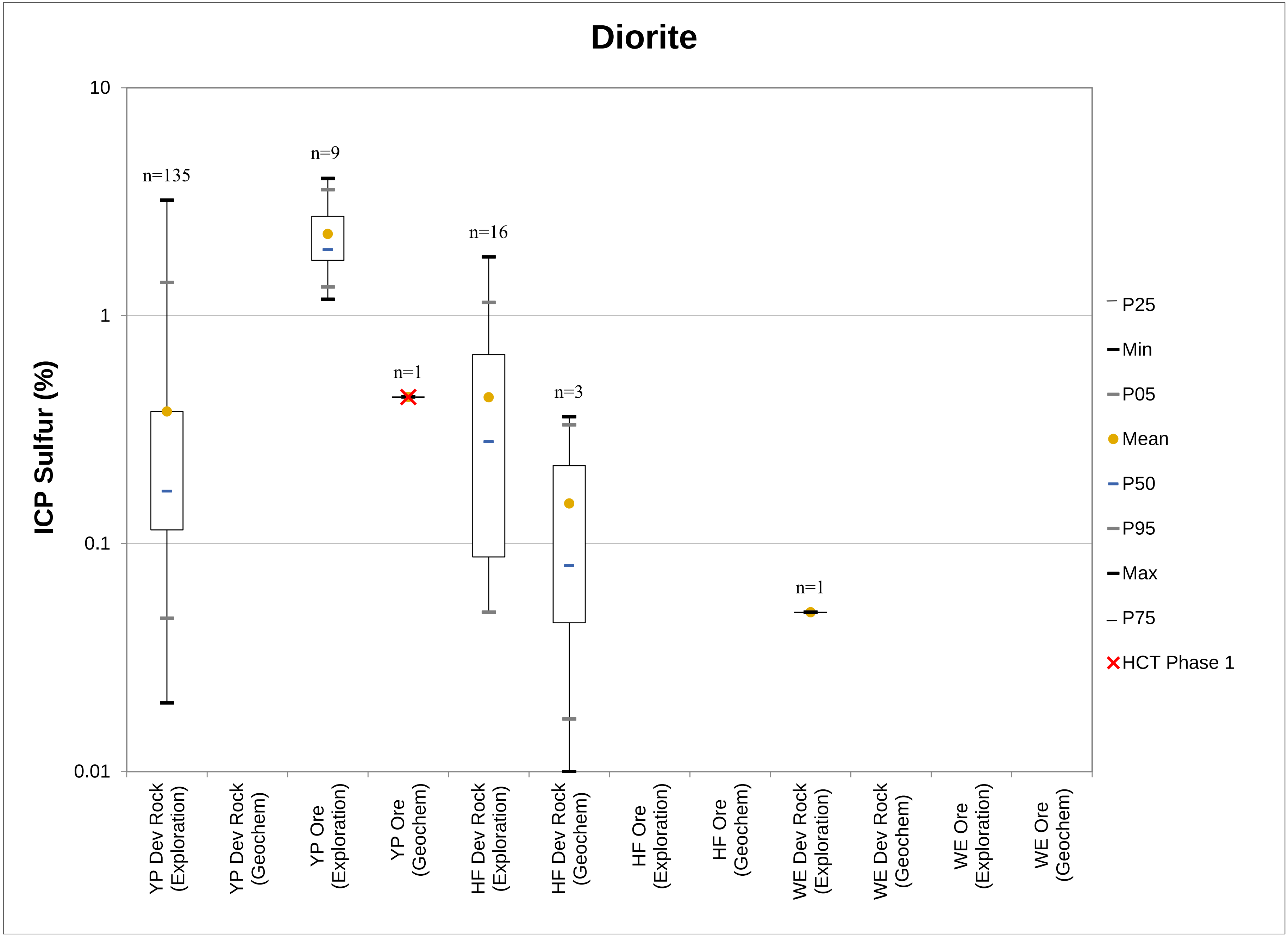


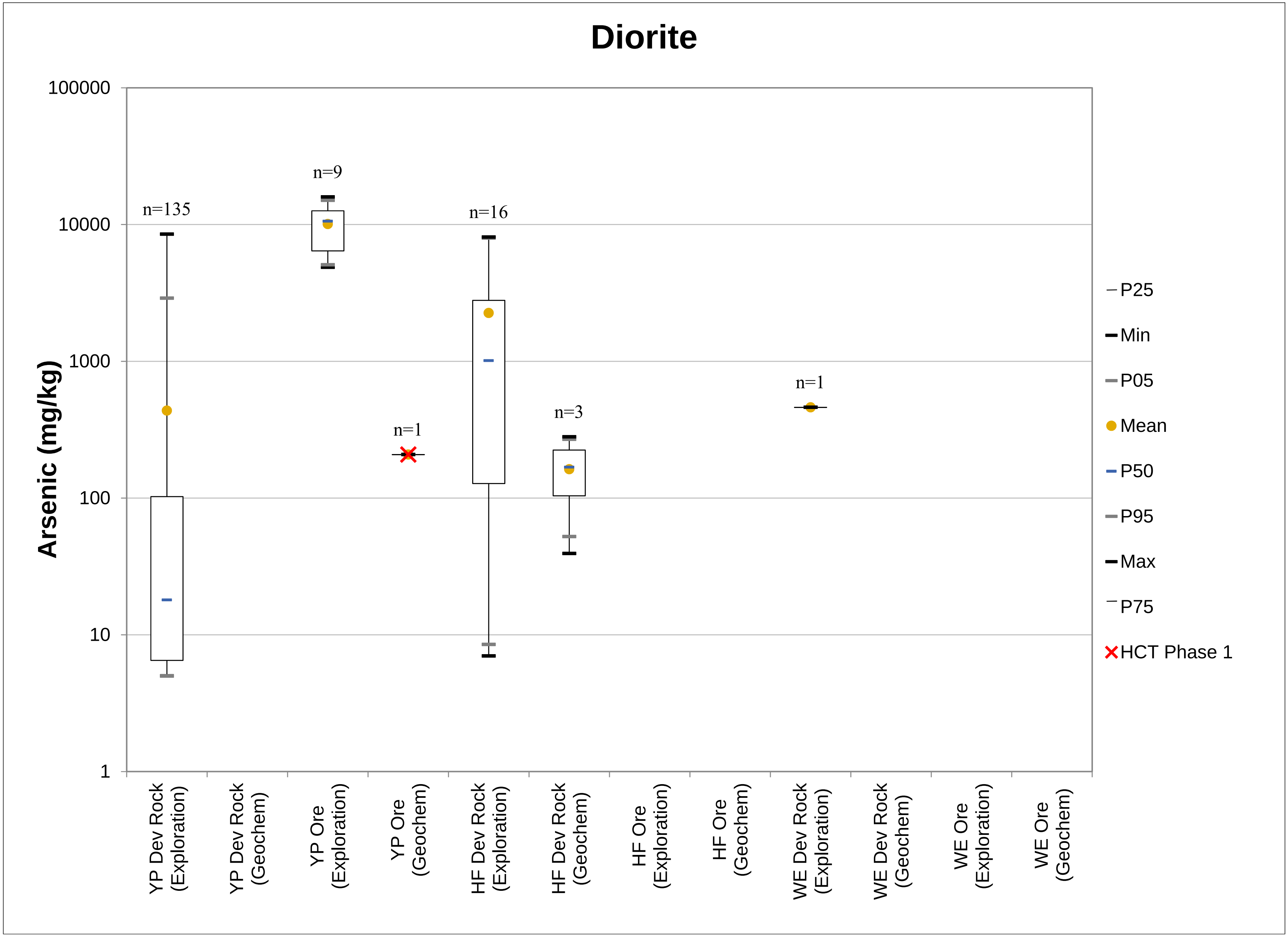
Gouge
Arsenic (mg/kg)
100000
10000
1000
100
10
1
n=1221
n=12
n=335
n=1
n=500
n=9
n=261
n=2
n=55
n=2
n=35
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 2

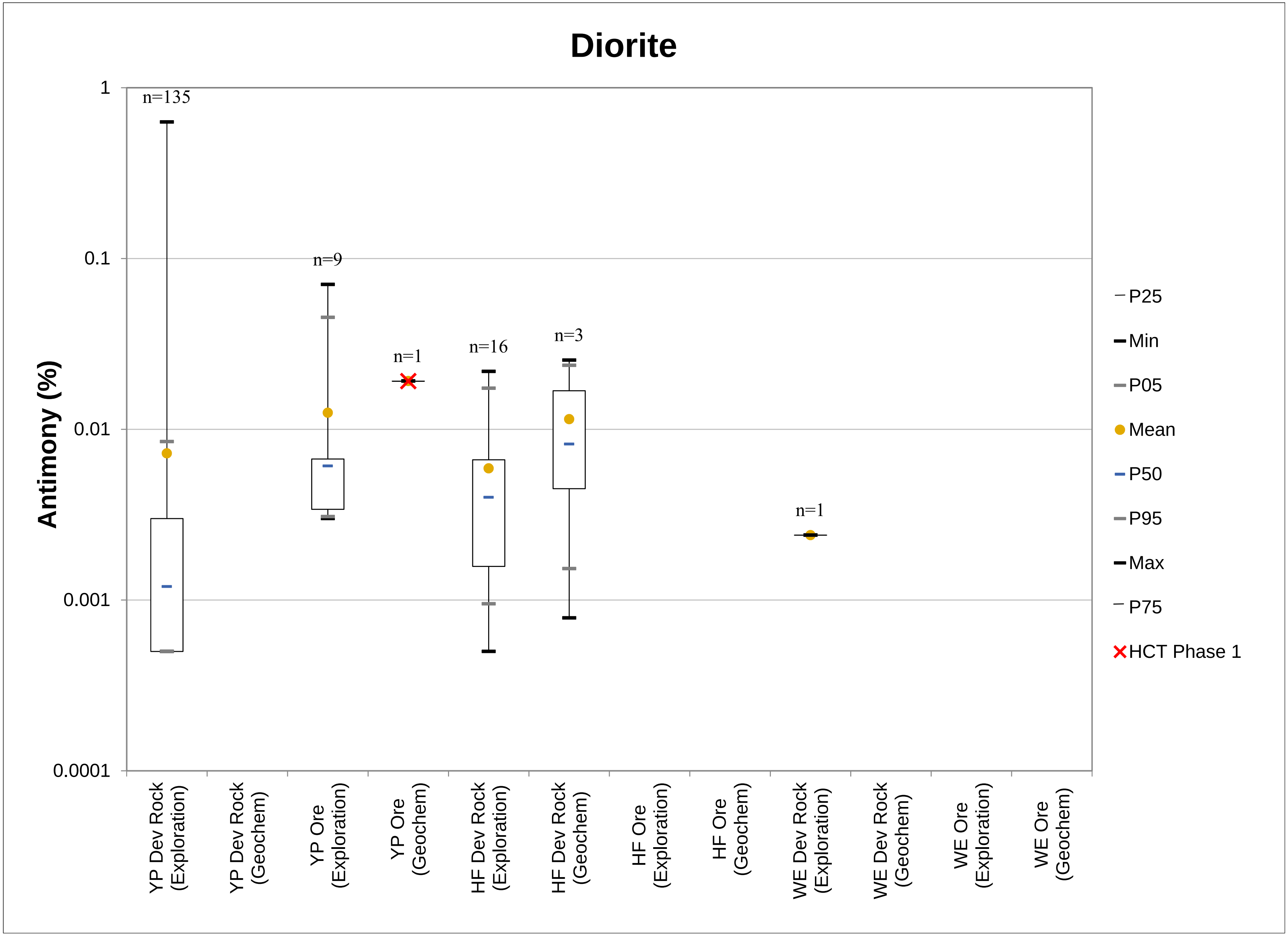


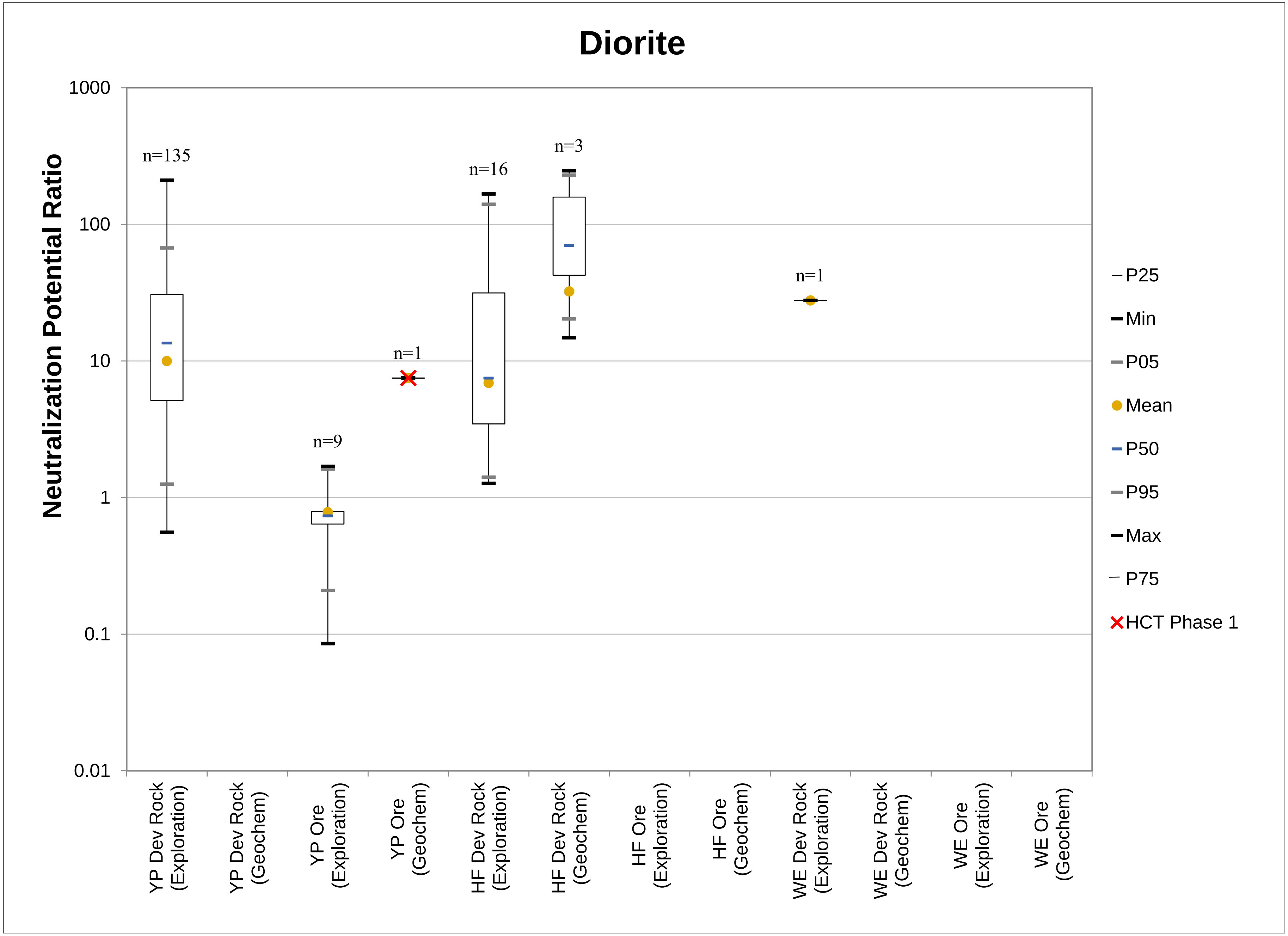
Gouge
Antimony (%)
100
10
1
0.1
0.01
0.001
0.0001
n=1221
n=12
n=335
n=1
n=500
n=9
n=261
n=2
n=55
n=2
n=35
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 2

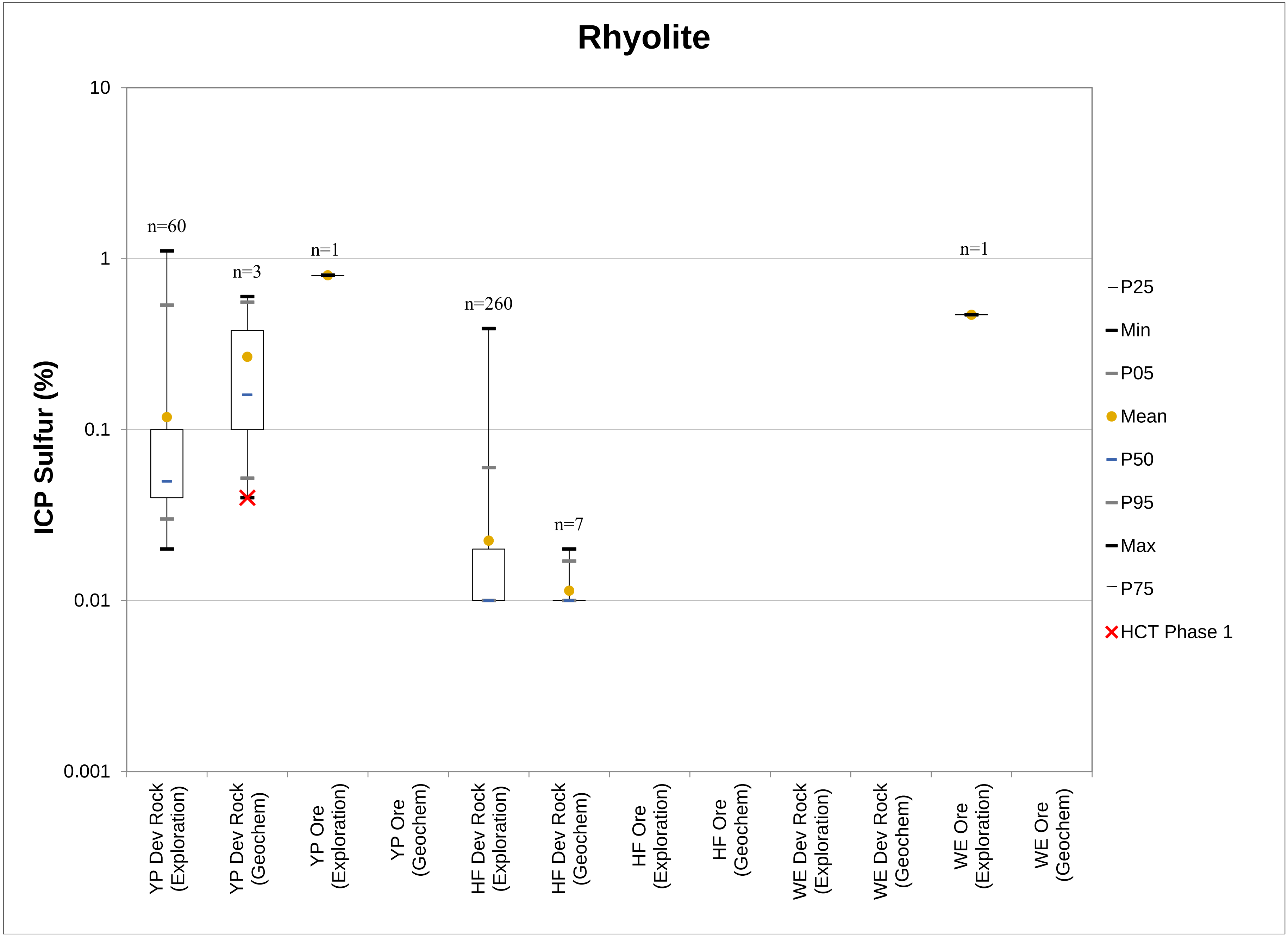

Gouge
Neutralization Potential Ratio
10000
1000
100
10
1
0.1
0.01
0.001
n=1221
n=12
n=335
n=1
n=500
n=9
n=261
n=2
n=55
n=2
n=35
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 2

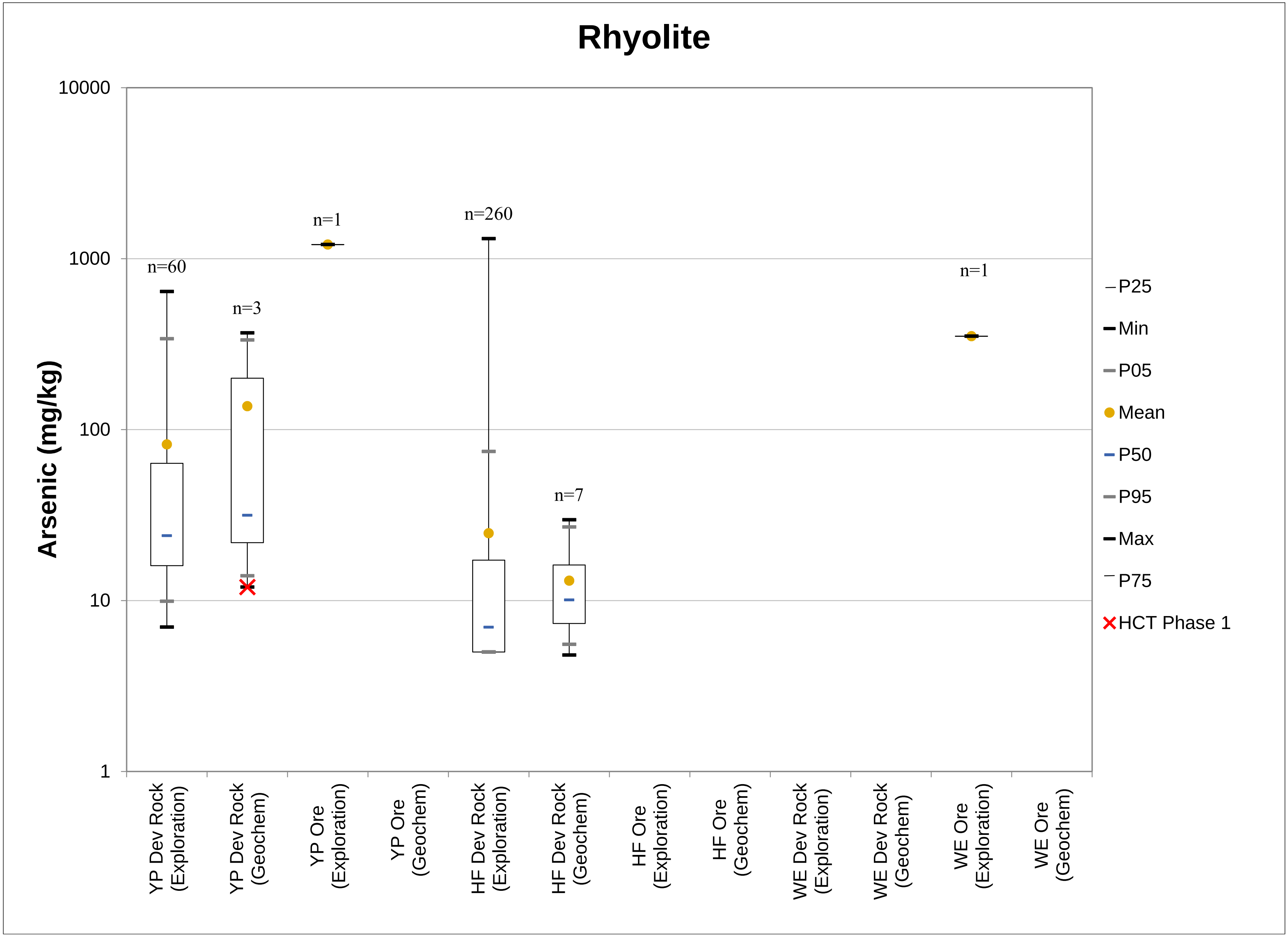

Diorite
ICP Sulfur (%)
10
1
0.1
0.01
n=135
n=9
n=1
n=16
n=3
n=1
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)


Diorite
Arsenic (mg/kg)
100000
10000
1000
100
10
1
n=135
n=9
n=1
n=16
n=3
n=1
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1

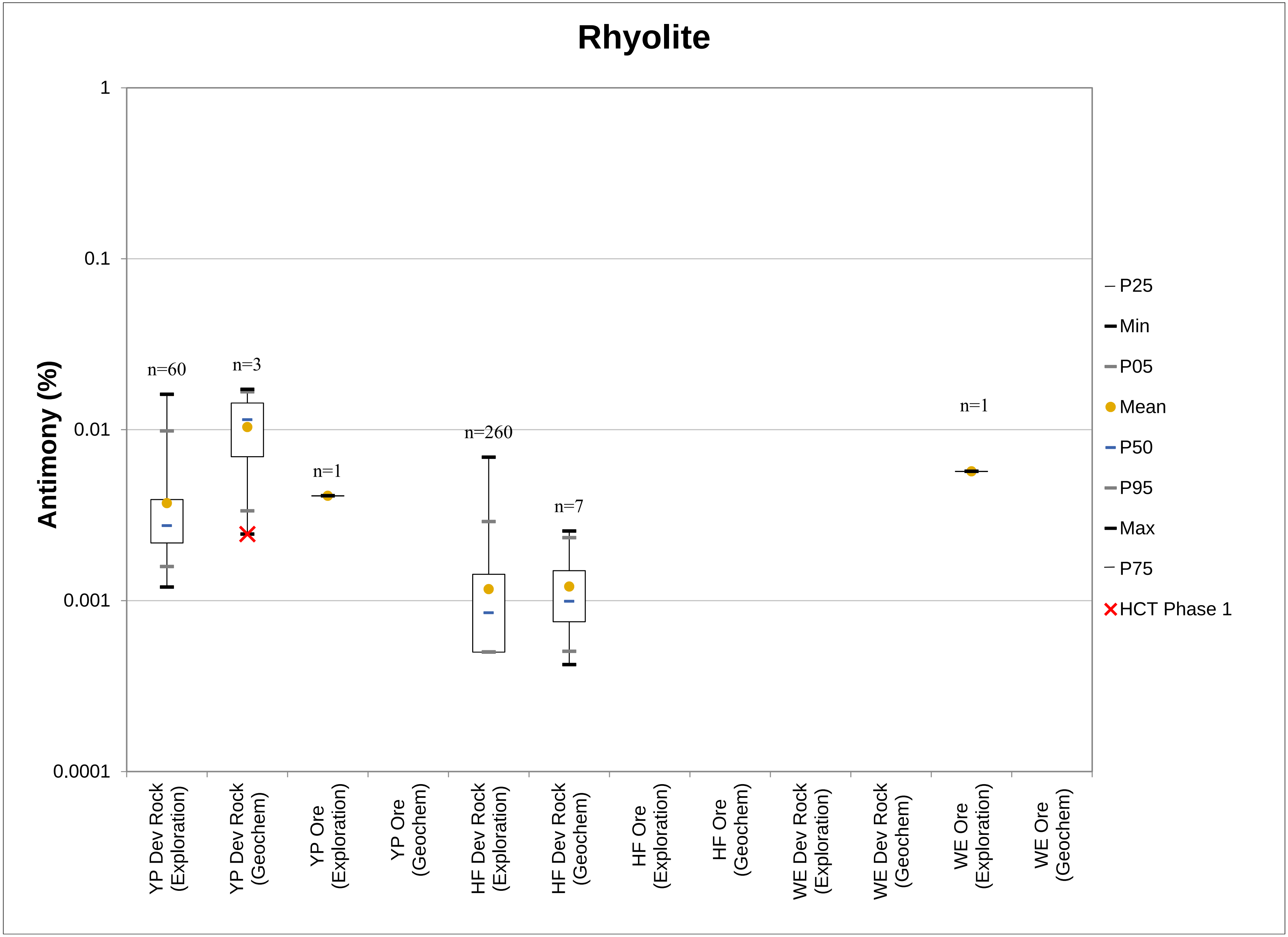

Diorite
Antimony (%)
1
0.1
0.01
0.001
0.0001
n=135
n=9
n=1
n=16
n=3
n=1
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1


Diorite
Neutralization Potential Ratio
1000
100
10
1
0.1
0.01
n=135
n=9
n=1
n=16
n=3
n=1
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1

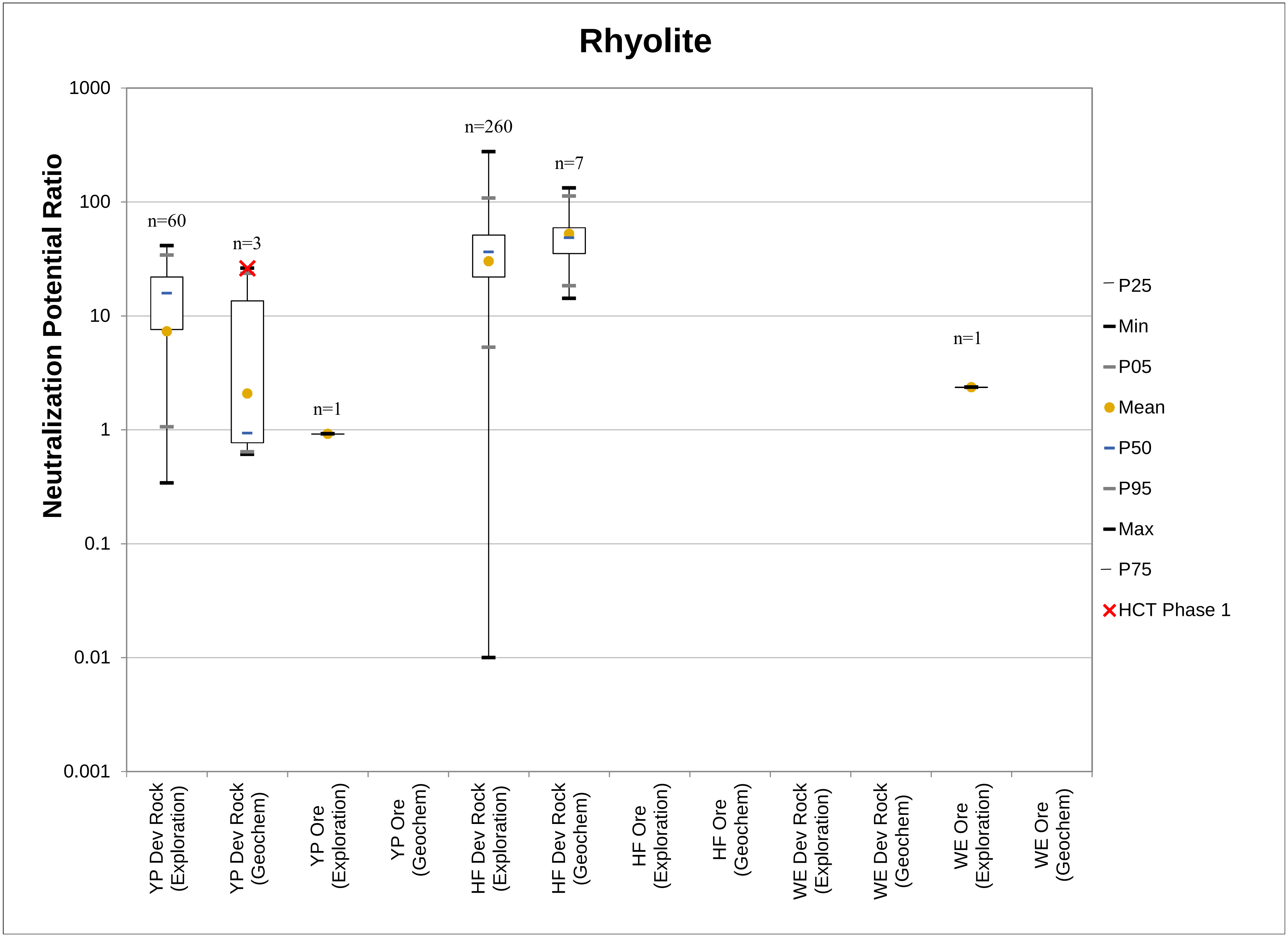

Rhyolite
ICP Sulfur (%)
10
1
0.1
0.01
0.001
n=60
n=3
n=1
n=260
n=7
n=1
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1



Rhyolite
Arsenic (mg/kg)
10000
1000
100
10
1
n=60
n=3
n=1
n=260
n=7
n=1
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1



Rhyolite
Antimony (%)
1
0.1
0.01
0.001
0.0001
n=60
n=3
n=1
n=260
n=7
n=1
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1



Rhyolite
Neutralization Potential Ratio
1000
100
10
1
0.1
0.01
0.001
n=60
n=3
n=1
n=260
n=7
n=1
YP Dev Rock (Exploration)
YP Dev Rock (Geochem)
YP Ore (Exploration)
YP Ore (Geochem)
HF Dev Rock (Exploration)
HF Dev Rock (Geochem)
HF Ore (Exploration)
HF Ore (Geochem)
WE Dev Rock (Exploration)
WE Dev Rock (Geochem)
WE Ore (Exploration)
WE Ore (Geochem)
P25
Min
P05
Mean
P50
P95
Max
P75
HCT Phase 1

Appendix C
Summary of MGII Available Mineralogy

Appendix C: Summary of MGII Available Mineralogy

Sample Number	Lithology	Hole ID	From	To	PROJECT	Optical	QEMSCAN	Program
Leitch-Craig Pet-1	Schist	Unknown			-	Yes		2012 Leitch-Craig Petrography
Leitch-Craig Pet-2	Quartzite	MGI-11-136	661.5	663.5	Yellow Pine	Yes		2012 Leitch-Craig Petrography
Leitch-Craig Pet-3	Diorite	MGI-11-062	974.5	976.5	Yellow Pine	Yes		2012 Leitch-Craig Petrography
Leitch-Craig Pet-6	Rhyolite	MGI-11-103	441.5	442.5	Hangar Flats	Yes		2012 Leitch-Craig Petrography
Leitch-Craig Pet-9	Diorite	MGI-11-143	712	714	Hangar Flats	Yes		2012 Leitch-Craig Petrography
Leitch-Craig Pet-10	Alaskite	MGI-11-143	731	733	Hangar Flats	Yes		2012 Leitch-Craig Petrography
Leitch-Craig Pet-11	Quartz Monzonite	MGI-11-143	766	768	Hangar Flats	Yes		2012 Leitch-Craig Petrography
Leitch-Craig Pet-14	Quartz Monzonite	MGI-11-057	543	544	Yellow Pine	Yes		2012 Leitch-Craig Petrography
Leitch-Craig Pet-16	Quartz Monzonite + Alaskite	MGI-11-057	593	594	Yellow Pine	Yes		2012 Leitch-Craig Petrography
Leitch-Craig Pet-25	Alaskite	MGI-11-067	491	492.5	Hangar Flats	Yes		2012 Leitch-Craig Petrography
Leitch-Craig Pet-26	Breccia	MGI-11-080	307	308	Hangar Flats	Yes		2012 Leitch-Craig Petrography
Leitch-Craig Pet-31	Breccia	MGI-12-192	1038	1038.8	Hangar Flats	Yes		2012 Leitch-Craig Petrography
Leitch-Craig Pet-36	Quartzite	MGI-12-232	513	515	Yellow Pine	Yes		2012 Leitch-Craig Petrography
Leitch-Craig Pet-38	Alaskite	MGI-12-231	250.5	253	Yellow Pine	Yes		2012 Leitch-Craig Petrography
DIAG-101	Gouge	MGI-11-075	116	121	Yellow Pine		Yes	2016 Diagnostic Met Program
DIAG-102	Quartz Monzonite	MGI-11-075	60	65	Yellow Pine		Yes	2016 Diagnostic Met Program
DIAG-103	Breccia	MGI-13-356	680	687.5	Yellow Pine		Yes	2016 Diagnostic Met Program
DIAG-105	Breccia	MGI-13-375	310	317.5	Yellow Pine		Yes	2016 Diagnostic Met Program
DIAG-106	Breccia	MGI-12-259	266.5	273	Yellow Pine		Yes	2016 Diagnostic Met Program
DIAG-107	Gouge	MGI-12-259	279	289	Yellow Pine		Yes	2016 Diagnostic Met Program
DIAG-108	Gouge	MGI-12-332	56	68	Yellow Pine		Yes	2016 Diagnostic Met Program
DIAG-109	Breccia	MGI-12-223	216	224	Yellow Pine		Yes	2016 Diagnostic Met Program
DIAG-110	Gouge	MGI-13-364	274.5	282	Yellow Pine		Yes	2016 Diagnostic Met Program
DIAG-111	Cataclasite	MGI-13-364	334.5	342	Yellow Pine		Yes	2016 Diagnostic Met Program
DIAG-112	Breccia	MGI-11-125	596	601	Yellow Pine		Yes	2016 Diagnostic Met Program
DIAG-113	Gouge	MGI-13-375	445	452.5	Yellow Pine		Yes	2016 Diagnostic Met Program
DIAG-114	Breccia	MGI-13-391	136	143.5	Yellow Pine		Yes	2016 Diagnostic Met Program
DIAG-115	Gouge	MGI-10-22	787	792	Hangar Flats		Yes	2016 Diagnostic Met Program
GRAN-01	Granite	MGI-11-125	553	558	Yellow Pine		Yes	2016 Diagnostic Met Program
GRAN-02	Granite	MGI-13-375	497.5	505	Yellow Pine		Yes	2016 Diagnostic Met Program
GRAN-03	Granite	MGI-12-199	161.5	167.5	Yellow Pine		Yes	2016 Diagnostic Met Program
QM-01	Quartz Monzonite	MGI-11-125	456	460	Yellow Pine		Yes	2016 Diagnostic Met Program
QM-02	Quartz Monzonite	MGI-11-127	308	313	Yellow Pine		Yes	2016 Diagnostic Met Program
QM-03	Quartz Monzonite	MGI-11-127	434.5	439.5	Yellow Pine		Yes	2016 Diagnostic Met Program
QM-05	Quartz Monzonite	MGI-13-375	385	392.5	Yellow Pine		Yes	2016 Diagnostic Met Program
QM-06	Quartz Monzonite	MGI-13-375	527.5	535	Yellow Pine		Yes	2016 Diagnostic Met Program
QM-07	Quartz Monzonite	MGI-12-199	128	133	Yellow Pine		Yes	2016 Diagnostic Met Program
QM-09	Quartz Monzonite	MGI-13-369	251.5	259	Yellow Pine		Yes	2016 Diagnostic Met Program
QM-10	Quartz Monzonite	MGI-13-369	296.5	304	Yellow Pine		Yes	2016 Diagnostic Met Program
QM-11	Quartz Monzonite	MGI-13-369	184	191.5	Yellow Pine		Yes	2016 Diagnostic Met Program
QM-12	Quartz Monzonite	MGI-10-24	471	478	Hangar Flats		Yes	2016 Diagnostic Met Program
QM-14	Quartz Monzonite	MGI-10-25	440	445	Hangar Flats		Yes	2016 Diagnostic Met Program
QM-15	Quartz Monzonite	MGI-10-15	895	900	Hangar Flats		Yes	2016 Diagnostic Met Program
AK-01	Alaskite	MGI-11-127	393	398	Yellow Pine		Yes	2016 Diagnostic Met Program
AK-02	Alaskite	MGI-11-127	454	459	Yellow Pine		Yes	2016 Diagnostic Met Program
AK-03	Alaskite	MGI-11-127	578	583	Yellow Pine		Yes	2016 Diagnostic Met Program
AK-04	Alaskite	MGI-12-199	281	286	Yellow Pine		Yes	2016 Diagnostic Met Program
AK-07	Alaskite	MGI-13-369	311.5	319	Yellow Pine		Yes	2016 Diagnostic Met Program
AK-09	Alaskite	MGI-10-24	508	513	Hangar Flats		Yes	2016 Diagnostic Met Program
AK-10	Alaskite	MGI-10-22	762	767	Hangar Flats		Yes	2016 Diagnostic Met Program
CS-01	Calc-Silicate	MGI-12-286	1101.5	1108	West End		Yes	2016 Diagnostic Met Program
CS-02	Calc-Silicate	MGI-12-309	579.5	586	West End		Yes	2016 Diagnostic Met Program
CS-03	Calc-Silicate	MGI-11-121	827	834	West End		Yes	2016 Diagnostic Met Program
CS-04	Calc-Silicate	MGI-12-295	35.5	43	West End		Yes	2016 Diagnostic Met Program
CS-05	Calc-Silicate	MGI-12-254	748	754.5	West End		Yes	2016 Diagnostic Met Program
DIAG-116	Breccia	MGI-12-295	972.5	979	West End		Yes	2016 Diagnostic Met Program
DIAG-117	Breccia	MGI-10-48	443	447	West End		Yes	2016 Diagnostic Met Program
DIAG-118	Breccia	MGI-12-303	665	672	West End		Yes	2016 Diagnostic Met Program
DIAG-119	Breccia	MGI-12-295	927	933.5	West End		Yes	2016 Diagnostic Met Program
DIAG-121	Breccia	MGI-10-36	466	470	West End		Yes	2016 Diagnostic Met Program
DIAG-122	Breccia	MGI-12-303	741	748	West End		Yes	2016 Diagnostic Met Program
DIAG-123	Gouge	MGI-10-36	445	449	West End		Yes	2016 Diagnostic Met Program
DIAG-124	Gouge	MGI-12-309	756	763.5	West End		Yes	2016 Diagnostic Met Program
DIAG-125	Gouge	MGI-10-53	100	105	Hangar Flats		Yes	2016 Diagnostic Met Program
DIAG-126	Cataclasite	MGI-11-073	303.5	309	Hangar Flats		Yes	2016 Diagnostic Met Program
DIAG-127	Breccia	MGI-11-078	603	608	Hangar Flats		Yes	2016 Diagnostic Met Program
DIAG-128	Gouge	MGI-11-091	807	812	Hangar Flats		Yes	2016 Diagnostic Met Program
DIAG-129	Breccia	MGI-12-193	1064.5	1071	Hangar Flats		Yes	2016 Diagnostic Met Program
DIAG-130	Gouge	MGI-12-197	25	29	Hangar Flats		Yes	2016 Diagnostic Met Program
GRDI-02	Stibnite Stock	MGI-10-37	119	125	West End		Yes	2016 Diagnostic Met Program
GRDI-03	Stibnite Stock	MGI-13-396	56	63.5	West End		Yes	2016 Diagnostic Met Program

Appendix C: Summary of MGII Available Mineralogy

Sample Number	Lithology	Hole ID	From	To	PROJECT	Optical	QEMSCAN	Program
SCH-01	Quartzite-Schist	MGI-12-309	488	494.5	West End		Yes	2016 Diagnostic Met Program
SCH-02	Quartzite-Schist	MGI-11-121	792	799	West End		Yes	2016 Diagnostic Met Program
SCH-03	Quartzite-Schist	MGI-12-258	407.5	414	West End		Yes	2016 Diagnostic Met Program
SRK-Dev-Rk-1	Granite	MGI-12-250	207	222	Yellow Pine		Yes	2016 SRK Devel Rock Mineralogy
SRK-Dev-Rk-2	Granite	MGI-13-356	207.5	222.5	Yellow Pine		Yes	2016 SRK Devel Rock Mineralogy
SRK-Dev-Rk-3	Gouge	MGI-11-56	632	638	Yellow Pine		Yes	2016 SRK Devel Rock Mineralogy
SRK-Dev-Rk-4	Quartz Monzonite + Alaskite	MGI-11-56	690	710	Yellow Pine		Yes	2016 SRK Devel Rock Mineralogy
SRK-Dev-Rk-5	Quartz Monzonite + Alaskite	MGI-11-65	140	160	Yellow Pine		Yes	2016 SRK Devel Rock Mineralogy
SRK-Dev-Rk-6	Granite	MGI-12-337	488.5	508	Yellow Pine		Yes	2016 SRK Devel Rock Mineralogy
SRK-Dev-Rk-7	Gouge	MGI-11-125	1114	1131	Yellow Pine		Yes	2016 SRK Devel Rock Mineralogy
SRK-Dev-Rk-8	Gouge	MGI-11-125	1198	1203.5	Yellow Pine		Yes	2016 SRK Devel Rock Mineralogy
SRK-Dev-Rk-9	Quartz Monzonite + Alaskite	MGI-11-306	903	921	Yellow Pine		Yes	2016 SRK Devel Rock Mineralogy
HF-001	Multiple	MGI-09-02	0.91	12.19	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-002	Multiple	MGI-09-02	12.19	21.34	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-003	Multiple	MGI-09-02	21.34	31.7	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-004	Multiple	MGI-09-11	4.42	15.24	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-005	Multiple	MGI-09-11	15.24	25.15	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-006	Multiple	MGI-10-21	243.84	251.16	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-007	Multiple	MGI-10-21	251.16	263.04	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-008	Multiple	MGI-10-21	263.04	270.97	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-010	Multiple	MGI-10-26	240.79	248.41	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-011	Multiple	MGI-10-26	251.46	262.13	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-012	Multiple	MGI-10-27	28.65	39.62	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-014	Multiple	MGI-10-29	88.39	96.01	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-016	Multiple	MGI-10-29	199.64	208.79	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-017	Multiple	MGI-10-49	39.93	52.12	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-018	Multiple	MGI-10-49	71.63	78.03	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-019	Multiple	MGI-10-51	28.04	38.4	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-020	Multiple	MGI-10-54	30.18	40.84	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-022	Multiple	MGI-10-54	86.26	96.77	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-023	Multiple	MGI-10-55	18.9	23.47	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-025	Multiple	MGI-10-55	84.73	90.83	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-026.1	Multiple	MGI-10-19	170.08	179.22	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-026.2	Multiple	MGI-10-25	145.69	203.61	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-027.1	Multiple	MGI-12-164	188.98	196.6	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-027.2	Multiple	MGI-12-201	192.48	231.95	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-028.1	Multiple	MGI-12-189	130.15	131.52	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-028.2	Multiple	MGI-12-204	126.8	132.89	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-029.1	Multiple	MGI-11-080	6.1	12.19	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-029.2	Multiple	MGI-12-197	4.42	7.62	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-029.3	Multiple	MGI-12-234	14.94	21.79	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-030.1	Multiple	MGI-11-080	21.95	29.87	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-030.2	Multiple	MGI-12-197	8.84	11.89	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-031	Multiple	MGI-11-080	51.21	55.17	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-032	Multiple	MGI-12-191	12.5	18.59	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-033	Multiple	MGI-12-191	48.77	51.21	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-034	Multiple	MGI-12-191	71.93	75.44	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-035	Multiple	MGI-10-27	106.68	108.2	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-036	Multiple	MGI-10-16	114.6	115.82	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-037	Multiple	MGI-10-26	149.35	153.92	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-038	Multiple	MGI-10-28	123.44	124.97	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-039	Multiple	MGI-10-28	141.73	144.78	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-040	Multiple	MGI-12-193	18.9	33.83	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-041	Multiple	MGI-12-164	82.91	87.17	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-042	Multiple	MGI-10-31	115.82	128.02	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-042.1	Multiple	MGI-10-30	133.5	154.84	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-043	Multiple	MGI-12-201	114.45	126.95	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-145	Multiple	MGI-12-192	333.3	396.24	Hangar Flats		Yes	PEA-PFS Variability Composite
HF-145.1	Multiple	MGI-12-192	315.47	333.3	Hangar Flats		Yes	PEA-PFS Variability Composite
HSTK-134	Multiple	MGI-12-206	4.27	17.98	Yellow Pine		Yes	PEA-PFS Variability Composite
HSTK-135	Multiple	MGI-12-206	97.23	98.45	Yellow Pine		Yes	PEA-PFS Variability Composite
HSTK-136	Multiple	MGI-12-241	58.22	89.76	Yellow Pine		Yes	PEA-PFS Variability Composite
HSTK-137	Multiple	MGI-11-094	110.64	127.1	Yellow Pine		Yes	PEA-PFS Variability Composite
HSTK-138	Multiple	MGI-11-072	13.41	21.34	Yellow Pine		Yes	PEA-PFS Variability Composite
HSTK-139	Multiple	MGI-11-077	62.94	73.76	Yellow Pine		Yes	PEA-PFS Variability Composite
HSTK-140	Multiple	MGI-11-065	170.99	186.54	Yellow Pine		Yes	PEA-PFS Variability Composite
HSTK-141	Multiple	MGI-11-071	134.57	159.72	Yellow Pine		Yes	PEA-PFS Variability Composite
HSTK-142	Multiple	MGI-11-136	23.77	24.69	Yellow Pine		Yes	PEA-PFS Variability Composite
HSTK-143	Multiple	MGI-11-136	49.38	56.39	Yellow Pine		Yes	PEA-PFS Variability Composite
HSTK-144	Multiple	MGI-12-187	218.85	220.37	Yellow Pine		Yes	PEA-PFS Variability Composite
SP-001	Multiple	composite	-	-	Yellow Pine		Yes	PEA-PFS Variability Composite

Appendix C: Summary of MGII Available Mineralogy

Sample Number	Lithology	Hole ID	From	To	PROJECT	Optical	QEMSCAN	Program
SP-002	Multiple	composite	-	-	Yellow Pine		Yes	PEA-PFS Variability Composite
SP-003	Multiple	composite	-	-	Yellow Pine		Yes	PEA-PFS Variability Composite
SP-004	Multiple	composite	-	-	Yellow Pine		Yes	PEA-PFS Variability Composite
SP-005	Multiple	composite	-	-	Yellow Pine		Yes	PEA-PFS Variability Composite
SP-006	Multiple	composite	-	-	Yellow Pine		Yes	PEA-PFS Variability Composite
SP-007	Multiple	composite	-	-	Yellow Pine		Yes	PEA-PFS Variability Composite
SP-008	Multiple	composite	-	-	Yellow Pine		Yes	PEA-PFS Variability Composite
SP-009	Multiple	composite	-	-	Yellow Pine		Yes	PEA-PFS Variability Composite
SP-010	Multiple	composite	-	-	Yellow Pine		Yes	PEA-PFS Variability Composite
SP-011	Multiple	composite	-	-	Yellow Pine		Yes	PEA-PFS Variability Composite
SR-146	Multiple	MGI-12-238	109.73	111.4	SCOUT		Yes	PEA-PFS Variability Composite
SR-147	Multiple	MGI-12-238	208.18	211.84	SCOUT		Yes	PEA-PFS Variability Composite
SR-148	Multiple	MGI-12-244	99.06	110.95	SCOUT		Yes	PEA-PFS Variability Composite
WE-001	Multiple	MGI-10-33	280.42	284.99	West End		Yes	PEA-PFS Variability Composite
WE-003	Multiple	MGI-10-36	162.15	167.03	West End		Yes	PEA-PFS Variability Composite
WE-005	Multiple	MGI-10-36	174.65	183.79	West End		Yes	PEA-PFS Variability Composite
WE-006	Multiple	MGI-10-37	130.45	141.12	West End		Yes	PEA-PFS Variability Composite
WE-007	Multiple	MGI-10-37	155.45	166.12	West End		Yes	PEA-PFS Variability Composite
WE-008	Multiple	MGI-10-37	179.83	185.93	West End		Yes	PEA-PFS Variability Composite
WE-009	Multiple	MGI-10-40	129.54	137.16	West End		Yes	PEA-PFS Variability Composite
WE-010	Multiple	MGI-10-42	41.76	58.83	West End		Yes	PEA-PFS Variability Composite
WE-012	Multiple	MGI-10-44	25.91	40.84	West End		Yes	PEA-PFS Variability Composite
WE-013	Multiple	MGI-10-46	118.87	134.57	West End		Yes	PEA-PFS Variability Composite
WE-014	Multiple	MGI-10-48	183.18	190.2	West End		Yes	PEA-PFS Variability Composite
WE-016	Multiple	MGI-10-48	198.73	206.35	West End		Yes	PEA-PFS Variability Composite
WE-018	Multiple	MGI-10-48	213.66	219.76	West End		Yes	PEA-PFS Variability Composite
WE-019	Multiple	MGI-10-50	54.86	67.06	West End		Yes	PEA-PFS Variability Composite
WE-020	Multiple	MGI-10-42	24.69	27.74	West End		Yes	PEA-PFS Variability Composite
WE-021	Multiple	MGI-10-42	35.66	41.76	West End		Yes	PEA-PFS Variability Composite
WE-022	Multiple	MGI-10-40	63.7	71.63	West End		Yes	PEA-PFS Variability Composite
WE-023	Multiple	MGI-10-40	71.63	79.25	West End		Yes	PEA-PFS Variability Composite
WE-024	Multiple	MGI-10-44	14.02	15.54	West End		Yes	PEA-PFS Variability Composite
WE-025	Multiple	MGI-10-47	20.42	21.95	West End		Yes	PEA-PFS Variability Composite
WE-026	Multiple	MGI-10-50	8.53	12.19	West End		Yes	PEA-PFS Variability Composite
WE-027	Multiple	MGI-10-50	16.76	22.86	West End		Yes	PEA-PFS Variability Composite
WE-153	Multiple	MGI-12-258	177.7	208.03	West End		Yes	PEA-PFS Variability Composite
YP-001	Multiple	MGI-11-056	16.61	19.2	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-003	Multiple	MGI-11-056	36.39	45.54	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-005	Multiple	MGI-11-056	56.69	60.96	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-007	Multiple	MGI-11-056	64.77	74.07	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-008	Multiple	MGI-11-056	74.07	82.6	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-009	Multiple	MGI-11-057	110.03	114.45	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-010	Multiple	MGI-11-057	114.45	119.48	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-011	Multiple	MGI-11-062	122.83	146.61	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-012	Multiple	MGI-11-062	146.61	171.6	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-013	Multiple	MGI-11-062	171.6	195.68	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-014	Multiple	MGI-11-062	195.68	220.98	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-015	Multiple	MGI-11-062	220.98	246.28	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-016	Multiple	MGI-11-082	154.84	173.89	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-017	Multiple	MGI-11-087	77.27	88.09	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-018	Multiple	MGI-11-128	67.06	92.96	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-019	Multiple	MGI-11-132	195.53	207.57	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-102	Multiple	MGI-12-235	153.31	160.17	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-103	Multiple	MGI-11-145	112.47	117.96	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-104	Multiple	MGI-11-145	134.11	144.78	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-105	Multiple	MGI-12-223	53.04	61.57	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-107	Multiple	MGI-12-226	68.88	72.54	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-108	Multiple	MGI-12-226	92.66	100.74	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-109	Multiple	MGI-11-056	150.57	173.74	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-110	Multiple	MGI-11-057	176.33	188.37	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-111	Multiple	MGI-11-057	205.13	206.65	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-112	Multiple	MGI-11-057	273.86	276.91	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-113	Multiple	MGI-11-060	176.17	185.32	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-114	Multiple	MGI-11-060	199.03	205.13	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-115	Multiple	MGI-11-105	185.32	195.99	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-116	Multiple	MGI-11-115	99.97	102.41	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-117	Multiple	MGI-11-061	62.79	74.07	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-118	Multiple	MGI-11-061	255.57	267.92	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-119	Multiple	MGI-11-062	41.76	45.72	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-120	Multiple	MGI-11-062	79.25	90.83	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-121	Multiple	MGI-11-063	146.76	159.87	Yellow Pine		Yes	PEA-PFS Variability Composite

Appendix C: Summary of MGII Available Mineralogy

Sample Number	Lithology	Hole ID	From	To	PROJECT	Optical	QEMSCAN	Program
YP-122	Multiple	MGI-11-059	293.52	295.05	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-122.1	Multiple	MGI-11-063	273.71	292.61	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-123	Multiple	MGI-12-194	1.52	11.43	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-124	Multiple	MGI-12-194	64.92	72.54	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-125	Multiple	MGI-12-194	124.05	130.76	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-126	Multiple	MGI-11-124	39.93	41.45	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-127	Multiple	MGI-12-199	21.95	25.76	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-128	Multiple	MGI-12-199	90.22	94.95	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-130	Multiple	MGI-11-125	143.26	160.93	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-131	Multiple	MGI-11-124	199.64	208.79	Yellow Pine		Yes	PEA-PFS Variability Composite
YP-132	Multiple	MGI-11-124	208.79	215.8	Yellow Pine		Yes	PEA-PFS Variability Composite

Note: Diagnostic and metallurgical variability program composites are comprised of multiple samples from multiple core holes. Only the first sample is shown in the table