



# **NE TASMANIA GOLD PROJECTS**

## **ASSESSMENT OF SOIL SAMPLING**

For

### **TAMAR GOLD LTD**

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SAI GLOBAL FINAL REPORT

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## EXECUTIVE SUMMARY

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### Sample Reliability

The factors with the largest impact on sample reliability are the Tertiary/Quaternary age cover materials of slope, fluvial and lacustrine origin. Palaeo-regolith factors have an unknown impact on sample reliability, in contrast to the current regolith which has generated a suitable sampling medium in the form of duplex soils.

Cultural (forestry plantation) factors do not appear to have a significant impact on sample reliability. Geochemical scavenging appears to be important for arsenic at North Lisle East and molybdenum at Cradle Creek, but relatively unimportant for the other elements studied.

It is suggested that at the North Lisle East, Potoroo and Panama projects about 50% of the samples were representative of the underlying granite or Mathinna Beds bedrock. In contrast, about 25% of samples from South Lisle and Cradle Creek were representative of the bedrock. The single sampling traverse at Golden Ridge appears to have had 35% of samples representative of bedrock.

### Inferred Gold Mineralisation Styles

Those samples considered to be representative of bedrock show that gold and other metals are all present in various statistical sub populations. The similar threshold values for the gold sub populations between the Lisle district projects and the Golden Ridge project suggest both commonality of mineralisation at district scale, and potentially several phases of gold mineralisation.

Detailed appraisal of the anomalous gold - mineral/rock pairs interpreted at the North Lisle East and Cradle Creek projects shows:

- Gold occurs most commonly in quartz veins at both projects, followed closely by;
- Gold apparently disseminated in either granite (North Lisle East ) or in Mathinna Beds sediments (Cradle Creek), and;
- Gold captured by scavenging agents in the regolith forms a minor part of both projects.

### Inferred Zoning of Gold Mineralisation

A review of the geochemical associations identified from the soil sample analyses suggests that mineralisation events have been several, with over-printing patterns apparent. A simplified interpretation of the element associations is as follows:

- Granite hosted : Au-Bi-Te (Mo-As) – present in all six projects
- Proximal (aureole hosted) : Au-As (Sb) - present in all six projects
- Distal : Au-As-Sb – present in the five Lisle district projects

These interpreted gold-metal associations are consistent with Intrusion Related Gold Systems (IRGS), and provide compelling evidence for this type of gold mineralisation in all six projects.



**TG Summons**  
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# 1 INTRODUCTION

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## 1.1 Background

Tamar Gold Ltd (Tamar gold) hold Exploration Licences EL 30/2006, 13/2007, 36/2008, 40/2008 and 55/2008 in north east Tasmania. Between late 2012 and early 2013, Tamar Gold Director J Pemberton & geological consultant KC Morrison designed various soil sampling programs for the Lisle South, North Lisle East, Cradle Creek and Golden Ridge projects in north east Tasmania. These programs were supplemented by stream (panned concentrates) and rock chip sampling.

KC Morrison had previously been involved in soil sampling activities at the Potoroo and Panama projects. In May 2013 Tamar Gold Director WJ Ryan contacted TG Summons of Mining One Pty Ltd (Mining One) to assess and review the results of the soil sampling programs. This report is an assessment and interpretation of the soil sampling programs.

## 1.2 General Geology and Topography

Pronounced differential erosion in the Lisle and Golden Ridge districts reflects the contrasting bedrock types, from hard and dense hornfelsed Mathinna Beds forming elevated topography, to relatively softer unaltered Mathinna beds and granitoids comprising the flatter more basal landforms. In addition, development of the regolith (specifically soil profiles) varies according to topography, cover materials and bedrock type.

Typical soil-regolith formed in Mathinna Beds in north east Tasmania has a *duplex character*, consisting of an upper grey sandy soil (~ A2 horizon), and a lower brown sand-clay soil (B-C horizons) with variable relicts of precursor Mathinna Beds. The upper zone may be covered by organic debris and is often poorly developed, while the lower zone may include quartz veins and fragments of weathered Mathinna Beds sediments. The often poor development/preservation nature of the upper zone, in conjunction with the chemically depleted status, precludes the usefulness of this horizon for geochemical sampling.

## 1.3 Soil Sampling Considerations

Design of a soil sampling program over pre-Permian age rocks in north east Tasmania needs to consider a range of topography and regolith types in conjunction with varying amounts of human/cultural interference, as follows:

- Regolith developed in bedrock:
  1. Mathinna Beds – both altered by thermal metamorphism (eg hornfels), and otherwise
  2. Granitoid materials
- Regolith developed in lithified slope deposits formed from Mathinna Beds (altered and unaltered)
- Regolith poorly (or not) developed in unconsolidated cover materials formed from Mathinna Beds and granite
- Land clearing and cultivation activities associated with pine plantations.

The optimal settings allowing the collection of soil samples representative of the bedrock and hence identifying any anomalous metal concentrations, mineralisation etc are as follows:

1. Mathinna Beds with intact duplex soil profile, jointly with intact soil profile over granitoid material, followed by ;
2. Mathinna Beds (& granitoid) with artificially disturbed soil profiles.

The corollary is that soil samples collected over other types of regolith are unlikely to be representative of the bedrock, and thus potentially generate misleading geochemical results.

## 2 PROGRAM

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### 2.1 Soil Sampling Strategy

Messrs K Morrison and J Pemberton are aware of the general types of regolith and cover materials in north east Tasmania. Consequently, given the issues involved in identifying specific types of cover deposit and regolith (in the absence of any excavations), Tamar Gold adopted a simple pragmatic strategy of soil sampling as follows:

1. Removal of any surface organic (A horizons) materials over a 30cm x 30cm area;
2. Collecting a hybrid B/C horizon sample using a trenching tool.

Consequently, the sampling policy used by Tamar Gold amounted to a soil (+/- rock) sampling exercise, and this is further discussed under the North Lisle East and Cradle Creek projects.

### 2.2 Data Processing

The various soil samples were collected and analysed as follows;

#### 2.2.1 South Lisle

##### 2.2.1.1 Analytical Methods

A total of 326 soil samples were collected between March and April 2013, and analysed for Au, As, Bi, Cu, Mo, Pb, Sb, Te and Zn. The samples were prepared (dried, pulped & split) by the ALS laboratory in Townsville, which used the following analytical methods:

Au – method AA-24, with a detection limit of 0.005 ppm (5 ppb)

As – method ME-ICP 41, with a detection limit of 2 ppm

Bi – method ME-MS 42, with a detection limit of 0.1 ppm

Cu - method ME-ICP 41, with a detection limit of 2 ppm

Mo - method ME-MS 42, with a detection limit of 0.1 ppm

Pb - method ME-ICP 41, with a detection limit of 2 ppm

Sb - method ME-MS 41, with a detection limit of 0.05 ppm

Te - method ME-MS 41, with a detection limit of 0.01 ppm

Zn - method ME-ICP 41, with a detection limit of 2 ppm

##### 2.2.1.2 Sample Statistics

Overall some 84.7% of samples contained less than 5 ppb gold (i.e. detection limit), and Au is strongly correlated with Bi and As. The various correlation coefficients are shown in Table 2-1.

**Table 2-1: Correlation Coefficients**

Gold Correlation Matrix						
	South Lisle	Nth Lisle East	Cradle Ck	Potoroo	Panama	Golden Ridge
	n = 326	n = 392	n = 260	n = 165	n = 165	n = 250
As	0.37	0.14	0.07	0.41	0.34	0.2
Bi	0.57	0.08	-0.06	0.49	0.17	-0.17
Cu	-0.04	0.14	-0.15	0.36	0.22	0.07
Mo	0.07	0.01	0	0.29	0.23	0.25
Pb	0.17	0.14	-0.15	0.23	0.16	-0.02
Sb	0.1	0.18	-0.16	0.33	0.17	-0.07
Te	0.24	0.13	0.07	na	na	0.14
Zn	0.16	0.12	-0.22	na	na	0.07
W	na	na	na	0.11	-0.01	na
Molybdenum Correlation Matrix						
	South Lisle	Nth Lisle East	Cradle Ck	Potoroo	Panama	Golden Ridge
Au	0.07	0.01	0	0.29	0.23	0.25
As	0.37	0.51	0.46	0.65	0.1	-0.11
Bi	0.26	0.17	0.12	0.37	-0.03	-0.37
Cu	0.48	0.04	0.28	0.55	0.36	0.68
Pb	0.21	-0.03	0.22	0.23	-0.08	-0.3
Sb	0.33	0.36	0.46	0.44	0.08	0.31
Te	0.3	0.36	0.3	na	na	0.24
Zn	0.15	-0.2	0.05	na	na	-0.12
W				0.16	0.12	
Copper Correlation Matrix						
	South Lisle	Nth Lisle East	Cradle Ck	Potoroo	Panama	Golden Ridge
Au	-0.04	0.14	-0.15	0.36	0.22	0.07
As	0.24	0.35	0.08	0.57	0.31	-0.36
Bi	0.27	0.6	0.53	0.63	0.67	-0.18
Mo	0.48	0.04	0.28	0.55	0.36	-0.3
Pb	0.6	0.79	0.45	0.43	0.57	0.31
Sb	0.41	0.23	0.48	0.27	0.21	0.24
Te	0.41	0.3	0.4	na	na	-0.12
Zn	0.61	0.73	0.65	na	na	
W				0.18	0	

Using GeoAccess Professional software, cumulative frequency-probability plots of the various elements were seen to occur in several sub populations, as summarised in Table 2-2. The lowest anomalous sub population is defined as the first coherent sub population. The log probability plot for gold is contained in Appendix A.

**Table 2-2: Threshold Values for Elemental Sub Populations**

TAMAR GOLD PROJECTS - NORTH EAST TASMANIA								
Project	Element	Sub Population Thresholds (ppm)					Proportion of Samples < DL	
		Sub Pop.No						
		BG *	1	2	3	4	5	(%)
South Lisle	Au		0.005	0.013	0.028	0.17		84.7
North Lisle East	Au		0.006	0.012	0.032	0.18	1.5	52.3
Cradle Creek	Au		0.006	0.015	0.027	0.11		75.8
Potoroo	Au		0.009	0.019	0.05			59.9
Panama	Au		0.001	0.003	0.007			49.7
Golden Ridge	Au		0.006	0.014	0.044	0.1		~ 64.9
South Lisle	As	3	4.8	90	190			
North Lisle East	As	x	1.3	(4.1)	13			
Cradle Creek	As	x	0.4	2.5	27			
Potoroo	As	x	1.3	5.8	260			
Panama	As	x	1.1	18				
Golden Ridge	As		(1.9)	16	190			
South Lisle	Bi	x	0.31	1.8	2.3			
North Lisle East	Bi	x	0.17	(0.42)	0.78			
Cradle Creek	Bi	x	0.15	0.27	0.6			
Potoroo	Bi	0.09	0.13	(0.26)	1.2			
Panama	Bi	0.06	0.09	0.12	0.24			
Golden Ridge	Bi	0.03	(0.05)	0.13				
South Lisle	Cu		5.3	12.5	40			
North Lisle East	Cu		(5.7)	50				
Cradle Creek	Cu	x	4	22				
Potoroo	Cu	x	6.8	15	40			
Panama	Cu	x	6.8	12				
Golden Ridge	Cu	3.3	16					
South Lisle	Mo	x	0.5	3.7				
North Lisle East	Mo	0.24	0.38	1.8	3.2			
Cradle Creek	Mo	0.14	0.9	1.2	3.3			
Potoroo	Mo	(0.1)	0.5	1.1	1.3			
Panama	Mo	x	0.3	0.8	1.3			

TAMAR GOLD PROJECTS - NORTH EAST TASMANIA								
Project	Element	Sub Population Thresholds (ppm)					Proportion of Samples < DL	
		Sub Pop.No						
		BG *	1	2	3	4	5	(%)
Golden Ridge	Mo	x	0.24	0.35	1.9			
South Lisle	Pb		8	26				
North Lisle East	Pb	x	(9)	30				
Cradle Creek	Pb	x	4.6	(8)	18			
Potoroo	Pb	(4.1)	(13)	32				
Panama	Pb	x	6	12				
Golden Ridge	Pb	1.8	5.2	14	42			
South Lisle	Sb	x	0.23	0.62				
North Lisle East	Sb	0.09	0.12	(0.21)	0.83			
Cradle Creek	Sb	x	0.15	0.55				
Potoroo	Sb	0.06	0.34	0.63				
Panama	Sb	0.06	0.2	0.47				
Golden Ridge	Sb	0.09	0.12	0.25	0.4			
South Lisle	Te	x	0.022	(0.05)	0.13			
North Lisle East	Te	x	0.033	0.06	0.14			
Cradle Creek	Te	x	0.034					
Golden Ridge	Te	x	0.03	0.06				
Potoroo	W	x	0.16					
Panama	W	insufficient data						
South Lisle	Zn	6	12	43	68			
North Lisle East	Zn	6.5	(12)	40	72			
Cradle Creek	Zn	5.2	6.9	11	23			
Golden Ridge	Zn	x	(4)	13	32	58		

\* Background value; x= incompletely defined sub population & ( )= poorly defined sub pop.

### 2.2.1.3 Metal – Mineral Pairs

A review of sample descriptions showed that quartz occurred in 18.4% of samples of which 15% are paired with anomalous gold. Mica occurred in 3.7% of samples, of which 41.7% are paired with anomalous gold. The presence of mica in the samples is interpreted to indicate the proximity of granitoid materials in the bedrock.

Quartz-bearing samples were also seen to be paired with the majority of anomalous As (100%), anomalous Bi (91.7%), anomalous Mo (88.3%), anomalous Sb (95%), anomalous Te (88.3%) and anomalous Zn (96.7%).

## 2.2.2 North Lisle East

### 2.2.2.1 Analytical Methods

A total of 392 soil samples were collected between March and April 2013, and analysed for Au, As, Bi, Cu, Mo, Pb, Sb, Te and Zn. The samples were prepared (dried, pulped & split) by the ALS laboratory in Townsville, which used the same analytical methods as for South Lisle.

### 2.2.2.2 Sample Statistics

Overall some 52.3% of samples contained less than 5 ppb gold (ie detection limit), and Au is not correlated with any of the other elements. The various correlation coefficients are shown in Table 2-1. Using cumulative frequency-probability plots the various elements were seen to occur in several sub populations, as summarised in Table 2-2. The lowest anomalous sub population is defined as the first coherent sub population. The log probability plot for gold is contained in Appendix A.

### 2.2.2.3 Metal – Mineral Pairs

A review of sample descriptions showed that quartz occurred in 19.9% of samples of which 32.1% are paired with anomalous gold. Quartz-bearing samples were also seen to be paired with most of the anomalous As (94.9%), anomalous Bi (100%), anomalous Mo (98.7%), anomalous Sb (100%), and with lesser anomalous Te (48.7%) and anomalous Zn (79.5%).

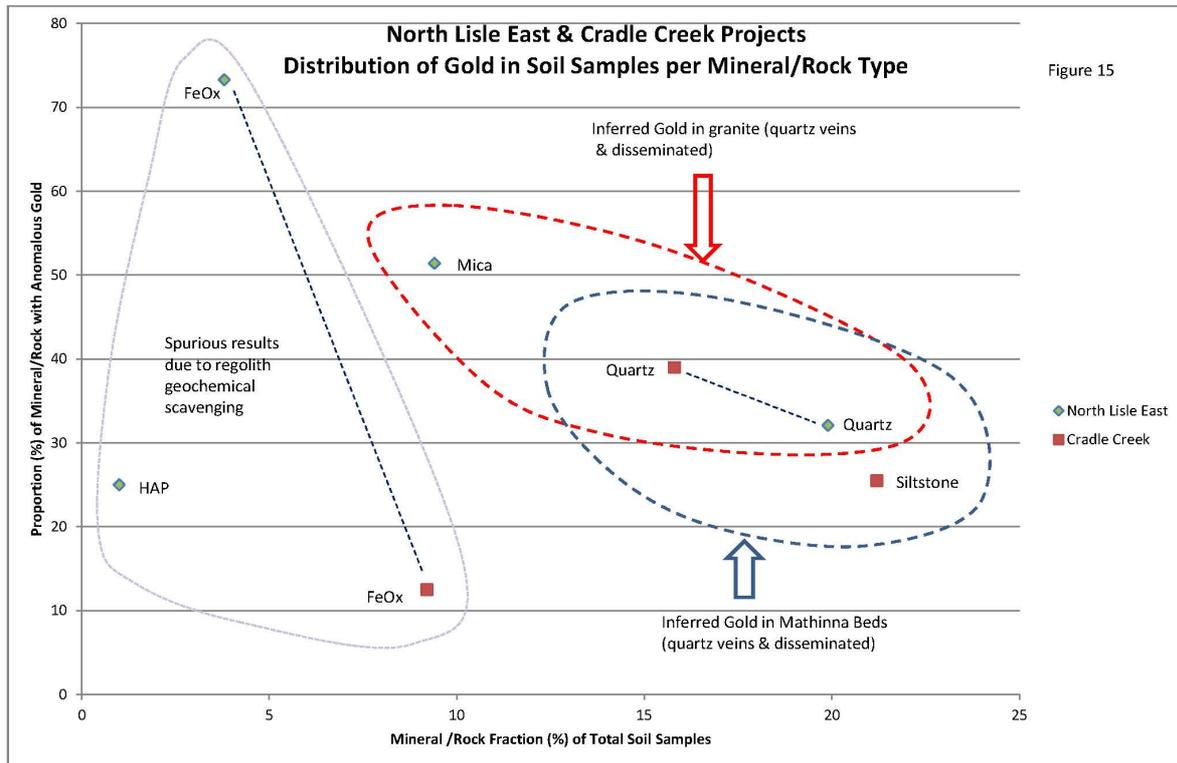
Mica occurred in 9.4% of samples, of which 51.4% are paired with anomalous gold. Similarly to South Lisle, the presence of mica in the samples is interpreted as a proxy for granitoid material in the bedrock.

The sample descriptions also record some samples as being “bright orange”, which has been interpreted as indicating a relatively high concentration of iron oxides and hydroxides. These samples were also assessed for their geochemical character, since such compounds are known to scavenge both base and precious metals.

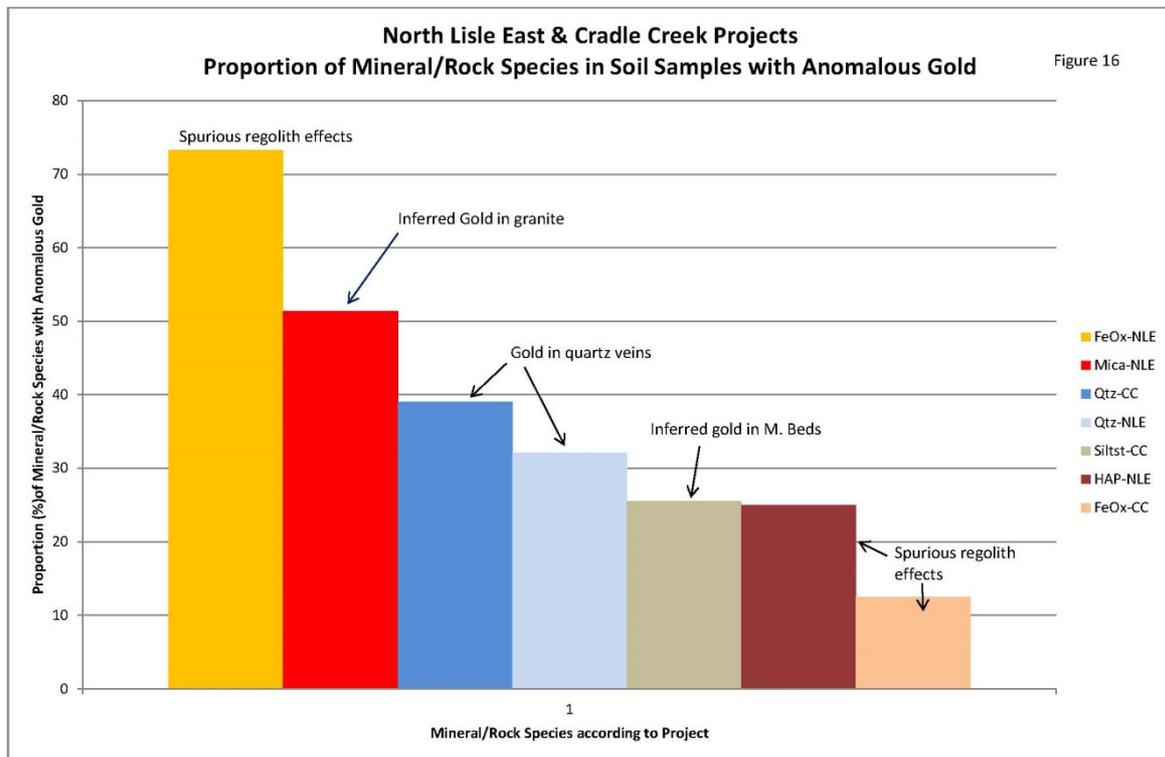
The sample descriptions also identify some samples as being “very dark brown but not burnt”, which have been interpreted as indicating a relatively high concentration of humic and fulvic acid precipitates. These samples were also assessed for their geochemical character, since such compounds are also known to scavenge both base and precious metals.

Iron oxides/hydroxides (FeOx) occurred in 3.8% of samples, of which 73.3% are paired with anomalous gold. Humic acid precipitates (HAP) occurred in 1% of samples, of which 25% are paired with anomalous gold.

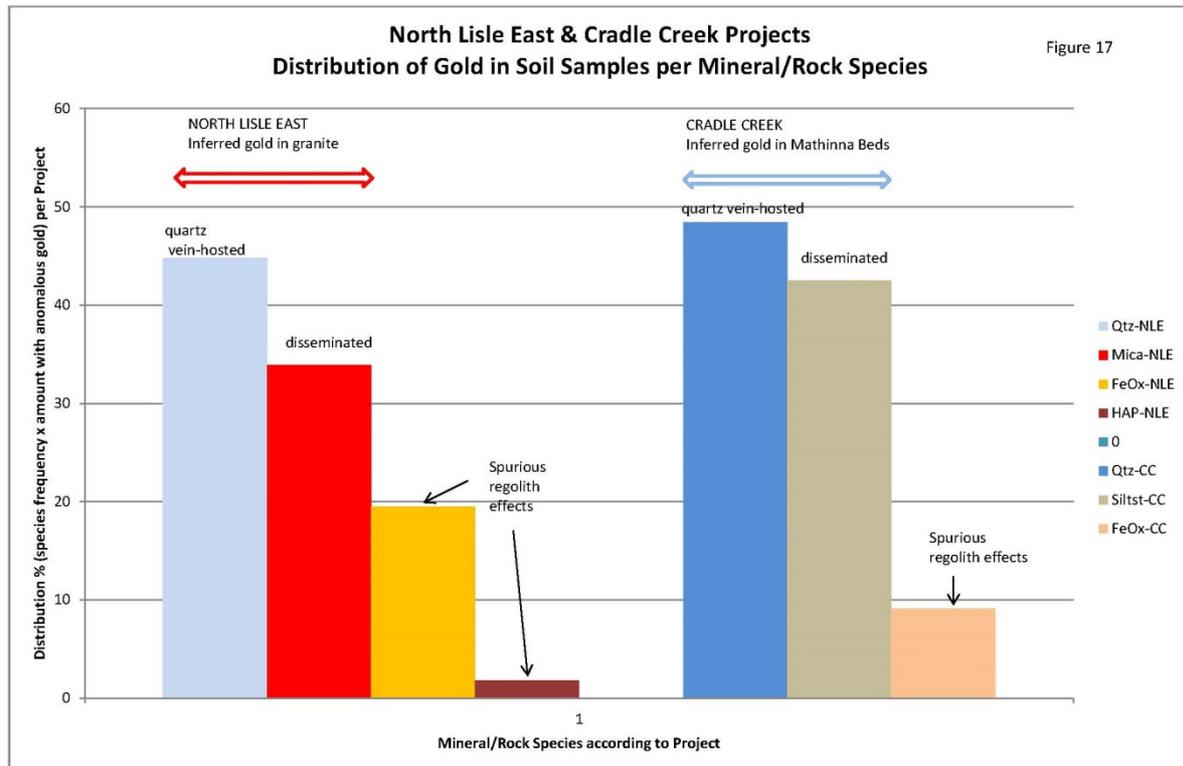
A graphical summary of the occurrence of anomalous element-mineral pairs is shown in Figures 1-3.



**Figure 1: Distribution of Gold in Soil Samples per Mineral/Rock Type**



**Figure 2: Proportion of Mineral/Rock Species in Soil Samples with Anomalous Gold**



**Figure 3: Distribution of Gold in Soil Samples per Mineral/Rock Species**

## 2.2.3 Cradle Creek

### 2.2.3.1 Analytical Methods

A total of 260 soil samples were collected between March and April 2013, and analysed for Au, As, Bi, Cu, Mo, Pb, Sb, Te and Zn. The samples were prepared (dried, pulped & split) by the ALS laboratory in Townsville, which used the same analytical methods as for South Lisle.

### 2.2.3.2 Sample Statistics

Overall some 75.8% of samples contained less than 5 ppb gold (ie detection limit), and like North Lisle East, Au is not correlated with any of the other elements. The various correlation coefficients are shown in Table 2-1.

Using cumulative frequency-probability plots the various elements were seen to occur in several sub populations, as summarised in Table 2-2. The lowest anomalous sub population is defined as the first coherent sub population. The log probability plot for gold is contained in Appendix A.

### 2.2.3.3 Metal – Mineral/Rock Pairs

A review of sample descriptions showed that quartz occurred in 15.8% of samples of which 39% are paired with anomalous gold. No mica was recorded, but siltstone occurred in 21.2% of samples of which 25.5% are paired with anomalous gold. The presence of siltstone fragments in the samples is interpreted to indicate bedrock of Mathinna Beds.

The sample descriptions also record some samples as being “orange”, which has been interpreted as indicating a relatively high concentration of iron oxides and hydroxides. These samples were also assessed for their geochemical character, since such compounds are known

to scavenge both base and precious metals. Iron oxides/hydroxides (FeOx) occurred in 9.2% of samples, of which 12.5% are paired with anomalous gold.

A graphical summary of the occurrence of anomalous element-mineral /rock pairs is shown in Figures 8-14.

## **2.2.4 Potoroo**

### **2.2.4.1 Analytical Methods**

A total of 165 soil samples were collected by BCD Resources in early 2011 by KC Morrison, and analysed for Au, Ag, As, Bi, Cu, Mo, Pb, Sb and W.

The samples were prepared (dried, pulped & split) by the Genalysis laboratory in Wingfield SA, which used the following analytical methods:

Au – method AR25/MS, with a detection limit of 0.001 ppm (1 ppb)

As – method AR25/MS, with a detection limit of 1 ppm

Bi – method AR25/MS, with a detection limit of 0.05 ppm

Cu - method AR25/OE, with a detection limit of 1ppm

Mo - method AR25/MS, with a detection limit of 0.1 ppm

Pb - method AR25/MS, with a detection limit of 0.5 ppm

Sb - method AR25/MS, with a detection limit of 0.05 ppm

W - method AR25/MS, with a detection limit of 0.1 ppm

### **2.2.4.2 Sample Statistics**

Overall some 59.9% of samples contained less than 1 ppb gold (ie detection limit), and Au is moderately correlated with Bi > As > Ag > Sb. The various correlation coefficients are shown in Table 2-1

Using cumulative frequency-probability plots the various elements were seen to occur in several sub populations, as summarised in Table 2-2. The lowest anomalous sub population is defined as the first coherent sub population. The log probability plot for gold is contained in Appendix A.

### **2.2.4.3 Metal – Mineral Pairs**

The sample descriptions were inadequate for the appraisal of metal – mineral pair characteristics.

## **2.2.5 Panama**

### **2.2.5.1 Analytical Methods**

A total of 165 soil samples were collected by BCD Resources in early 2011 by KC Morrison, and analysed for Au, Ag, As, Bi, Cu, Mo, Pb, Sb and W.

The samples were prepared (dried, pulped & split) by the Genalysis laboratory in Wingfield SA, which used the same analytical methods as for the Potoroo project.

### **2.2.5.2 Sample Statistics**

Overall some 49.7% of samples contained less than 1 ppb gold (ie detection limit), and Au is weakly correlated with As > Mo > Cu. The various correlation coefficients are shown in Table 2-1

Using cumulative frequency-probability plots the various elements were seen to occur in several sub populations, as summarised in Table 2-2. The lowest anomalous sub population is defined as the first coherent sub population. The log probability plot for gold is contained in Appendix A.

### **2.2.5.3 Metal – Mineral Pairs**

The sample descriptions were inadequate for the appraisal of metal – mineral pair characteristics.

## **2.2.6 Golden Ridge**

### **2.2.6.1 Analytical Methods**

A total of 250 soil samples were collected between December 2012 and April 2013, and analysed for Au, As, Bi, Cu, Mo, Pb, Sb, Te and Zn. The samples were prepared (dried, pulped & split) by the ALS laboratory in Townsville, which used the same analytical methods as for South Lisle, except for Sb (method ME-MS42 with DL of 0.05ppm) and Te (method ME-MS42 with DL of 0.01ppm).

### **2.2.6.2 Sample Statistics**

Overall some 64.9% of samples contained less than 5 ppb gold (ie detection limit), and Au is weakly correlated with Mo > As. The various correlation coefficients are shown in Table 2-1

Using cumulative frequency-probability plots the various elements were seen to occur in several sub populations, as summarised in Table 2-2. The lowest anomalous sub population is defined as the first coherent sub population. The log probability plot for gold is contained in Appendix A.

### **2.2.6.3 Metal – Mineral Pairs**

The sample descriptions were inadequate for the appraisal of metal – mineral pair characteristics.

## 3 FACTORS IMPACTING SOIL SAMPLING EFFICACY

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### 3.1 Cover Materials

Three broad groups of post-granite cover materials can be identified in the district, as follows:

1. Permo-Triassic age sedimentary rocks
2. Tertiary age sedimentary rocks and mafic volcanics
3. Quaternary age surficial deposits

Mapping of the actual project area by Mineral Resources Tasmania depicts Tertiary/Quaternary age sandstone and conglomerate, along with Quaternary age talus and unconsolidated sediments.

In overview, Tertiary/Quaternary cover materials occur in several depositional groups as follows:

- Slope deposits - include both younger unconsolidated talus/scree and older lithified (#) conglomerate. Some of the conglomerates consist of angular (non-rounded) clasts, which are variably sorted from imbricate to chaotic, and interpreted as debris flow deposits.
- Fluvial deposits – unconsolidated alluvial deposits in the current drainage, varying from rounded boulder gravels to silts and sands.
- Lacustrine deposits – bedded clays and silts

# Ongoing regolith processes have variably over-printed the older slope deposits, as seen in the adit at the Wilson-Symmons mine in the Panama project. Here, a debris flow deposit consisting of a poorly sorted angular cobble conglomerate comprised of detached Mathinna Beds sediments overlies moderately weathered bedrock of Mathinna Beds. The debris flow deposit also contains goethite pisolites and nodules, and is cemented with mottled iron oxides and/or hydroxides.

Similar imbricated and ferruginous cemented debris flow deposits occur at Tobacco Creek, where Mathinna Beds slab-type fragments comprise a four metre thick deposit above weathered Mathinna Beds bedrock. The old time gold miners ignored these debris flow deposits, and excavated the interface between them and the bedrock.

Consequently it is apparent that during Tertiary –Quaternary time the project areas experienced complex interactions between tectonics (faulting), weathering (regolith formation) and erosion (deposit types). It seems likely that early talus and fluvial deposits were mobilised as mud/debris flows to form angular conglomerates. This mobilisation was the result of renewed erosion, itself triggered by either tectonic uplift, or a more pluvial climate, or both.

### 3.2 Regolith

#### 3.2.1 Palaeo-Regolith

Evidence from the Panama project indicates the debris flow deposits there were formed after an earlier period of deep (lateritic) weathering, and were then subjected to further lateritic weathering, probably during mid Tertiary time. The earlier lateritic weathering event would have created a distinct regolith profile over the entire region, although it appears that this early regolith has now been removed by erosion in the Lisle district. The later lateritic weathering

event may also have produced a distinct, but different regolith profile, now partly preserved as ferruginous mottling of the debris flow deposit.

### 3.2.2 Current Regolith

Further down the slope from the Wilson-Symmons mine in the Panama project the currently forming regolith is exposed in a road cutting. Here an upper off white clay/silt soil overlies orange/brown clay. Both horizons contain small fragments of Mathinna Beds sediments. The relationship between this duplex soil profile and the ferruginous mottled debris flow deposit upslope is not clear.

AS described in the Introduction, typical soil-regolith formed in Mathinna Beds has a *duplex character*, consisting of an upper grey sandy soil (~ A2 horizon), and a lower brown sand-clay soil (B-C horizons) with variable relicts of precursor Mathinna Beds. The upper zone may be covered by organic debris and is often poorly developed, while the lower zone may include quartz veins and fragments of weathered Mathinna Beds sediments. The often poor development/preservation nature of the upper zone, in conjunction with the chemically depleted status, precludes the usefulness of this horizon for geochemical sampling.

### 3.3 Geochemical Scavenging

Certain fluid agents present in soil profiles during regolith evolution have the ability to concentrate (scavenge) metals in disproportionate (non-stoichiometric) amounts. Typical residues from such fluids include iron and manganese oxides and hydroxides, along with humic and fulvic acid precipitates.

In many cases the concentration of metals by these fluids is approximately representative of the bedrock lying immediately beneath the soil. However, when the absorption of metals is excessive and atypical of the underlying bedrock, spurious anomalies can result.

The descriptions for the samples from North Lisle East and Cradle Creek (refer Sec 2.2.2 & 2.2.3) have been interpreted to indicate the presence of some scavenging agents.

## 4 DISCUSSION

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### 4.1 Element (Mineral-Rock) Associations

Element associations have been reviewed using both statistical correlation coefficients (Table 2-1 based on logarithmic values), and by plotting anomalous sub populations of the various elements in soil sample spreadsheets (Appendices B-G) for each of the projects. Also plotted in these spreadsheets were the following minerals and rocks:

- South Lisle – the occurrence of quartz and mica
- North Lisle east – the occurrence of quartz, mica, iron oxides/hydroxides and probable humic/fulvic acid precipitates
- Cradle Creek - the occurrence of quartz, mudstone, siltstone and iron oxides/hydroxides.

#### 4.1.1 South Lisle

Gold (Au) is moderately correlated with As and Bi, weakly with Te. This is supported by the anomalous element comparison data in Appendix B, which shows three coincident groups :

- Au-As-Cu-Sb
- Au-As-Bi-Cu-Sb
- Au-As-Bi-Cu-Sb-Te

#### 4.1.2 North Lisle East

Gold (Au) is very weakly correlated with As, Cu and Sb. The anomalous element comparison data in Appendix C shows three coincident groups:

- Au-Sb (mainly associated with quartz in samples)
- Au-As-Sb (variably with mica in samples)
- Au-As-Bi-Sb-Te

#### 4.1.3 Cradle Creek

Gold (Au) does not appear to be correlated with other elements analysed. However the anomalous element comparison data in Appendix D shows two main coincident groups:

- Au-As (associated with quartz in samples)
- Au-As-Bi-Mo-Sb-Te (associated with siltstone in samples)

#### 4.1.4 Potoroo

Gold (Au) is moderately correlated with As and Bi, weakly with Cu, Mo and Sb. This is supported by the anomalous element comparison data in Appendix E, which shows four main coincident groups:

- Au-As
- Au-As-Bi
- Au-As-Mo
- Au-As-Bi-Cu-Mo-(Sb)

#### 4.1.5 Panama

Gold (Au) is weakly correlated with As, Cu and Mo. This appears to be supported by the anomalous element comparison data in Appendix F, which shows four main coincident groups:

- Au-Bi
- Au-As-Bi
- Au-As-Mo
- Au-As-Bi-Cu-Mo-(Sb)

#### 4.1.6 Golden Ridge

Gold (Au) is very weakly correlated with As, Mo and Te. This appears to be supported by the anomalous element comparison data in Appendix G, which shows two main coincident groups:

- Au-(As)-Mo-(Sb)
- Au-As-Bi-Mo-Sb-(Te)

### 4.2 Interpretation- North Lisle East

The data contained in Figs 1-7 show the occurrence of anomalous elements (Au, As, Bi, Mo, Sb, Te & Zn) per mineral species (quartz, mica, FeOx & HAP) for North Lisle East. The following interpretations were made:

- Quartz-element pairs: gold and other elements occurring in quartz veins
- Mica-element pairs: gold and other elements occurring in granite (# see below)
- FeOx-element pairs: gold and other elements occurring with (scavenged by) iron oxides and hydroxides
- HAP-element pairs: gold and other elements occurring with (scavenged by) humic and fulvic acid precipitates

It is noteworthy that the highest gold sub population (with a threshold value of 1.5 g/t), and the highest molybdenum sub population (threshold value of 3.2ppm), only occur with mica, the implication being that these groups are *granite hosted*. (# However, the Au-As-Sb association also implies a more distal setting, such that multiple intrusive and mineralisation events may have occurred).

The highest bismuth sub population (with a threshold value of 0.78ppm) and the highest tellurium sub population (threshold value of 0.14ppm) occur only with quartz, the implication being that these groups are *quartz vein hosted*.

The highest arsenic sub population (threshold value of 13ppm) and the highest bismuth sub population (threshold value of 0.78ppm) only occur with FeOx, the implication being that these groups have been formed by *geochemical scavenging, and are thus spurious*. The impact of this inferred scavenging on the reliability/representivity of the interpreted element associations is likely to be most important for arsenic, but only minor for bismuth, since it is also well represented in the quartz samples.

### 4.3 Interpretation - Cradle Creek

The data contained in Figs 8-14 show the occurrence of anomalous elements (Au, As, Bi, Mo, Sb, Te & Zn) per mineral and rock species (quartz, siltstone & FeOx) for Cradle Creek. The following interpretations were made:

- Quartz-element pairs: gold and other elements occurring in quartz veins
- Siltstone-element pairs: gold and other elements occurring in siltstones within the Mathinna Beds. (## see below)
- FeOx-element pairs: gold and other elements occurring with (scavenged by) iron oxides and hydroxides

The highest gold sub population (threshold value of 0.11 g/t), and the highest antimony sub population (threshold value of 0.55ppm) only occur with siltstone, the implication being that these groups are *sediment hosted in Mathinna Beds*. (## However, the Au-As-Bi-Mo-Sb-Te association also implies more proximal and/or intrusion hosted settings. Again, this may be the result of multiple intrusive and mineralisation events).

The highest zinc sub population (threshold value of 23ppm) also occurs in siltstone samples, and this may include some lithochemical characteristics in addition to mineralisation.

*It is noteworthy that the samples with siltstone have significant components of the more anomalous gold, arsenic, bismuth, antimony and tellurium sub populations.*

The highest arsenic sub population (threshold value of 27ppm), and to a lesser extent antimony and tellurium (threshold of 0.034ppm) occur only with quartz, the implication being that these groups are *quartz vein hosted*.

The highest molybdenum sub population (threshold value of 3.3ppm) part of the highest antimony sub population (threshold value of 0.55ppm), and the highest tellurium sub population (threshold of 0.034ppm) only occur with FeOx, the implication being that these groups have been formed by *geochemical scavenging, and are thus spurious*.

The impact of this inferred scavenging on the reliability/representivity of the interpreted element associations is likely to be most important for molybdenum, but only minor for antimony and tellurium, since these elements are well represented in the siltstone (Mathinna Beds) samples.

## 5 CONCLUSIONS

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### 5.1 Soil Sample Representivity

The factors influencing the degree of representivity, and hence the usefulness (reliability) of the soil samples collected in the various projects are the type of cover, regolith (type, extent of development & preservation), cultural impacts and geochemical scavenging.

Regional mapping by the MRT depicts several types of Tertiary/Quaternary cover materials, and it is suggested that such data be utilised during the next stages of exploration. Regolith factors are less well known, and have an unknown impact on sample representivity. Cultural (forestry plantation) factors are readily identified, and may not be significant. Geochemical scavenging appears to be important for arsenic at North Lisle East and molybdenum at Cradle Creek, but relatively unimportant for the other elements studied.

A general guide for potential soil sample representivity may be the number of analyses reported as having gold below the level of detection. Using this premise and summarising Table 2 suggests the following:

North Lisle East, Potoroo and Panama - a minimum 40-50% of samples appear to be representative of the underlying granite or Mathinna Beds bedrock.

South Lisle and Cradle Creek - a minimum 15-25% of samples appear to be representative of the underlying granite or Mathinna Beds bedrock.

Golden Ridge - a minimum 35% of samples appear to be representative of the underlying granite or Mathinna Beds bedrock.

### 5.2 Inferred Gold Mineralisation Settings

This study has focused mainly on the distribution of the elements in various sub populations, the element associations and the anomalous element-mineral/rock pairings. North Lisle East and Cradle Creek provided the overall most useful datasets, and the results are presented in Figures 15, 16 and 17.

Figure 15 is a rearrangement of Figures 1 and 8, and depicts the proportion of samples with discrete minerals/rocks versus the frequency of those minerals/rocks paired with anomalous gold.

Figure 16 depicts the frequency of those minerals/rocks paired with anomalous gold according to each project in histogram format.

Figure 17 also depicts the frequency of those minerals/rocks paired with anomalous gold, but assumes that the frequencies reflect the representative soil samples, and are a sub set of the entire project. Consequently, recalculation of the various gold-mineral/rock pairs according to project shows the following:

- Gold occurs most commonly in quartz veins at both North lisle East and Cradle Creek, followed closely by;
- Gold apparently disseminated in either granite (North Lisle East ) or in Mathinna Beds sediments (Cradle Creek), as discussed in Sec. 4.2 & 4.3, and;
- Gold captured by scavenging agents in the regolith forms a minor part of both projects.

Dissemination maybe in the form of microfractures (variably filled as veinlets), or associated with sulphide species.

### **5.3 Inferred Zoning of Gold Mineralisation**

A review of the geochemical associations indentified from the soil sample analyses suggests that mineralisation events have been several, with over-printing patterns apparent. A simplified interpretation of the element associations is as follows:

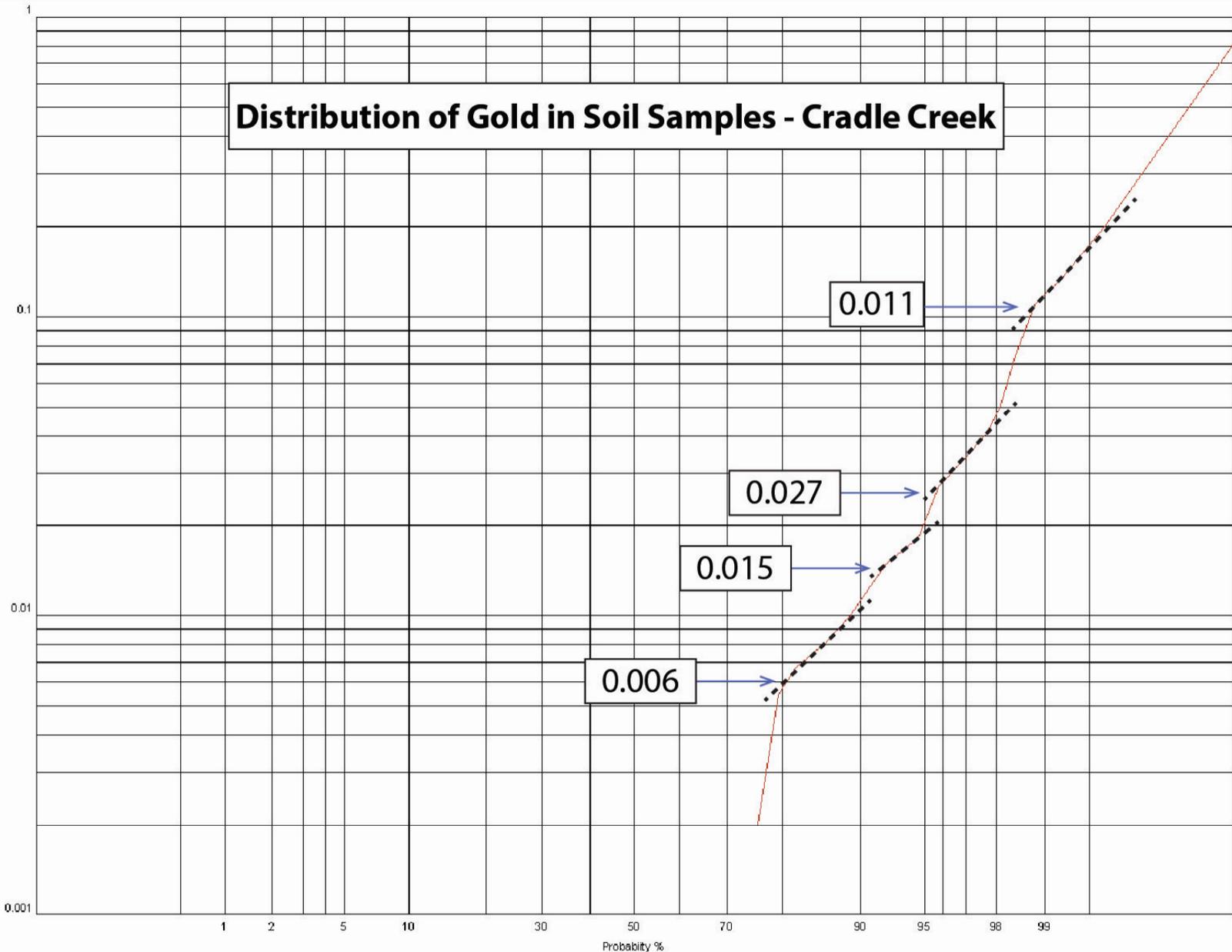
- Granite hosted : Au-Bi-Te (Mo-As) – present in all six projects
- Proximal (aureole hosted) : Au-As (Sb) - present in all six projects
- Distal : Au-As-Sb – present in the five Lisle district projects



# Appendix A

## Gold Sub Populations

# Distribution of Gold in Soil Samples - Cradle Creek



**Cradle Creek soils Au**

Normal Statistics  
 Samples : 260  
 Minimum : 0.002  
 Maximum : 0.620  
 Class Int : 0.020  
 Mean : 0.010  
 Median : 0.002  
 Variance : 0.003  
 Std Dev : 0.054  
 Coeff Var : 5.458

Log Statistics  
 Samples : 260  
 Class Int : 0.200  
 Geom Mean : 0.003  
 Log Mean : -5.736  
 Log Var : 0.942  
 Log SDev : 0.970

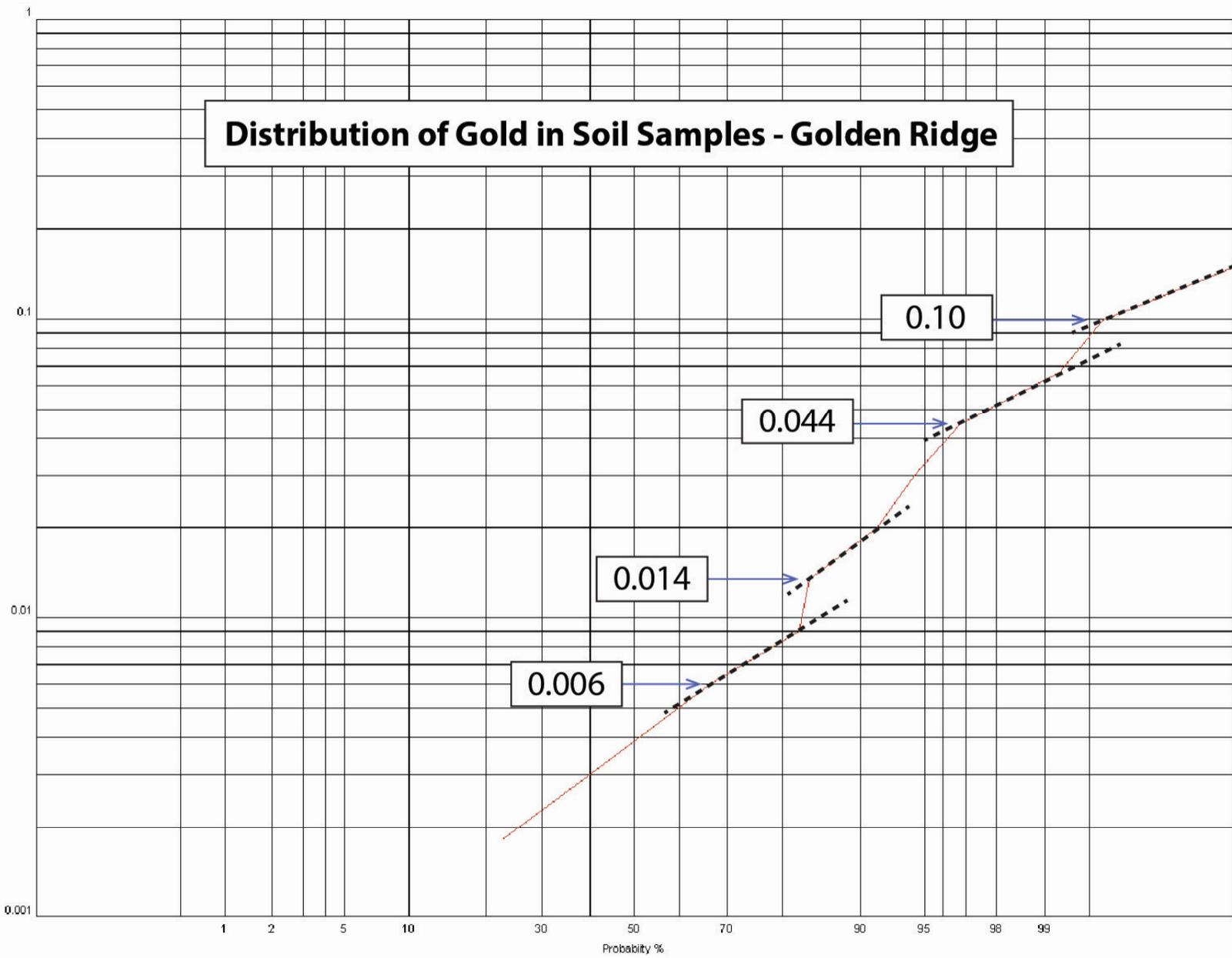
Sichel Statistics  
 Sichel's Mean : 0.005  
 Sichel's Y : 0.936  
 Sichel's Gamma : 1.592

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Log Probability Plot  
 Cradle Creek soils  
 Au

8/19/2013

# Distribution of Gold in Soil Samples - Golden Ridge



Golden Ridge soils Au

Normal Statistics  
 Samples : 250  
 Minimum : 0.002  
 Maximum : 0.150  
 Class Int : 0.005  
 Mean : 0.011  
 Median : 0.005  
 Variance : 0.000  
 Std Dev : 0.017  
 Coeff Var : 1.568

Log Statistics  
 Samples : 250  
 Class Int : 0.400  
 Geom Mean : 0.006  
 Log Mean : -5.065  
 Log Var : 0.840  
 Log SDev : 0.917

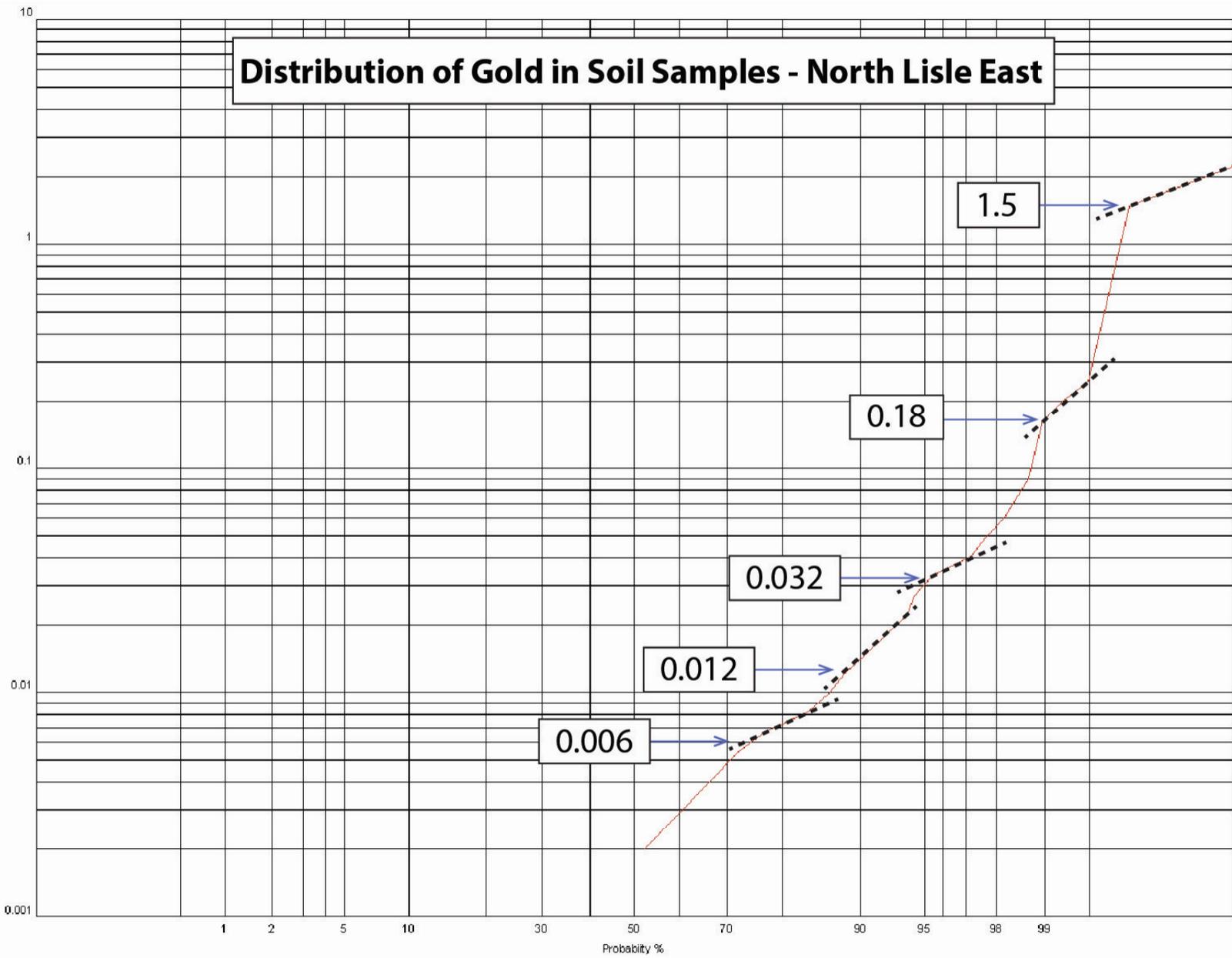
Sichel Statistics  
 Sichel's Mean : 0.009  
 Sichel's Y : 0.637  
 Sichel's Gamma : 1.516

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Log Probability Plot  
 Golden Ridge soils  
 Au

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# Distribution of Gold in Soil Samples - North Lisle East



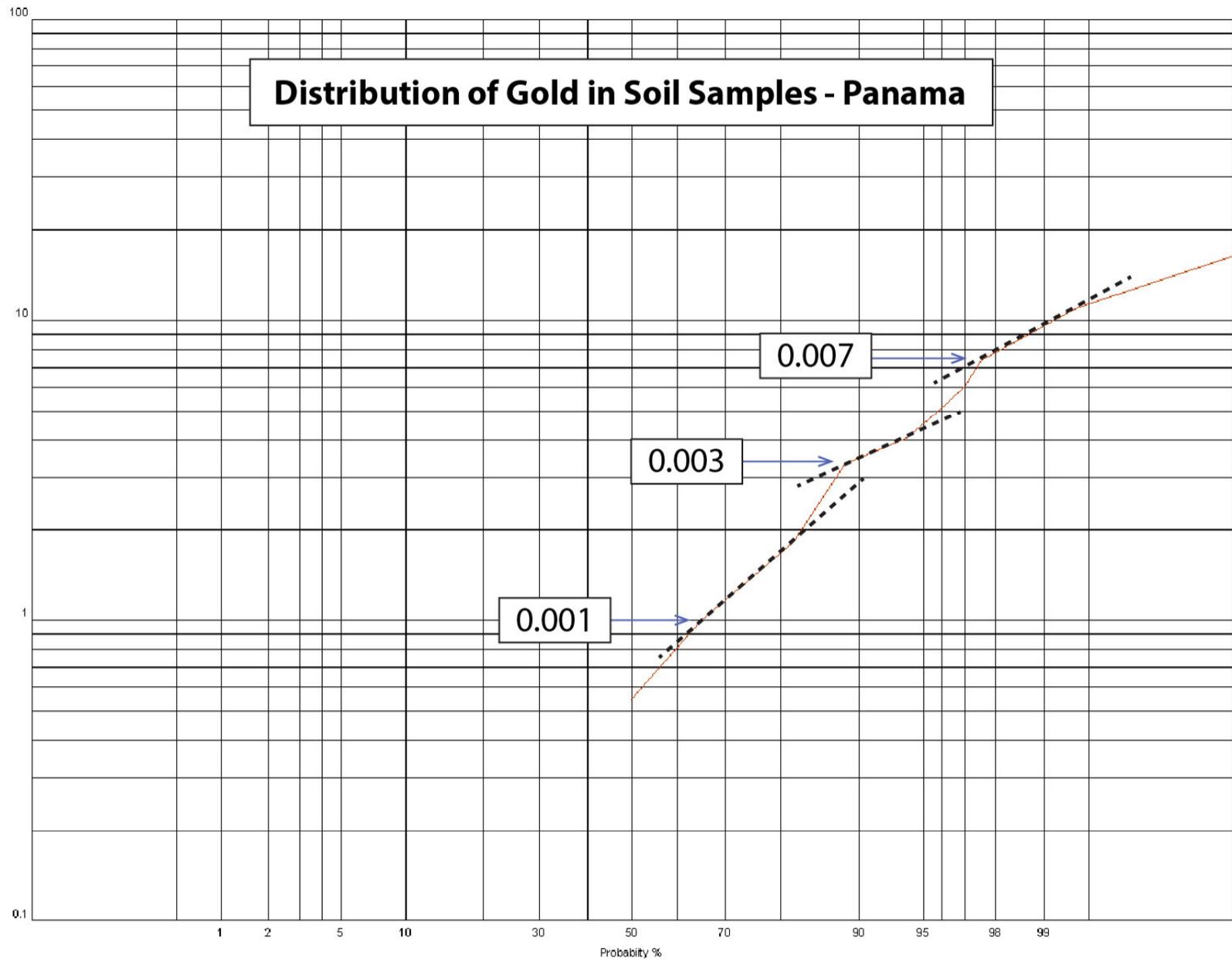
**North Lisle East soils Au**  
**Normal Statistics**  
 Samples : 392  
 Minimum : 0.002  
 Maximum : 2.420  
 Class Int : 0.050  
 Mean : 0.018  
 Median : 0.002  
 Variance : 0.020  
 Std Dev : 0.143  
 Coeff Var : 7.878  
**Log Statistics**  
 Samples : 392  
 Class Int : 0.200  
 Geom Mean : 0.004  
 Log Mean : -5.442  
 Log Var : 1.060  
 Log SDev : 1.039  
**Sichel Statistics**  
 Sichel's Mean : 0.007  
 Sichel's Y : 1.076  
 Sichel's Gamma : 1.710

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Log Probability Plot  
 North Lisle East soils  
 Au

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# Distribution of Gold in Soil Samples - Panama



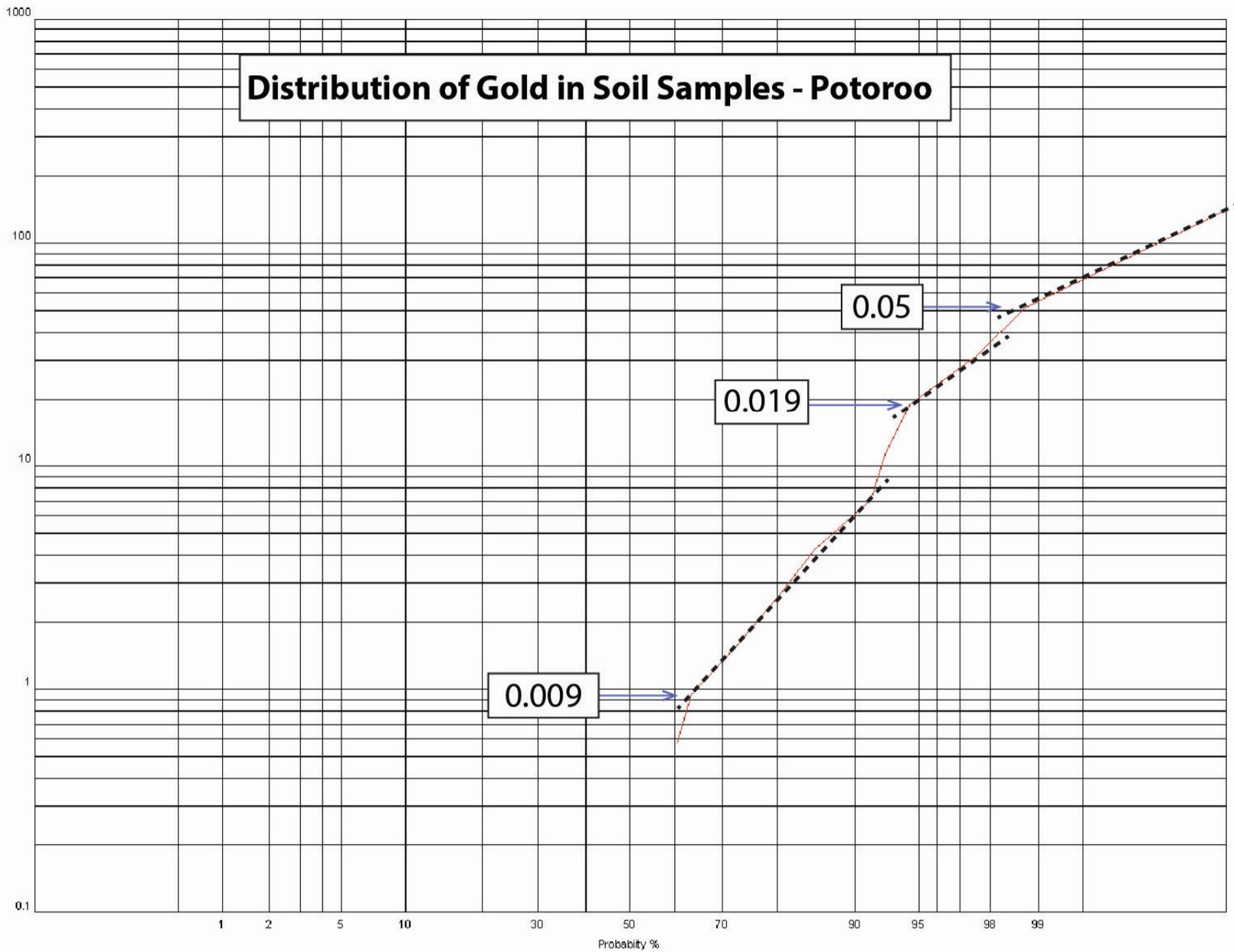
Panama soils: Au  
**Normal Statistics**  
 Samples : 165  
 Minimum : 0.500  
 Maximum : 15.000  
 Class Int : 1.000  
 Mean : 1.642  
 Median : 0.750  
 Variance : 4.252  
 Std Dev : 2.062  
 Coeff Var : 1.256  
**Log Statistics**  
 Samples : 165  
 Class Int : 0.200  
 Geom Mean : 1.045  
 Log Mean : 0.044  
 Log Var : 0.761  
 Log SDev : 0.872  
**Sichel Statistics**  
 Sichel's Mean : 1.524  
 Sichel's Y : 0.756  
 Sichel's Gamma : 1.459

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Log Probability Plot  
 Panama soils:  
 Au

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# Distribution of Gold in Soil Samples - Potoroo



**Potoroo soils Au**  
**Normal Statistics**  
 Samples : 165  
 Minimum : 0.500  
 Maximum : 129.000  
 Class Int : 5.000  
 Mean : 4.927  
 Median : 0.500  
 Variance : 251.220  
 Std Dev : 15.850  
 Coeff Var : 3.217

**Log Statistics**  
 Samples : 165  
 Class Int : 0.500  
 Geom Mean : 1.234  
 Log Mean : 0.210  
 Log Var : 1.773  
 Log SDev : 1.332

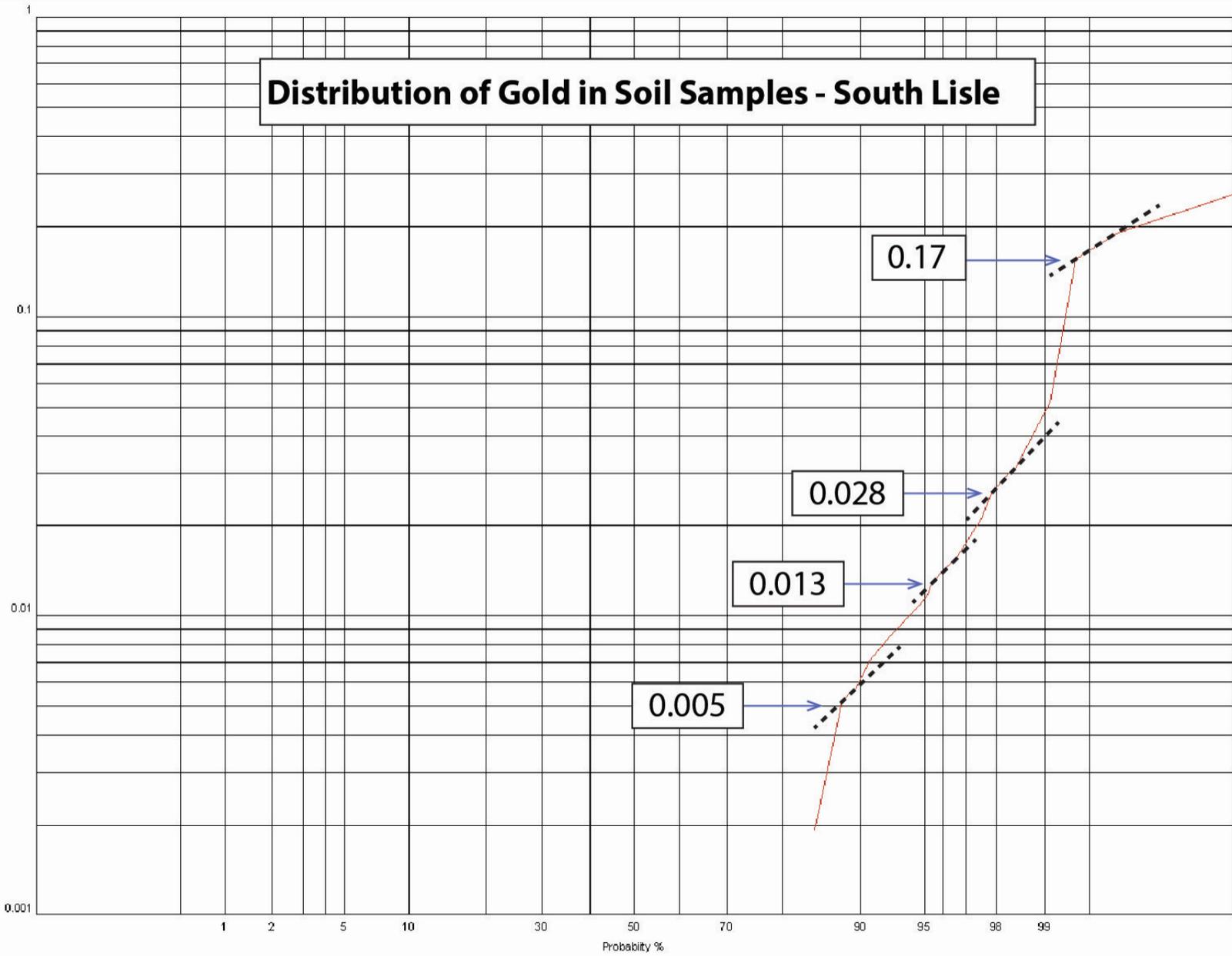
**Sichel Statistics**  
 Sichel's Mean : 2.957  
 Sichel's Y : 1.762  
 Sichel's Gamma : 2.396

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Log Probability Plot  
 Potoroo soils  
 Au

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# Distribution of Gold in Soil Samples - South Lisle



## South Lisle soils Au

Normal Statistics  
 Samples : 326  
 Minimum : 0.002  
 Maximum : 0.253  
 Class Int : 0.010  
 Mean : 0.005  
 Median : 0.002  
 Variance : 0.000  
 Std Dev : 0.020  
 Coeff Var : 3.733

Log Statistics  
 Samples : 326  
 Class Int : 0.100  
 Geom Mean : 0.003  
 Log Mean : -5.946  
 Log Var : 0.532  
 Log SDev : 0.729

Sichel Statistics  
 Sichel's Mean : 0.003  
 Sichel's Y : 0.530  
 Sichel's Gamma : 1.301

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Log Probability Plot  
 South Lisle soils  
 Au

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# Appendix B

## South Lisle Project – Soil Sample Results









SLS 234	0.002	58.6	0.51	22.2	0.78	14.9	0.39	0.03	23	mid brown	quartz fragments; dry clay	1	1	1	1	1	1
SLS 235	0.002	13.1	0.5	19.4	0.8	15.6	0.39	0.03	29	mid brown	dry clay						
SLS 236	0.002	9	0.49	16	0.71	13.6	0.22	0.03	21	mid brown	dry clay						
SLS 237	0.002	8	0.45	20.9	0.77	14.4	0.18	0.03	26	mid brown	dry clay						
SLS 238	0.002	6.8	0.39	12.3	0.55	12.2	0.23	0.04	15	mid brown	quartz fragments; dry clay	1	1	1	1	1	1
SLS 239	0.002	7.1	0.45	22.7	0.66	16.1	0.34	0.03	28	mid brown	dry clay						
SLS 240	0.002	3.7	0.36	11.7	0.38	11.2	0.21	0.03	9	mid brown	quartz fragments; dry clay; mica	1	1		1	1	1
SLS 241	0.002	6.2	0.52	18.2	0.7	16.3	0.28	0.03	21	mid brown	dry clay						
SLS 242	0.002	11.6	0.36	17.9	0.56	14.3	0.42	0.03	18	dark brown	damp soil						
SLS 243	0.002	17.2	0.37	19.2	0.73	12.5	0.21	0.01	21	mid brown	dry clay; below Adit						
SLS 244	0.002	13.1	0.48	15.4	0.68	15.6	0.35	0.03	14	dark brown	dry clay						
SLS 245	0.002	14.4	0.39	11.3	0.3	10.5	0.45	0.03	8	dark brown	quartz fragments; damp clay	1	1		1	1	
SLS 246	0.002	12.5	0.5	25.5	0.76	18.3	0.47	0.03	34	mid brown	dry clay						
SLS 247	0.002	19.1	0.68	41.3	1.15	23.3	0.64	0.04	49	mid brown	dry clay						
SLS 248	0.002	17.2	0.39	27.7	0.68	16.3	0.78	0.03	34	mid brown	dry clay						
SLS 249	0.002	40.4	0.41	29.2	0.84	21.9	0.7	0.03	30	dark brown	quartz fragments; dry clay	1	1	1	1	1	1
SLS 250	0.002	17.5	0.55	15.6	0.56	12	0.63	0.04	14	dark brown	dry clay						
SLS 251	0.002	15	0.56	17.5	0.62	14.2	0.55	0.05	20	dark brown	damp clay						
SLS 252	0.002	13.5	0.55	15.2	0.68	15	0.5	0.04	18	dark brown	quartz fragments; damp clay	1	1	1	1	1	1
SLS 253	0.002	12.2	0.73	18.6	0.77	15.1	0.47	0.04	19	mid brown	dry clay						
SLS 254	0.002	11.5	0.59	17.5	0.64	12.7	0.49	0.04	20	mid brown	damp clay						
SLS 255	0.002	19	0.73	41.8	0.65	16.9	0.72	0.08	51	dark orange	dry clay						
SLS 256	0.002	21	0.67	21	0.79	13.8	0.56	0.07	21	dark brown	dry clay						
SLS 257	0.002	29.3	0.38	21.4	0.88	17	0.44	0.03	36	mid brown	dry clay; mica				1		
SLS 258	0.002	24.3	0.61	18.6	0.88	13.1	0.75	0.05	16	mid brown	dry clay						
SLS 259	0.002	30.2	0.77	19.4	0.99	14.4	0.67	0.05	23	dark brown	dry clay						
SLS 260	0.002	34.3	0.65	15.6	1.26	13.8	0.83	0.07	11	dark brown	quartz fragments; dry clay	1	1	1	1	1	1
SLS 261	0.002	30.4	0.64	12.2	0.82	11.1	0.68	0.06	14	mid brown	quartz fragments; dry clay	1	1	1	1	1	1
SLS 262	0.002	40.3	0.74	25.5	0.7	10.8	0.9	0.09	18	mid brown	dry clay						
SLS 263	0.002	108.5	0.75	21.9	0.95	19.4	0.56	0.07	19	mid brown	damp clay						
SLS 264	0.002	42.9	0.45	11	0.66	8.4	0.27	0.04	5	dark brown	dry clay						
SLS 265	0.002	14.6	0.52	16.9	0.73	12.9	0.47	0.06	20	mid brown	dry clay						
SLS 266	0.002	19	0.41	10.1	0.74	10.2	0.32	0.02	10	dark brown	damp clay						
SLS 267	0.002	7.6	0.46	8.4	0.76	9.3	0.28	0.03	11	mid brown	damp clay						
SLS 268	0.002	7.8	0.54	14.8	0.83	11.6	0.39	0.06	23	mid brown	dry clay						
SLS 269	0.002	7.7	0.49	12	0.79	10.8	0.33	0.03	13	dark brown	damp clay						
SLS 270	0.002	18.8	0.47	20.2	1.05	11.1	0.67	0.05	14	mid brown	dry clay						
SLS 271	0.002	6.2	0.33	11.1	0.72	5.8	0.29	0.03	5	mid grey	dry sand						
SLS 272	0.002	10.2	0.51	16	1.03	13.1	0.52	0.04	24	mid brown	damp clay						
SLS 273	0.002	8.3	0.33	7.6	0.4	5.3	0.61	0.05	7	dark brown	quartz fragments; dry soil	1	1		1	1	1
SLS 274	0.002	9	0.43	13.6	0.72	9.9	0.69	0.04	15	mid brown	dry clay						
SLS 275	0.002	8.1	0.35	14.3	0.63	8.2	0.64	0.03	9	dark brown	dry clay						
SLS 276	0.002	14.4	0.41	19.1	0.66	18.9	0.5	0.04	31	mid brown	Line 4; dry clay; rocky slope						
SLS 277	0.002	16.1	0.5	25.8	0.72	21.8	0.42	0.05	36	mid brown	dry clay						
SLS 278	0.002	3.4	0.39	10.6	0.38	9.9	0.21	0.04	12	mid brown	dry clay						
SLS 279	0.002	6.2	0.4	12	0.47	12.8	0.31	0.04	17	mid brown	dry clay						
SLS 280	0.002	10.8	0.47	16.7	0.97	16.7	0.25	0.04	23	mid brown	dry clay						
SLS 281	0.002	12.3	0.52	19.8	1.03	15.3	0.27	0.04	20	dark brown	damp clay						
SLS 282	0.002	8	0.41	14.1	0.8	12.9	0.23	0.03	21	mid brown	dry clay						
SLS 283	0.002	13.9	0.49	19.9	0.84	15.5	0.25	0.04	28	mid brown	dry clay; pines						
SLS 284	0.002	11.3	0.45	14.1	0.82	13.1	0.26	0.04	17	mid brown	dry clay						
SLS 285	0.002	11.6	0.55	15.3	0.97	13.4	0.26	0.04	24	dark orange	dry clay						
SLS 286	0.002	9.9	0.42	10.1	0.9	10.6	0.24	0.03	17	mid brown	dry clay						
SLS 287	0.002	13.4	0.45	12.1	0.77	12.8	0.33	0.03	13	mid brown	dry clay						
SLS 288	0.002	9.2	0.39	6.7	0.65	9.3	0.33	0.03	12	mid brown	dry clay						
SLS 289	0.002	7.3	0.41	10.1	0.7	12.7	0.26	0.04	17	mid brown	dry clay						
SLS 290	0.002	6.5	0.41	9.7	0.77	11.2	0.3	0.03	12	mid brown	dry clay						
SLS 291	0.002	7.3	0.42	14	0.9	14.2	0.38	0.04	23	dark orange	dry clay						
SLS 292	0.002	6.6	0.4	18.8	0.81	15.4	0.33	0.03	24	dark brown	dry clay						
SLS 293	0.002	6.8	0.42	18	0.86	13.7	0.37	0.03	20	mid brown	dry clay						

SLS 294	0.002	6.9	0.38	13.4	0.76	12	0.44	0.03	16	dark brown	dry clay										
SLS 295	0.002	7.2	0.32	10.8	0.74	12	0.35	0.02	13	light brown	dry clay										
SLS 296	0.006	13.2	0.56	13.5	0.92	10.1	0.32	0.05	15	dark brown	damp clay										
SLS 297	0.002	14.1	0.4	20.3	1.11	14.2	0.49	0.03	28	mid brown	dry clay										
SLS 298	0.002	11.3	0.36	19.9	0.88	14.2	0.48	0.04	30	dark brown	dry clay										
SLS 299	0.002	12.7	0.47	20.8	0.98	14.4	0.46	0.04	37	mid brown	dry clay										
SLS 300	0.002	22.7	0.66	23.3	0.87	13.6	0.81	0.05	25	mid brown	dry clay; road edge										
SLS 301	0.002	41.7	0.6	24.5	1.29	15.8	0.93	0.04	31	mid brown	damp clay										
SLS 302	0.002	24.4	0.63	38.9	1.03	18.7	1.01	0.05	46	dark orange	damp clay										
SLS 303	0.002	17.8	0.56	27	1.02	18	0.83	0.06	40	dark orange	damp clay										
SLS 304	0.002	15.9	0.46	14	0.76	13.7	0.71	0.07	16	dark orange	quartz present; dry clay	1									
SLS 305	0.01	44.2	0.87	24.7	0.97	17.5	0.97	0.07	28	mid brown	dry clay										
SLS 306	0.015	187.5	1.99	22.3	1.41	17.5	1.15	0.14	26	dark orange	dry clay; edge of road										
SLS 307	0.019	469	0.79	20.5	1.4	24.6	1.1	0.07	29	dark brown	dry clay; mica		1								
SLS 308	0.006	55.7	0.32	17	1.13	12.5	0.42	0.02	32	mid brown	dry clay; mica		1								
SLS 309	0.007	63	0.95	18.5	1.47	14.1	0.54	0.05	34	dark brown	dry sandy soil; mica		1								
SLS 310	0.018	31.7	0.62	17.5	1.5	12.4	0.6	0.04	42	dark orange	dry clay; mica; road edge		1								
SLS 311	0.002	27.1	0.53	16.2	1.22	13.4	0.54	0.05	22	mid brown	damp clay; mica		1								
SLS 312	0.002	50.7	0.66	20.6	1.26	11.9	0.81	0.06	15	dark brown	quartz present; damp clay; mica	1	1								
SLS 313	0.002	115	0.81	15.3	1.11	14.1	0.96	0.1	14	mid brown	damp clay										
SLS 314	0.002	227	0.58	10	0.71	9.3	0.8	0.07	8	dark brown	damp sandy soil										
SLS 315	0.002	53.7	0.44	11.7	0.88	13	0.78	0.06	15	mid brown	damp clay										
SLS 316	0.002	17.3	0.41	11	1.03	10	0.47	0.05	14	mid brown	damp clay										
SLS 317	0.002	14.2	0.43	12.3	1.15	9.9	0.54	0.04	15	mid brown	damp clay										
SLS 318	0.002	16.7	0.5	18.8	1.46	11	0.69	0.06	19	mid brown	damp clay										
SLS 319	0.002	23.8	0.58	18.8	1.32	10.5	0.54	0.03	16	dark brown	rich damp clay										
SLS 320	0.002	34.3	0.73	24.2	1.57	12.3	0.8	0.06	20	dark brown	quartz present; dry clay	1									
SLS 321	0.005	58.3	0.91	33.7	1.73	14.5	0.9	0.05	24	dark brown	dry clay										
SLS 322	0.009	120	0.75	36.3	1.26	19	1.41	0.03	28	mid brown	dry clay										
SLS 323	0.009	71.9	0.62	27.9	1.87	15.2	1.11	0.05	22	dark brown	quartz present; damp clay	1	1								
SLS 324	0.002	13.7	0.34	42.1	5.17	12.1	0.79	0.04	31	mid brown	damp clay										
SLS 325	0.002	15	0.52	21.2	1.81	11.6	0.77	0.05	16	mid brown	quartz present; dry clay	1									
SLS 326	0.002	10	0.34	9	0.64	6.5	0.9	0.04	6	dark brown	abundant quartz; dry soil; end Line 4	1									
												60	12	9	5	60	55	53	57	53	58

NB all <0.005 Au repl with 0.002  
and all <0.01 Te repl with 0.005



# Appendix C

## North Lisle East Project – Soil Sample Results





NLS 112	0.012	2.5	0.5	23.6	0.76	16.6	0.15	0.02	25	mid orange	quartz; dry clay	1	1	1	1	1	1
NLS 113	0.011	1.8	0.4	12.1	0.63	11.2	0.11	0.02	19	mid orange	quartz; dry clay	1	1	1	1	1	1
NLS 114	0.002	0.8	0.28	5.7	0.33	9.3	0.1	0.01	23	mid yellow	quartz; dry clay; west of creek	1	1	1	1	1	1
NLS 115	0.002	3.1	0.22	9.7	0.76	11.6	0.17	0.005	21	mid brown	quartz; moist clay; scrub track	1	1	1	1	1	1
NLS 116	0.002	3.4	0.21	6.7	0.82	12.9	0.12	0.02	19	mid orange	damp clay						
NLS 117	0.002	4.1	0.31	14	0.7	12.4	0.19	0.03	28	dark orange	dry clay						
NLS 118	0.002	4.2	0.31	14.9	0.7	12.4	0.21	0.03	42	mid brown	quartz; dry clay	1	1	1	1	1	1
NLS 119	0.012	4.1	0.32	12.8	0.7	12.6	0.21	0.03	32	mid brown	dry clay						
NLS 120	0.002	4.1	0.32	14	0.72	11.1	0.21	0.02	29	mid orange	dry clay						
NLS 121	0.002	4.6	0.32	15.6	0.85	11	0.21	0.04	26	mid orange	dry clay						
NLS 122	0.055	3.5	0.32	14.6	0.81	11.4	0.2	0.01	31	mid brown	damp clay						
NLS 123	0.002	3.3	0.28	12.1	0.73	11.3	0.21	0.03	23	mid brown	damp clay						
NLS 124	0.002	3.2	0.3	12.2	1.02	9.6	0.17	0.02	14	mid brown	damp clay						
NLS 125	0.009	4	0.35	13.9	1.09	10.3	0.17	0.03	21	dark orange	damp clay						
NLS 126	0.002	4.1	0.36	12.4	0.99	12	0.18	0.02	20	mid orange	dry clay						
NLS 127	0.002	6.3	0.46	23.4	1.23	17.6	0.27	0.05	34	dark orange	damp clay						
NLS 128	0.002	3.8	0.31	13.7	0.87	12	0.21	0.02	22	dark orange	damp clay						
NLS 129	0.005	4.1	0.31	18	0.97	14	0.2	0.03	22	mid brown	quartz; dry clay	1	1	1	1	1	1
NLS 130	0.005	3.6	0.31	12	0.97	10.5	0.18	0.03	16	mid orange	dry clay						
NLS 131	0.002	5.1	0.3	8.6	1.09	9.7	0.19	0.03	14	mid orange	dry clay						
NLS 132	0.002	6.5	0.41	17.2	1.13	12.8	0.24	0.05	24	dark orange	quartz; damp clay	1	1	1	1	1	1
NLS 133	0.002	5	0.38	15.3	1.17	10.2	0.21	0.03	19	mid orange	dry clay						
NLS 134	0.002	4	0.33	9.2	1.04	9.1	0.16	0.05	12	dark orange	damp clay						
NLS 135	0.006	3	0.28	8.4	0.9	8.5	0.14	0.03	11	mid brown	dry clay						
NLS 136	0.002	2.7	0.27	12.5	0.83	11.1	0.18	0.01	17	mid brown	damp clay						
NLS 137	0.002	2.7	0.28	9.4	0.7	11.1	0.16	0.01	19	light brown	dry sand/clay						
NLS 138	0.002	3.2	0.24	16.7	2.56	9.4	0.19	0.02	24	mid brown	quartz; damp sand/clay	1	1	1	1	1	1
NLS 139	0.002	3.3	0.25	12	0.88	13.7	0.21	0.02	20	pale brown	dry sand						
NLS 140	0.03	2.3	0.24	6.9	0.79	10.3	0.11	0.01	14	mid brown	damp sand/clay						
NLS 141	0.002	2.4	0.26	11.8	0.93	8.5	0.14	0.01	14	mid brown	dry sand/clay						
NLS 142	0.002	2.2	0.22	13.1	0.87	9	0.19	0.02	15	brown	dry sand/clay						
NLS 143	0.002	3.5	0.3	13.4	1.25	10.2	0.13	0.03	19	mid orange	damp clay						
NLS 144	0.006	3.4	0.35	12.7	0.98	12.8	0.16	0.05	15	dark orange	dry clay						
NLS 145	0.268	1.6	0.23	13.1	0.74	11.9	0.15	0.01	16	dark orange	damp clay						
NLS 146	0.002	2.8	0.31	10.7	0.95	13.2	0.14	0.04	13	mid brown	dry sand/clay						
NLS 147	0.002	4.1	0.37	17.2	0.85	11.4	0.15	0.03	17	mid red	damp clay						
NLS 148	0.002	3.8	0.39	17.6	0.84	16.5	0.18	0.04	17	dark red	damp clay						
NLS 149	0.002	2.2	0.26	12.9	0.72	11.6	0.11	0.02	43	mid brown	quartz; dry sand/clay	1	1	1	1	1	1
NLS 150	0.005	1.4	0.26	15	0.65	14.7	0.1	0.02	24	dark brown	moist clay						
NLS 151	0.002	10	0.6	124.5	0.95	11.8	0.2	0.03	13	mid brown	quartz; dry clay	1	1	1	1	1	1
NLS 152	0.002	5	0.41	28	0.79	10.3	0.17	0.02	10	mid brown	quartz; dry clay	1	1	1	1	1	1
NLS 153	0.002	6	0.42	22	0.67	12.4	0.14	0.03	16	dark orange	quartz; damp clay	1	1	1	1	1	1
NLS 154	0.002	5.2	0.35	17	0.53	10.7	0.13	0.01	14	mid orange	quartz; dry clay	1	1	1	1	1	1
NLS 155	0.002	2.8	0.29	14	0.46	9.6	0.1		13	dark orange	quartz; damp clay	1	1	1	1	1	1
NLS 156	0.002	2.3	0.26	11	0.52	8.9	0.12	0.02	11	mid brown	quartz; damp clay	1	1	1	1	1	1
NLS 157	0.005	2.3	0.25	9	0.59	8.5	0.1	0.01	7	dark brown	quartz; dry clay	1	1	1	1	1	1
NLS 158	0.002	3.2	0.46	20	0.73	19.2	0.13	0.02	18	mid brown	dry clay						
NLS 159	0.007	5.6	0.46	29.9	0.78	16.5	0.17	0.04	22	mid brown	dry clay						
NLS 160	0.011	5.2	0.32	12.2	0.51	8.7	0.2	0.04	7	dark brown	quartz; damp sand/clay	1	1	1	1	1	1
NLS 161	0.005	11.2	0.36	12	1.04	11.2	0.2	0.07	8	dark orange	dry clay						
NLS 162	0.008	7.8	0.34	9.7	0.87	10.6	0.14	0.03	6	dark orange	dry clay						
NLS 163	0.002	2.7	0.29	10.6	0.46	10.2	0.12	0.01	8	mid brown	damp sand/clay						
NLS 164	0.005	5.6	0.34	21	1.13	14.6	0.23	0.02	17	mid orange	dry clay						
NLS 165	0.005	3.9	0.4	14.8	0.75	14.9	0.15	0.06	14	mid orange	dry clay						
NLS 166	0.002	5.1	0.36	17.1	1.01	12.8	0.17	0.02	12	mid orange	dry clay						
NLS 167	0.032	3.7	0.31	14.5	0.93	13.9	0.13	0.02	15	mid brown	damp clay						
NLS 168	0.002	2.9	0.25	12	0.96	11.6	0.13	0.01	13	mid orange	quartz; damp clay	1	1	1	1	1	1
NLS 169	0.002	5.2	0.46	16.1	0.79	14.6	0.16	0.02	10	mid orange	damp clay						
NLS 170	0.002	7.8	0.38	14.8	1.36	12.8	0.63	0.04	13	dark orange	quartz; dry clay	1	1	1	1	1	1











# Appendix D

## Cradle Creek Project – Soil Sample Results





CCS 102	0.002	5.5	0.12	3.2	0.5	10.7	0.32	0.02	4	silty clay			
CCS 103	0.002	1.3	0.06	4.2	0.25	4.4	0.14	0.005	2	quartz present; silty	1		
CCS 104	0.002	1.9	0.09	7.4	0.51	5.2	0.2	0.01	2	quartz present; silty	1		
CCS 105	0.002	1.4	0.09	5.8	0.46	5.9	0.19	0.01	5	quartz present; silty	1		
CCS 106	0.002	1.9	0.09	3.5	0.25	4.2	0.16	0.01	4	quartz present; silty	1		
CCS 107	0.011	1.2	0.04	6.4	0.3	2.7	0.13	0.005	3	quartz present; silty	1		1
CCS 108	0.01	7.6	0.09	6.4	0.51	16.8	0.36	0.01	4	siltstone fragments		1	1
CCS 109	0.002	0.9	0.08	10.4	0.74	7.2	0.22	0.005	9	silty clay			
CCS 110	0.002	2.6	0.14	4.6	1.47	12.8	0.95	0.04	5	silty clay			
CCS 111	0.002	0.5	0.32	5.8	0.24	8.6	0.23	0.01	19	silty clay			
CCS 112	0.002	2.4	0.29	11	0.43	10.7	0.43	0.02	16	silty clay			
CCS 113	0.002	0.6	0.2	14.6	0.3	6.2	0.21	0.01	5	siltstone fragments	1		
CCS 114	0.002	2.3	0.18	4.3	0.2	4.7	0.25	0.01	4	siltstone fragments	1		
CCS 115	0.12	10.8	0.21	6.8	0.35	5.9	0.29	0.03	6	siltstone fragments	1		1
CCS 116	0.005	8.9	0.3	10.5	1.01	7.2	0.46	0.02	8	siltstone fragments	1		1
CCS 117	0.006	11.6	0.31	9	1.05	6.7	0.4	0.02	8	siltstone fragments	1		1
CCS 118	0.028	9.2	0.46	13.7	0.71	9.1	0.46	0.03	14	siltstone fragments	1		1
CCS 119	0.82	0.9	0.34	15.1	0.39	9.2	0.33	0.03	11	grey to red silty clay			
CCS 120	0.012	0.7	0.35	9.2	0.27	11.7	0.39	0.03	10	siltstone fragments	1		1
CCS 121	0.018	1.5	0.35	12.1	0.39	10.8	0.5	0.04	10	siltstone fragments	1		1
CCS 122	0.034	2.6	0.59	19.3	1.6	16.3	0.61	0.05	15	silty clay; disturbed ground?			
CCS 123	0.002	1.4	0.29	7.7	0.21	9.5	0.31	0.02	11	silty soil			
CCS 124	0.002	2.9	0.32	10.2	1.53	7.2	0.34	0.02	11	silty soil			
CCS 125	0.002	2.2	0.2	9.1	1.14	6.3	0.28	0.01	11	quartz; silty	1		
CCS 126	0.013	1.5	0.09	5.5	0.33	3.6	0.19	0.005	5	quartz;clayey soil	1		1
CCS 127	0.002	1	0.04	18.6	0.64	2.1	0.12	0.01	40	sandy soil			
CCS 128	0.002	0.7	0.09	16.2	1.04	2.3	0.27	0.005	6	silty soil			
CCS 129	0.009	2.8	0.23	10.9	0.34	5.7	0.28	0.01	11	silty clay			
CCS 130	0.002	7.4	0.29	9	0.62	9.5	0.64	0.03	13	Line 4; silty soil			
CCS 131	0.002	17.9	0.3	14.6	1.54	11.3	1.08	0.03	15	silty soil			
CCS 132	0.002	5.8	0.11	5.1	0.24	4.8	0.28	0.01	9	silty soil			
CCS 133	0.002	1.9	0.14	6.2	0.24	5.6	0.27	0.01	7	silty soil			
CCS 134	0.002	5.9	0.16	5.9	0.55	10.3	0.42	0.02	7	silty soil			
CCS 135	0.002	11.4	0.18	5.8	0.8	7.6	0.52	0.01	6	silty clay			
CCS 136	0.002	9.9	0.16	9	5.74	5.7	0.45	0.02	10	silty soil			
CCS 137	0.002	76.9	0.24	13.1	0.95	8.4	0.9	0.02	4	quartz fragments; silty clay	1		
CCS 138	0.002	29.6	0.22	9.7	0.4	7.2	0.83	0.02	9	minor quartz; silty clay	1		
CCS 139	0.002	1.9	0.32	10.2	0.24	11.1	0.66	0.03	8	silty soil			
CCS 140	0.002	0.8	0.29	8.9	0.22	9.5	0.5	0.02	8	minor quartz; silty clay	1		
CCS 141	0.002	1.1	0.31	9.7	0.33	14.3	0.46	0.02	10	silty clay			
CCS 142	0.002	3.8	0.34	10.7	0.41	7.3	0.8	0.02	15	silty clay			
CCS 143	0.002	5.8	0.38	18.2	0.69	13.3	1.4	0.03	19	silty clay			
CCS 144	0.002	3	0.19	5.6	0.24	6.8	0.32	0.005	10	silty clay			
CCS 145	0.002	4.7	0.17	7.6	0.43	6.9	0.25	0.01	6	silty clay			
CCS 146	0.002	2.7	0.22	9.2	2.27	14	0.85	0.02	3	silty clay			
CCS 147	0.002	2.3	0.23	7.9	0.24	6.6	0.27	0.01	15	silty soil			
CCS 148	0.002	0.9	0.19	8.6	0.17	5.7	0.29	0.01	10	silty soil			
CCS 149	0.002	4.6	0.18	10.2	1	9.9	0.48	0.01	3	silty clay			
CCS 150	0.002	4.3	0.31	11	0.19	9.2	0.46	0.02	14	silty clay			
CCS 151	0.002	2.9	0.12	5.5	0.22	8.8	0.29	0.01	5	silty clay			
CCS 152	0.002	5	0.08	6.7	0.54	6.2	0.32	0.01	2	silty soil			
CCS 153	0.009	11.2	0.1	2.7	0.27	4.6	0.28	0.01	5	silty soil			
CCS 154	0.002	1.8	0.05	5.9	0.34	6.1	0.19	0.005	3	siltstone fragments		1	
CCS 155	0.009	9	0.18	4.8	0.19	7	0.22	0.02	6	quartz fragments; silty clay	1		1

CCS 156	0.03	4.7	0.16	6.5	0.37	11.8	0.3	0.01	5	siltstone fragments	1	1
CCS 157	0.002	4.8	0.2	9.9	0.25	8.4	0.32	0.02	11	siltstone fragments	1	
CCS 158	0.009	5.7	0.19	11.4	0.46	7.8	0.4	0.02	19	quartz fragments; silty clay	1	1
CCS 159	0.002	8.4	0.4	19.7	0.53	23.8	0.96	0.04	21	silty soil		
CCS 160	0.002	5.3	0.41	16	0.51	17	0.86	0.03	29	silty soil		
CCS 161	0.006	4.2	0.34	17.4	0.35	16.1	0.72	0.02	18	silty soil		
CCS 162	0.002	2.3	0.34	12.1	0.33	13	0.81	0.03	15	siltstone fragments	1	
CCS 163	0.002	3.4	0.35	17.2	0.23	18.3	0.92	0.02	18	siltstone fragments	1	
CCS 164	0.002	7.2	0.33	18.2	0.86	8.6	0.78	0.02	16	silty clay		
CCS 165	0.002	5	0.35	13	0.31	9.3	0.68	0.02	15	siltstone fragments	1	
CCS 166	0.002	2.3	0.28	10.1	0.36	8.1	0.53	0.01	16	silty soil		
CCS 167	0.002	0.9	0.12	4.3	0.19	4.6	0.19	0.01	9	silty soil		
CCS 168	0.002	1	0.06	6.4	0.47	2.6	0.1	0.01	3	silty soil		
CCS 169	0.002	0.7	0.06	3.9	0.29	3.8	0.08	0.005	2	silty soil		
CCS 170	0.002	7.2	0.18	2.9	0.82	9.7	0.24	0.01	3	quartz fragments; silty clay	1	
CCS 171	0.008	1.8	0.1	3.4	0.43	7.1	0.14	0.005	3	silty soil		
CCS 172	0.016	1.8	0.1	6.2	0.43	7.4	0.18	0.005	3	quartz fragments; silty soil	1	1
CCS 173	0.035	8.2	0.2	4.8	0.48	9.8	0.4	0.02	3	silty soil		
CCS 174	0.127	0.6	0.06	4.9	0.32	3.1	0.12	0.005	2	silty soil		
CCS 175	0.009	3.3	0.21	4	0.54	6	0.24	0.02	5	silty clay		
CCS 176	0.012	0.9	0.14	4.6	0.38	5.2	0.2	0.005	7	silty soil		
CCS 177	0.002	0.5	0.08	3.7	0.26	3.1	0.09	0.005	4	sandy silt		
CCS 178	0.002	3.1	0.08	8.5	0.38	5.9	0.17	0.01	5	silty soil		
CCS 179	0.002	2.2	0.08	3.3	0.19	7.4	0.12	0.005	4	quartz fragments; silty soil	1	
CCS 180	0.002	1.3	0.09	7.7	0.37	6.3	0.19	0.005	8	silty soil		
CCS 181	0.002	4.4	0.34	8.2	0.34	9.2	0.77	0.03	13	silty soil		
CCS 182	0.002	4.3	0.37	13.1	0.43	7.8	0.61	0.01	23	silty clay		
CCS 183	0.002	1.8	0.3	10.7	0.3	6.6	0.38	0.01	18	silty clay		
CCS 184	0.005	6.6	0.23	7.2	0.44	6.1	0.35	0.03	11	silty soil		
CCS 185	0.002	3.1	0.1	8.4	0.33	4.7	0.21	0.01	7	sandy clay		
CCS 186	0.002	1.1	0.18	6.9	0.54	6.4	0.21	0.005	8	quartz fragments; silty soil	1	
CCS 187	0.002	0.6	0.3	5.6	0.19	5.6	0.24	0.02	20	silty soil		
CCS 188	0.007	0.6	0.22	10.5	0.45	5	0.18	0.01	16	silty soil		
CCS 189	0.014	0.6	0.31	12.1	0.39	8.2	0.22	0.01	13	silty clay		
CCS 190	0.008	0.5	0.35	10	0.27	7.1	0.2	0.01	14	minor quartz; silty soil	1	1
CCS 191	0.052	1.2	0.36	16.4	0.59	9.7	0.34	0.01	18	silty soil		
CCS 192	0.002	0.8	0.21	6.7	0.3	9.7	0.29	0.01	15	silty soil		
CCS 193	0.002	3.2	0.23	7.5	1	8	0.33	0.005	12	minor quartz; silty soil	1	
CCS 194	0.005	1.4	0.17	8.1	0.43	6	0.25	0.01	8	silty soil		
CCS 195	0.009	3.8	0.24	9.8	0.4	5.5	0.37	0.01	8	silty soil		
CCS 196	0.028	4.7	0.24	15.7	0.59	6	0.59	0.03	11	silty soil		
CCS 197	0.002	9	0.3	13.9	0.6	6.7	0.93	0.01	14	silty soil		
CCS 198	0.002	0.9	0.37	26.5	0.53	9.6	0.45	0.02	28	silty soil		
CCS 199	0.002	0.5	0.33	12.4	0.24	9	0.4	0.02	14	silty soil		
CCS 200	0.002	0.3	0.29	7.8	0.23	6.9	0.34	0.01	8	silty soil		
CCS 201	0.002	0.3	0.23	7.9	0.14	6.5	0.22	0.01	11	silty soil minor rock chips	1	
CCS 202	0.002	0.5	0.37	17.3	0.27	8.9	0.36	0.01	21	silty soil ; siltstone fragments	1	
CCS 203	0.002	0.4	0.36	17.7	0.82	8.2	0.42	0.01	14	silty soil		
CCS 204	0.002	1.3	0.43	17.5	0.41	9.5	0.33	0.02	15	silty soil		
CCS 205	0.002	0.9	0.37	9.9	0.24	8.8	0.32	0.01	20	silty soil		
CCS 206	0.002	0.6	0.29	11.5	0.21	9.4	0.26	0.01	14	silty soil		
CCS 207	0.002	4.2	0.37	16.4	0.45	10.5	0.36	0.04	23	minor quartz; silty soil;mudstone frags	1	1
CCS 208	0.002	7.2	0.33	15.4	21.3	10.2	0.39	0.02	22	silty soil		
CCS 209	0.002	1.7	0.31	13.9	0.29	8.7	0.34	0.01	21	silty soil		





# Appendix E

## Potoroo Project – Soil Sample Results

POTOROO PROJECT - SOIL SAMPLE RESULTS

Appendix 5

	Au	Ag	As	Bi	Cu	Mo	Pb	Sb	W	Description
S600161	3	0.01	1	0.34	6	0.3	8.2	0.17	0.1	Au shown as X repl with 0.5ppb
S600162	0.5	0.01	2.8	0.33	7	0.3	7.9	0.17	0.1	not Ag shown as X repl with 0.01
S600163	0.5	0.01	1.3	0.42	6	0.3	8.7	0.17	0.05	As shown as X repl with 0.5
S600164	0.5	0.01	0.5	0.32	7	0.1	9.1	0.13	0.05	much !! Mo shown as X repl with 0.05
S600165	7	0.03	0.7	0.35	9	0.2	14.6	0.06	0.05	Sb shown as X repl with 0.002
S600166	0.5	0.01	1.7	0.39	9	0.3	11.3	0.09	0.05	W shown as X repl with 0.05
S600167	0.5	0.01	1.7	0.34	7	0.4	9.2	0.11	0.05	
S600168	0.5	0.01	0.8	0.21	6	0.05	7	0.09	0.05	
S600169	0.5	0.01	2	0.2	5	0.3	8.8	0.1	0.05	
S600170	0.5	0.01	7.2	0.27	10	0.2	9.4	0.14	0.05	
S600171	0.5	0.01	2.7	0.17	8	0.2	7.2	0.1	0.05	
S600172	0.5	0.01	1.7	0.14	6	0.1	6.2	0.09	0.05	
S600173	0.5	0.04	1.9	0.11	4	0.1	4.2	0.08	0.05	
S600174	0.5	0.01	3.3	0.09	6	0.05	4.6	0.08	0.05	
S600175	0.5	0.01	21.9	0.22	7	0.4	11.7	0.15	0.05	
S600176	0.5	0.01	2.5	0.2	8	0.2	13.3	0.1	0.05	
S600177	6	0.01	0.5	0.25	4	0.2	7.4	0.1	0.05	
S600178	0.5	0.01	1.7	0.55	9	0.5	11.3	0.17	0.05	
S600179	0.5	0.01	7.8	0.65	13	0.6	17.6	0.29	0.1	
S600180	0.5	0.06	2.7	0.65	8	0.2	9	0.16	0.05	
S600181	0.5	0.01	1.1	0.26	6	0.1	9.3	0.06	0.05	
S600182	0.5	0.01	0.8	0.23	7	0.05	10.2	0.11	0.05	
S600183	0.5	0.01	6.5	0.32	8	0.3	7.2	0.27	0.05	
S600184	0.5	0.01	2.1	0.2	7	0.05	7.1	0.12	0.05	
S600185	2	0.01	0.6	0.16	4	0.3	6.9	0.09	0.05	
S600186	0.5	0.01	1.4	0.17	6	0.2	5.2	0.12	0.05	
S600187	0.5	0.01	7.1	0.19	6	0.2	7.8	0.2	0.05	
S600188	1	0.03	9.1	0.23	8	0.05	9.4	0.12	0.05	
S600189	0.5	0.01	1.8	0.11	4	0.2	4.4	0.05	0.05	
S600190	0.5	0.01	32.3	0.14	8	0.3	8.4	0.2	0.05	
S600191	0.5	0.01	1	0.17	6	0.3	6.5	0.07	0.05	
S600192	3	0.01	0.5	0.18	6	0.05	6.4	0.09	0.05	
S600193	0.5	0.01	4.2	0.43	6	0.3	9.7	0.11	0.05	
S600194	0.5	0.01	12.3	0.31	12	0.2	13.2	0.11	0.05	
S600195	0.5	0.01	3.5	0.22	9	0.2	8.6	0.1	0.05	
S600196	2	0.01	2.9	0.23	8	0.2	7.5	0.09	0.05	
S600197	0.5	0.01	3.8	0.19	8	0.2	7.3	0.08	0.05	
S600198	0.5	0.01	1.6	0.14	6	0.05	6.8	0.08	0.05	
S600199	0.5	0.11	2.6	0.23	5	0.3	9	0.09	0.05	

S600201	0.5	0.01	3.7	0.15	7	0.05	8.7	0.06	0.05
S600202	0.5	0.01	4.7	0.15	7	0.05	6	0.05	0.05
S600203	0.5	0.01	1.8	0.11	5	0.05	5	0.002	0.05
S600204	0.5	0.01	24.9	0.2	6	0.3	6.8	0.002	0.05
S600205	0.5	0.01	20.2	0.15	6	0.1	7	0.002	0.05
S600206	3	0.01	63.2	0.3	9	0.4	12.8	0.11	0.05
S600207	0.5	0.05	2.3	0.18	7	0.05	5.2	0.002	0.05
S600208	13	0.02	27.7	0.47	16	0.4	10.1	0.06	0.05
S600209	0.5	0.01	3.6	0.19	7	0.05	7.7	0.002	0.05
S600210	0.5	0.01	2	0.17	5	0.3	6.7	0.08	0.05
S600211	6	0.01	1.1	0.11	5	0.1	4.8	0.07	0.05
S600212	9	0.01	165.7	1.84	40	0.7	8	0.23	0.05
S600213	16	0.01	10	1.03	27	0.5	5.7	0.11	0.05
S600214	6	0.01	14.1	1.35	9	1.3	6	0.15	0.05
S600215	0.5	0.01	1.2	0.14	5	0.05	9.1	0.06	0.05
S600216	3	0.01	9.9	0.16	9	0.1	10.8	0.08	0.05
S600217	2	0.01	2.4	0.12	5	0.7	4.5	0.09	0.05
S600218	3	0.01	38.3	0.34	10	0.9	9.7	0.11	0.05
S600219	0.5	0.01	25.4	0.24	8	0.7	9.5	0.12	0.05
S600220	2	0.01	83	0.45	13	0.8	11.7	0.14	0.1
S600221	3	0.01	37.1	0.31	8	0.7	9.9	0.11	0.05
S600222	0.5	0.01	4.2	0.12	6	0.6	7	0.09	0.05
S600223	0.5	0.01	8.1	0.29	7	0.4	15	0.08	0.05
S600224	0.5	0.01	4.5	0.12	6	0.8	5.5	0.11	0.05
S600225	0.5	0.01	4.6	0.11	10	0.7	5.8	0.11	0.05
S600226	0.5	0.01	13.7	0.18	7	0.7	5.1	0.08	0.05
S600227	33	0.03	247.3	1.48	41	1.1	15	0.24	0.05
S600228	60	0.14	687	1.64	46	1.4	30.4	0.46	0.05
S600229	15	0.16	18.4	0.59	17	1.5	5.4	0.18	0.05
S600230	2	0.01	10.6	0.3	11	1.2	10.3	0.13	0.05
S600231	0.5	0.01	9.5	0.17	11	0.5	12.5	0.11	0.05
S600232	0.5	0.01	48.9	0.23	17	1.6	8.9	0.27	0.05
S600233	0.5	0.01	46.6	0.25	16	1.1	9.1	0.25	0.2
S600234	0.5	0.01	9	0.23	10	0.9	9.9	0.11	0.05
S600235	0.5	0.01	9.7	0.22	7	0.5	9.6	0.08	0.05
S600236	0.5	0.01	8.3	0.21	6	0.7	6.8	0.16	0.05
S600237	129	0.04	21.4	0.33	12	1.4	4.9	0.16	0.05
S600238	12	0.01	16.7	0.37	11	1.7	4.3	0.12	0.05
S600239	0.5	0.03	17.2	0.17	11	0.7	6.4	0.11	0.05
S600240	0.5	0.01	17.5	0.2	8	0.5	7.6	0.09	0.05
S600241	0.5	0.01	16.6	0.2	5	0.4	8.4	0.16	0.05
S600242	0.5	0.01	4.7	0.12	6	0.7	7.5	0.12	0.05
S600243	0.5	0.01	11.9	0.32	6	0.6	13.7	0.16	0.05

S600244	0.5	0.03	29.2	0.27	12	0.8	10.4	0.002	0.05
S600245	0.5	0.01	23.3	0.23	11	0.7	15.3	0.16	0.05
S600246	5	0.01	37	0.14	10	1.5	5.7	0.19	0.05
S600247	7	0.01	24.7	0.22	11	1	8.3	0.19	0.05
S600248	0.5	0.01	40.6	0.25	19	1.4	7.8	0.26	0.05
S600249	0.5	0.02	12.5	0.14	11	0.9	7.2	0.15	0.05
S600251	4	0.03	22.4	0.38	11	0.6	13.7	0.18	0.05
S600252	2	0.01	18.5	0.35	10	0.9	11.4	0.32	0.05
S600253	0.5	0.02	26	0.29	14	1.1	9.7	0.17	0.05
S600254	2	0.01	151	0.52	19	1.6	9.4	0.16	0.1
S600255	4	0.01	69.4	0.39	10	1.2	11.1	0.22	0.05
S600256	29	0.01	403.4	1.34	18	1	45.2	0.41	0.1
S600257	2	0.01	5.2	0.16	8	0.6	7.4	0.14	0.05
S600258	1	0.01	28.9	0.35	10	0.6	14.4	0.13	0.05
S600259	0.5	0.02	44	0.48	8	0.6	21.7	0.13	0.05
S600260	0.5	0.02	12.1	0.17	10	0.8	10.3	0.18	0.05
S600261	0.5	0.02	17.9	0.2	13	1.3	14.5	0.19	0.05
S600262	0.5	0.01	28.5	0.08	10	1.2	3.8	0.14	0.05
S600263	0.5	0.03	89.6	0.22	20	1.4	7.6	0.18	0.05
S600264	0.5	0.01	47.9	0.16	16	1.2	11.5	0.24	0.05
S600265	0.5	0.01	12.2	0.16	11	0.9	7.9	0.16	0.05
S600266	0.5	0.01	23.9	0.29	12	0.5	12.8	0.21	0.05
S600267	0.5	0.01	22.9	0.31	8	0.6	8.3	0.28	0.05
S600268	3	0.03	19.1	0.21	16	0.8	9	0.16	0.05
S600269	0.5	0.02	20	0.22	13	1	8.6	0.1	0.05
S600270	43	0.1	76.7	0.37	17	1.5	16.4	1.07	0.05
S600271	0.5	0.03	46	0.22	11	1.1	6.5	0.31	0.05
S600272	0.5	0.01	7.3	0.15	9	0.9	6.1	0.19	0.05
S600273	0.5	0.02	8.6	0.18	5	0.1	5.4	0.17	0.05
S600274	5	0.06	26.8	0.22	9	0.3	6.8	0.23	0.05
S600275	0.5	0.03	9.4	0.2	10	1	9.1	0.17	0.2
S600276	16	0.02	8.9	0.13	12	0.5	5.4	0.15	0.4
S600277	3	0.02	6.5	0.2	8	0.5	6.8	0.14	0.05
S600278	4	0.04	2.2	0.15	8	0.3	11.2	0.1	0.05
S600279	0.5	0.01	2.2	0.16	8	0.3	6.3	0.18	0.05
S600280	4	0.01	1.5	0.2	8	0.3	7.9	0.16	0.05
S600281	2	0.01	1	0.26	9	0.2	10.1	0.1	0.05
S600282	0.5	0.03	0.7	0.29	13	0.3	14.1	0.09	0.05
S600283	27	0.08	47.2	0.31	8	0.3	13.9	0.72	0.05
S600284	129	0.13	64.2	0.38	7	0.3	18.2	1.12	0.05
S600285	2	0.06	40.2	0.29	8	0.5	7.8	0.13	0.05
S600286	0.5	0.04	43.8	0.26	8	0.4	6.2	0.23	0.05
S600287	0.5	0.01	15.7	0.17	5	0.4	3.8	0.08	0.05

near drill pad

S600288	0.5	0.01	13.2	0.12	6	0.4	5.5	0.13	0.05
S600289	6	0.09	14	0.16	6	0.6	8.7	0.15	0.05
S600290	0.5	0.01	12.4	0.25	10	1.4	9.9	0.09	0.05
S600291	1	0.03	8.8	0.18	13	1	7.2	0.15	0.1
S600292	0.5	0.01	4.7	0.11	4	0.3	3.2	0.09	0.05
S600293	0.5	0.01	9.1	0.19	7	0.3	5.4	0.14	0.05
S600294	4	0.01	1.4	0.13	11	0.2	7.3	0.09	0.05
S600295	0.5	0.01	2.6	0.29	12	0.3	10.2	0.15	0.05
S600296	0.5	0.01	1.2	0.16	11	0.2	8.1	0.1	0.05
S600297	0.5	0.01	1.2	0.2	9	0.2	9.1	0.09	0.05
S600298	2	0.04	45.3	0.47	11	0.6	14.7	0.11	0.05
S600299	35	0.03	436	1.07	27	1	11.7	0.5	0.05
S600301	26	0.04	338	1.08	21	1.2	16	0.29	0.05
S600302	3	0.01	180	1.18	21	0.7	7.8	0.28	0.05
S600303	3	0.01	34.3	0.26	7	0.9	10.2	0.12	0.05
S600304	2	0.01	65.7	0.3	9	1.1	14.5	0.07	0.05
S600305	8	0.01	10.2	0.16	6	0.4	12.1	0.1	0.05
S600306	0.5	0.01	11.1	0.18	6	0.2	9.7	0.12	0.05
S600307	0.5	0.06	8.3	0.17	9	0.2	7	0.17	0.05
S600308	0.5	0.06	56.7	0.22	7	0.4	7.3	0.41	0.05
S600309	3	0.04	20.9	0.18	5	0.4	6.5	0.23	0.05
S600310	0.5	0.05	8.6	0.42	51	1.2	8.7	0.13	0.1
S600311	0.5	0.03	2.6	0.29	16	0.4	11.2	0.13	0.05
S600312	0.5	0.24	7.5	0.37	20	0.3	17.4	0.002	0.05
S600313	6	0.04	7.2	0.37	16	0.5	17.7	0.19	0.05
S600314	5	0.05	44.4	0.41	11	0.7	8.8	0.17	0.5
S600315	8	0.05	117.7	0.38	10	0.7	7.2	0.26	0.05
S600316	2	0.01	324	0.76	12	0.9	8.8	0.44	0.05
S600317	5	0.01	76.1	0.23	8	0.4	5.7	0.15	0.05
S600318	0.5	0.01	21.7	0.15	6	0.3	6.2	0.11	0.05
S600319	2	0.01	47.5	0.31	9	0.7	14.7	0.2	0.05
S600320	0.5	0.01	4	0.17	5	0.3	9.3	0.09	0.05
S600321	1	0.01	10.6	0.16	9	0.3	12.4	0.13	0.05
S600322	1	0.04	18.2	0.22	8	0.3	9.8	0.14	0.05
S600323	3	0.06	13.7	0.21	6	0.3	7.9	0.15	0.05
S600324	2	0.04	28.6	0.16	13	0.9	10.8	0.25	0.05
S600325	0.5	0.05	63.2	0.28	20	0.8	13.7	0.18	0.05
S600326	0.5	0.01	14.9	0.15	6	0.3	7.7	0.13	0.05
S600327	0.5	0.01	15.4	0.26	10	0.3	9	0.18	0.05
S600328	0.5	0.02	33.9	0.45	14	0.5	11.5	0.29	0.05

near small shaft



# Appendix F

## Panama Project – Soil Sample Results

PANAMA PROJECT - SOIL SAMPLE RESULTS

Appendix 6

	Au	Ag	As	Bi	Cu	Mo	Pb	Sb	W	Description
S600329	1	0.03	7.3	0.13	9	0.9	8	0.08	0.05	Au shown as X repl with 0.5ppb
S600330	0.5	0.03	6.5	0.11	11	3.6	6.6	0.13	0.05	Ag shown as X repl with 0.01
S600331	0.5	0.03	3.8	0.08	8	1.2	4.7	0.17	0.05	As shown as X repl with 0.5
S600332	2	0.01	26.8	0.18	11	0.7	12.8	0.34	0.05	
S600333	0.5	0.01	13.6	0.14	9	0.4	9.6	0.22	0.05	Sb shown as X repl with 0.002
S600334	2	0.02	15.6	0.16	16	1.8	12.5	0.13	0.05	W shown as X repl with 0.05
S600335	4	0.03	31.6	0.24	16	0.5	13.2	0.19	0.05	
S600336	1	0.03	0.7	0.14	8	0.3	13.6	0.1	0.05	
S600337	0.5	0.02	0.6	0.12	5	0.4	6.7	0.1	0.05	
S600338	3	0.02	1.9	0.17	10	0.8	9.3	0.21	0.05	
S600339	2	0.04	0.9	0.14	8	0.5	7.4	0.17	0.05	
S600340	0.5	0.03	5.8	0.11	6	1.2	7.4	0.19	0.05	
S600341	1	0.03	1.8	0.09	9	1.3	5.9	0.2	0.05	
S600342	1	0.01	2.7	0.09	6	1.4	6.4	0.12	0.05	
S600343	2	0.02	6.4	0.14	10	0.9	10.7	0.2	0.05	
S600344	4	0.06	26.9	0.28	19	0.5	14.2	0.61	0.05	near small shaft, trench
S600345	3	0.01	32.1	0.16	12	0.5	10.4	0.31	0.05	
S600346	0.5	0.01	16.6	0.18	10	0.7	10.9	0.21	0.05	
S600347	0.5	0.24	3.4	0.18	10	0.4	9.6	0.11	0.05	
S600348	0.5	0.01	2.1	0.16	10	0.5	9.8	0.12	0.05	
S600349	0.5	0.01	2.1	0.14	9	0.4	8.5	0.14	0.05	
S600351	0.5	0.02	1.2	0.17	9	0.5	9.7	0.12	0.05	
S600352	6	0.04	1.9	0.08	5	0.6	7.1	0.16	0.05	
S600353	0.5	0.04	1.8	0.1	6	1.7	7.8	0.16	0.1	
S600354	0.5	0.16	6.7	0.11	7	1.1	6.4	0.24	0.05	
S600355	0.5	0.02	30.7	0.09	6	0.4	6.4	0.38	0.05	
S600356	1	0.03	31	0.19	12	0.8	10.6	0.36	0.1	
S600357	3	0.01	31	0.2	12	0.5	11.6	0.3	0.05	
S600358	0.5	0.03	16.7	0.2	12	0.4	9.4	0.27	0.05	
S600359	0.5	0.01	4.5	0.14	7	0.7	8.1	0.19	0.05	
S600360	0.5	0.03	4.2	0.22	14	0.7	11.7	0.35	0.05	
S600361	0.5	0.02	2	0.15	9	0.3	8.5	0.25	0.05	
S600362	0.5	0.01	1.6	0.13	8	0.2	7.7	0.23	0.05	
S600363	0.5	0.02	2.6	0.08	4	0.5	7.5	0.13	0.05	
S600364	2	0.01	2.9	0.08	6	0.7	7	0.24	0.1	
S600365	2	0.03	19.3	0.1	7	0.5	9.2	0.35	0.05	
S600366	2	0.03	21	0.11	5	0.4	8.2	0.28	0.05	near 2 small shafts
S600367	1	0.05	20.2	0.13	7	0.7	12.9	0.19	0.05	
S600368	2	0.02	17.1	0.16	9	0.4	9	0.1	0.05	near larger shaft

S600369	2	0.02	3.6	0.13	8	0.4	9.2	0.002	0.05
S600370	0.5	0.03	3.4	0.19	12	0.3	12.3	0.11	0.05
S600371	6	0.02	1.3	0.11	8	1.7	7.2	0.1	0.05
S600372	3	0.01	2.7	0.11	6	0.8	5.3	0.2	0.05
S600373	2	0.13	25.3	0.15	7	0.5	10.5	0.28	0.1
S600374	3	0.02	1.6	0.07	5	0.4	3.7	0.15	0.05
S600375	3	0.04	4.5	0.1	6	1.5	4.7	0.09	0.05
S600376	2	0.03	3.3	0.08	8	0.9	3.7	0.13	0.05
S600377	0.5	0.04	2.7	0.08	5	0.3	5.8	0.1	0.05
S600378	0.5	0.04	33.5	0.14	9	0.9	12.2	0.28	0.05
S600379	0.5	0.04	16.6	0.14	7	1.2	7.9	0.14	0.05
S600380	0.5	0.07	9.1	0.16	10	0.8	9.8	0.29	0.05
S600381	0.5	0.01	1.8	0.09	8	0.9	6.2	0.16	0.05
S600382	0.5	0.01	3.2	0.12	6	0.5	8.5	0.14	0.05
S600383	1	0.03	3.7	0.16	7	0.4	7.1	0.15	0.05
S600384	2	0.03	6.3	0.14	8	0.4	9.2	0.16	0.05
S600385	2	0.07	4	0.11	7	0.9	6.7	0.2	0.05
S600386	10	0.11	18.4	0.1	7	1.7	6.6	0.19	0.05
S600387	0.5	0.04	27	0.1	9	1.1	6.3	0.15	0.05
S600388	0.5	0.02	3.9	0.09	7	1.7	5.4	0.09	0.05
S600389	1	0.03	43	0.17	9	1.1	7.7	0.29	0.05
S600390	15	0.03	22	0.14	7	1.3	12.3	0.23	0.05
S600391	4	0.02	4.3	0.1	8	0.9	7.9	0.08	0.05
S600392	0.5	0.01	7.3	0.12	9	1.7	6.9	0.15	0.05
S600393	0.5	0.01	5.2	0.17	8	0.7	7.2	0.22	0.05
S600394	1	0.04	2.6	0.2	8	0.4	10.9	0.12	0.05
S600395	0.5	0.03	0.5	0.17	7	0.4	7.7	0.09	0.05
S600396	4	0.03	21.5	0.11	7	1.1	7.3	0.12	0.05
S600397	4	0.04	7.6	0.08	6	1	4.8	0.11	0.05
S600398	0.5	0.01	9.5	0.08	6	0.7	6.3	0.1	0.05
S600399	2	0.02	29.6	0.12	8	0.9	12.9	0.18	0.05
S600401	2	0.05	12.9	0.09	6	1.5	4.6	0.23	0.1
S600402	11	0.04	12.5	0.1	8	1.1	6.4	0.24	0.05
S600403	0.5	0.03	4.6	0.09	6	1.2	7.4	0.11	0.05
S600404	2	0.04	15.7	0.16	10	0.4	11.3	0.16	0.05
S600405	1	0.01	7.2	0.17	8	0.6	11.7	0.43	0.05
S600406	0.5	0.03	1.6	0.18	12	0.6	12.7	0.25	0.1
S600407	2	0.07	8.9	0.28	14	0.5	13.5	0.3	0.05
S600408	3	0.01	6.8	0.1	9	0.8	7.7	0.31	0.05
S600409	2	0.02	8.8	0.12	9	0.5	8.5	0.23	0.05
S600410	0.5	0.04	6.1	0.13	9	0.8	9.1	0.17	0.05
S600411	1	0.04	3.3	0.24	8	0.7	12.3	0.6	0.05
S600412	3	0.04	4.8	0.22	8	0.4	14.7	0.29	0.05

above adit entrance  
below shaft mullock  
west of shaft mullock

near creek beneath adit mullock  
next to adit mullock  
damp dark soil in heavy fern cover ? HAP  
damp dark soil in heavy fern cover ? HAP  
damp dark soil in heavy fern cover ? HAP

S600413	0.5	0.01	1.4	0.14	6	0.2	10.1	0.2	0.05
S600414	2	0.03	6.1	0.2	11	0.3	13.7	0.32	0.05
S600415	1	0.02	1.4	0.27	7	0.3	37.5	0.26	0.05
S600416	0.5	0.01	2.8	0.1	6	0.4	6.9	0.29	0.05
S600417	2	0.01	0.8	0.08	6	0.3	5.8	0.22	0.05
S600418	0.5	0.03	0.5	0.06	4	0.2	5.2	0.17	0.05
S600419	0.5	0.03	1.5	0.11	6	0.3	7.6	0.27	0.05
S600420	2	0.04	5.6	0.12	7	0.3	7.4	0.23	0.05
S600421	0.5	0.04	0.9	0.18	9	0.2	10.3	0.34	0.05
S600422	0.5	0.01	2.5	0.13	5	0.3	9.2	0.25	0.05
S600423	2	0.02	4.3	0.18	6	0.3	10.5	0.59	0.05
S600424	0.5	0.02	0.8	0.19	7	0.3	10.4	0.26	0.05
S600425	0.5	0.03	6.4	0.14	8	0.2	11.1	0.05	0.05
S600426	0.5	0.01	7.1	0.09	4	0.2	6.8	0.08	0.05
S600427	0.5	0.01	3.9	0.1	4	0.2	7.2	0.07	0.05
S600428	0.5	0.04	17.7	0.12	7	0.3	8.5	0.35	0.05
S600429	0.5	0.02	2.2	0.07	4	0.3	5	0.21	0.05
S600430	0.5	0.01	7.6	0.1	6	0.2	6.5	0.08	0.05
S600431	0.5	0.01	5.6	0.12	8	0.3	8	0.17	0.05
S600432	0.5	0.02	4	0.12	7	0.3	9.3	0.15	0.05
S600433	0.5	0.01	6.2	0.14	8	0.2	8.2	0.14	0.05
S600434	0.5	0.01	4.5	0.14	5	0.2	9.2	0.002	0.05
S600435	0.5	0.03	5.5	0.12	8	0.2	8.6	0.05	0.05
S600436	0.5	0.02	3.8	0.13	7	0.2	14.3	0.23	0.05
S600437	0.5	0.03	22.2	0.1	12	0.3	7.3	0.21	0.05
S600438	0.5	0.01	6.9	0.07	4	0.2	4.9	0.21	0.05
S600439	0.5	0.01	5.3	0.07	4	0.2	4.7	0.002	0.05
S600440	0.5	0.01	6.7	0.06	4	0.2	5.3	0.11	0.05
S600441	0.5	0.01	10.8	0.08	4	0.2	6.7	0.17	0.05
S600442	0.5	0.01	5.9	0.06	4	0.1	5.4	0.08	0.05
S600443	0.5	0.16	31.1	0.13	7	0.3	9.3	0.24	0.05
S600444	1	0.08	3.2	0.06	3	0.3	3.9	0.11	0.05
S600445	1	0.01	38.1	0.14	6	0.3	9.3	0.32	0.05
S600446	2	0.03	34.8	0.15	8	0.3	12	0.27	0.05
S600447	5	0.04	17.5	0.14	7	0.4	8.8	0.25	0.05
S600448	5	0.01	14.3	0.19	9	0.3	12.5	0.25	0.05
S600449	1	0.03	13.1	0.16	6	0.3	11.7	0.28	0.05
S600451	4	0.02	8.6	0.14	7	0.2	8.7	0.16	0.05
S600452	2	0.03	6.3	0.24	10	0.4	14.9	0.16	0.05
S600453	1	0.01	9.2	0.11	4	0.3	6.3	0.33	0.05
S600454	7	0.12	88.3	0.31	14	0.4	16.8	0.57	0.05
S600455	3	0.03	36.1	0.18	7	0.3	10.3	0.41	0.05
S600456	1	0.03	37.8	0.21	9	0.4	12.1	0.59	0.1

near small trenches

S600457	2	0.04	26.3	0.14	7	0.3	10.5	0.46	0.05
S600458	4	0.01	6.6	0.13	5	0.3	8.6	0.31	0.05
S600459	0.5	0.01	3.6	0.16	6	0.3	9.6	0.2	0.05
S600460	4	0.01	5.2	0.21	9	0.3	7.2	0.25	0.05
S600461	0.5	0.01	0.7	0.14	7	0.3	9.1	0.23	0.05
S600462	0.5	0.01	0.5	0.18	6	0.4	8.6	0.16	0.05
S600463	1	0.01	0.5	0.13	4	0.2	5	0.11	0.05
S600464	0.5	0.02	42.7	0.19	6	0.3	9.5	0.33	0.05
S600465	5	0.03	47.4	0.17	6	0.4	10.1	0.47	0.05
S600466	0.5	0.01	35.4	0.18	7	0.3	10.5	0.26	0.05
S600467	3	0.01	17.4	0.16	6	0.2	10.5	0.25	0.05
S600468	1	0.01	1.1	0.11	3	0.2	5.1	0.12	0.05
S600469	0.5	0.04	5.1	0.17	8	0.3	12.1	0.29	0.05
S600470	0.5	0.01	0.6	0.11	4	0.2	7.1	0.28	0.05
S600471	0.5	0.01	0.8	0.14	4	0.3	7.3	0.25	0.05
S600472	0.5	0.01	0.5	0.14	5	0.2	7.1	0.12	0.05
S600473	2	0.04	1.2	0.24	11	0.8	10.8	0.24	0.05
S600474	0.5	0.04	2	0.17	8	0.6	9.6	0.1	0.05
S600475	1	0.02	31.8	0.11	5	0.4	8.1	0.34	0.1
S600476	3	0.06	39.6	0.13	7	0.6	12.6	0.54	0.05
S600477	1	0.02	21.4	0.12	6	0.8	6.6	0.46	0.05
S600478	2	0.01	2.1	0.13	5	0.7	9	0.18	0.05
S600479	0.5	0.02	1.6	0.11	6	0.9	6.7	0.21	0.05
S600480	0.5	0.01	4.4	0.18	11	0.7	13.1	0.25	0.05
S600481	2	0.04	1.2	0.14	9	1	9.2	0.26	0.05
S600482	0.5	0.01	0.5	0.12	6	0.7	5.6	0.11	0.05
S600483	0.5	0.01	0.5	0.08	6	0.2	6.2	0.1	0.05
S600484	1	0.01	0.5	0.14	8	0.8	8.3	0.11	0.05
S600485	0.5	0.04	1.1	0.13	8	1	6.2	0.23	0.05
S600486	0.5	0.01	15.4	0.14	5	0.4	8.6	0.58	0.1
S600487	0.5	0.01	3.2	0.09	4	0.3	5.9	0.34	0.05
S600488	0.5	0.02	2.3	0.08	5	0.9	9.4	0.08	0.05
S600489	1	0.03	44.7	0.21	10	0.5	12.7	0.29	0.05
S600490	10	0.03	5.1	0.12	7	0.8	7.5	0.15	0.05
S600491	0.5	0.01	3.3	0.14	7	0.6	9.3	0.1	0.05
S600492	1	0.02	2	0.21	12	0.6	10.4	0.16	0.05
S600493	4	0.01	33.4	0.2	10	0.5	10.7	0.21	0.05
S600494	1	0.01	0.9	0.1	6	0.7	6.3	0.13	0.05
S600495	0.5	0.01	0.5	0.13	6	0.9	6.8	0.21	0.05
S600496	0.5	0.01	0.5	0.08	5	0.3	4.2	0.23	0.05

edge of logging track on ridge top  
edge of logging track on ridge top

edge of logging track on ridge top

near prospect trench



# Appendix G

## Golden Ridge – Soil Sample Results

GOLDEN RIDGE - SOIL SAMPLE RESULTS

Appendix 7

	Au	As	Bi	Cu	Mo	Pb	Sb	Te	Zn	Colour	Description
GRS 001	0.02	62	0.16	7	1.39	29	0.44	0.07	31		Sampling done in 2 parts : 1. Samples GRS-001 to 177 done in December 2102, and; 2. Samples GRS-178 to 251 done in April 2013.
GRS 002	0.01	60	0.15	3	0.83	15	0.26	0.04	26		
GRS 003	0.005	148	0.19	2	0.91	14	0.3	0.04	18		
GRS 004	0.005	119	0.18	3	0.78	13	0.29	0.02	16		The first group were assayed for gold using method Au-AA26, with DL of 0.01 ppm
GRS 005	0.01	65	0.07	1	0.3	9	0.17	0.02	8		
GRS 006	0.01	152	0.25	2	0.86	21	0.32	0.05	19		The second group were assayed for gold using method Au-AA24, with DL of 0.005 ppm
GRS 007	0.03	110	0.09	4	0.51	11	0.35	0.01	7		
GRS 008	0.15	26	0.09	2	0.32	9	0.14	0.01	5		Comments on clour and description relate to the later group of samples
GRS 009	0.01	33	0.19	2	0.79	12	0.23	0.06	10		
GRS 010	0.01	343	0.22	7	1.02	21	0.3	0.05	38		
GRS 011	0.005	10	0.07	4	0.35	7	0.13	0.01	7		
GRS 012	0.005	17	0.13	5	0.67	8	0.17	0.03	12		
GRS 013	0.005	8	0.09	2	0.4	4	0.09	0.01	4		
GRS 014	0.04	33	0.07	3	0.38	16	0.15	0.01	19		
GRS 015	0.01	36	0.04	3	0.35	12	0.11	0.01	14		
GRS 016	0.02	40	0.06	5	0.8	25	0.19	0.01	10		
GRS 017	0.05	62	0.09	10	0.69	16	0.25	0.01	23		
GRS 018	0.005	18	0.07	4	0.39	6	0.15	0.01	5		
GRS 019	0.06	28	0.09	7	0.63	9	0.25	0.02	6		
GRS 020	0.03	27	0.12	9	0.53	10	0.28	0.02	10		
GRS 021	0.005	18	0.03	25	1.48	4	0.35	0.01	4		
GRS 022	0.01	29	0.08	12	0.73	38	0.23	0.02	20		
GRS 023	0.01	37	0.08	7	0.44	17	0.15	0.01	44		
GRS 024	0.005	22	0.11	10	0.89	17	0.22	0.04	43		
GRS 025	0.005	27	0.14	6	0.67	26	0.19	0.03	48		
GRS 026	0.005	11	0.07	10	1.01	15	0.14	0.02	37		
GRS 027	0.05	17	0.09	8	0.46	13	0.18	0.02	26		
GRS 028	0.02	52	0.32	5	0.83	18	0.33	0.09	17		
GRS 029	0.005	12	0.06	10	0.62	13	0.16	0.02	21		
GRS 030	0.005	7	0.05	12	0.63	7	0.18	0.01	14		
GRS 031	0.01	7	0.14	15	0.75	11	0.29	0.02	20		
GRS 032	0.005	5	0.05	12	0.53	9	0.13	0.02	25		
GRS 033	0.005	7	0.2	14	0.44	10	0.19	0.03	37		
GRS 034	0.01	12	0.29	8	0.99	10	0.24	0.08	18		
GRS 035	0.005	6	0.15	7	0.42	8	0.2	0.02	10		
GRS 036	0.005	4	0.14	5	0.49	8	0.16	0.02	8		
GRS 037	0.005	12	0.24	13	0.56	14	0.28	0.04	27		
GRS 038	0.005	5	0.11	5	0.42	5	0.17	0.01	8		
GRS 039	0.005	6	0.16	9	0.49	8	0.19	0.02	14		
GRS 040	0.005	5	0.13	13	1.04	15	0.24	0.03	13		
GRS 041	0.005	7	0.12	6	0.67	12	0.2	0.03	14		
GRS 042	0.005	3	0.11	6	0.54	7	0.14	0.02	8		
GRS 043	0.01	4	0.1	4	0.32	9	0.17	0.02	7		
GRS 044	0.005	10	0.18	6	0.45	12	0.21	0.02	16		
GRS 045	0.01	6	0.13	6	0.44	8	0.18	0.01	7		
GRS 046	0.06	5	0.07	5	0.62	7	0.15	0.01	5		
GRS 047	0.005	3	0.06	31	1.75	5	0.46	0.01	5		

GRS 048	0.005	8	0.13	5	0.7	10	0.15	0.03	8
GRS 049	0.005	8	0.17	11	1.03	9	0.2	0.04	7
GRS 050	0.005	7	0.13	18	1.13	6	0.28	0.02	5
GRS 051	0.005	4	0.12	10	0.76	6	0.18	0.03	4
GRS 052	0.005	2	0.11	8	0.6	5	0.14	0.02	3
GRS 053	0.005	6	0.16	6	0.56	11	0.16	0.03	7
GRS 054	0.01	26	0.36	21	0.78	19	0.44	0.05	27
GRS 055	0.005	6	0.13	7	0.43	8	0.21	0.01	7
GRS 056	0.005	5	0.13	12	1.29	7	0.26	0.01	9
GRS 057	0.005	7	0.09	39	2.1	5	0.57	0.01	7
GRS 058	0.005	3	0.1	7	0.46	6	0.24	0.01	5
GRS 059	0.01	6	0.11	31	1.83	7	0.47	0.01	7
GRS 060	0.005	2	0.07	27	1.28	4	0.38	0.01	3
GRS 061	0.005	1	0.05	23	1.19	3	0.28	0.01	2
GRS 062	0.005	4	0.1	5	0.49	7	0.1	0.02	4
GRS 063	0.005	3	0.11	9	0.86	8	0.19	0.02	6
GRS 064	0.01	2	0.07	8	0.67	4	0.16	0.01	3
GRS 065	0.01	13	0.18	9	1.09	14	0.23	0.07	17
GRS 066	0.005	10	0.13	15	1.69	26	0.25	0.03	12
GRS 067	0.005	8	0.15	34	2.08	9	0.44	0.02	8
GRS 068	0.005	6	0.2	8	0.9	11	0.19	0.03	9
GRS 069	0.005	11	0.23	22	1.69	12	0.35	0.04	10
GRS 070	0.005	10	0.19	21	1.49	9	0.38	0.04	8
GRS 071	0.005	10	0.18	23	1.58	11	0.4	0.03	16
GRS 072	0.005	2	0.07	21	1.08	6	0.26	0.01	4
GRS 073	0.01	3	0.09	9	0.74	4	0.22	0.01	4
GRS 074	0.01	3	0.07	9	0.75	3	0.23	0.01	4
GRS 075	0.02	3	0.04	10	0.94	1	0.2	0.01	2
GRS 076	0.005	6	0.11	6	0.62	9	0.14	0.02	6
GRS 077	0.03	4	0.05	38	2.1	4	0.46	0.01	5
GRS 078	0.05	4	0.06	6	0.54	3	0.17	0.01	4
GRS 079	0.02	7	0.09	6	0.38	5	0.2	0.01	5
GRS 080	0.02	9	0.11	8	0.37	8	0.29	0.02	11
GRS 081	0.01	8	0.2	26	1.43	8	0.43	0.02	11
GRS 082	0.02	19	0.19	12	1.06	14	0.29	0.04	22
GRS 083	0.005	10	0.13	5	0.83	14	0.13	0.06	42
GRS 084	0.005	30	0.1	6	1.43	28	0.25	0.09	46
GRS 085	0.005	8	0.12	5	0.79	16	0.12	0.07	47
GRS 086	0.005	1	0.03	6	0.83	3	0.1	0.01	6
GRS 087	0.005	3	0.05	6	0.46	5	0.09	0.02	14
GRS 088	0.02	5	0.1	9	0.45	11	0.17	0.01	12
GRS 089	0.005	5	0.04	22	1.4	11	0.34	0.02	7
GRS 090	0.005	3	0.05	23	1.24	7	0.35	0.01	5
GRS 091	0.005	6	0.1	38	2.25	7	0.48	0.02	6
GRS 092	0.005	6	0.07	13	0.89	11	0.22	0.01	3
GRS 093	0.005	2	0.04	7	0.46	7	0.16	0.005	4
GRS 094	0.005	7	0.04	8	0.68	8	0.22	0.01	6
GRS 095	0.01	5	0.06	7	0.63	9	0.18	0.01	6
GRS 096	0.005	2	0.04	8	0.93	4	0.12	0.01	4
GRS 097	0.005	1	0.07	24	1.28	6	0.29	0.01	8
GRS 098	0.005	9	0.24	11	0.53	21	0.19	0.03	21

GRS 099	0.005	1	0.14	19	1.01	10	0.24	0.01	7
GRS 100	0.01	3	0.21	15	0.45	11	0.32	0.04	46
GRS 101	0.005	3	0.14	18	0.75	7	0.28	0.005	14
GRS 102	0.005	3	0.34	17	0.4	8	0.35	0.04	63
GRS 103	0.03	2	0.14	7	0.46	6	0.17	0.01	10
GRS 104	0.005	9	0.23	13	0.88	14	0.23	0.03	41
GRS 105	0.03	3	0.44	12	0.43	12	0.25	0.04	36
GRS 106	0.04	7	0.23	13	0.74	12	0.2	0.02	30
GRS 107	0.07	25	0.25	34	1.09	20	0.35	0.16	78
GRS 108	0.005	1	0.04	4	0.39	11	0.07	0.005	14
GRS 109	0.005	5	0.05	11	0.77	9	0.16	0.01	25
GRS 110	0.005	3	0.05	11	0.8	11	0.18	0.01	33
GRS 111	0.005	1	0.04	16	0.97	7	0.21	0.01	20
GRS 112	0.005	1	0.05	23	1.45	7	0.29	0.01	20
GRS 113	0.005	3	0.04	8	0.67	6	0.13	0.01	15
GRS 114	0.005	1	0.05	5	0.47	6	0.1	0.005	17
GRS 115	0.005	2	0.06	5	0.41	7	0.09	0.005	13
GRS 116	0.01	3	0.07	9	1.39	8	0.14	0.01	25
GRS 117	0.005	3	0.07	20	1.25	7	0.25	0.01	16
GRS 118	0.07	6	0.08	6	0.68	7	0.11	0.01	13
GRS 119	0.005	3	0.09	13	0.86	7	0.19	0.02	12
GRS 120	0.01	2	0.06	25	1.27	4	0.35	0.005	7
GRS 121	0.11	3	0.04	36	2	2	0.47	0.005	4
GRS 122	0.01	7	0.19	14	0.96	10	0.25	0.02	18
GRS 123	0.01	2	0.04	11	1.11	3	0.19	0.01	4
GRS 124	0.005	2	0.06	7	0.64	3	0.17	0.005	4
GRS 125	0.01	6	0.18	10	0.75	13	0.28	0.03	18
GRS 126	0.02	6	0.08	14	0.78	16	0.23	0.02	17
GRS 127	0.08	1	0.08	5	0.45	5	0.13	0.01	6
GRS 128	0.06	1	0.12	9	0.4	6	0.2	0.01	11
GRS 129	0.005	2	0.14	25	1.25	7	0.44	0.01	16
GRS 130	0.01	8	0.22	22	0.9	16	0.3	0.04	26
GRS 131	0.005	6	0.17	25	1.35	22	0.29	0.04	31
GRS 132	0.005	4	0.21	13	0.55	13	0.27	0.02	22
GRS 133	0.02	4	0.23	17	0.59	11	0.29	0.02	24
GRS 134	0.01	5	0.29	8	0.32	12	0.34	0.02	31
GRS 135	0.02	7	0.28	18	0.83	11	0.38	0.02	30
GRS 137	0.005	13	0.14	12	0.47	11	0.21	0.02	53
GRS 138	0.005	12	0.12	17	1.02	13	0.33	0.03	37
GRS 139	0.01	10	0.24	16	0.61	11	0.39	0.03	40
GRS 140	0.02	13	0.12	12	0.39	11	0.23	0.02	70
GRS 141	0.02	4	0.11	40	2.17	5	0.6	0.01	25
GRS 142	0.005	3	0.16	9	0.63	11	0.16	0.01	20
GRS 143	0.01	7	0.11	11	0.61	11	0.2	0.01	15
GRS 144	0.01	1	0.02	5	0.43	1	0.1	0.01	2
GRS 145	0.02	1	0.07	21	1.09	5	0.27	0.005	4
GRS 146	0.02	8	0.2	9	0.33	17	0.23	0.03	18
GRS 147	0.005	3	0.05	27	1.5	4	0.33	0.005	3
GRS 148	0.005	1	0.04	25	1.15	3	0.31	0.005	6
GRS 149	0.005	4	0.05	27	1.51	5	0.34	0.01	8
GRS 150	0.01	7	0.12	26	1.73	11	0.36	0.03	12





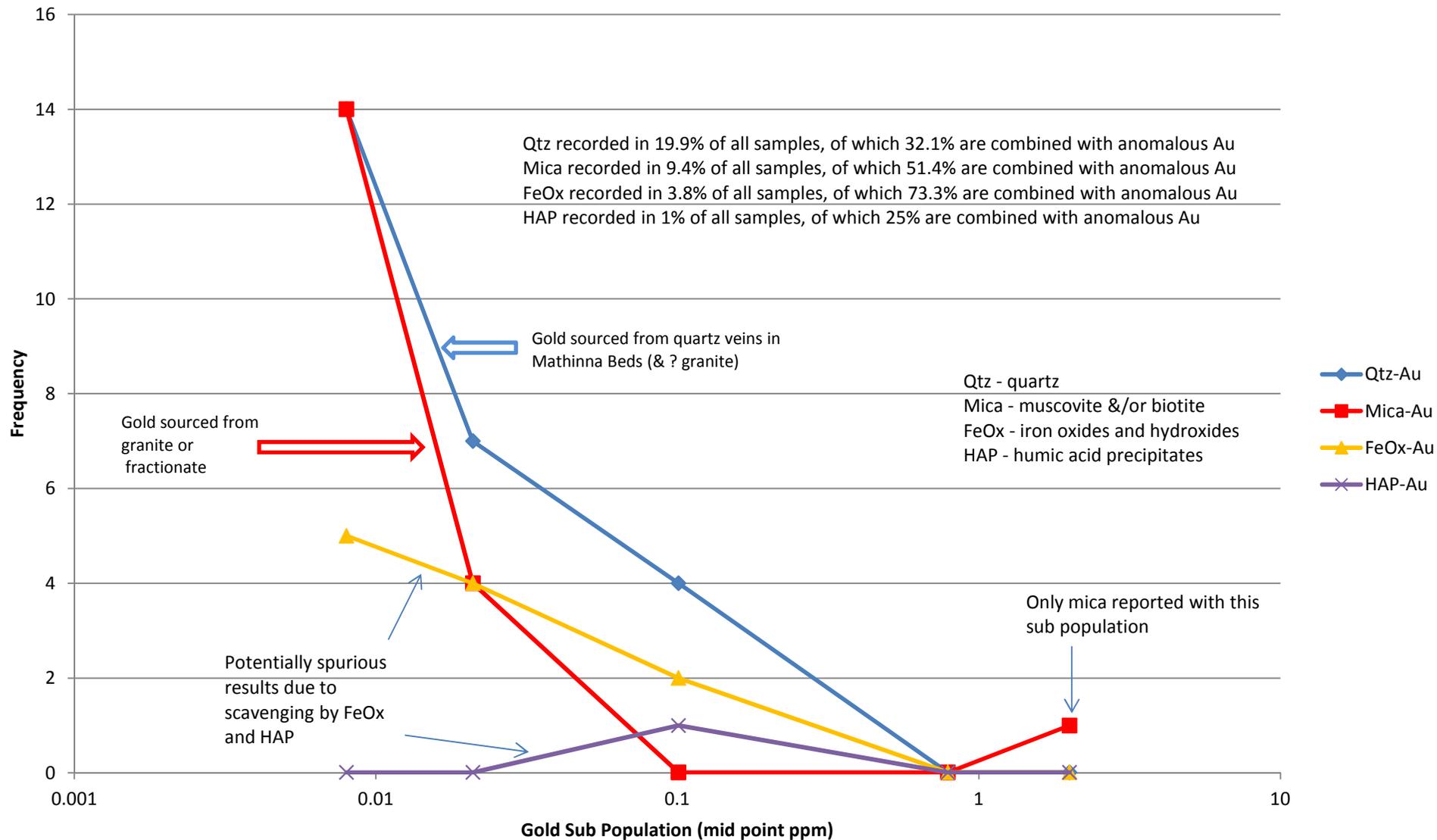


# Appendix H

## Figures 1-14

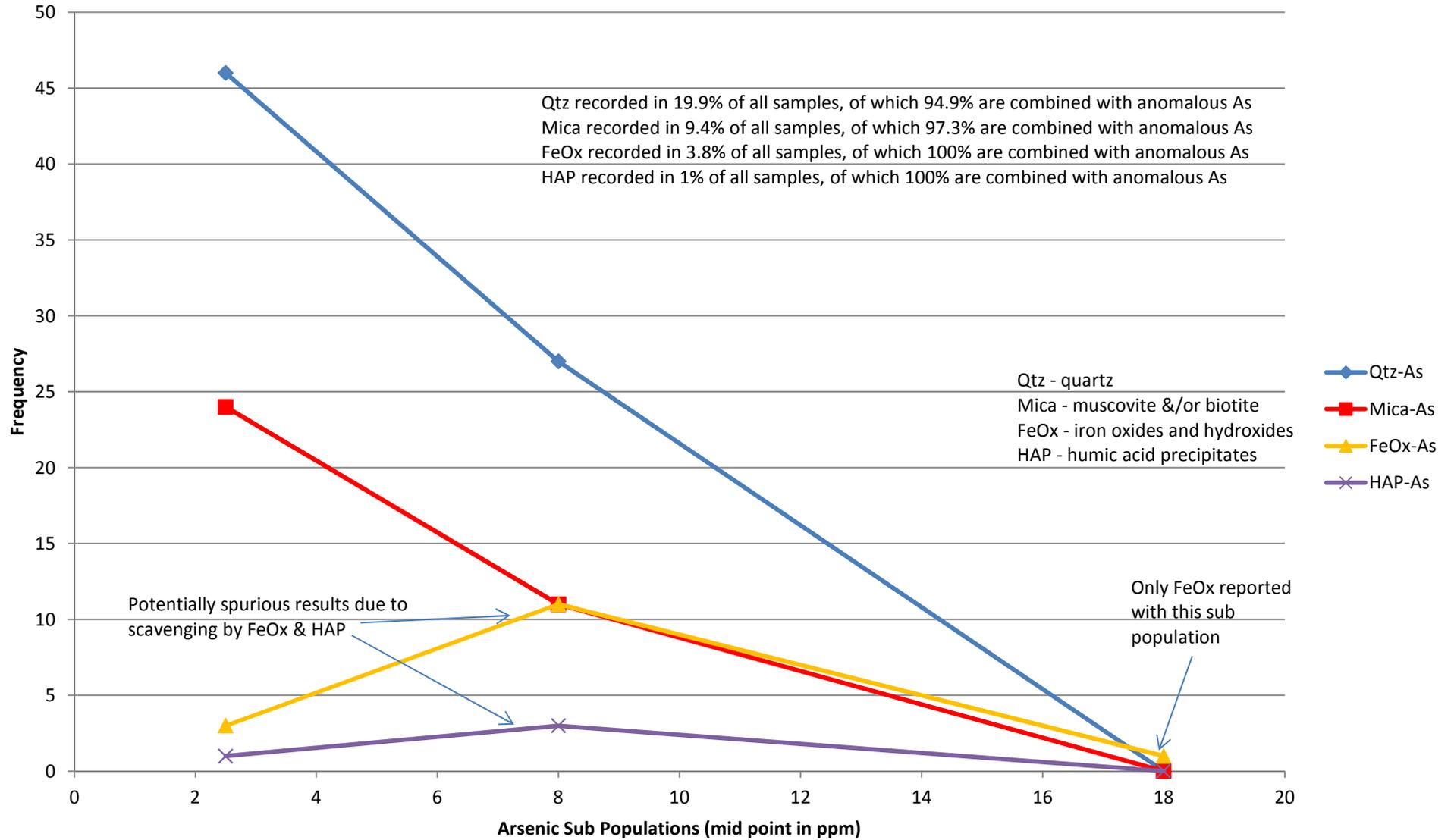
# North Lisle East - Gold in Soil Samples Occurrence of Anomalous Au-Mineral Pairs

Figure 1



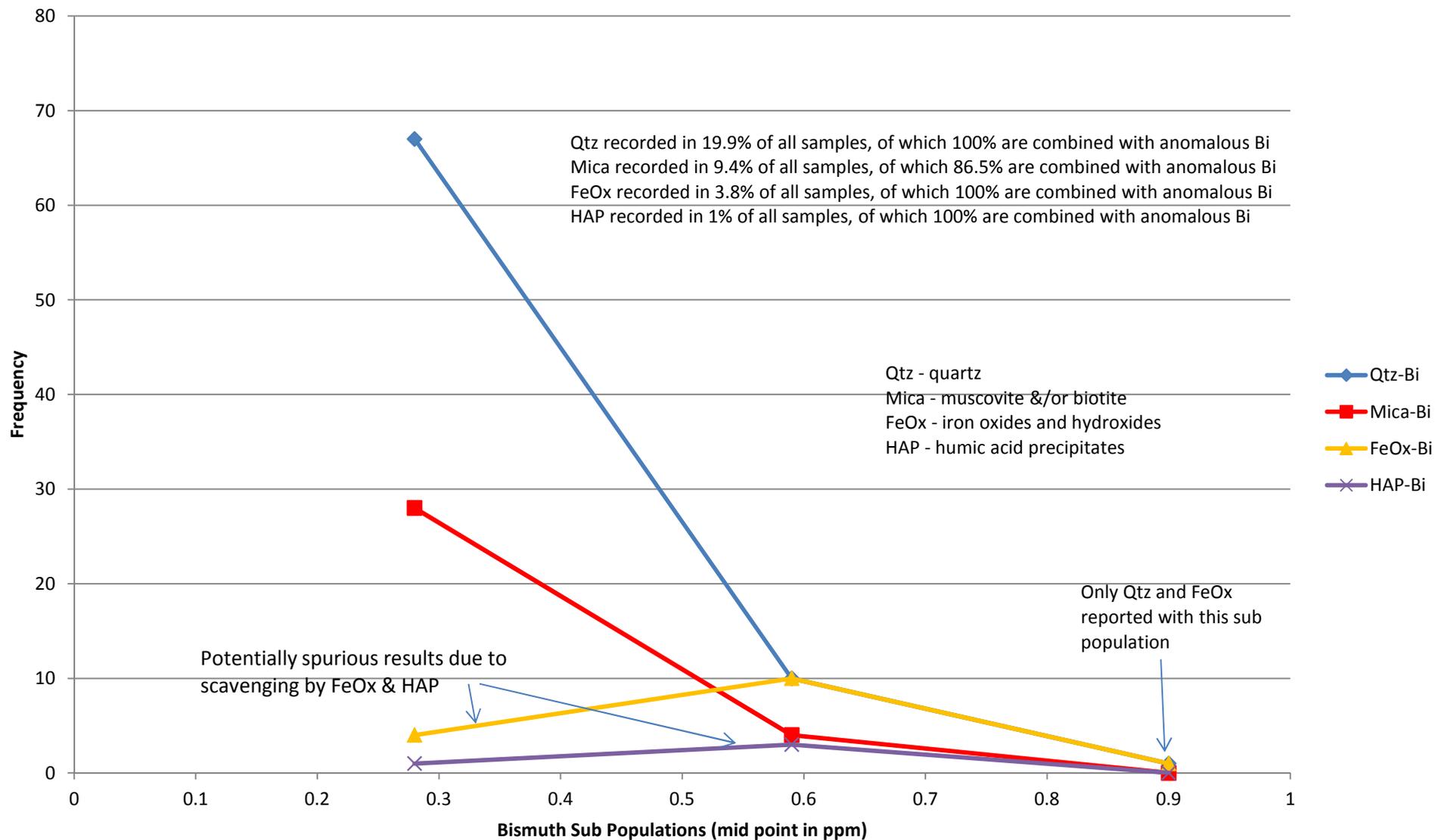
## North Lisle East - Arsenic in Soil samples Occurrence of Anomalous As-Mineral Pairs

Figure 2



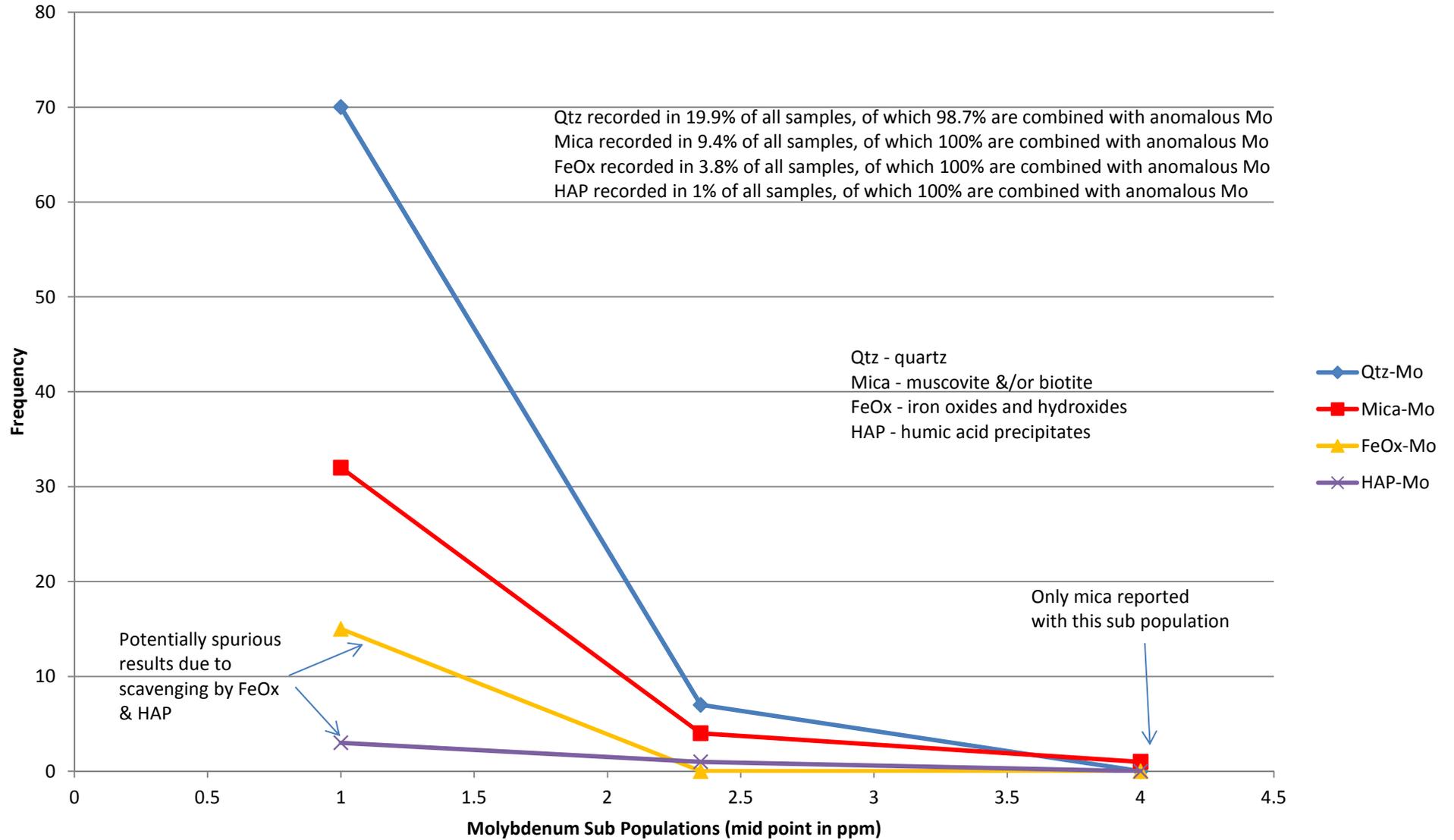
## North Lisle East - Bismuth in Soil Samples Occurrence of Anomalous Bi-Mineral Pairs

Figure 3



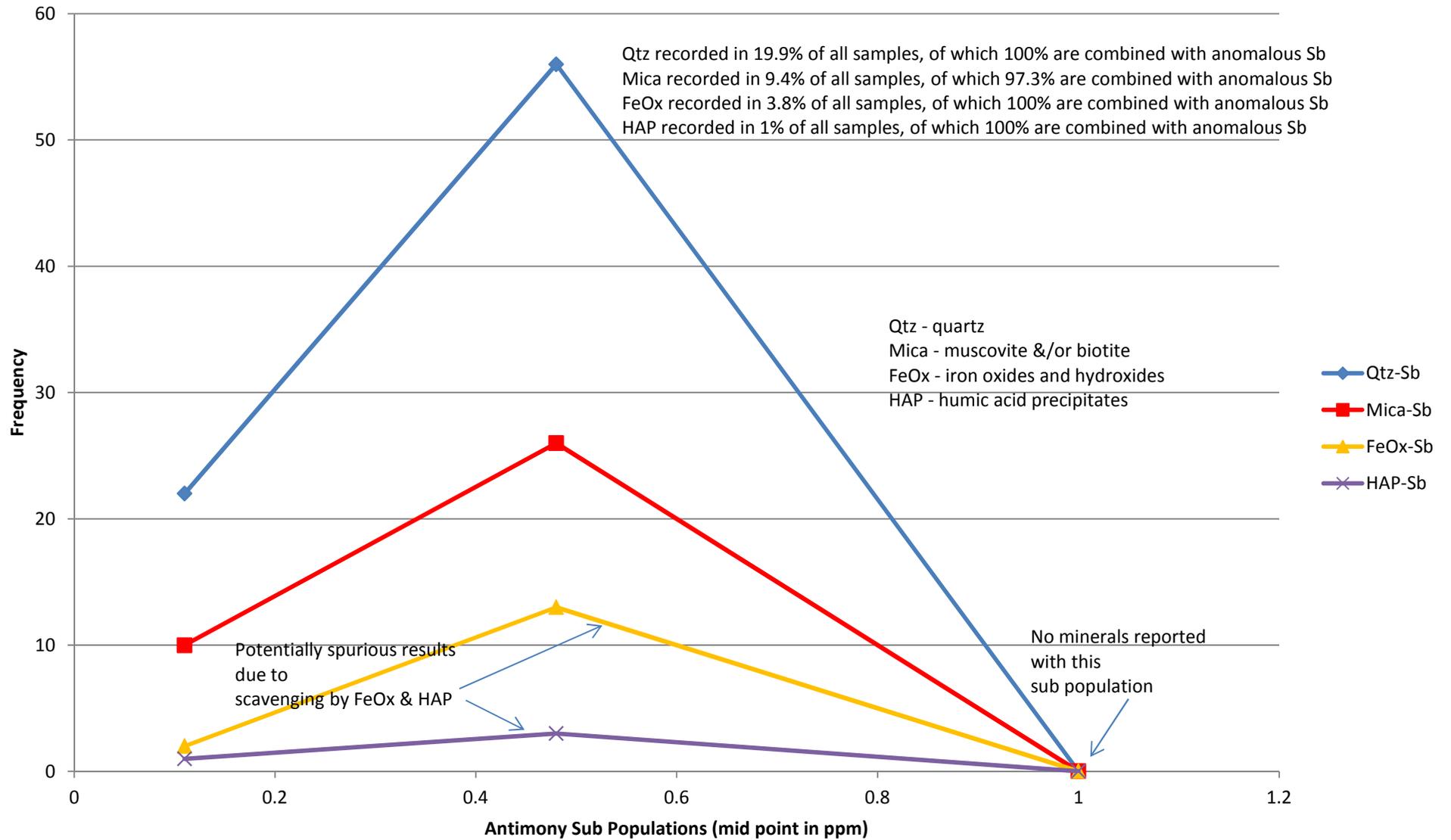
# North Lisle East - Molybdenum in Soil Samples Occurrence of Anomalous Mo-Mineral Pairs

Figure 4



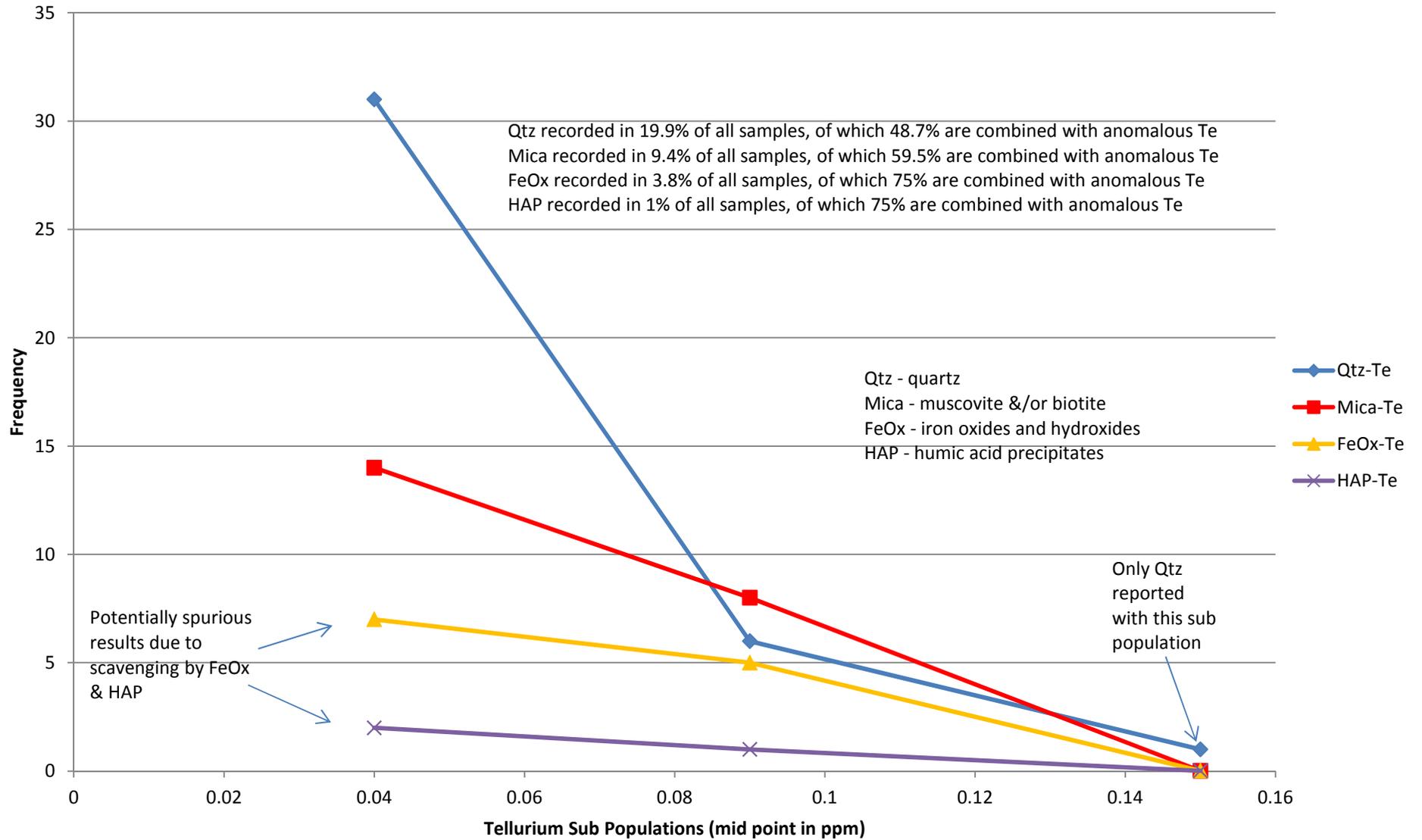
## North Lisle East - Antimony in Soil Samples Occurrence of Anomalous Sb-Mineral Pairs

Figure 5



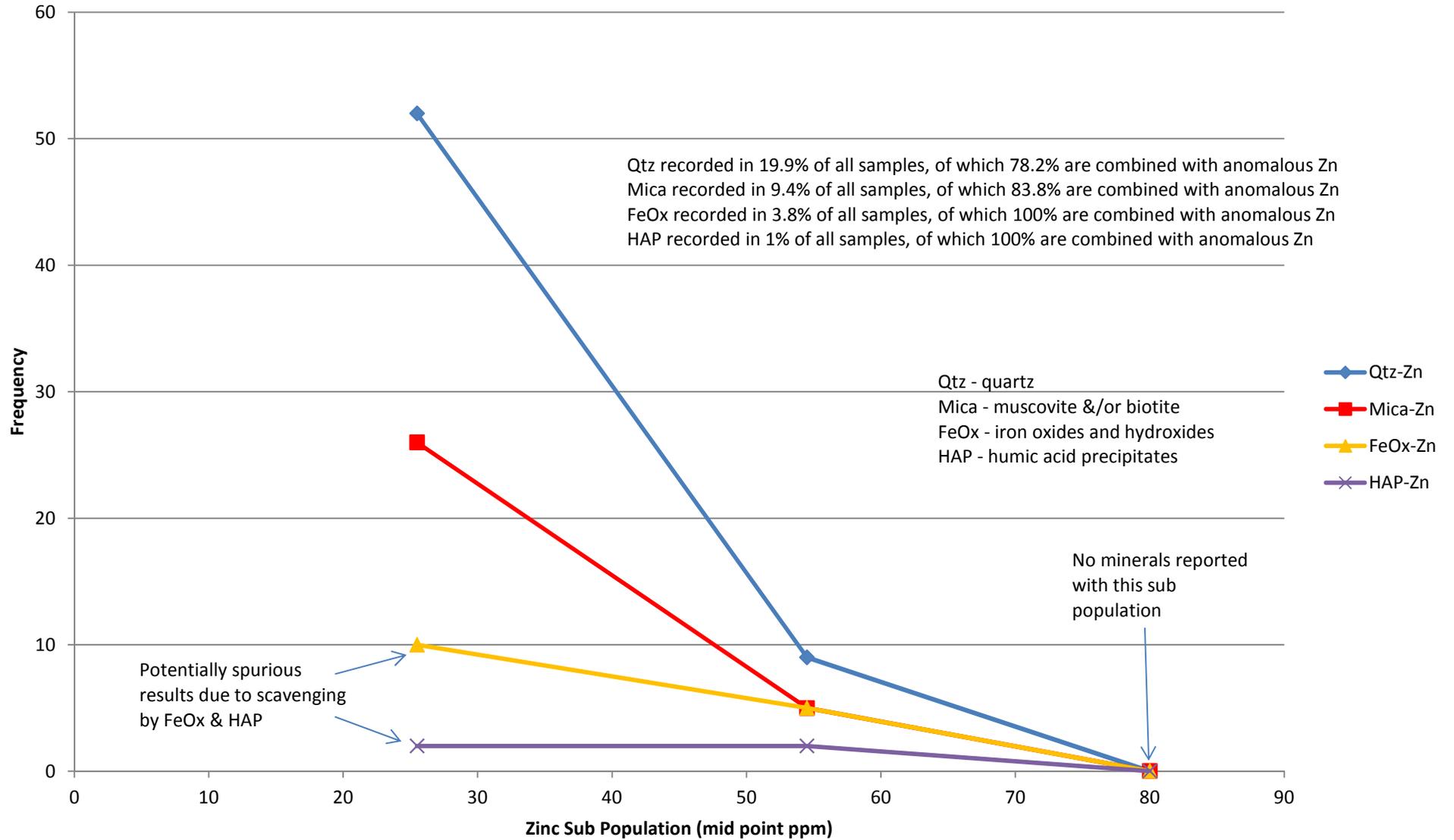
# North Lisle East - Tellurium in Soil Samples Occurrence of Anomalous Te-Mineral Pairs

Figure 6



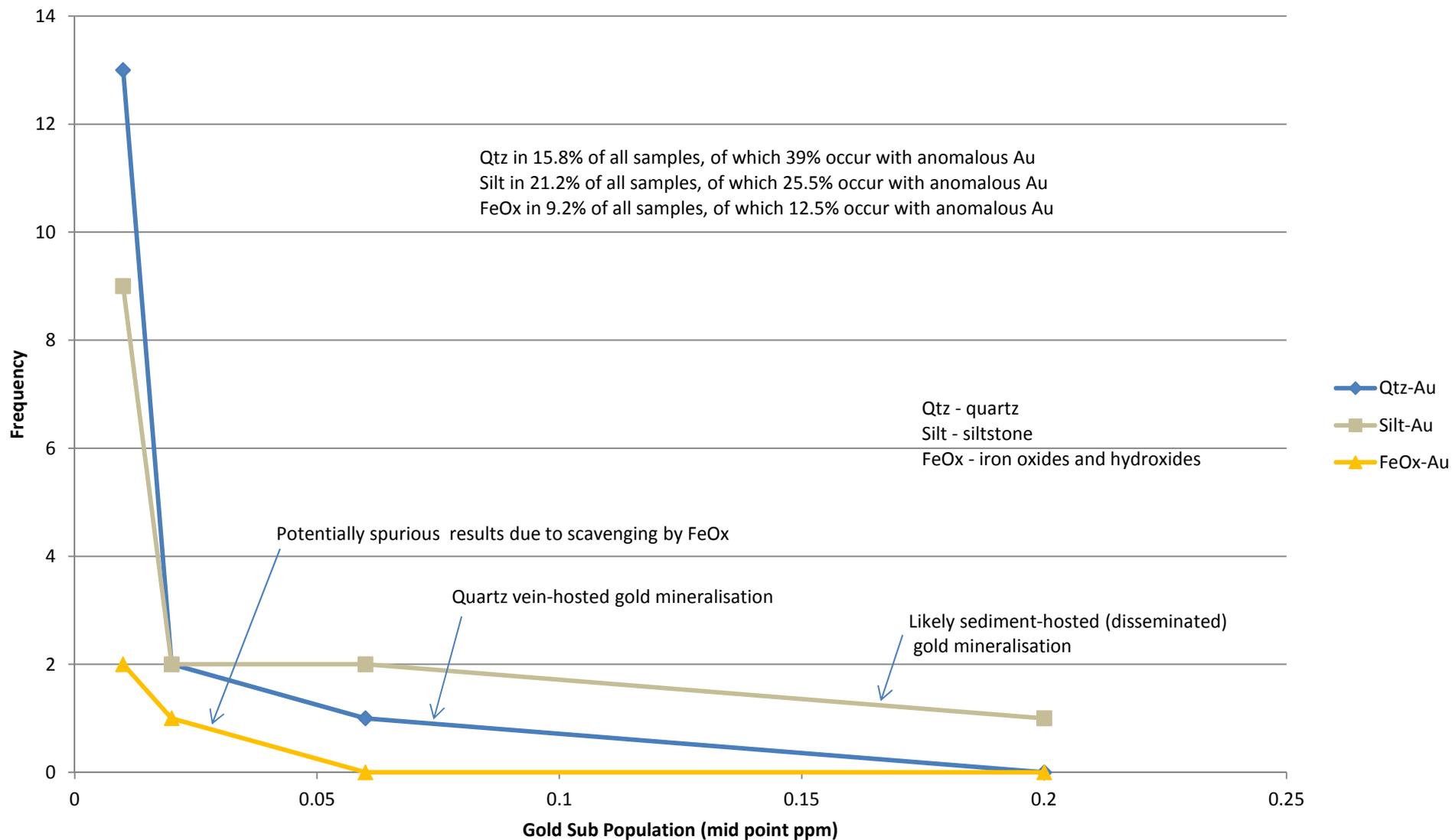
# North Lisle East - Zinc in Soil Samples Occurrence of Anomalous Zn-Mineral Pairs

Figure 7



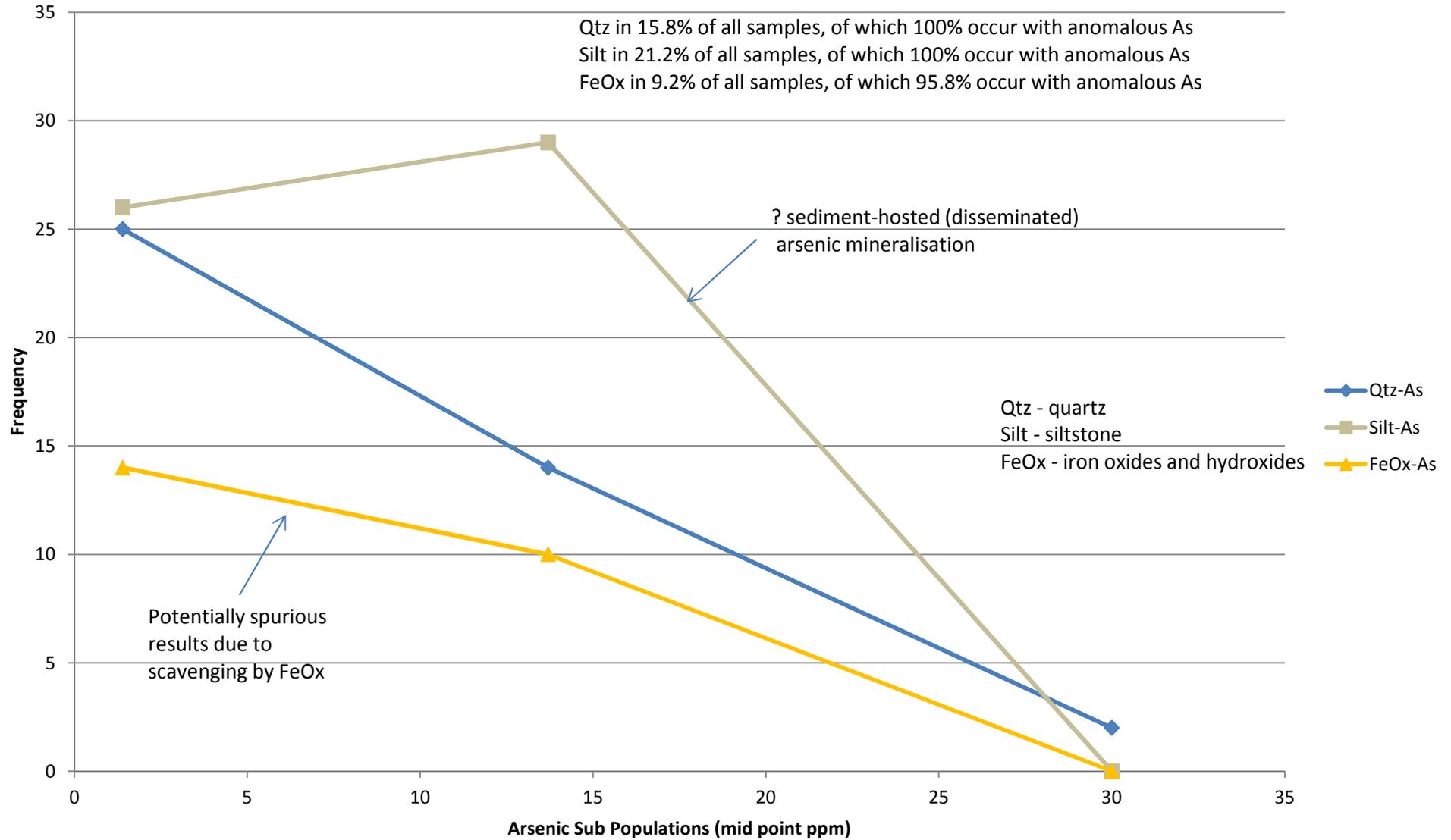
## Cradle Creek - Gold in Soil Samples Occurrence of Anomalous Au-Mineral/Rock Pairs

Figure 8



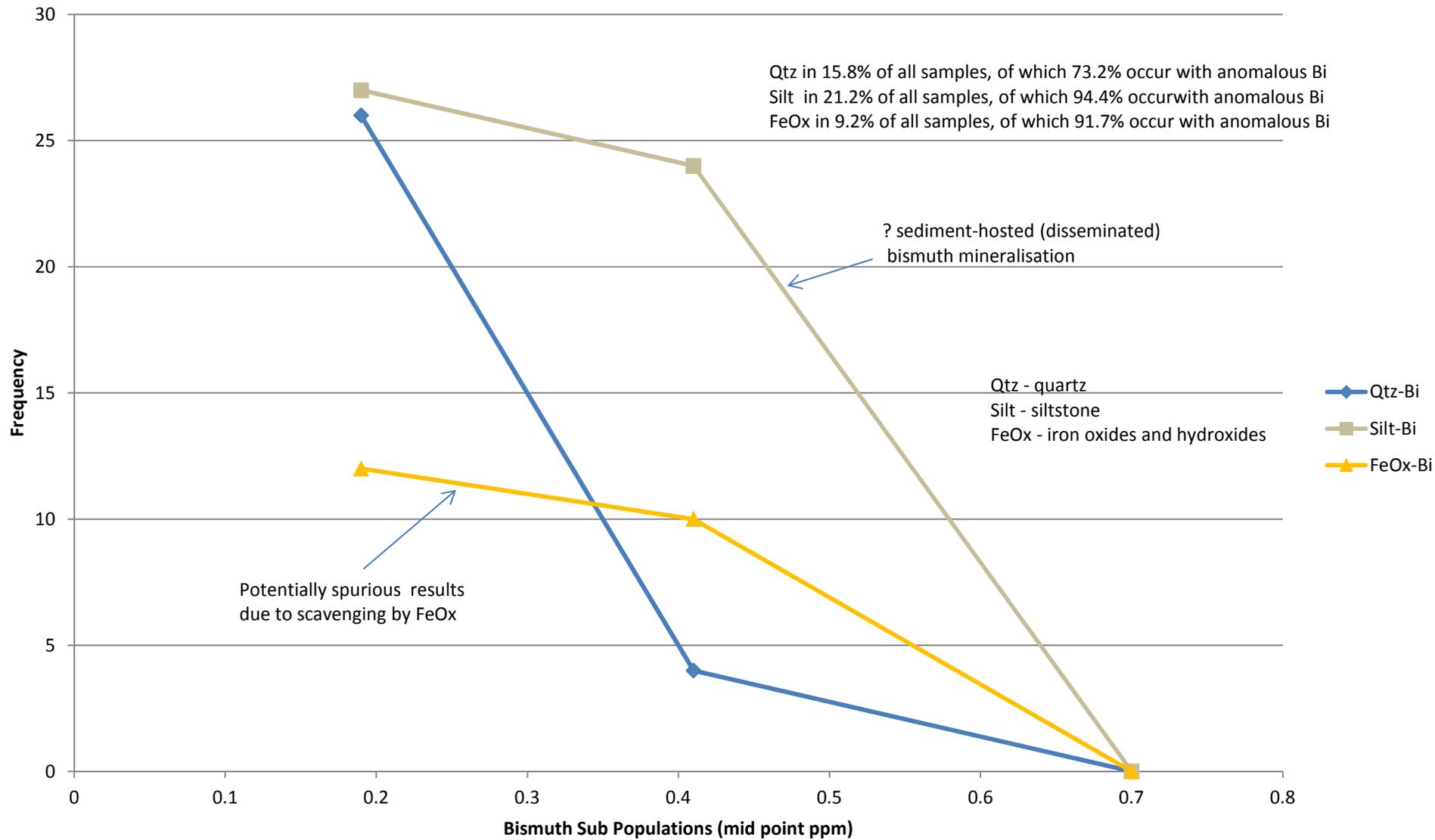
## Cradle Creek - Arsenic in Soil Samples Occurrence of Anomalous As-Mineral/Rock Pairs

Figure 9



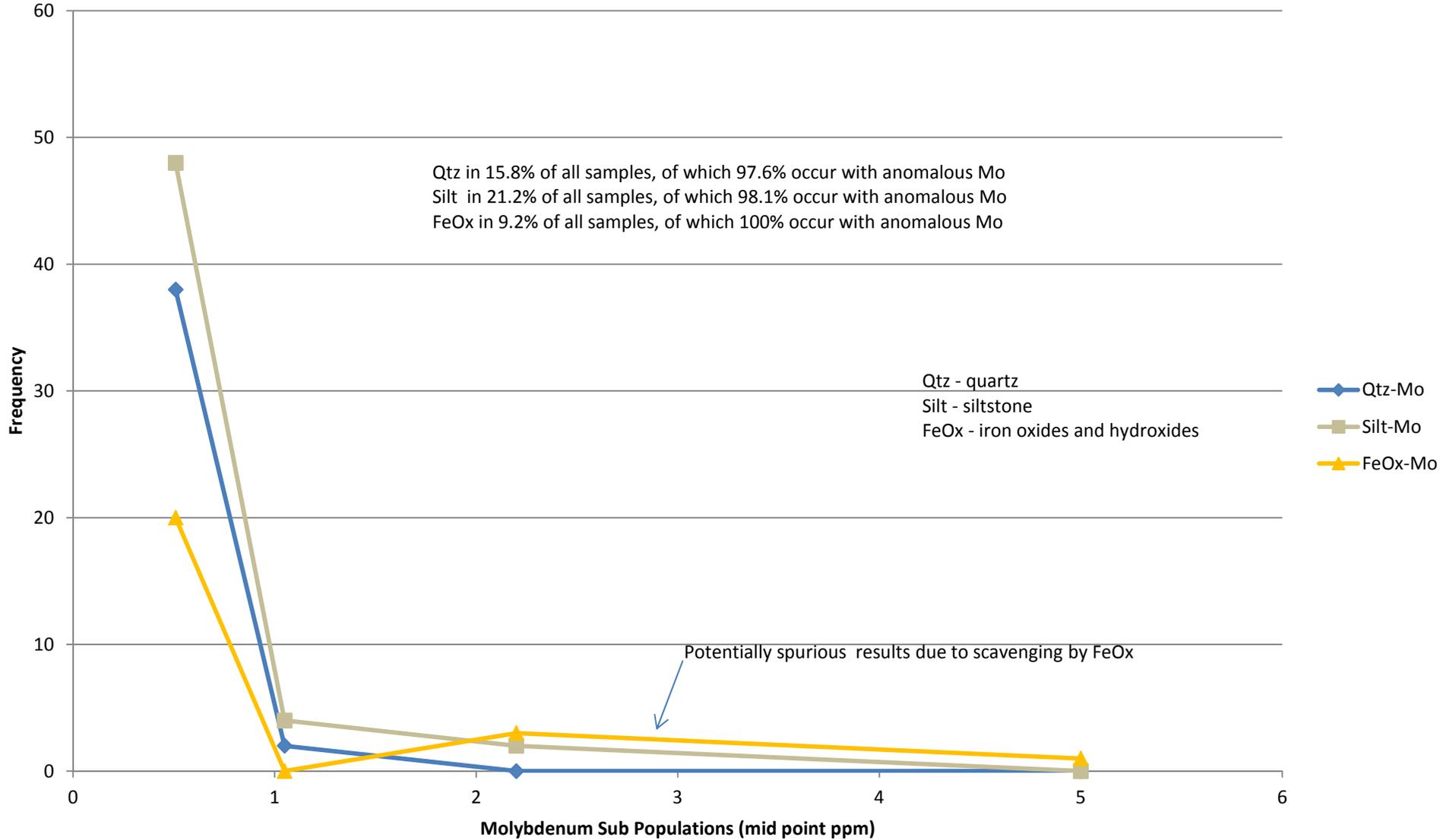
# Cradle Creek - Bimuth in Soil Samples Occurrence of Anomalous Bi-Mineral/Rock Pairs

Figure 10



# Cradle Creek - Molybdenum in Soil Samples Occurrence of Anomalous Mo-Mineral/Rock Pairs

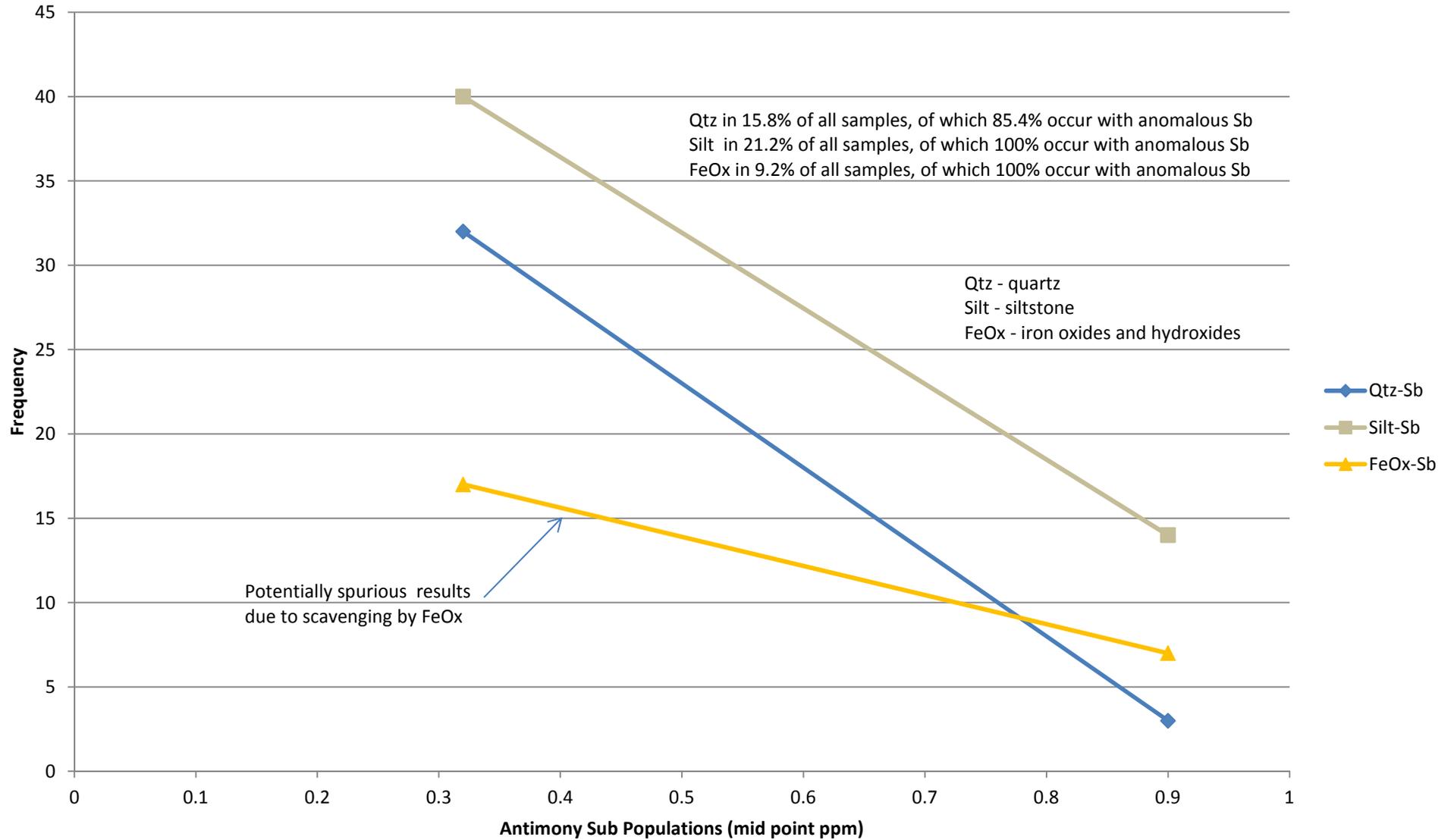
Figure 11



# Cradle Creek - Antimony in Soil Samples

## Occurrence of Anomalous Sb-Mineral/Rock Pairs

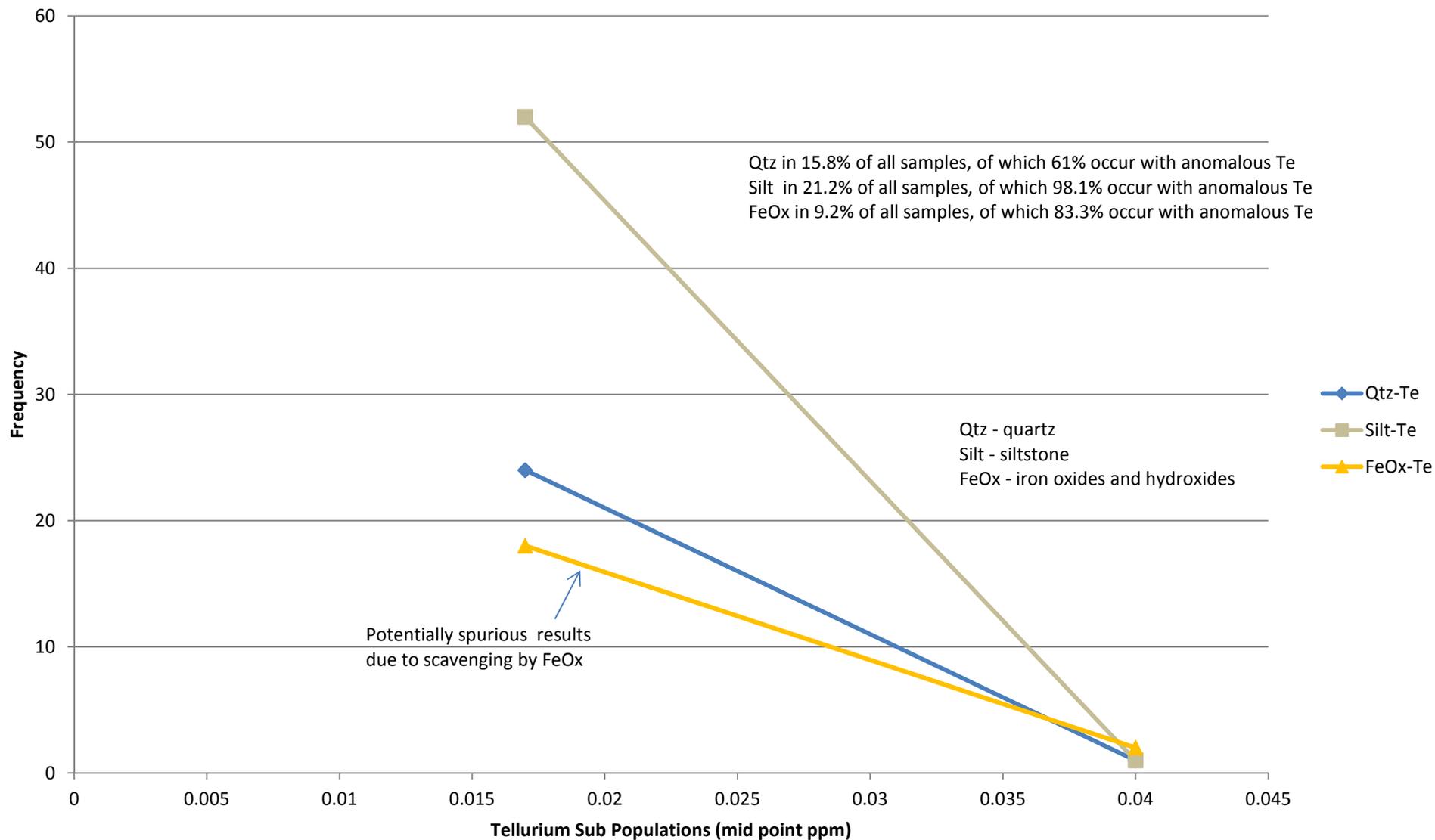
Figure 12



# Cradle Creek - Tellurium in Soil Samples

## Occurrence of Anomalous Te-Mineral/Rock Pairs

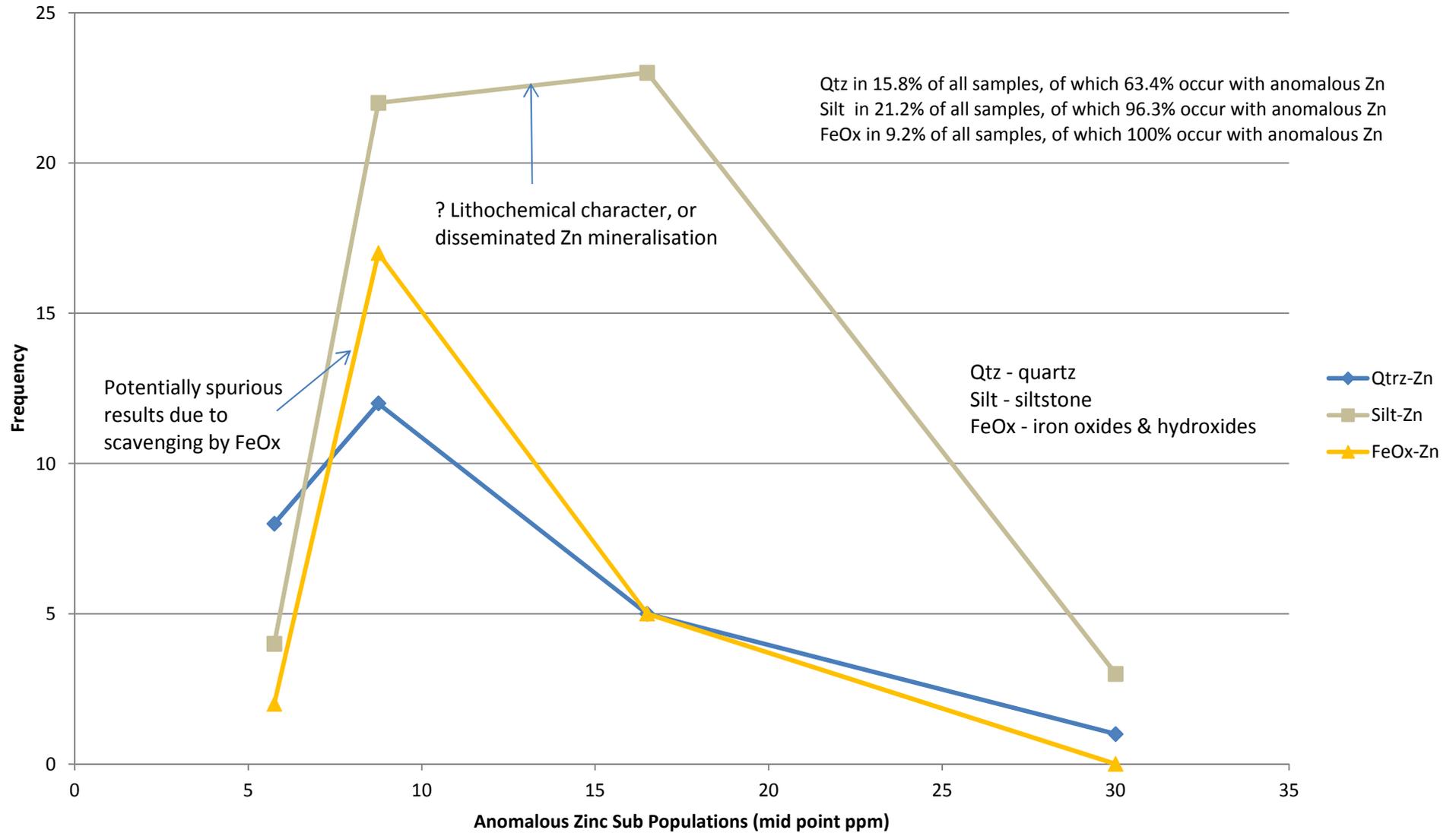
Figure 13



# Cradle Creek - Zinc in Soil Samples

## Occurrence of Anomalous Zn-Mineral/Rock Pairs

Figure 14



## DOCUMENT INFORMATION

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<b>Status</b>	Final
<b>Version</b>	3
<b>Print Date</b>	19 <sup>th</sup> September 2013
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## DOCUMENT CHANGE CONTROL

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Version	Description of changes/amendments	Author (s)	Date
1	Draft Report	TG Summons	21/08/13
2	Updated Draft Report	TG Summons	18/09/13
3	Final Report	TG Summons	19/09/13

## DOCUMENT REVIEW AND SIGN OFF

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Version	Reviewer	Position	Signature	Date
3	TG Summons	Senior Resource Engineer		19/09/13