Tim Callaghan – Resource and Exploration Geology
3 Main Rd Penguin 7318 ph. 0428 888 896 email: timcallaghan@netspace.net.au
ABN 50886857181

ZEEHAN TIN PROJECT

MINERAL RESOURCE ESTIMATE

FEBRUARY, 2013

Prepared for: Stellar Resources Pty Ltd.

Tim Callaghan, February 2013

MAP CONVENTIONS

Coordinates in this report and in digital data associated with this report are recorded in Local Zeehan Mine Grid. The ZMG is a rotated planar grid oriented at 23 degrees to GDA94. Conversion factors are:

X ZMG = ((0.92050485345244*X_GDA)+(-0.390731128489274*Y_GDA))+1823849.603
Y ZMG = ((0.390731128489274*X-GDA)+(0.92050485345244*Y_GDA))-5073074.803

Relative Levels in this report are recorded as MSL + 1000m

EXECUTIVE SUMMARY

The Zeehan Tin deposits are Devonian Granite related cassiterite-pyrite-pyrrhotite-basemetal stockwork and replacement style deposits hosted in Proterozoic and Cambrian sediments and volcaniclastics. The stratabound mineralisation is structurally controlled on fold/fault dilation zones between lithologies of contrasting rheology. Tin occurs principally as cassiterite with minor stannite and basemetal sulphides located towards the top and periphery of the deposits. Three steeply dipping and moderately plunging tabular deposits have been delineated over an area of 600m by 500m to 500m depth, the Severn, Queen Hill and Montana deposits. The Severn and Queen Hill deposits strike mine grid north-south and plunge moderately north. The Montana deposit strikes east-northeast and has a steeply south to vertical dip. Mineralisation in all deposits remains open down plunge and at depth.

The Zeehan Tin deposit Mineral Resource estimation is based on 100 historic diamond drillholes for 25537.7m and 35 recent diamond drillholes for 10428.5m. Drill core was analysed at commercial laboratories for a range of elements by fused disc and pressed powder XRF. SG was measured using a combination of pynctometer and the Archimedes method on drill core samples.

Geological domaining was based on a 0.4% Sn boundary on mineralisation demonstrating sectional continuity within a broader zone of low grade Sn mineralisation. The domains are considered geologically robust in the context of the classification applied to this estimate.

All samples within geological domains were composited to 1m lengths. Top cuts were only applied to the Severn Deposit. Variogram models displayed moderate nugget effect and short ranges of about 10-15m for 1m composited Sn.

Block-modeled Sn, S, acid soluble Sn[1] and SG for the Severn and Queen Hill resources were estimated using an ordinary kriging algorithm. Block-modeled Sn, S, acid soluble Sn and SG for the Montana resource was estimated using an inverse distance squared algorithm. The estimation was validated by visually checking the interpolation results against drill hole data in plan and section, comparing input and output statistics and comparing with previous estimates. The estimate is considered to be robust on the basis of the above checks.

Classification of the Heemskirk Tin Deposits takes into account data quality and distribution, spatial continuity, confidence in the geological interpretation and estimation confidence.

The estimated resource, reported above a 0.6% Sn cutoff as Inferred and Indicated Resource in accordance with the 2012 edition of JORC Code is listed in Table 1.

[1] Acid soluble Sn measures Sn sulphide mineralisation (stannite)

Table 1. Heemskirk Tin Deposit Indicated and Inferred Resource, 0.6% Sn cut off.

Classification	Deposit	Mtonnes	Sn %	Sn tonnes
Indicated Resource	Queen Hill	1.41	1.26	17,790
Total Indicated Resource		**1.41**	**1.26**	**17,790**
Inferred Resource	Queen Hill	0.19	1.63	3,090
	Severn	4.17	0.98	40,900
	Montana	0.51	1.91	9,710
Total Inferred Resource		**4.87**	**1.10**	**53,710**
Total Resource		**6.28**	**1.14**	**71,500**

Note: tonnes have been rounded to reflect the relative uncertainty in the estimate

Mineralisation is strongly zoned with higher acid soluble Sn and Pb towards the top of the Queen Hill and Severn Orebodies. All deposits appear to have higher grade zones and grade tonnage data suggests the deposits may be mined at higher cutoff grades if required.

CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

1 INTRODUCTION

Stellar Resources Ltd has requested a resource estimation of the Zeehan Tin Deposits, principally the Severn, Queen Hill and Montana deposits. The Zeehan Tin deposits are hosted on retention license RL5/1997 held by Stellar Resources Ltd.

The resource estimation is intended to form the basis of a prefeasibility study for development of the deposits.

Previous resource estimations have been completed by consultants Mining One on historic drilling data in 2011 (McKeown, 2011), BM Geological Services (Brewsher,2007) and Aberfoyle Resources (Palmer, 1982).

This resource estimation includes additional diamond drill results from systematic resource extension drilling completed by Stellar Resources since 2010. The estimation was completed with all drilling data available up to and including drill hole ZS123. Exploration and infill drilling is ongoing.

The RL is located on the western side of the Zeehan Township, a historic mining town established in the 1880's. The area has been subject to mining, prospecting and exploration since 1883.

The immediate area surrounding the deposits was subject to intensive mining activity for lead silver mineralisation with numerous shafts, adits and small pits and costeans between 1883 and 1963. Modern exploration commenced in the mid 1960's by Placer Prospecting and then Gippsland who intersected the Queen Hill cassiterite lodes in 1971. Gippsland entered into a JV with Aberfoyle Resources with extensive exploration drilling occurring up to 1992. The collapse of the tin price in the early 1990's saw activity decline and the deposits were retained as an RL in 1997.

Tim Callaghan of Resource and Exploration Geology (REG) was engaged by Stellar Resources to prepare a mineral resource estimate for the Zeehan Tin Deposits. Mineral resource estimates in this report have been classified and reported in accordance with the Australasian CODE for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2012 edition (the "JORC" code).

1.1 SCOPE OF WORK

REG propose to carry out the following work on the Zeehan Tin deposit:

- Locate, load and validate historic and recent drill data into ACCESS database
- Provide geological interpretation of the deposits
- Prepare three dimensional solid models of geological elements required for resource estimation
- Undertake statistical and geostatistical investigations
- Prepare a block model of the Zeehan Tin Deposits
- Estimate total Sn, S, SG, and acid soluble Sn into the model.
- Validate the model
- Report the mineral resource in accordance with the JORC Code

.

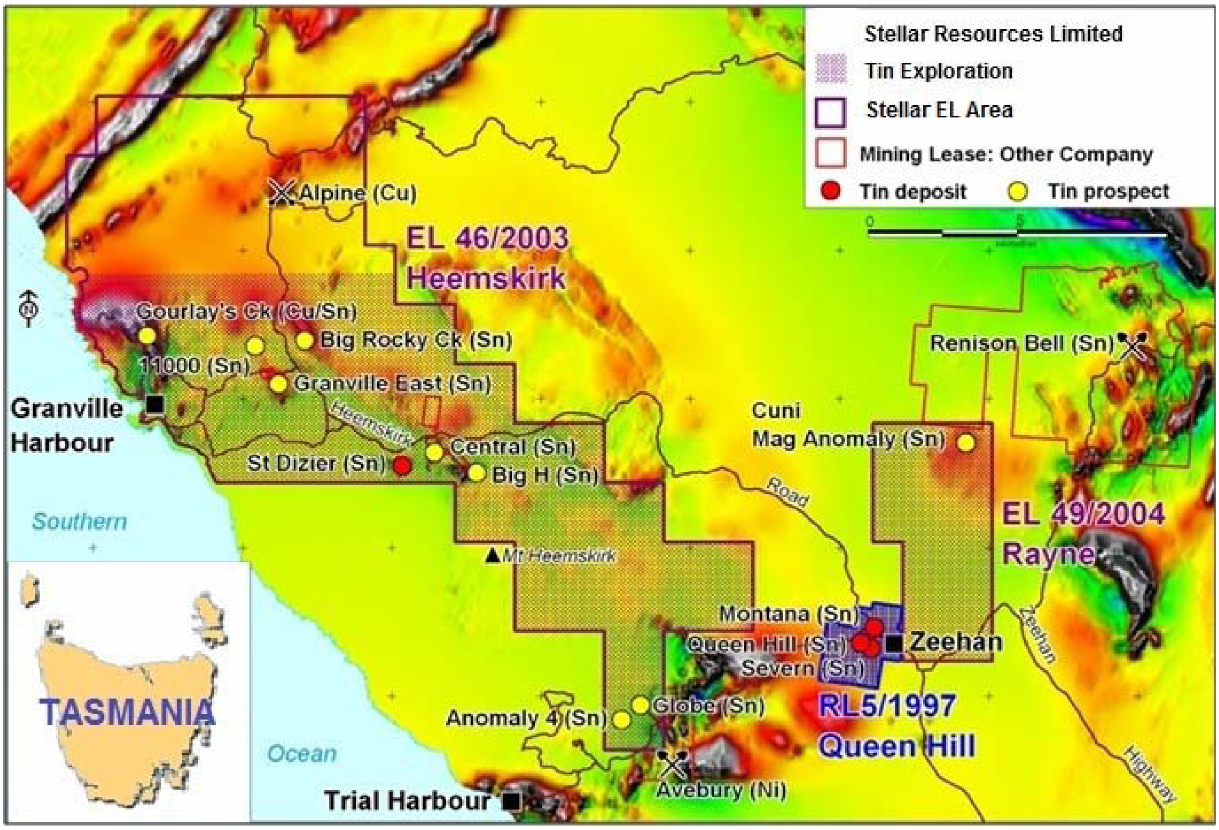


Figure 1. Location of RL 5/1997 and EL's 46/2003 and 49/2004.

1.2 DATA PROVIDED

Data provided for this estimate includes:

- Drilling data (excel files)
- Topographic dtm (DXF)
- QAQC data (excel files)
- Historic Exploration Reports (pdf)

Drill hole data was loaded into an access database and opened into Surpac format.

Several errors were identified in the data and corrected before geological modeling commenced. Errors corrected include:

- Zeros in the database where there was no assay data, particularly Ag and Au fields.
- Sample interval overlaps in the assay table
- SG and S data in the incorrect format or field.

The excel data was acquired from Stellar Resources Ltd and validated by the Author. Validation included checking hole locations relative to historic cross sections and plans. Responsibility for data quality and integrity rests with Stellar Resources.

Data provided with this report includes:

- Access database used for the estimate
- Solid Models of Mineralisation Domains (Surpac)
- Block modeled Resource Estimate (Surpac)
- Mineral Resource Estimate Report (pdf)
- Composite files used for the estimate.

2 GEOLOGY

2.1 REGIONAL GEOLOGY

The Zeehan district has seen complex deformation, igneous activity and sedimentation from the Late Proterozoic to the present. Basement rocks in Tasmania are dominated by the Late Precambrian Tyennan Element in the east and the Rocky Cape Association of similar age in the northwest. The Zeehan Basin on the eastern margin of the Dundas Trough was a major control on the pre-Carboniferous geology of the Zeehan District.

Around 700Ma a shallow rift basin developed between the northwest and eastern basement blocks. Siliciclastic sediments of the Forest Conglomerate, Donaldson Formation, Timbs Group and Oonah Formation were deposited in the deepening basin. Sag phase siliciclastic sedimentation and carbonate deposition followed and are represented by the Black River Dolomite, Savage Dolomite, Success Creek Group and upper Timbs Group. The Success Creek Group unconformably onlaps the Oonah Formation in the Zeehan district and is marked by a structural and low grade metamorphic contrast between the two groups (Corbett, 1989). The hiatus in deposition and increased complexity of the Oonah formation is a result of the late Precambrian Penguin Orogeny.

Continued rifting in the early Cambrian (580-550Ma) resulted in the deposition of a thick pile (>5km) of tholeiitic volcanics and associated sediments, carbonate and chert of the Crimson Creek Formation. The Crimson Creek tholeiites have a within plate geochemical signature (Brown and Jenner, 1989). Correlates of the Crimson Creek Formation occur elsewhere in NW Tasmania outside of the Dundas Trough (Brown, 1986, Brown and Jenner, 1989).

During the Middle Cambrian (515-510Ma) a sequence of mafic-ultramafic complexes were emplaced on the western margin of the Dundas Trough. Ultramafic detritus in clastic rocks suggests they were emplaced high into or above the Crimson Creek Formation and were subject to Middle Cambrian Erosion (Corbett, 1989). Berry and Crawford, (1988) proposed an obduction model for the emplacement of the mafic-ultramafic complexes and associated sedimentary sequences where a forearc terrain was thrust over a passive continental margin.

Basaltic suites of genetically related island arc-ocean island affinities have been distinguished within the western margin of the Dundas Trough (Brown and Jenner, 1989). These have been demonstrated to be genetically related to the spatially associated ultramafic complexes and include a high magnesium boninite and low titanium tholeiites (Brown and Jenner, 1989).

Post collision extensional tectonics produced troughs into which the Cambrian Dundas Group and Mt Read Volcanics were deposited. The Dundas Group forms a complex sequence of locally derived sediments and volcanics along the western margin of the Dundas Trough. The Mt Read Volcanics occupy the eastern margin of the trough with proximal volcanics juxtaposed along the boundary with the Tyennan Block grading into extensive volcano-sedimentary sequences to the west.

The Late Cambrian Delamarian Orogeny resulted in localised uplift and erosion of the Tyennan Block and subsidence of the Dundas Trough. The Ordovician to Devonian Wurawina Supergroup unconformably fills structural and erosional basins. The succession is divided into the Late Cambrian to Middle Ordovician coarse siliciclastic Denison Group, the Ordovician carbonates of the Gordon Group, and fine siliciclastics of the Silurian to Devonian Eldon Group (Banks and Baillie, 1989).

The Middle Devonian Tabberabberan Orogeny has resulted in polyphasal deformation with intersecting fold trends forming dome and basin structures and overprinting relationships (Williams, 1978). Folds are generally upright to steeply inclined with plunging hinge lines. Many faults are steep thrusts and reactivation of Cambrian structures is common. Folding within the Zeehan Basin produced dominantly NNW trending fold hinges. Localised WNW trending folding is located in the Zeehan-Linda zone, possibly associated with the large Firewood Siding and Tenth Legion thrust faults (Williams, 1978).

Several small to medium sized post tectonic I and S type granitoids intrude the early lithologies. Granitoids were emplaced at shallow levels and are dominantly granite or biotite adamellite. Geophysical modeling has indicated the presence of a large ENE-trending ridge of granite linking the Heemskirk and Granite Tor plutons (Leaman and Richardson, 2003).

A number of styles of mineralization are associated with the Devonian granitoids including tin-tungsten and lead-zinc-silver (Collins *et al*, 1989) and the recently discovered Avebury Nickel Skarn (Callaghan and Green, *in press*).

Cassiterite mineralization is associated with stratabound massive sulphide bodies replacing carbonates of the Oonah Formation (Mt Bischoff, Queen Hill), Success Creek and Crimson Creek Groups (Renison, Severn, Montana). Stockwork and fault related cassiterite-sulphide mineralisation is associated with the Renison, Severn, Queen Hill and Montana deposits. Disseminated cassiterite is associated with greisenised granite in the southern part of the Heemskirk Granite.

Skarn tin-tungsten and tungsten-magnetite deposits occur adjacent to granite bodies in direct contact with calcareous sediments (Tenth Legion, St Dizier, Kara, Dolphin).

Lead-zinc-silver vein mineralization occurs in haloes around granite bodies. These deposits are typically small such as the numerous deposits of the Zeehan-Dundas field. The Magnet Mine was the largest known of this type at 630,000t @ 7.3%Pb, 7.3% Zn and 427g/t Ag.

Post deformation sedimentation resumed in the Permian with thick, essentially flat lying sequences of mudstone, sandstone and minor carbonates of the Parmeener Supergroup. Minor Jurassic Dolerite sills are present in the Dundas Trough.

Tertiary faulting, basin formation and alkali-olivine basalt extrusion formed the large Macquarie Harbour Graben west of Strahan and basalt flows north of Mt Heemskirk.

Surficial Quaternary deposits are widespread and erosion and deposition continues to modify the landscape.

2.2 LOCAL GEOLOGY

The oldest rocks in the Zeehan locality are the siliciclastic sediments of the Oonah Formation comprising quartzite, black shales and siltstones. The Oonah Formation in the Queen Hill-Severn area is characterized by two distinct lithologies, a thinly bedded interlayered sequence of black shales and thin quartzite known as the QS sequence (Aberfoyle nomenclature) and a prominent grey quartzite known as the QST sequence.

Coeval with the Upper Oonah Formation is a localised basaltic sequence of tholeiitic lavas and proximal volcaniclastic breccias known as the Montana Volcanics. These are located on the western side of Queen Hill and form the western margin of the mineralisation. The volcanics are associated with localised carbonates and siltstones.

A localised sequence of grey siltstone and dolomite locally known as the Montana Beds separates the Oonah Formation from the Crimson Creek Formation on the eastern side of Queen Hill. The Montana beds are discontinuous, varying in thickness and composition, probably having formed in localised palaeo basins.

The Crimson Creek Formation forms a thick sequence of graded basaltic volcaniclastic turbidites with interbedded black shales. Rare vesicular basaltic lavas and proximal volcaniclastic breccias are present in some drill holes. Carbonate beds are more common towards the base of the formation.

The deposits are located in a northeast-southwest trending flexure in the dominantly east-west trending geology (Figure 2). Locally the foliation and bedding generally dip steeply east at about 70-80 degrees. Lithologies are considered to be east facing although an alternative interpretation has been postulated by Aberfoyle geologists where the mineralisation is hosted in two limbs of a tight east dipping anticline. Recent petrography and immobile element studies by Ralph Bottrill (2012) support an east facing sequence.

The Zeehan Tin Deposits are typical of Devonian Granite related tin mineralisation. Granite outcrops at Mt Heemskirk to the west of Zeehan and at Pine Hill and Granite Tor east of Zeehan. Gravity modeling (Leaman and Richardson, 1989) and the metal zonation of the Zeehan Dundas field strongly suggest the presence of a granite body extending east from Mt Heemskirk. Several deep drill holes at Renison have intersected the granite at depth.

The Queen Hill deposit is essentially stratabound on the Montana Volcanics-Oonah QS sequence boundary with mineralisation occurring in both sequences. Mineralisation strikes ZMG north-south, dips steeply east and plunges north, remaining open down plunge. The deposit has a strike length of over 200m extends from surface to 250m and varies in thickness from 2-25m (Figure 4). The deposit comprises two main lenses with several small associated lodes. Some of the dolomite beds associated with the volcanics has been replaced forming semi-massive sulphide bodies. Mineralisation occurs as pyrite-siderite veining and replacements with accessory cassiterite, stannite, galena and sphalerite. Galena and sphalerite veining is more common towards the top and periphery of the tin-sulphide mineralisation. Basemetal silver veins form lode style deposits such as those of Clarkes Lode.

The Severn mineralisation is essentially of stratabound stockwork and replacement style, located on the Oonah QS sequence - Crimson Creek Formation boundary with mineralisation occurring in both sequences but principally in the Montana Beds and Lower Crimson Creek Formation. Mineralisation strikes ZMG north-south, dips steeply east and plunges north, remaining open down dip and down plunge. Mineralisation occurs principally as pyrite-pyrrhotite-siderite stockwork veining with accessory cassiterite, stannite, chalcopyrite and rare arsenopyrite, galena and sphalerite. Vein widths vary between a few millimeters to 0.5m. Vein orientations are variable. Some of the dolomite beds associated with the Montana Beds have been replaced forming semi-massive sulphide bodies. The mineralised zone is broad, extending over 400m in strike length and 50m in width, extending from 70m below surface to 500m from surface (Figure 4). A high grade core and several smaller sub parallel zones are located towards the base of the broad low grade stockwork style mineralisation. These form the basis of the Severn Mineral Resource Estimation.

The Montana deposit is interpreted to be an essentially vertical body striking east northeast ZMG. The deposit extends over 100m in strike length and extends from 50m below surface to nearly 400m below surface. Mineralisation is relatively thin extending between 2-8m in width. Mineralisation, occurring as massive pyrite-siderite with accessory cassiterite-galena, sphalerite and stannite, is mostly hosted in the Montana Beds but the western margin is hosted in the Oonah Formation QS sequence. The tin mineralisation is located below and adjacent to galena-silver-sphalerite lodes that were historically mined to a depth of approximately 70m from surface in the Historic Montana No 2 Mine. Two galena silver lodes were developed, one trending northwest, the other east-northeast. Stanniferous pyrite mineralisation occurs between the two lodes extending down dip sub parallel to the east-northeast galena-silver lode.

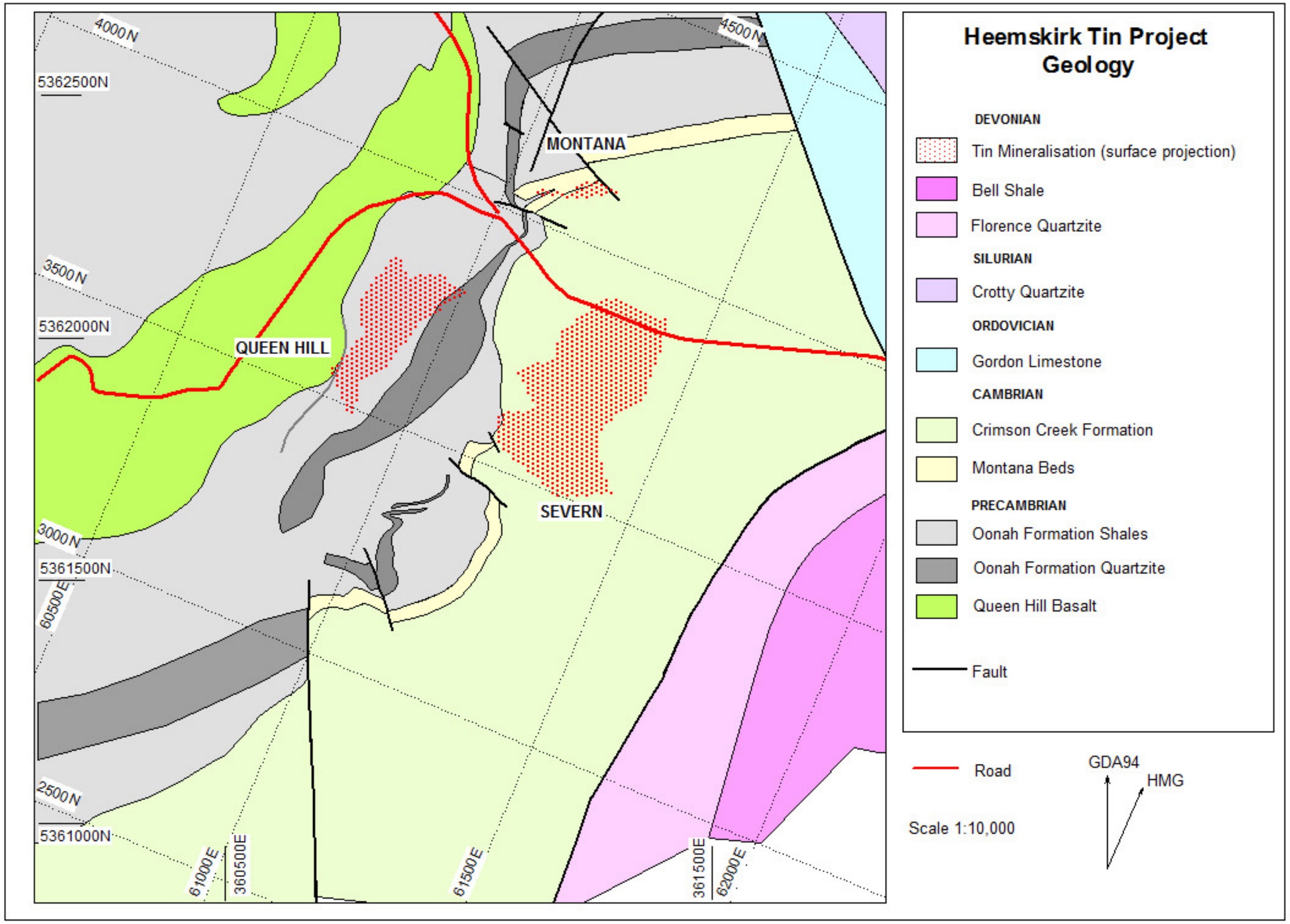


Figure 2. Zeehan Tin Project Local Geology

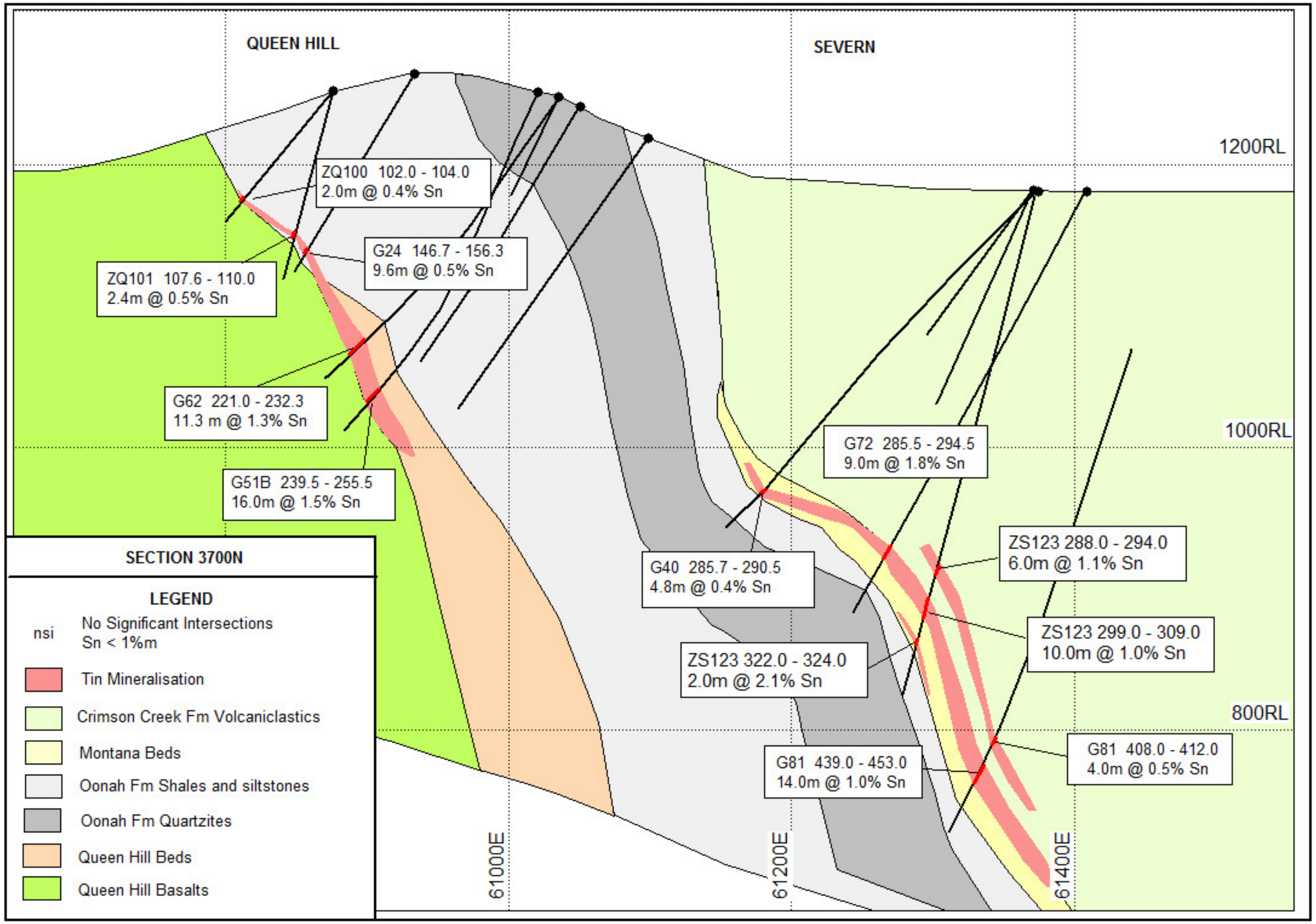


Figure 3. Geology Section 3700N

3 DRILLING DATA

An Access database was created to manage the drilling data by Resource and Exploration Geology. Historic collar, survey and assay data was supplied by Stellar Resources on excel spreadsheets and uploaded into the database. Recent drilling data has been uploaded from excel drill logs as each hole is completed and validated.

Post 2010 drill logs were entered on laptops in the field using excel spreadsheets. Assay data was returned from the laboratory as excel spreadsheets and uploaded to the database. Historic drill logs are well documented on hand written and typed logs, some with accompanying graphic logs. The lithology and visually estimated sulphide content from the historic logs have been manually entered onto excel spreadsheets and uploaded to the Database.

Drilling of the Heemskirk Tin Deposits consists of 135 diamond drill holes for 35,966.2m. Pre 2010 drilling accounts for 100 of the drill holes. An additional 35 diamond holes for 10428.5m have been completed since 2010, principally in the Severn Deposit with minor drilling in the upper part of the Queen Hill and Montana Deposits. All of the recent drilling was completed by contract drilling company's E-Drill and Van Dieman Drilling. The majority of the historic drilling was completed in the early 1980's by the Gippsland-Aberfoyle Joint Venture. Recent drill core is stored in Stellar Resources core facility in Zeehan. Most of the Historic core is stored in the old Aberfoyle core facility in Zeehan.

Most historic and recent drill hole collars have been surveyed by qualified surveyors with the exception of 13 early diamond drillholes which were located on a local grid. Eight of the un-surveyed drill collars intersect the Queen Hill Mineralisation including drill holes G01- G05, G08, G11 and G22.

Downhole surveys were completed with downhole cameras or Tropari. These methods are acceptable given that the only significantly abundant magnetic mineral is pyrrhotite within mineralised zones.

Core sizes were recorded in drill logs and recorded in the database. Most mineralised intercepts range from BQ 36.4mm to NQ 47.6mm with a few larger sizes.

Drill spacing is nominally 100 x 100m for all deposits with the upper part of Queen Hill drilled at 50 x 50m (Figures 4, 5 and 6).

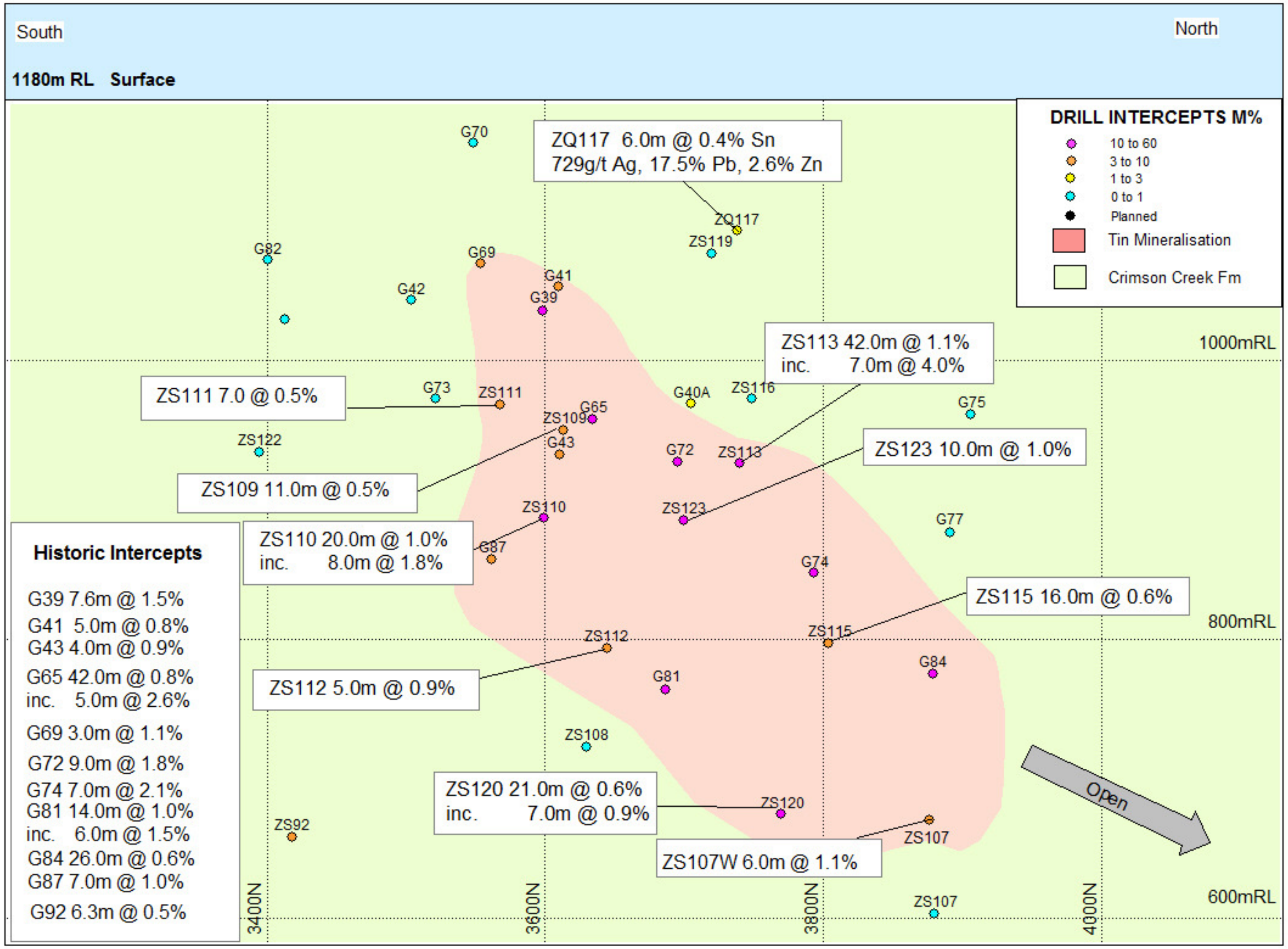


Figure 4. Severn Long Projection

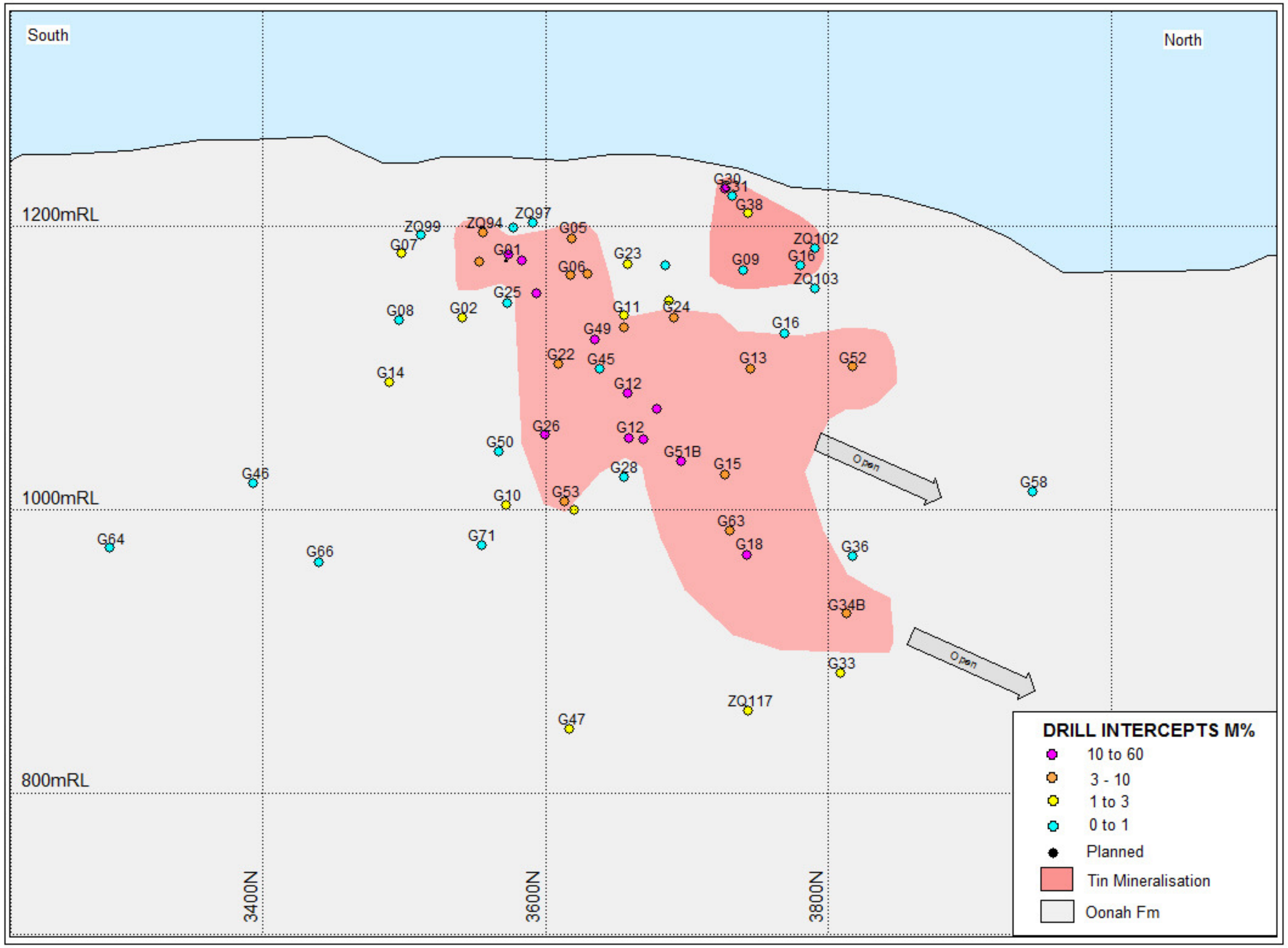


Figure 5. Queen Hill Long Projection

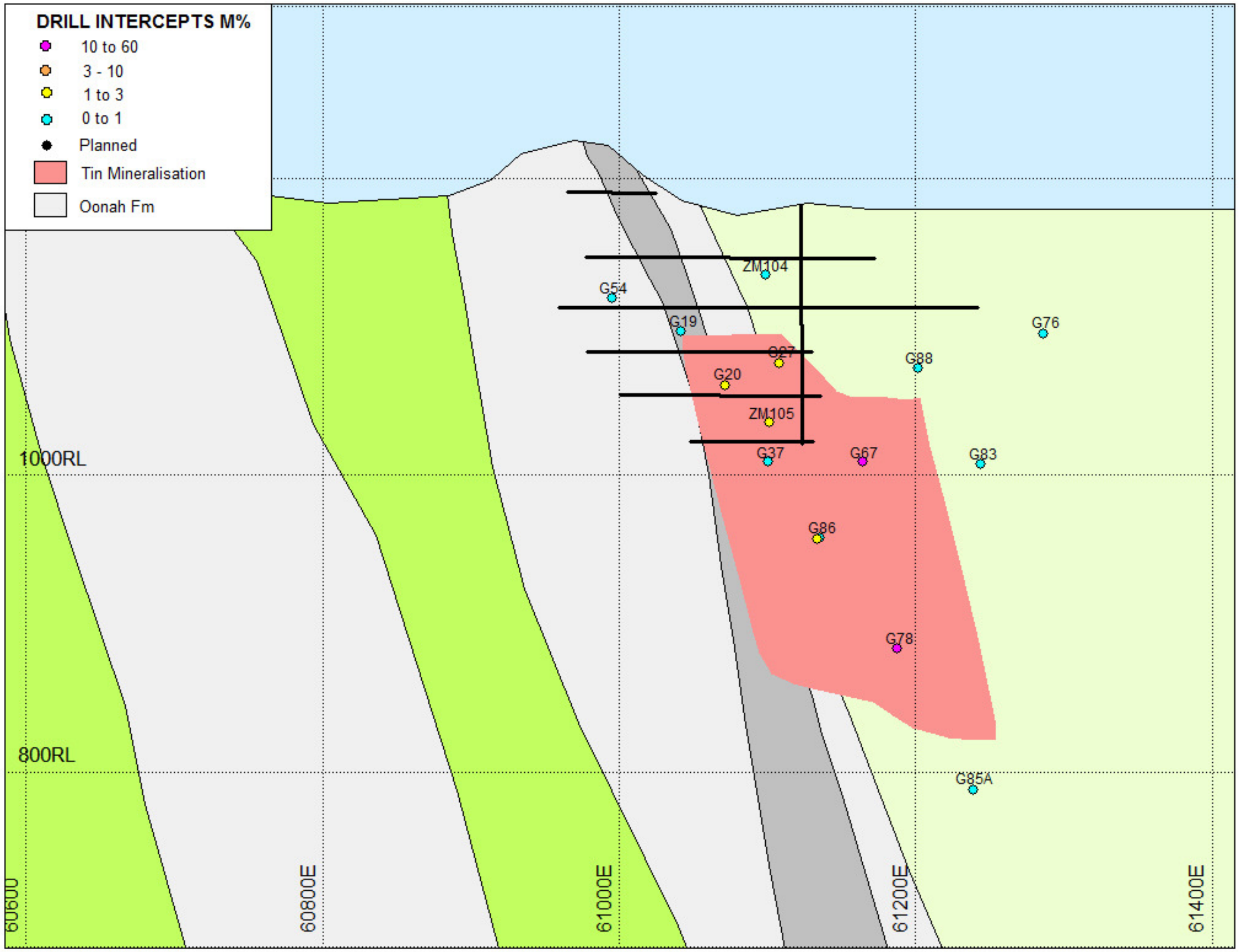


Figure 6. Montana Long Projection

TABLE 2. SUMMARY OF ZEEHAN PROJECT DRILLING, SAMPLING TECHNIQUES AND DATA	
Criteria	**Status**
Drilling Techniques	• 135 diamond HQ, NQ and BQ diamond core for 35,966.2m • 35 Post 2010 drill holes for 10,428.5m
Sample recovery	• Generally excellent (100%) although some core loss due to historic mining activities in the upper Queen Hill and Montana Deposits. Historic recoveries reported in McKeown (2011).
Logging	• Recent geological logs on excel spreadsheets, downloaded to access database. • Historic logs entered onto excel spreadsheets and uploaded to access data base.
Sub-Sample preparation	• Half core split by diamond saw on 1m samples while respecting geological contacts.
Sample preparation	• Crushed and pulverized to 70 micron at Burnie ALS laboratories. • No record of historic sample preparation
Sample Analysis	• Post 2010 drill holes - XRF fusion disc for multi element analysis • Pre 2010 samples were reported to have been analysed by pressed powder XRF with wet chemical standardization of the XRF at a range of Commercial and Company laboratories.
Assay QA/QC	• Duplicate assaying and independent laboratory sampling in historic Aberfoyle data • Independent laboratory analyses have been completed during recent drilling campaigns.
Location of Data	• All hole collar surveys by licensed surveyor with the exception of 13 early drill holes. • All coordinates in Zeehan Mine Grid (ZMG) and GDA94 • Down hole surveys by downhole camera and Tropari
Data Spacing and distribution	• Drill spacing approximately 50 x 50m or less in the better drilled part of Queen Hill. • Drill spacing approximately 100 x 100m in the Severn and Montana deposits. • The majority of DDH have been drilled west-east or east-west, sub-perpendicular to ore body strike.

Database Integrity	• All data captured and stored in customised access database and validated and updated by REG 2013. • All historic drill logs entered into excel spreadsheets prior to being downloaded into database. Lithology codes migrated to Stellar Resources codes. • Data integrity validated with Surpac Software for EOH depth and sample overlaps. • Manual check by reviewing cross sections with the historic drafted sections and plans. • Basic statistical analyses reveal several database errors including data in the wrong fields or ppm recorded as %. All errors rectified.

3.1 ASSAYING AND QAQC

There are 6,229 assay records in the database: 4,286 pre 2010 samples attributable to Aberfoyle, Gippsland and Cominco, the remainder to Stellar Resources post 2010.

The Pre-2010 drillholes were analysed at a number of laboratories including: Amdel, Analabs, Cominco, Comlabs, Cleveland Tin, McPhar and Spectrometer Services. Duplicate assaying and Independent Laboratory checks were recorded in Aberfoyle reports (e.g. Sise, 1981).

Post-2010 drill core samples were analysed at the Burnie Research Laboratories facility owned by AMTECH/Analytical Laboratory Services (ALS). No external standards, blanks or duplicate pulps were submitted with routine analyses as per Industry standard practice. However duplicate assaying by an independent commercial laboratory (SGS) was completed in 2011 and again in early 2013.

Independent laboratory analyses were completed on all returned pulps from within mineralised zones for the 2012 drilling campaign. Sample pulps returned from Burnie ALS laboratories were sent to SGS Perth. Both ALS and SGS completed their Sn analyses using fused bead XRF.

A preliminary examination of the check analyses identifies several extreme outliers including:

TABLE 3. INDEPENDENT LABORATORY CHECK SAMPLE SIGNIFICANT OUTLIERS.

Hole_id	Sample No	Sn% ALS	Sn% SGS	% Difference
ZS109	5656	0.13	0.74	469.3
ZS109	5662	0.08	0.63	687.5
ZS110	5894	0.18	0.69	283.3%

These may well be due to key errors when entering sample numbers or data and should be verified.

A more detailed inspection of check analyses from the 2012 drilling campaign demonstrate a minor positive bias towards the initial ALS laboratory of 6% (Figure 7).

A plot of the difference between laboratories over time (Figure 8) demonstrates the bias is accentuated by several batches of samples, particularly drillholes ZQ100, ZQ101 and ZS109. Table 4 demonstrates the bias evident in individual drill holes

TABLE 4. INDEPENDENT LABORATORY % BIAS BY DDH	
Hole Id	**Bias %**
ZQ100	-14%
ZQ101	-28%
ZS107W	-4%
ZS109	+23%
ZS110	+2%
ZS111	0%
ZS112	0%
ZS113	+5%
ZS115	0%
ZQ117	-4%
ZS120	+2%

Because all of the check assays were run at the same time it can be assumed that the extreme bias evident in drillholes ZQ100, ZQ101 and ZS109 can be attributed to ALS Laboratories having had serious calibration problems. This periodic calibration drift suggests the laboratory were not running internal standards checks with all batches of samples. The analyses from drill holes ZQ100, ZQ101 and ZS109 need to verified by a third independent laboratory and corrected in the database. ***These holes are on the periphery of the mineralisation and are unlikely to have a material effect on the estimation.***

The majority of duplicate analyses lie within acceptable limits and are considered to be acceptable for this resource estimation.

However it is recommended that industry standard QAQC procedures be implemented to detect calibration drift between batches of samples.

It is recommended that the duplicate assaying from historic reports be acquired and formally documented

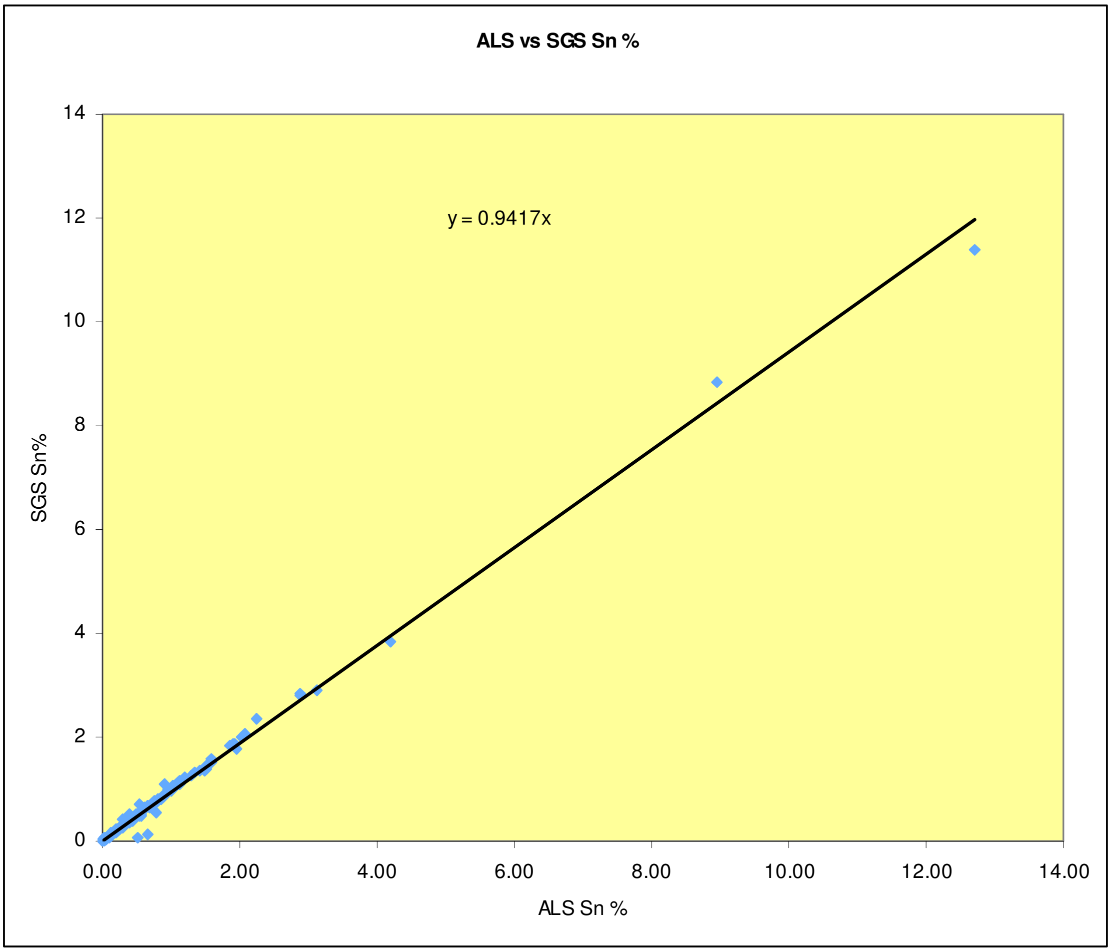


Figure 7. 2012 drilling independent check analyses ALS vs SGS

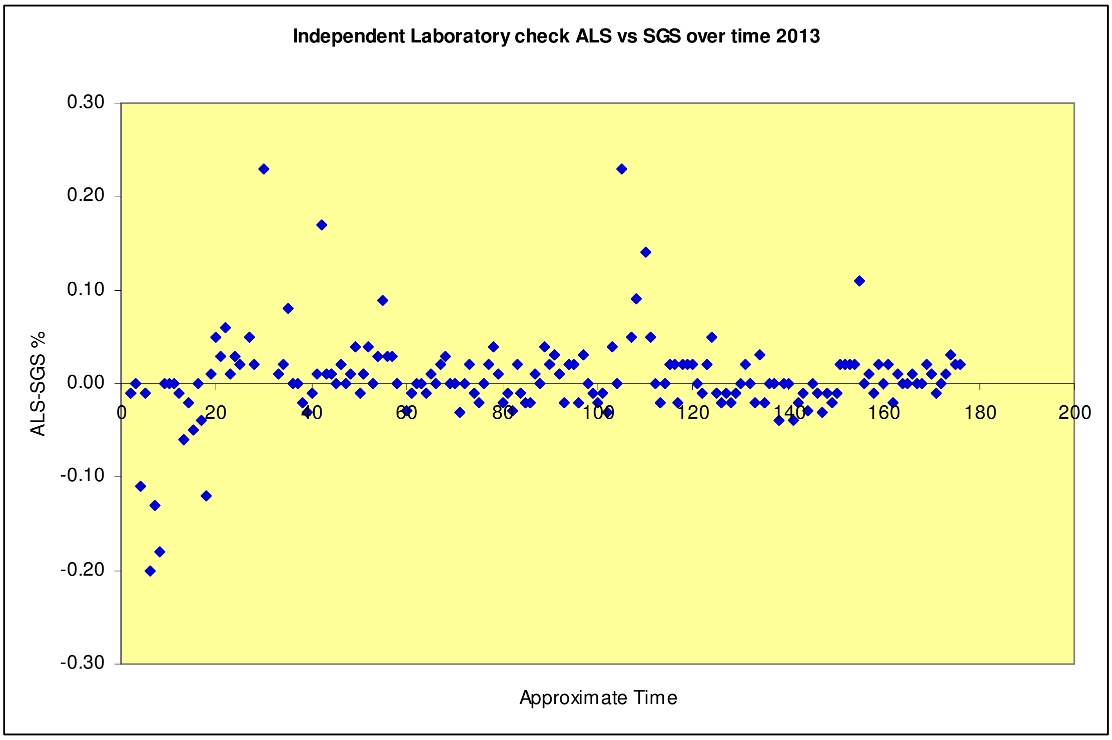


Figure 8. Independent Laboratory check analyses over time.

3.2 TWINNED DRILLHOLES

Twinned drillholes are useful for assessing the short range variability in the geological interpretation and the Sn grades in the mineralised domains. Table 5 list twinned holes in the Queen Hill and Severn deposits.

Table 5. Twinned Drillholes

Prospect	BHID	From	To	Sn %	Difference %
Severn	ZS107W	536	539	0.01	
Severn	ZS107W	531	535	0.82	99
Severn	ZS110	324	344	0.75	
Severn	ZS110W	324.3	345.3	0.57	24
Severn	ZS113	270.1	303.1	1.28	
Severn	ZS113W	266	305	0.86	33
Queen Hill	G11	141.4	157.4	0.57	
Queen Hill	G11W	141.4	156.4	0.73	-28
Queen Hill	G15	246.4	262.4	0.74	
Queen Hill	G15W2	249.6	263.6	0.01	-99

Drillhole G11 and G11W intersect the upper margin of the Queen Hill mineralisation. There is very good correlation between the geological boundaries (Figure 9) with the tin grades demonstrating moderate variance.

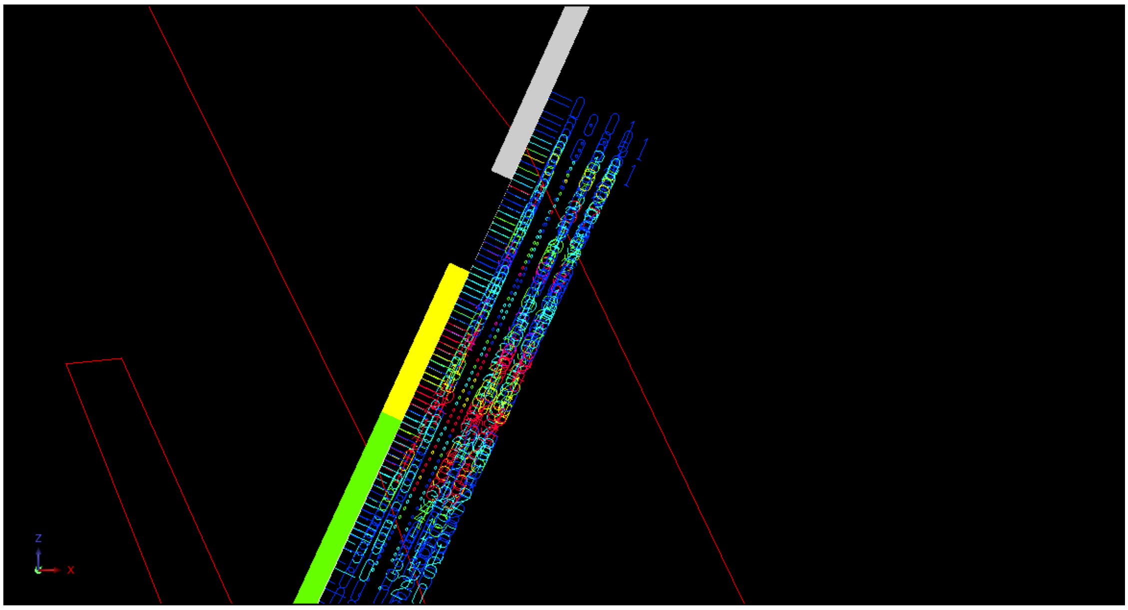


Figure 9. G11 and G11 W twinned holes.

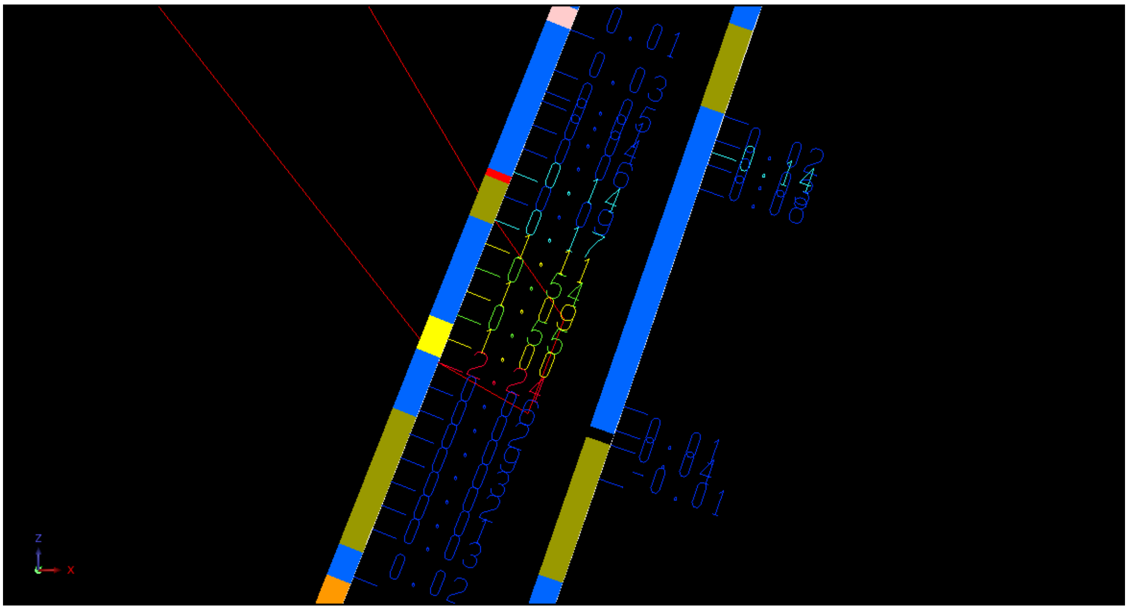


Figure 10. ZS107 and ZS107W twinned holes.

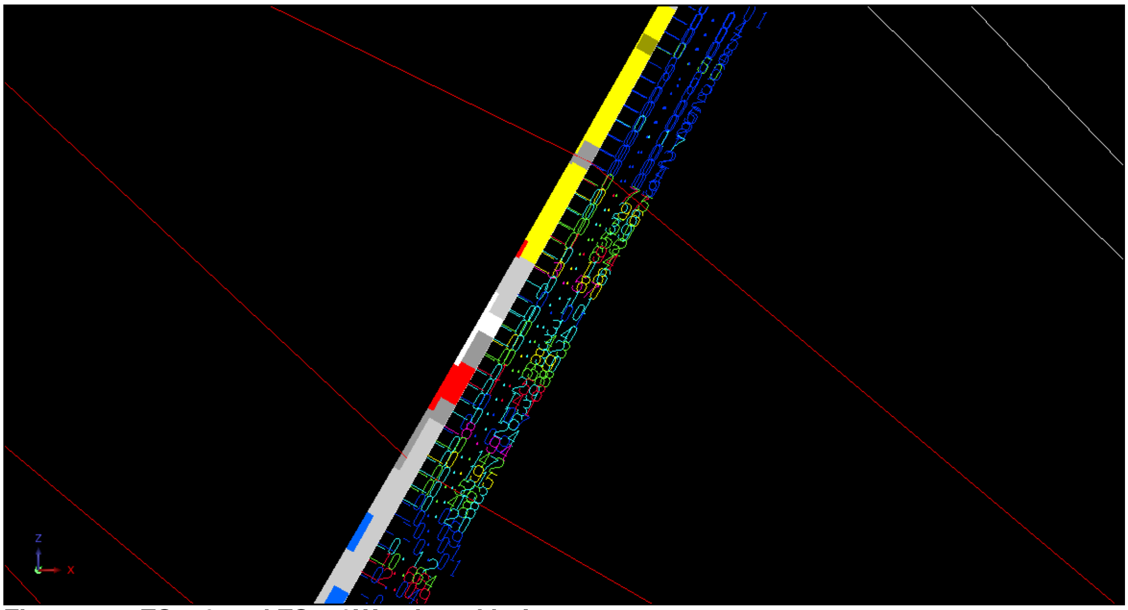


Figure 11. ZS110 and ZS110W twinned holes.

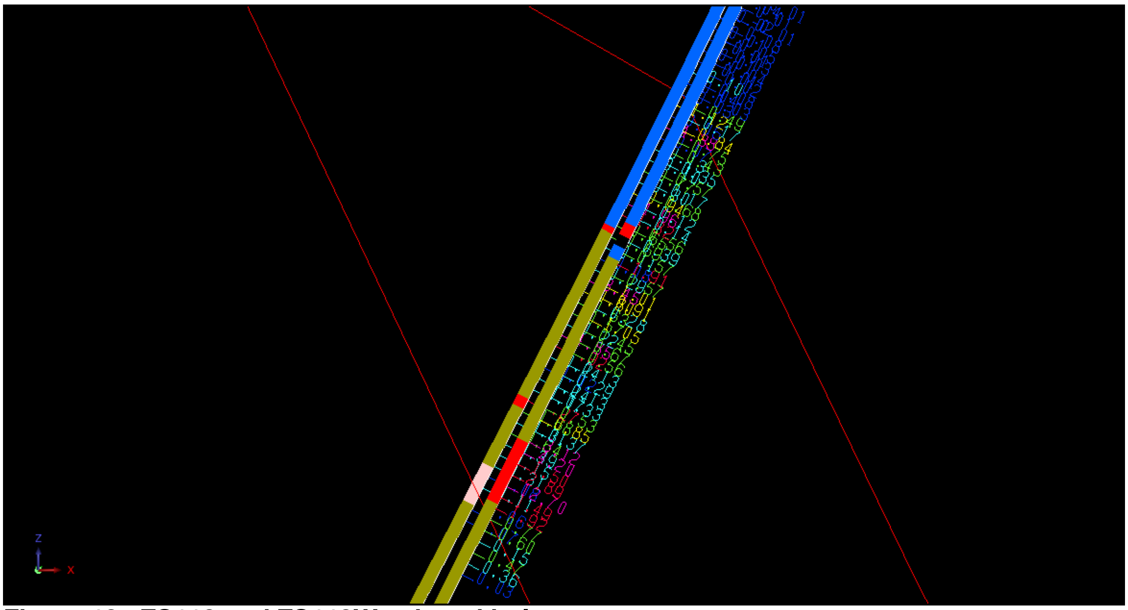


Figure 12. ZS113 and ZS113W twinned holes.

Conversely drillholes ZS107 and ZS107W intersecting the lower northern margin of the Severn mineralisation correlate poorly with no mineralisation identified in ZS107 providing little confidence in the geology model in this area (Figure 10).

Severn drillholes ZS110 and ZS113 and their corresponding wedges ZS110W and ZS113W correspond well with mineralisation boundaries but highlight the short range grade variability in this style of mineralisation.

Drillhole G45 in the centre of Queen Hill highlights the variability of this style of Sn mineralisation, intersecting significant sulphide mineralisation similar to adjacent drillholes but returning no significant Sn assays. This extreme grade variability is also evident in twinned drillholes G15 and G15W2. Drill core analyses in G15W2 may be erroneous as they were assayed as a separate batch and have been recorded to 4 decimal places. Researching old reports failed to verify this with the data being recorded in 1978 and used in all subsequent estimations and interpretations.

Two out of the five twinned holes demonstrate extreme short range variability in the geological interpretation and grade. Both these holes are on the periphery of the mineralised bodies. However this variability suggests drilling density is insufficient to provide confidence in the geological model or grade interpolation.

4 GEOLOGICAL DOMAINING

Wire-framed solid models of geological and mineralisation domains were created from east-west cross sections utilizing drill hole data, and historic Aberfoyle 1:1,000 geological maps and cross sections. The historic Montana workings were loaded into Surpac to assist with the interpretation of the Montana tin mineralisation.

Mineralized Sn domains are delineated using a 0.4% Sn cutoff and a minimum downhole metal equivalent of 3 Snm with some allowances for geological continuity. Internal dilution was restricted to a maximum of 3m where possible, again maintaining geological continuity.

Solid models have been 'snapped' to drill holes where possible to accurately capture and model data and eliminate sectional projection inaccuracies.

Solid models used for this resource estimation include:

- Oonah Shale and Quartzite qs.dtm
- Oonah Quartzite qst.dtm
- Severn Tin Mineralisation severn_sn4.dtm
- Queen Hill Tin Mineralisation queen_hill_sn4.dtm
- Montana Tin Mineralisation montana_sn4.dtm

Zone codes (zone) were assigned to the blockmodel using the wireframe solids. Corresponding intercept and composite string codes were assigned for each mineralised shell. Mineralisation solid intercepts are stored in the access database according to their zone code.

Domain codes are listed in Tables 6.

Table 6. Blockmodel Zone Codes and Composite String Numbers				
Lithogy	**Code**	**Solid Model**	**Object No**	**Composite String**
Surface	0	contours_zmg.dtm	5	na
Waste Rock	1			na
Severn	208	severn_sn_4.dtm	8	208
	202		2	202
	203	severn_sn_4.dtm	3	203
	204	severn_sn_4.dtm	4	204
Queen Hill	308	queen_hill_sn4	8	308
	306	queen_hill_sn4	6	306
	302	queen_hill_sn4	2	302
	303	queen_hill_sn4	3	303
	304	queen_hill_sn4	4	304
Stormsdown	305	queen_hill_sn4	5	305
Montana	408	Montana_sn4	8	408

5 SAMPLE STATISTICAL STUDIES

Sample statistical studies have been completed with composited diamond drill hole data. DDH intercepts of solid models have been flagged with Surpac Software and relevant intervals stored in the access database. Assay data has been composited on 1m lengths.

Composites of less than 0.25m were not included in statistical studies or in the resource estimate.

Composited data is located as .csv files on the attached data disc.

Histograms of composited data for Sn in the two largest domains of both the Severn and Queen Hill deposits (108 and 102) are located in Figures 13 to 15. Descriptive statistics for these domains are listed in Tables 7 to 10. Histograms and descriptive statistics for all the modeled domains are located in Appendix 2.

5.1.1 SEVERN SAMPLE STATISTICAL STUDIES

The majority of the Severn mineralisation is contained in the large 208 domain which contains a total of 293 1m composite samples over an area of approximately 600m by 200m. The Severn 202 Domain is the next largest comprising 61 composite samples.

The raw 1m composites for both domains demonstrate a strongly skewed distribution with a high grade tail. Log transformed composites form an essentially log normal distribution. The 208 and 202 domain 1m composite samples have a moderate coefficient of variation of 1.38 and 1.34 suggesting top cutting is necessary for resource estimation. Top cuts based on the 97.5th percentile are 4.6% and 4.1% for domains 208 and 202 respectively.

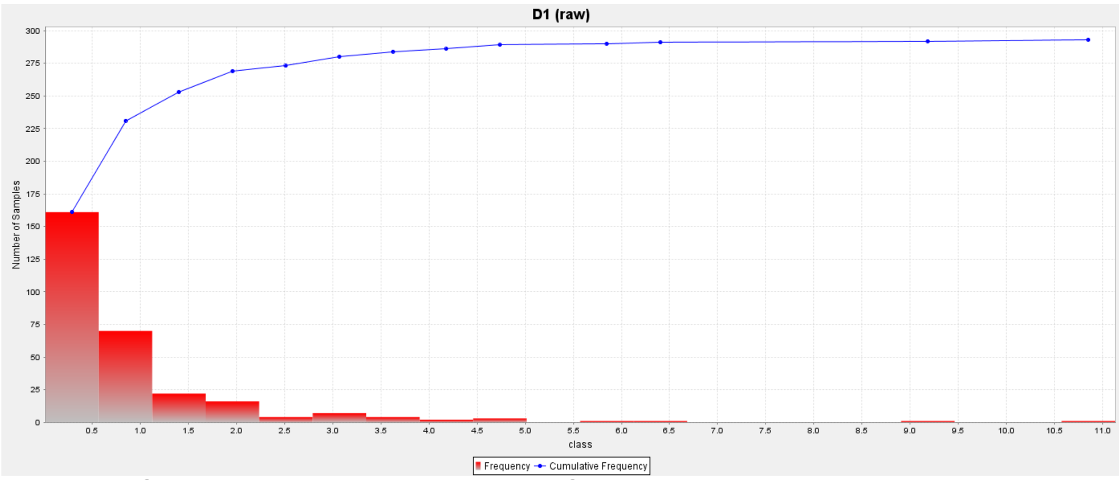


Figure 13. Severn 208 domain 1m composite Sn histogram.

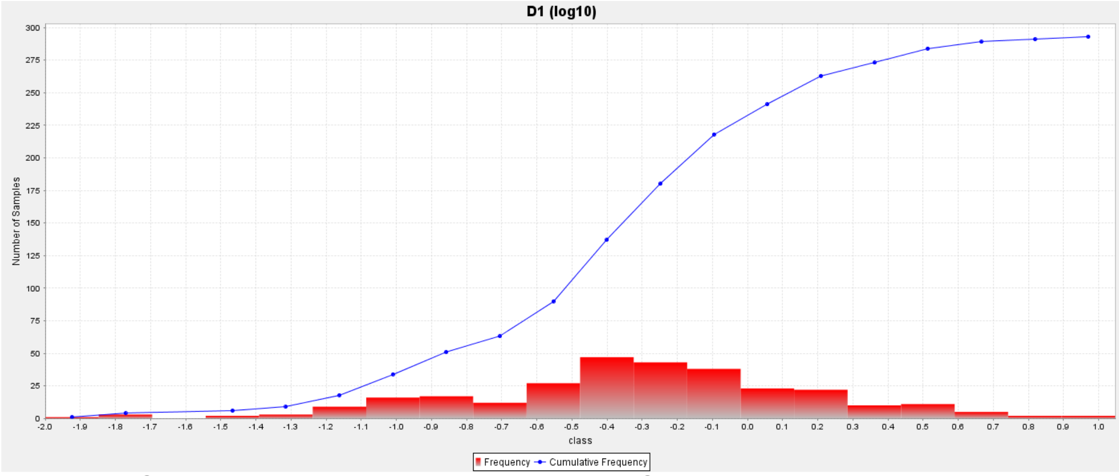


Figure 14. Severn 208 domain 1m composite log10 Sn histogram.

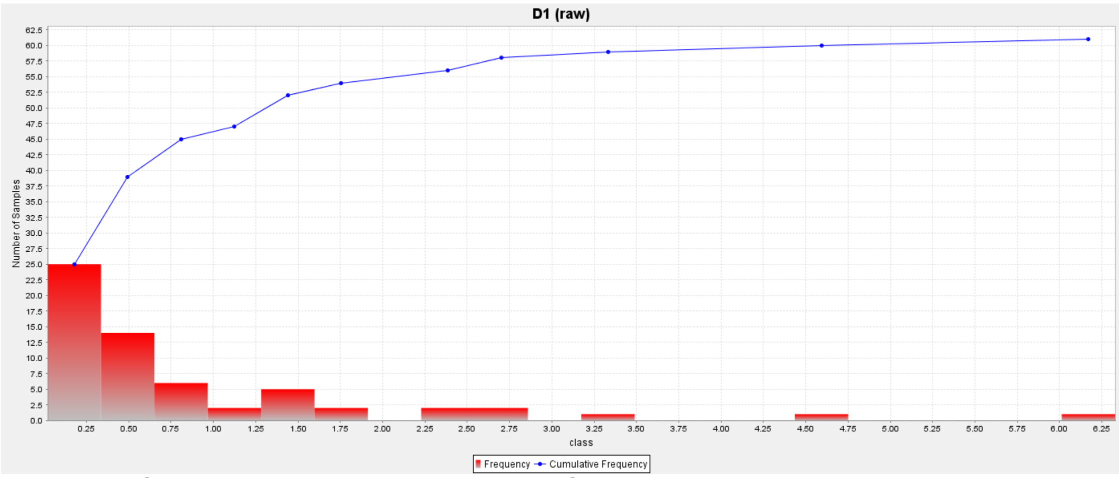


Figure 15. Severn 202 domain 1m composite Sn histogram.

Table 7. Severn 208 Basic Statistics

Variable	Sn %	AS_Sn ppm	S %	Cu ppm	Pb ppm	Zn ppm	Ag ppm	SG
Number of samples	293	108	221	264	201	259	181	239
Minimum value	0.01	10	0.14	8	7	10	1	2.71
Maximum value	11.13	1000	32.52	4400	19000	18500	88	4.20
Mean	0.90	162	9.51	583	253	243	4	3.18
Median	0.50	92	8.31	400	24	51	2	3.15
Geometric Mean	0.49	112	7.03	381	32	53	2	3.17
Variance	1.56	27690	43.96	328189	2224677	2475184	65	0.07
Standard Deviation	1.25	166	6.63	573	1492	1573	8	0.27
Coefficient of variation	1.38	1.02	0.70	0.98	5.89	6.48	2.27	0.08

Table 8. Severn 208 Correlation Coefficient Table

Variable	Sn %	AS_Sn ppm	S %	Cu ppm	Pb ppm	Zn ppm	Ag ppm	SG
Sn %	1.00	0.17	0.35	0.27	-0.02	-0.04	0.02	0.34
AS_Sn ppm	0.17	1.00	0.56	0.56	0.00	0.23	0.58	0.47
S %	0.35	0.56	1.00	0.66	0.11	0.10	0.45	0.71
Cu ppm	0.27	0.56	0.66	1.00	0.19	-0.03	0.42	0.52
Pb ppm	-0.02	0.00	0.11	0.19	1.00	0.18	0.81	0.17
Zn ppm	-0.04	0.23	0.10	-0.03	0.18	1.00	0.09	0.11
Ag ppm	0.02	0.58	0.45	0.42	0.81	0.09	1.00	0.36
SG	0.34	0.47	0.71	0.52	0.17	0.11	0.36	1.00

Table 9. Severn 202 Basic Statistics								
Variable	**Sn %**	**AS_Sn ppm**	**S %**	**Cu ppm**	**Pb ppm**	**Zn ppm**	**Ag ppm**	**SG**
Number of samples	61	27	55	51	42	48	36	51
Minimum value	0.02	60	0.30	45	10	10	1	2.87
Maximum value	6.33	780	27.71	3300	3500	1730	46	3.85
Mean	0.86	207	7.93	662	191	209	6	3.15
Median	0.42	200	6.54	503	28	71	3	3.05
Geometric Mean	0.41	163	5.71	479	40	89	4	3.14
Variance	1.32	23123	39.09	303630	325045	163244	91	0.07
Standard Deviation	1.15	152	6.25	551	570	404	10	0.26
Coefficient of variation	1.34	0.73	0.79	0.83	2.99	1.93	1.46	0.08

Table 10. Severn 202 Correlation Coefficient Table								
Variable	**Sn %**	**AS_Sn ppm**	**S %**	**Cu ppm**	**Pb ppm**	**Zn ppm**	**Ag ppm**	**SG**
Sn %	1.00	0.27	0.28	0.41	0.19	0.30	0.63	0.45
AS_Sn ppm	0.27	1.00	0.41	0.45	0.35	0.55	0.71	0.67
S %	0.28	0.41	1.00	0.70	0.80	0.67	0.65	0.79
Cu ppm	0.41	0.45	0.70	1.00	0.16	0.44	0.83	0.58
Pb ppm	0.19	0.35	0.80	0.16	1.00	0.80	0.41	0.62
Zn ppm	0.30	0.55	0.67	0.44	0.80	1.00	0.73	0.52
Ag ppm	0.63	0.71	0.65	0.83	0.41	0.73	1.00	0.68
SG	0.45	0.67	0.79	0.58	0.62	0.52	0.68	1.00

Correlation coefficients for both domains suggest moderate correlation between Sn, S, SG and Cu. The 208 domain 1m composite Sn correlates poorly with Pb, Zn and Ag. This contrasts with the upper 202 domain which has good correlation with basemetals and Ag. It should be noted that the variance and mean grade of basemetals is considerably lower in the 202 domain.

The minimum, maximum and mean values for Acid soluble Sn for both major domains is low suggesting most Sn occurs as cassiterite. Overall the domains are considered appropriate for the estimation of Sn, S, SG, Cu and acid soluble Sn.

5.1.2 QUEEN HILL SAMPLE STATISTICAL STUDIES.

The two largest Queen Hill mineralised domains are the 206 and 208 s which comprise 213 and 191 1m composite samples respectively. Cumulative frequency histograms of 1m composite Sn for both domains demonstrates a strongly skewed distribution with a high grade tail (Figures 16 and 18). Log transformed composites form an essentially log normal distribution (Figure 17) with a left skew resulting from differing detection limits in various laboratories evident in the historic assay data. Both domains have a moderate to low CV of 0.94 and 1.1 respectively suggesting top cutting is not necessary for resource estimation.

Acid soluble Sn is relatively low in the 308 domain suggesting Sn mainly occurs as cassiterite. Cumulative frequency histograms and the CV of 1m composited Acid Soluble Sn in the 306 domain is highly skewed with the mean grade influenced by a few high grade outliers. The coefficient of variation for acid soluble Sn in the 306 domain is very high (3.74) suggesting top cutting is probably required for grade interpolation. Ideally the Acid Soluble Sn and basemetals should be domained and interpolated separately as they are spatially distinct.

Total Sn 1m composites correlate poorly with Pb, Zn and Ag, all of which have high variance and a high CV in the Sn domain. Sn domains overlap basemetal mineralisation such as Clarke's lode demonstrating the continuity of the deeper tin mineralisation with the peripheral basemetal veining.

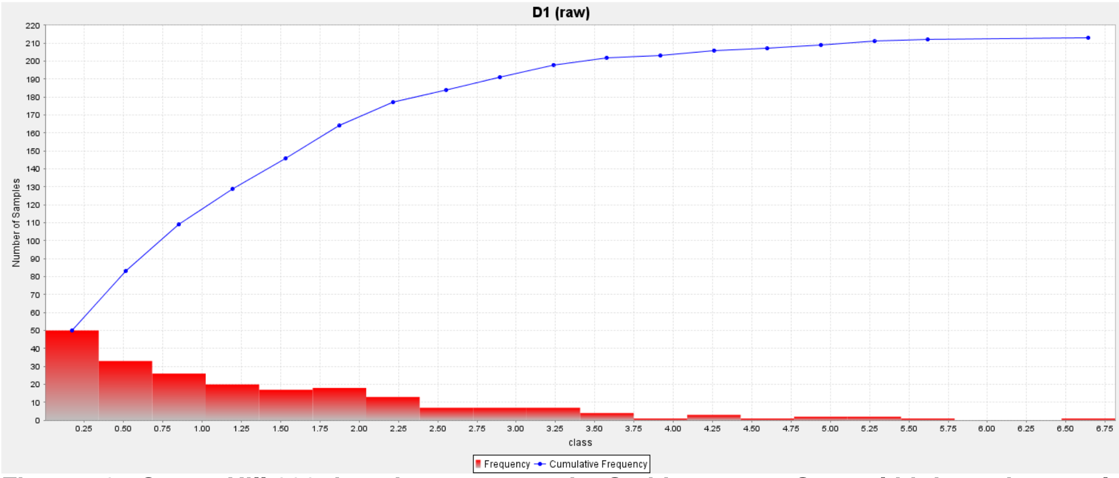


Figure 16. Queen Hill 308 domain 1m composite Sn histogram. Several high grade sample populations are evident within the mineralised domain.

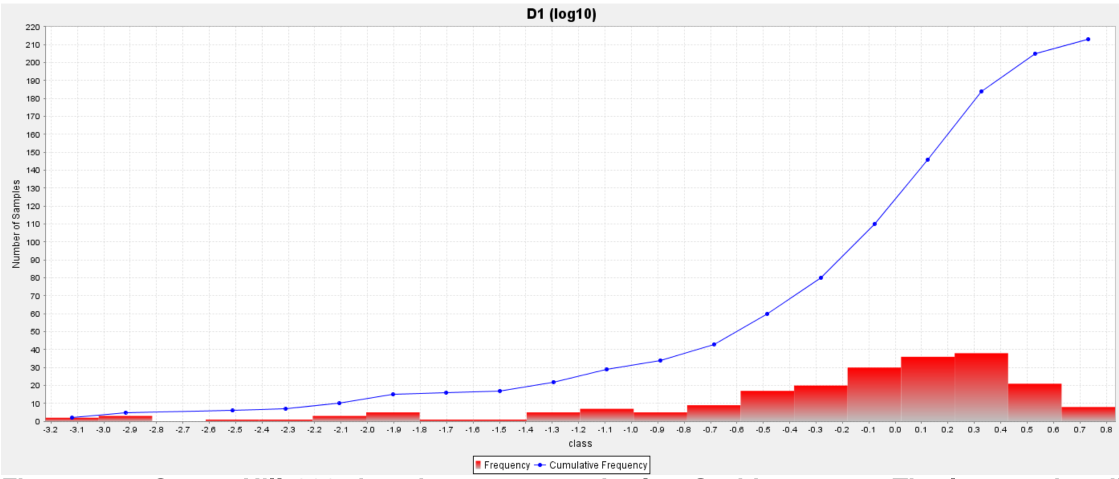


Figure 17. Queen Hill 308 domain 1m composite log Sn histogram. The low grade tail represents different detection limits from various laboratories.

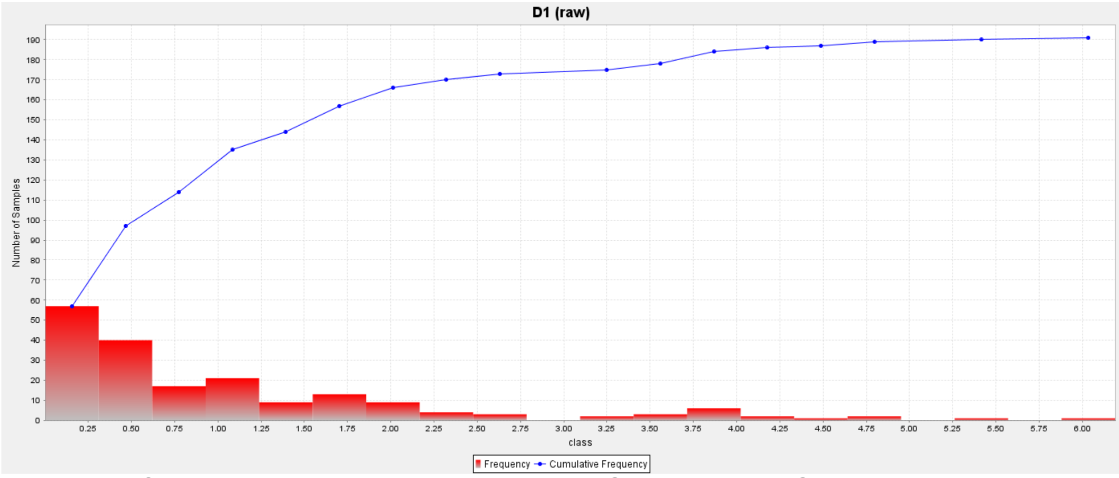


Figure 18. Queen Hill 306 domain 1m composite Sn histogram. Several high grade sample populations are evident within the mineralised domain.

Table 11. Queen Hill 308 Basic Statistics

Variable	Sn %	AS_Sn ppm	S %	Cu ppm	Pb ppm	Zn ppm	Ag ppm	SG
Number of samples	213	75	62	205	213	198	202	88
Minimum value	0.00	10	0.90	8	48	28	0.5	2.89
Maximum value	6.81	2500	35.70	17718	149535	170300	635	4.47
Mean	1.34	263	14.90	403	5643	5424	21	3.63
Median	0.99	163	13.20	120	587	584	6	3.61
Geometric Mean	0.61	159	11.34	142	931	942	7	3.61
Variance	1.60	117043	83.74	2117832	313589772	229748120	4473	0.16
Standard Deviation	1.26	342	9.15	1455	17708	15157	67	0.40
Coefficient of variation	0.94	1.30	0.61	3.61	3.14	2.79	3.17	0.11

Table 12. Queen Hill 308 Correlation Coefficient Table

Variable	Sn %	AS_Sn ppm	S %	Cu ppm	Pb ppm	Zn ppm	Ag ppm	SG
Sn %	1.00	0.41	-0.04	0.14	0.04	-0.07	0.03	0.36
AS_Sn ppm	0.41	1.00	0.15	0.49	0.19	0.32	0.29	0.43
S %	-0.04	0.15	1.00	0.49	0.15	0.24	0.07	0.28
Cu ppm	0.14	0.49	0.49	1.00	0.60	0.13	0.69	0.27
Pb ppm	0.04	0.19	0.15	0.60	1.00	0.27	0.75	0.11
Zn ppm	-0.07	0.32	0.24	0.13	0.27	1.00	0.63	0.14
Ag ppm	0.03	0.29	0.07	0.69	0.75	0.63	1.00	0.26
SG	0.36	0.43	0.28	0.27	0.11	0.14	0.26	1.00

Table 13. Queen Hill 306 Basic Statistics

Variable	Sn %	AS_Sn ppm	S %	Cu ppm	Pb ppm	Zn ppm	Ag ppm	SG
Number of samples	191	73	157	168	184	180	161	152
Minimum value	0.00	10	0.16	5	9.86	5	1	2.71
Maximum value	6.19	18700	35.28	25946.7	305621.622	73064	703	4.46
Mean	1.07	743	16.06	893	8272	4089	28	3.28
Median	0.60	75	15.92	115	334	387	5	3.25
Geometric Mean	0.45	95	11.53	153	584	473	7	3.26
Variance	1.44	7713011	93.12	8444499	1325727169	106603800	8210	0.11
Standard Deviation	1.20	2777	9.65	2906	36411	10325	91	0.33
Coefficient of variation	1.13	3.74	0.60	3.26	4.40	2.52	3.24	0.10

Table 14. Queen Hill 306 Correlation Coefficient Table								
Variable	**Sn %**	**AS_Sn ppm**	**S %**	**Cu ppm**	**Pb ppm**	**Zn ppm**	**Ag ppm**	**SG**
Sn %	1.00	0.16	0.37	0.07	-0.06	0.08	-0.07	0.52
AS_Sn ppm	0.16	1.00	0.25	0.99	0.07	-0.02	0.39	0.23
S %	0.37	0.25	1.00	0.19	0.13	0.18	0.11	0.60
Cu ppm	0.07	0.99	0.19	1.00	0.07	0.00	0.41	0.02
Pb ppm	-0.06	0.07	0.13	0.07	1.00	0.40	0.85	0.09
Zn ppm	0.08	-0.02	0.18	0.00	0.40	1.00	0.25	0.01
Ag ppm	-0.07	0.39	0.11	0.41	0.85	0.25	1.00	0.09
SG	0.52	0.23	0.60	0.02	0.09	0.01	0.09	1.00

5.1.3 MONTANA SAMPLE STATISTICAL STUDIES.

The Montana deposit comprises a single domain with very limited sample numbers including only 45 1m composites. Low sample numbers restrict statistical analysis. A cumulative frequency histogram of 1m composites has a strongly skewed distribution with a high grade tail (Figure 19).

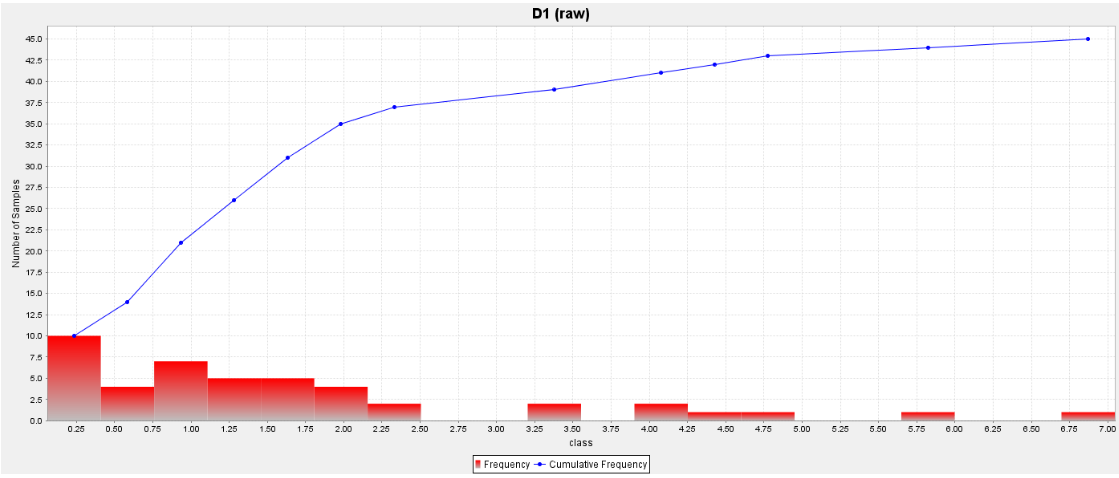


Figure 19. Montana 1m composite Sn histogram.

Table 15. Montana 408 Basic Statistics								
Variable	**Sn %**	**AS_Sn ppm**	**S %**	**Cu ppm**	**Pb ppm**	**Zn ppm**	**Ag ppm**	**SG**
Number of samples	45	11	15	39	37	45	30	19
Minimum value	0.06	67	0.71	16	100	200	3	2.92
Maximum value	7.05	353.5	29.70	680	199000	139250	830	4.35
Mean	1.70	208	19.31	287	15069	20535	66	3.93
Median	1.34	200	19.86	260	3500	5700	16	3.95
Geometric Mean	1.07	189	15.91	220	2320	4654	22	3.92
Variance	2.45	7328	53.18	33648	1213475937	1134510212	22521	0.09
Standard Deviation	1.57	86	7.29	183	34835	33682	150	0.30
Coefficient of variation	0.92	0.41	0.38	0.64	2.31	1.64	2.29	0.08

Table 16. Montana 408 Correlation Coefficient Table

Variable	Sn %	AS_Sn ppm	S %	Cu ppm	Pb ppm	Zn ppm	Ag ppm	SG
Sn %	1.00	0.46	-0.01	0.39	0.54	-0.10	0.53	0.43
AS_Sn ppm	0.46	1.00	0.31	0.59	0.71	0.48	0.78	0.39
S %	-0.01	0.31	1.00	0.25	-0.10	0.03	-0.01	0.49
Cu ppm	0.39	0.59	0.25	1.00	0.36	-0.34	0.51	0.44
Pb ppm	0.54	0.71	-0.10	0.36	1.00	0.15	0.98	0.15
Zn ppm	-0.10	0.48	0.03	-0.34	0.15	1.00	0.07	0.25
Ag ppm	0.53	0.78	-0.01	0.51	0.98	0.07	1.00	0.22
SG	0.43	0.39	0.49	0.44	0.15	0.25	0.22	1.00

5.2 VARIOGRAPHY

Semi variograms and variogram models of 1m composited data were constructed using Surpac Software. Variogram models were constructed from 1m composited data for Sn, S, SG and Acid Soluble Sn. Data from the 306 and 308 domains in Queen Hill were combined to provide sufficient samples to create meaningful variograms. The large 208 domain was used solely for variography of the Severn deposit.

Variogram model parameters are displayed in Tables 17 and 18 and in Figures 20-27 for 1m composite Sn and in Appendix 3 fro S, SG and Acid Soluble Sn.

5.2.1 QUEEN HILL VARIOGRAPHY

Queen Hill 1m composited Sn semi-variograms are well constructed in the x and z directions as there are multiple sample pairs. Variogram models typically displayed a moderate nugget effect of about one third of the sill in all models. Downhole variogram models have a short range of 3.3m while the x and y variogram models had longer ranges to sill of around 15m. The z variogram model has a shorter range of 7.5m suggesting the mineralisation is moderately anisotropic.

Composited S and SG semi-variograms are moderately well constructed with a similar nugget effect of approximately one third of the sill but have longer ranges of 35m. Sulphur variogram models demonstrate moderate anisotropy with the range to sill in the z direction half the x and y directions.

Acid soluble Sn semi-variograms were poorly constructed, particularly in the y direction due to insufficient data. Variogram models have moderate nugget effect but very short ranges of 9 metres, effectively 100% nugget effect.

Table 17. Queen Hill Variogram Parameters (spherical models).

VARIABLE	NUGGET	SILL	RANGE	MAJOR:SEMI	MAJOR:MINOR
Sn	0.5	0.5	15	1	2
S	0.2	0.8	35	1	2
SG	0.3	0.7	35	1	1
AS_Sn	0.4	0.6	9	1	1

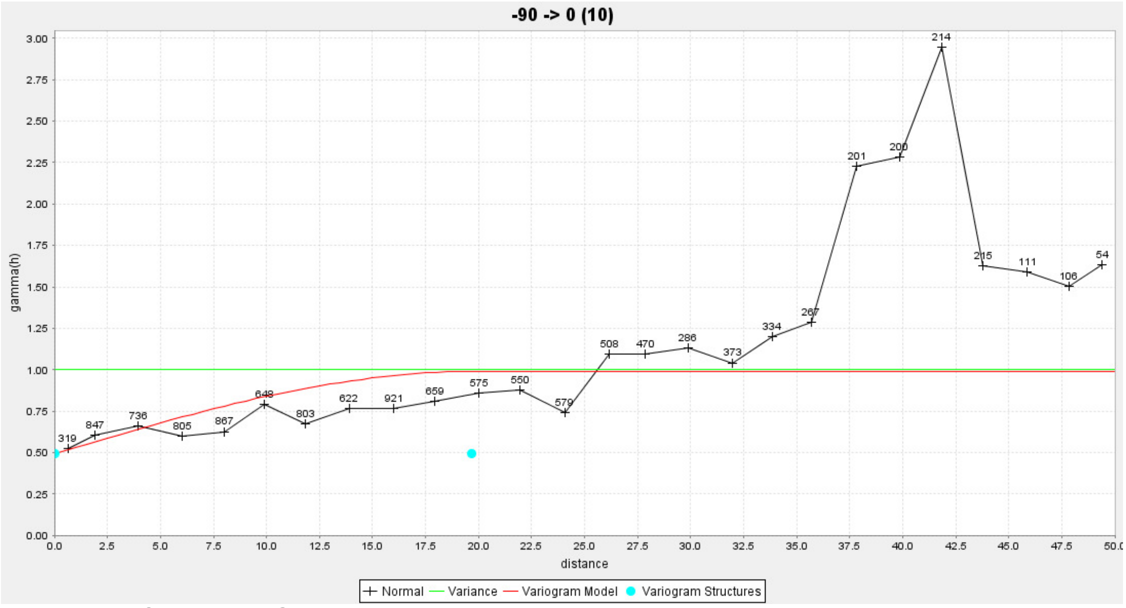


Figure 20. Queen Hill Sn 1m composite downhole variogram

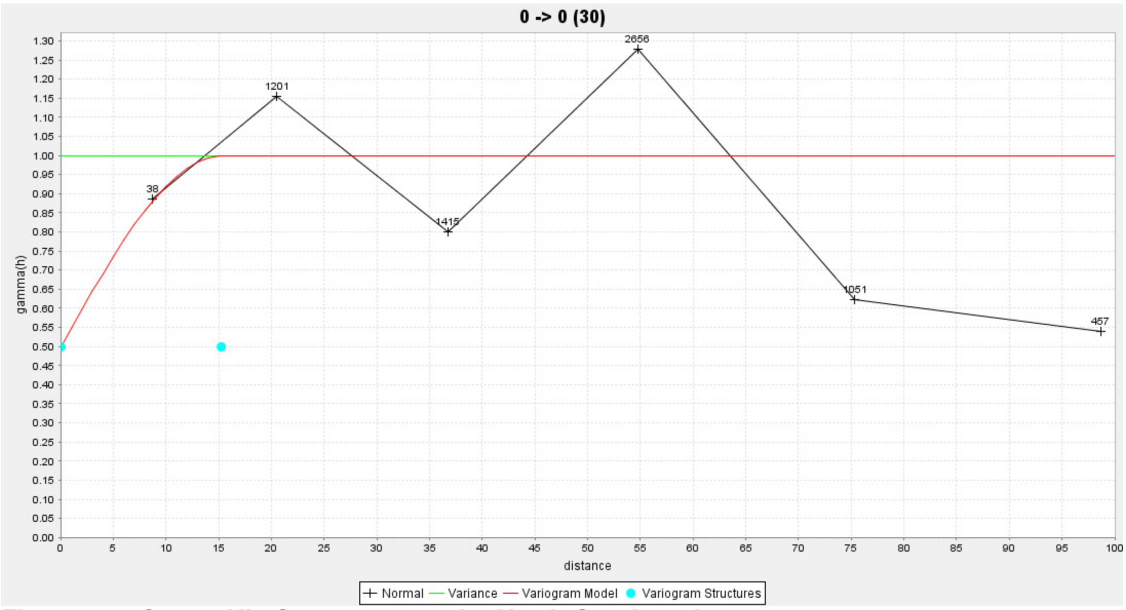


Figure 21. Queen Hill Sn 1m composite North-South variogram

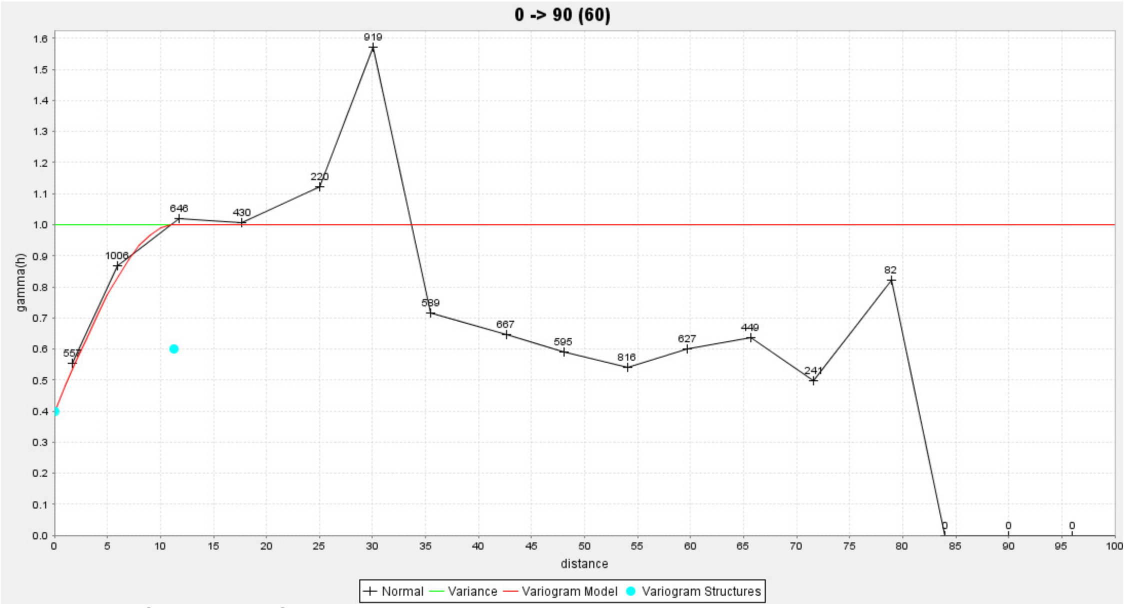


Figure 22. Queen Hill Sn 1m composite East-West variogram

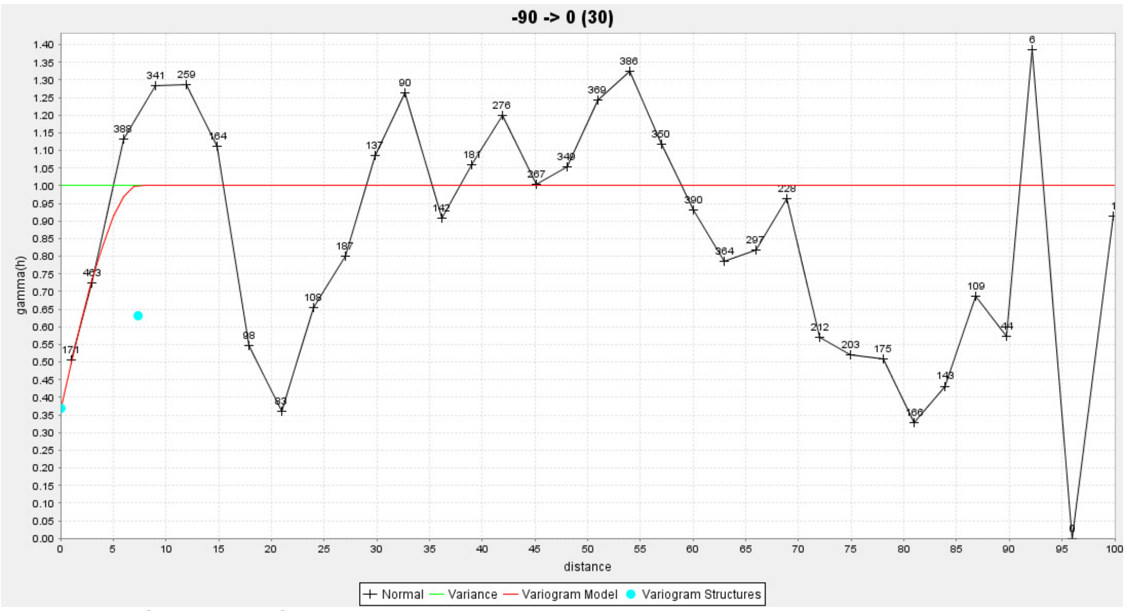


Figure 23. Queen Hill Sn 1m composite Vertical variogram

5.2.2 SEVERN VARIOGRAPHY

The Severn Sn variogram models are poorly constructed in the y direction whereas meaningful models were achieved in the x and z directions where there were more sample pairs. Severn Sn variogram models typically displayed a moderate nugget effect of about 1/3 of the sill in the down hole, x y and z directions. Downhole variogram models have a short range of 3.3m while the x, y and z models are longer (8-10m) with low to moderate anisotropy.

SG variogram models are well constructed demonstrating short ranges to the sill of 9m or less in the x and z directions. The acid soluble Sn and S Semivariograms had moderate ranges of 1p and 13m respectively and nugget effects of one third of the sill.

Table 18. Severn Variogram Parameters (spherical and nested spherical models).

VARIABLE	NUGGET	SILL	RANGE	MAJOR:SEMI	MAJOR:MINOR
Sn	0.3	0.7	10	1	1
S	0.3	0.7	13	4	1
SG	0.1	0.9	9	3	2
AS_Sn	0.3	0.7	19	2	4

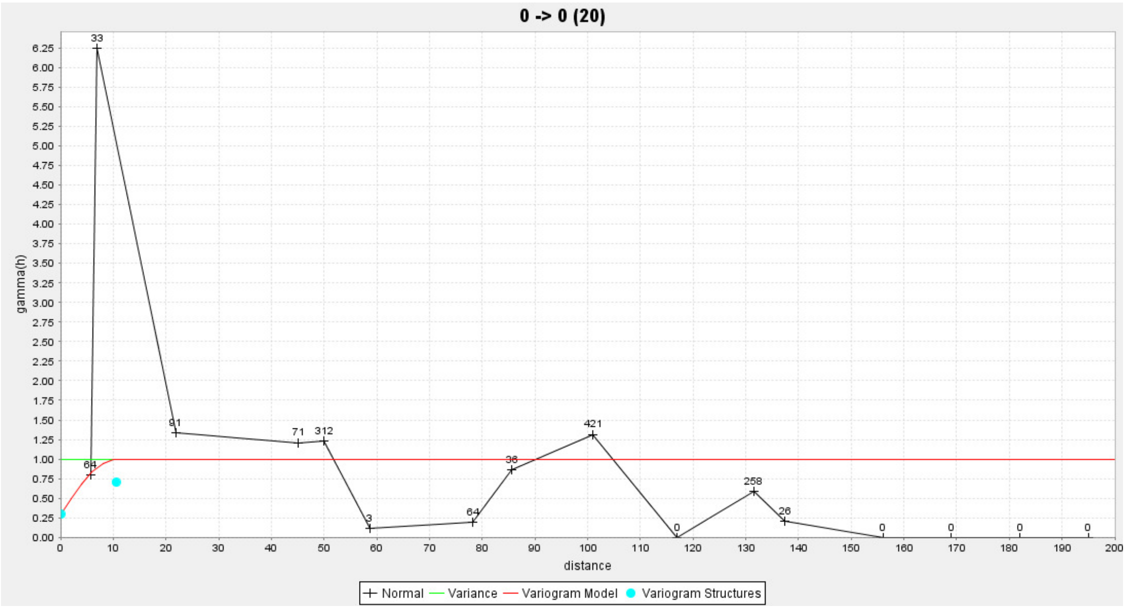


Figure 24. Severn Sn north-south Semivariogram and variogram model.

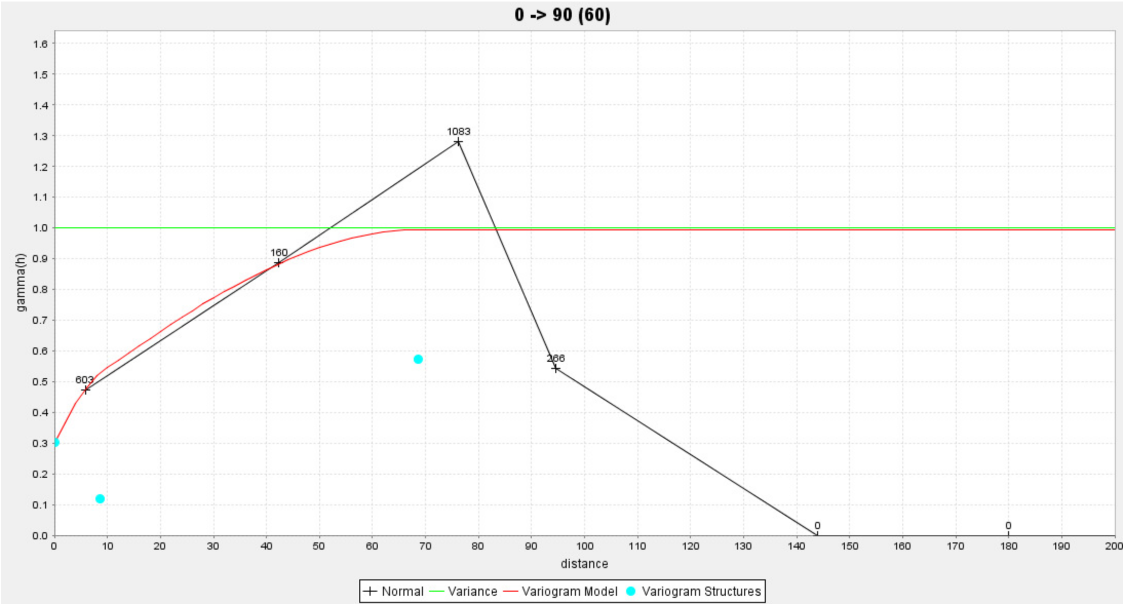


Figure 25. Severn Sn east-west Semivariogram and variogram model

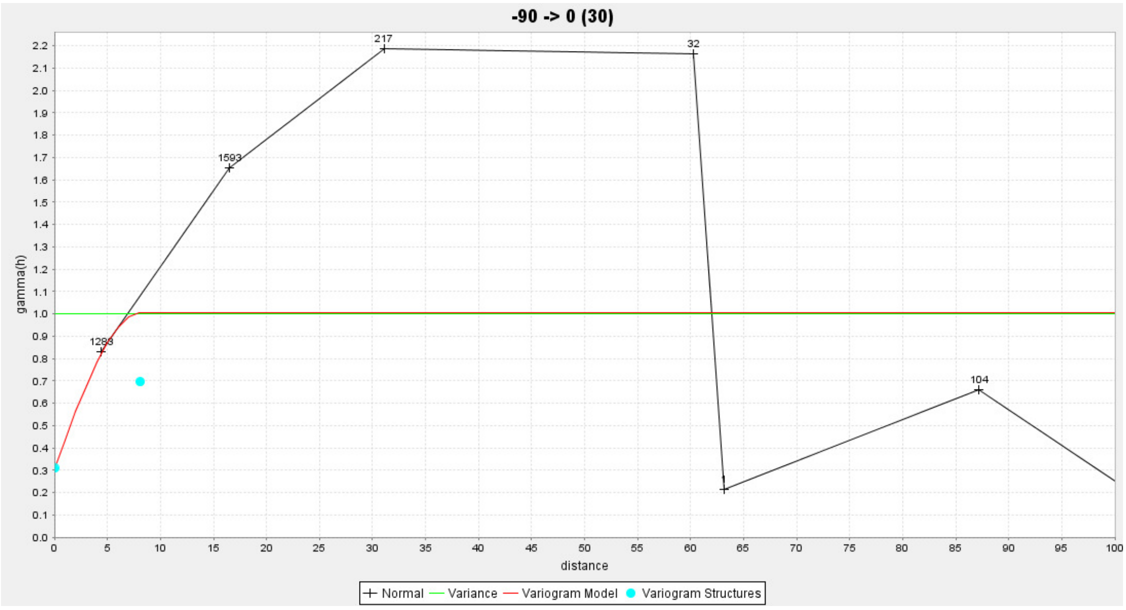


Figure 26. Severn Sn vertical Semivariogram and variogram model.

6 RESOURCE ESTIMATION PROCEDURE.

The Zeehan Tin Deposit Mineral Resource has been estimated using a block model created with Surpac^{tm} software licensed to Tim Callaghan. The block model extends between 3,300 to 4,250N, 60,700 to 61,550E and 500 to 1,280m RL. Block sizes were set at 10m x 10m x 10m with sub-celling to 1.25m in the x direction and 2.5m in the y and z and directions.

A larger block size would be preferable given the broad drill hole spacing and short variogram ranges for the mineralisation. Block sizes of 20m x 20m x 10m were trialed but little improvement was seen in kriging efficiency and slope of regression over the 10 x 10 x 10m block size. The block dimensions used appropriate for the shape and thickness of the mineralisation being modeled but not for the sparse drill spacing.

6.1 QUEEN HILL ESTIMATION PROCEDURE

The Queen Hill 1m composited Sn, S, SG and Acid soluble Sn have been interpolated into the blockmodel using an ordinary kriging algorithm.

Drill holes intersecting the Queen Hill 304 and 302 domains do not have S, SG or acid soluble Sn analyses. The average S, SG and acid soluble Sn grades from the adjacent large 308 domain were assigned to these smaller mineralised lenses.

Despite the short ranges of the variograms, the broad spaced drilling necessitated the search to be extended to 100m and the minimum sample numbers to be reduced from the optimum to ensure interpolation of the majority of blocks within the modeled mineralisation domains. Search parameters are listed in Table 19.

Table 19. Search Neighborhood Queen Hill

Ellipse Plunge	-30
Ellipse bearing	0
Ellipse dip	-70
Search Radius	100m
Major:semi major ratio	1
Major:minor ratio	2
Discretisation points	3:3:3
Minimum No of samples	3
Maximum No of samples	20

First pass search parameters for Acid Soluble Sn, S and SG were extended to a 200m search radius and minimum samples of 2 to ensure most cells were populated due to low sample numbers and insufficient coverage of drill hole samples.

6.2 SEVERN ESTIMATION PROCEDURE

The Severn 1m composited Sn, S, SG and Acid soluble Sn have been interpolated into the blockmodel using an ordinary kriging algorithm.

The Severn 203 domain did not contain acid soluble Sn samples and was assigned the mean value of the 208 domain.

Despite the short ranges of the variograms, the broad spaced drilling necessitated the search to be extended to 100m and the minimum sample numbers to be reduced from the optimum to ensure interpolation of most blocks in the modeled mineralisation domains. Search parameters are listed in Table 20.

Table 20. Search Neighborhood Severn

Ellipse Plunge	-30
Ellipse bearing	0
Ellipse dip	-70
Search Radius	100m
Major:semi major ratio	1
Major:minor ratio	1
Discretisation points	3:3:3
Minimum No of samples	3
Maximum No of samples	20

First pass search parameters for Acid Soluble Sn, S and SG were extended to a 200m search radius and minimum samples of 2 to ensure most cells were populated due to low sample numbers and insufficient coverage of drill hole samples.

6.3 MONTANA ESTIMATION PROCEDURE

All variables in the Montana deposit have been interpolated using an ID^2 algorithm as there were insufficient samples and sample density to create meaningful variograms. Search parameters are listed in Table 21.

Table 21. Search Neighborhood Montana

Ellipse Plunge	0
Ellipse bearing	60
Ellipse dip	0
Search Radius	100m
Major:semi major ratio	1
Major:minor ratio	1
Discretisation points	3:3:3
Minimum No of samples	3
Maximum No of samples	20

6.4 SPECIFIC GRAVITY

The database includes 2,911 specific gravity measurements. All were derived from drill core and include either pynctometer measurements or determinations derived from the Archimedes method. None of the mineralisation is oxidised and the core is none porous. Specific Gravity for the entire dataset varies between 2.2 and 6.2 with a mean of 3.1. All tonnage estimates are in dry tonnes.

The waste rock was assigned an SG based on the mean grade of samples with Sn values less then 0.1%. A total of 1,716 1m composites samples contain Sn less than 0.1% and have a minimum SG of 2.2 and a maximum of 4.6 and a mean of 3.0.

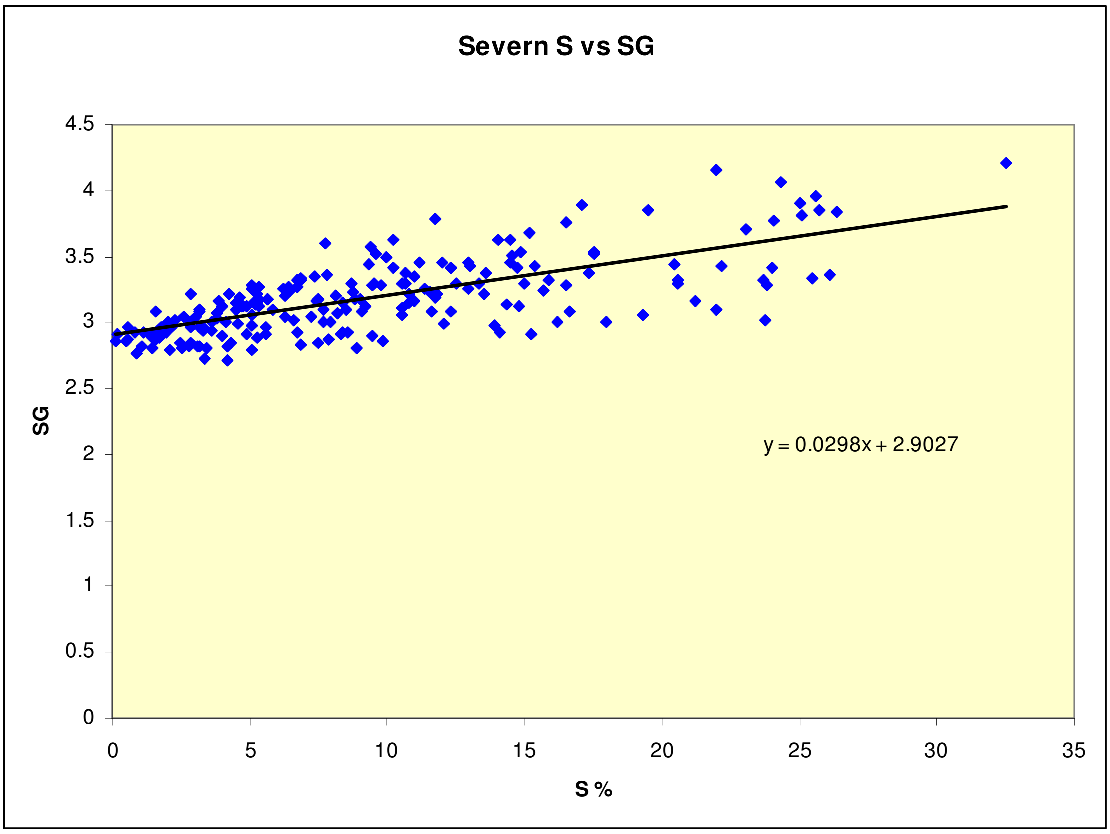


Figure 27. Severn S vs SG.

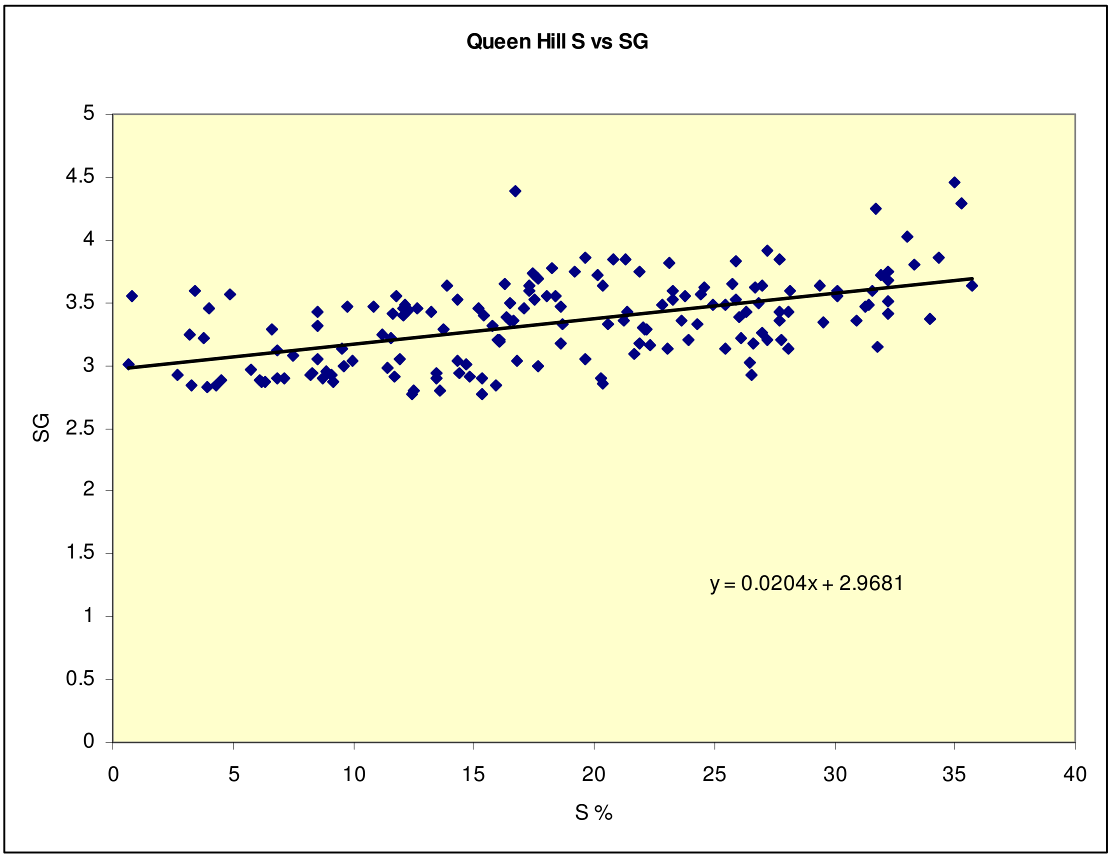


Figure 28. Queen Hill S vs SG.

There is a distinct positive correlation between SG and Sulphide content (Figures 27 and 28). The previous estimation (McKeown, 2011) used an algorithm using the sulphur grade to assign the SG to the blockmodel.

Statistical analysis of the mineralised domains highlights that there are more SG measurements in the database than S analyses.

For this estimation the SG was interpolated directly into the blockmodel using an ordinary kriging algorithm for Severn and Queen Hill and an ID^2 algorithm for Montana. The smaller Queen Hill domains (302 and 303) were assigned the median SG for the nearby Queen Hill 308 domain of 3.61.

7 RESULTS

The total, insitu estimated Mineral Resource for the Zeehan Tin Deposits classified as Indicated and Inferred Resource in accordance with the 2004 edition of the JORC Code at a 0.6% Sn block cutoff is listed in Table 22:

Table 22. Heemskirk Tin Deposit Indicated and Inferred Resource, 0.6% Sn cut off.

Classification	Deposit	Mtonnes	Sn %	Sn tonnes
Indicated Resource	Queen Hill	1.41	1.26	17,790
Total Indicated Resource		**1.41**	**1.26**	**17,790**
Inferred Resource	Queen Hill	0.19	1.63	3,090
	Severn	4.17	0.98	40,900
	Montana	0.51	1.91	9,710
Total Inferred Resource		**4.87**	**1.10**	**53,710**
Total Resource		**6.28**	**1.14**	**71,500**

The sparse input data, high variance, short ranges of the variograms and the wide spacing of much of the mineralisation, particularly for Severn and Montana has restricted the quality of the interpolation. The interpolation was relatively inefficient for many blocks beyond 20m of input data with low kriging efficiency and slope of regression.

The mineralisation demonstrates continuous higher grade zones suggesting there may be some scope for mining the deposits at higher head grades (Figure 29). However it should be noted that some high grade blocks in the Montana deposit and on the northern margin of the Queen Hill Deposit are influenced by limited drillhole data. The low confidence in the interpolation is reflected in the classification of the resources in these areas.

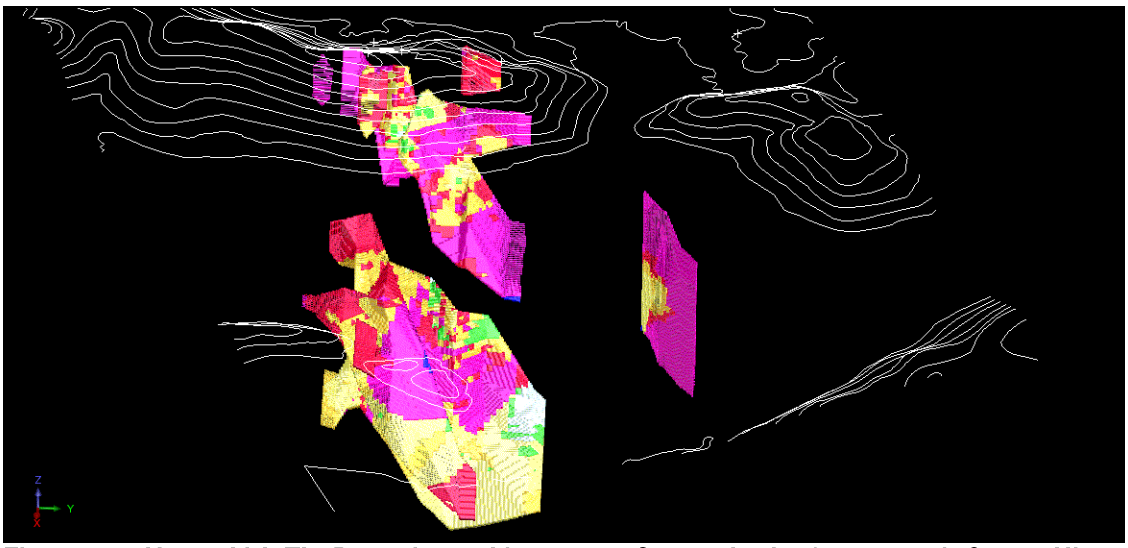
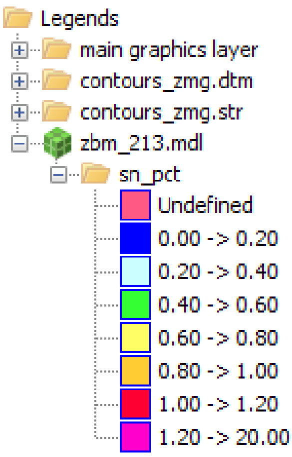


Figure 29. Heemskirk Tin Deposits looking west. Severn in the foreground, Queen Hill at the back and Montana to the right. Block



The grade tonnage curve (Figure 30) and the coherent high grade zones within the mineralisation suggest the deposits may be mined at higher cutoff grades up to 1.0% Sn which could increase the potential head grade to 1.5% Sn (Figure 30). The blockmodelled Sn mineralisation starts to disaggregate at cutoff grades greater than 1% Sn (Figure 31).

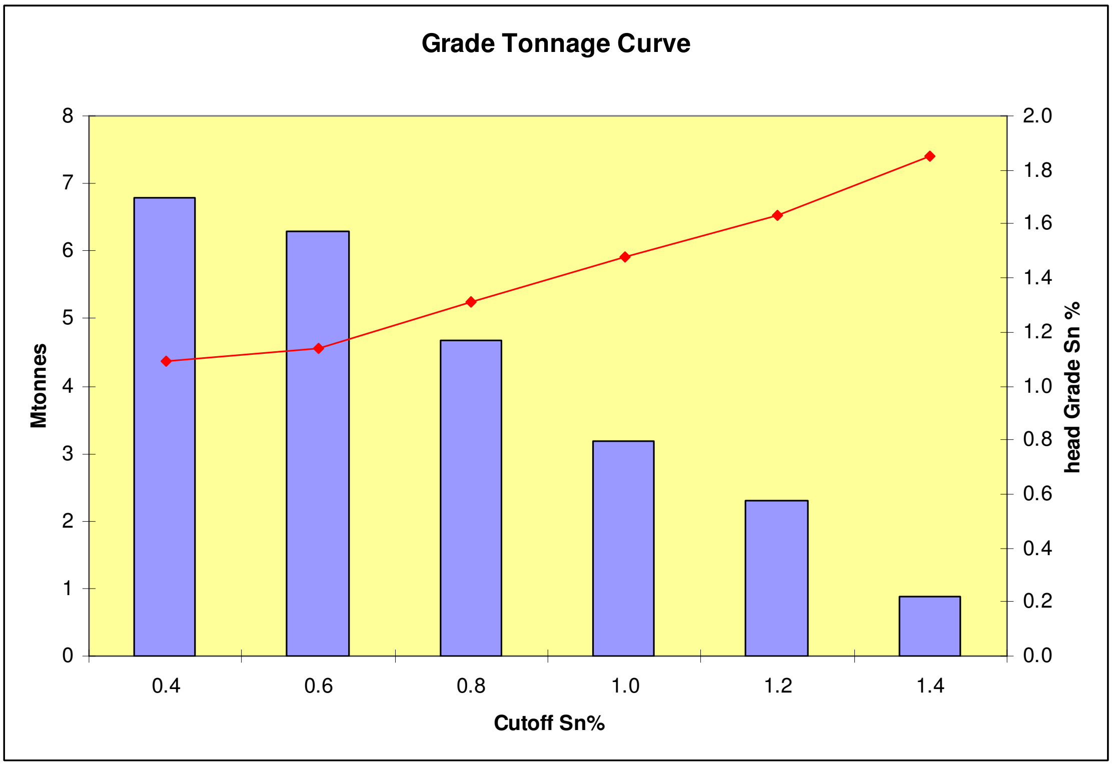


Figure 30. Heemskirk Tin grade tonnage curve

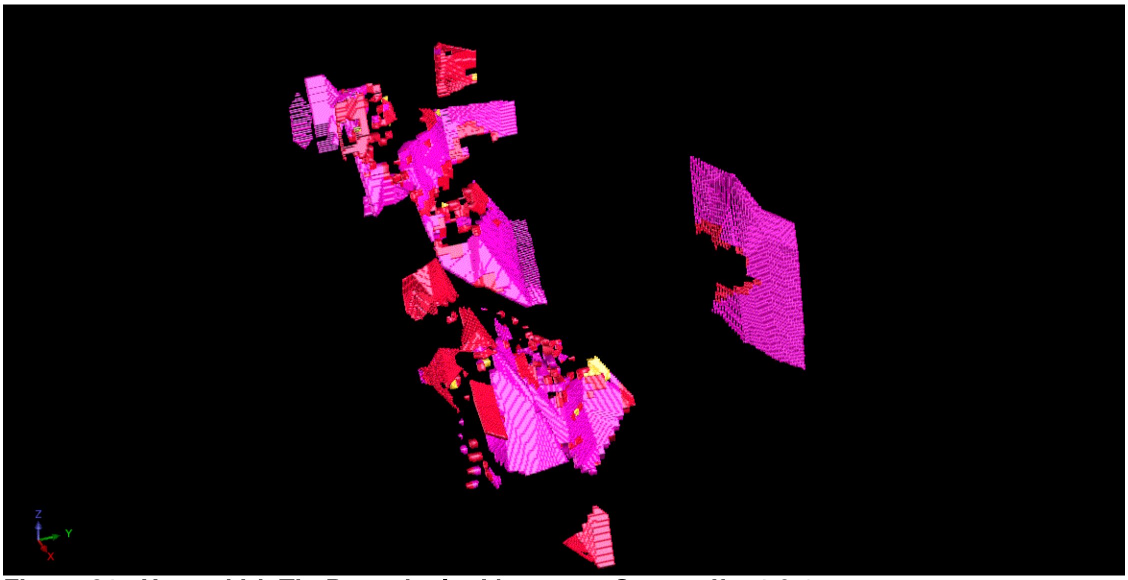


Figure 31. Heemskirk Tin Deposits looking west, Sn cutoff > 1.0%

Table 23 lists the grade tonnage data of all modeled variables interpolated in the three deposits.

Table 23. Metal Grades by Deposit						
Deposit	**Mtonnes**	**Sn %**	**AS-Sn ppm**	**S %**	**SG**	**Pb ppm**
Queen Hill	1.60	1.30	508	15.07	3.45	5031
Severn	4.17	0.98	177	9.06	3.22	266
Montana	0.51	1.91	229	21.38	3.95	11097
Total	**6.28**	**1.14**	**266**	**11.59**	**3.34**	**2368**

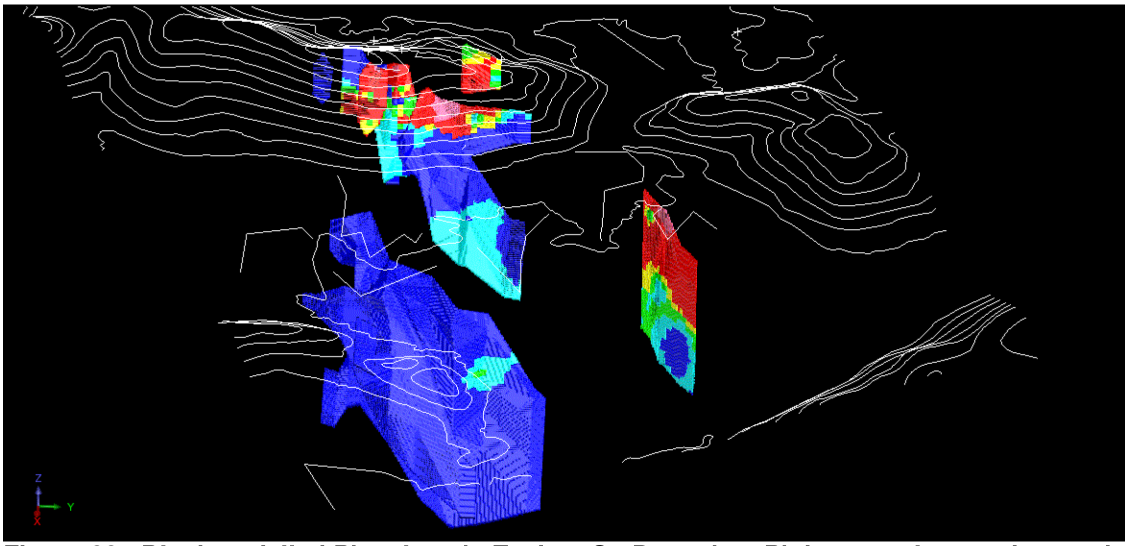


Figure 32. Blockmodelled Pb values in Zeehan Sn Deposits. Pb is strongly zoned towards the top of the Queen Hill and Montana deposits.

The three deposits have distinct mineralogical characteristics which are highlighted by the contrasting, S, Acid Soluble Sn and Pb contents of the deposits. Furthermore the Queen Hill and Montana Deposits are strongly zoned with the highest Pb and Acid Soluble Sn occurring towards the top of the deposits (Figure 32). The Pb, Zn and Ag concentrations towards the top of the systems supports the metal zonation identified by previous workers (e.g. Kitto, 1996, Collins *et al,* 1989)

The Acid Soluble Sn content of the estimated resources is low representing only 3% of the total Sn resource (Table 23).

7.1 VALIDATION

The estimation was validated by visually checking the interpolation results against drill hole data in plan and section, comparing input and output statistics and comparing with previous estimates. The estimate is considered to be robust on the basis of the above checks.

Table 24. Validation Table Input vs Output

	Input				Estimate			
Deposit	**Solid Mm^3**	**Solid MTonnes**	**Mean Sn%**	**Mean SG**	**Volume Mm^3**	**MTonnes**	**Sn%**	**SG**
Queen Hill	0.48	1.75	1.21	3.63	0.48	1.65	1.28	3.44
Severn	1.44	4.57	0.89	3.18	1.44	4.62	0.93	3.21
Montana	0.13	0.50	1.7	3.93	0.13	0.51	1.91	3.92
Total	2.05	6.82	0.00	0.00	2.05	6.78	1.09	3.31

The estimated global grade compares reasonably well with the previous resource estimate (4.36Mt @ 1.1% Sn). On a deposit by deposit basis the estimated grade is slightly higher than the previous estimation. This can be attributed to the 0.4% Sn boundary used for the geology solid as opposed to the 0.1% Sn boundary used by Mining One. The 0.1% boundary used in all previous estimations allowed a lot more low grade composites to be used in the interpolation resulting in smoothing of the global estimate to a lower grade. This is evident in the number of blocks interpolated in the Mining One model below the 0.6% Sn block cutoff, resulting in discontinuous block modeled estimation when the block cutoff is applied.

The estimated tonnes and grade for Montana is significantly higher than the Mining One estimate and the historic Aberfoyle estimate. Until infill drilling is completed the Montana Estimate should be used with caution. The uncertainty in the estimation is reflected in the resource classification.

There is a significant increase in tonnes above the 0.6% block cut off from the previous estimation. This can be partially attributed to the 0.4% Sn boundary used for solid modeling in addition to the additional drilling completed since 2010.

7.2 CLASSIFICATION

The classification of the mineral resource has taken into account confidence in the geological interpretation, confidence in the drillhole data as well as drill hole spacing.

This style of mineralisation typically has a high nugget effect as is evident from statistical analysis and analysis of twinned drill holes. Globally the mineralisation in the Queen Hill and Severn deposits is predictable with most holes within the mineralised domains intersecting continuous zones of mineralisation. There are a few notable exceptions including G45 and twinned holes G15 and G15W2 in the Queen Hill deposit and the ZS107 and ZS107W twinned holes in the Severn deposit. These holes highlight short range variability and uncertainty in the geological model and mineralisation.

Three batches of samples from the post 2010 drilling returned poor results from duplicate Independent Laboratory analyses. Over 70% of recent samples returned acceptable results. Historic data must be accepted at face value until historic QAQC data has been acquired and analysed. The majority of holes with low data confidence occur on the periphery of the mineralised domains.

Much of the upper part of the Queen Hill deposit has been drilled on a 50m spacing or better. Geological continuity is generally good and grade continuity is acceptable given the style of mineralisation. The deposit south of 3770N has therefore been classified as Indicated Resource. North of 3770N the deposit the deposit is thin and poorly drilled with block grades extrapolated rather than interpolated. This part of the deposit is therefore classified as Inferred Resource.

The Severn deposit is sparsely drilled on a nominally 100 x100m pattern. Confidence in the geological interpretation is acceptable with most holes in the central zone intersecting mineralisation in a laterally and vertically continuous zone. Variogram models have a high nugget effect of 50% of the sill and a short range of 10 – 15m highlighting the high variance of the mineralisation. Drill spacing is insufficient to provide confidence in the grade estimation of much of the mineralisation. The deposit has therefore been classified as Inferred Resource.

The Montana deposit is poorly drilled and poorly understood. The geological interpretation is based on widely spaced drillholes, many drilled at poor angles to the mineralisation. Many high grade blocks have been estimated from limited drilling data. Low confidence in the geology model, data and interpolation result in the deposit being classified as an Inferred Mineral Resource.

8 RECOMMENDATIONS

The understanding and resource base of the Heemskirk Tin deposits can be increased through further technical studies including:

- Infill drilling of the Upper Severn and Montana deposits. Infill drilling is required to provide further confidence, allowing classification as Indicated Resource or better and subsequent Reserve Estimation.

- Exploration drilling along strike and down plunge of all deposits. All deposits remain open and routine step out drilling is recommended to add additional Inferred Resources prior to Infill drilling.

.

- Implementation of routine QAQC programs. Routine QAQC programs are required for early detection of analytical problems.

- Acquisition and analysis of historic QAQC data.

- Modelling of Historic Silver Lead Mines. The mineral zonation in the Queen Hill and Montana Deposits and the proximal location of the tin deposits to overlying and peripheral lead-silver mineralisation suggests a strong relationship to the mineralizing systems. This relationship has been recorded from previous researchers (e.g. Kitto, 1996, *Collins et al*, 1989). It is possible that further tin deposits exist below or proximal to the old silver-lead veins.

References

Banks, M R and Baillie, P W, 1989. Late Cambrian to Devonian. *In Burrett C F and Martin E L (Eds), Geology and Mineral Resources of Tasmania. Geol. Soc. Aust. Spec. Publ. 15. 1989.*

Brown, AV, 1986. Geology of the Dundas-Mt Lindsay-Mt Youngbuck Region. *Geological survey Bulletin 62. Tasmanian Department of Mines*.

Berry, R F and Crawford, A J, 1988. The tectonic significance of Cambrian allochthonous mafic-ultramafic complexes in Tasmania: *Australian Journal of Earth Sciences (1988) 35, p 523-533.*

Bottrill, R and Woolley R, 2013. Basalt analyses-Queen Hill Severn Prospects. Unpublished company report by Mineral Resources Tasmania for Stellar Resources Ltd.

Brewsher, A, 2007. Queen Hill resource Estimation. Unpublished report by BM Geological Services.

Brown, A V and Jenner G A, 1989. Geological Setting, petrology and geochemistry of Cambrian boninite and low Ti tholeiite lavas in western Tasmania, in *Crawford A J (Eds), Boninite and related rocks. Unwyn Hyman, London.*

Callaghan T and Green G. Geology of the Avebury Nickel Deposits. In Press publication for the Geological Society of Tasmania.

Collins PLF, Brown, SG, Dronsieka, EV, and Morland, R, 1989. Mid Paleozoic Ore Deposits, In: *Burrett C F and Martin E L (Eds), Geology and Mineral Resources of Tasmania. Geol. Soc. Aust. Spec. Publ. 15 p270 – 292.*

Corbett, K D, 1989. Early Paleozoic deformation and tectonics – tectonic models. In: *Burrett C F and Martin E L (Eds), Geology and Mineral Resources of Tasmania. Geol. Soc. Aust. Spec. Publ. 15 p175 – 181.*

Kitto, PA, 1996. Renison Style carbonate replacement Sn deposit. *AGSO Journal of Australian Geology and Geophysics, 17(4), 163-168.*

Leaman, D.E. and Richardson, R.G., 1989. The granites of west and north-west Tasmania – a geophysical interpretation, Geological Survey Bulletin 66, Department of Mines, Tasmania.

McKeown, MV, 2011. Heemskirk Project Zeehan Cassiterite Deposits Mineral Resource Report. Unpublished consultants report for Stellar Resources by Mining One Pty Ltd.

Palmer KG, 1982. Zeehan Project Geological Resource Assessment, August 1982. *Unpublished company report for Aberfoyle Pty Ltd.*

Sise, J.R., 1981. Progress Report, Queen Hill Joint Venture, E.L., 47/71 Tasmania, Quarter to September 21, 1981. *Abminco N.L. Unpublished Report. 81-1623*

Williams, E, 1978. Tasman Fold Belt System in Tasmania. *Tectonophysics 48:159-206.*

ADDITIONAL NOTES

LIMITATIONS AND CONSENT

This report has been prepared using information available to the Author at the time of writing. The opinions stated herein are given in good faith and with the belief that the basic assumptions are factual and correct and the interpretations reasonable.

This report is not intended for the use as a public document nor, in whole or in part, in a public document without written consent to the form and context in which it appears.
.

COMPETENT PERSON AND JORC CODE

This report was prepared in accordance with the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' ("JORC Code") by Tim Callaghan, who is a Member of The Australian Institute of Mining and Metallurgy ("AusIMM"), has a minimum of five years experience in the estimation and assessment and evaluation of Mineral Resources of this style and is the competent Person as defined in the JORC Code. This report accurately summarises and fairly reports his estimations and he has consented to the resource report in the form and context it appears.
.

STATEMENT OF INDEPENDENCE

Tim Callaghan has no material interest or entitlement in the securities or assets of Stellar Resources Ltd or any associated companies.

Competent Person's Consent Statement
Pursuant to the requirements of ASX listing rules 5.6, 5.22 and 5.24 and clause 9 of 2012 JORC code
("Consent statement")

Report name: ZEEHAN TIN PROJECT MINERAL RESOURCE ESTIMATE,
Dated: 27th February 2013

I, Timothy John Callaghan confirm that:

- I have read and understood the requirements of the 2012 edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves ("2012 JORC Code").
- I am a competent person as defined by the 2012 JORC Code, having five years experience which is relevant to the style of mineralization and type of deposit described in the report, and to the activity for which I am accepting responsibility.
- I am a member or fellow of the *Australasian Institute of Mining and Metallurgy* or the *Australian Institute of Geoscientists* or a *'Recognised Overseas Professional Organisation'* ('RPO') included in a list promulgated by the ASX from time to time.
- I have reviewed the report to which this consent statement applies.
- I am a full time employee of OR I am a consultant working for ***Tim Callaghan – Resource and Exploration Geology*** and have been engaged by ***Stellar Resources Ltd*** to prepare the documentation for ***Stellar Resources Ltd*** on which the report is based for the period ended ***February 2013***.
- I have disclosed to the reporting company the full nature of the relationship between myself and the company, including any issue that could be perceived by investors as a conflict of interest.
- I verify that the Report is based on and fairly and accurately reflects in the form and context in which it appears the information in my supporting documentation relating to Mineral Resources.
- I consent to the release of the report and this consent statement by the directors of: ***Stellar Resources Ltd.***

Signature of Competent Person: Date: 27th February 2013
Professional Membership: ***Australian Institute of Mining and Metallurgy***
Membership Number: ***222210***
Signature of Witness:

APPENDIX 1

Drill Hole Intercepts

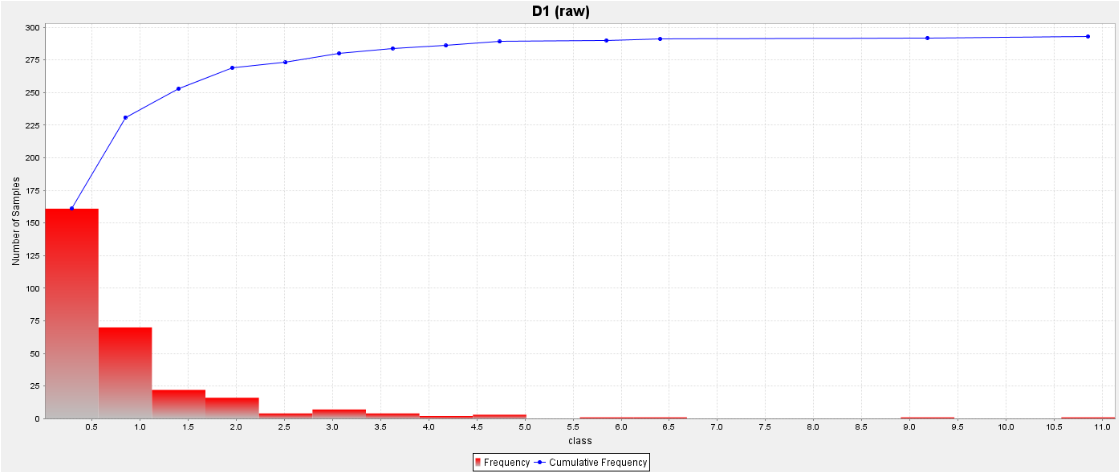
Impact					
Project	Prospect	hole_id	depth_from	depth_to	code
Zeehan	Queen Hill	G01	39.62	65.84	308
Zeehan	Queen Hill	G01	103.43	105.95	304
Zeehan	Queen Hill	G02	103.33	107.29	308
Zeehan	Queen Hill	G03	53.34	56.69	304
Zeehan	Queen Hill	G03	65.84	85.65	308
Zeehan	Queen Hill	G04	54.74	57.64	304
Zeehan	Queen Hill	G04	68.04	85.95	308
Zeehan	Queen Hill	G05	56.69	64.01	308
Zeehan	Queen Hill	G06	66.75	85.04	308
Zeehan	Queen Hill	G07	27.43	28.65	302
Zeehan	Queen Hill	G08	53.64	56.08	302
Zeehan	Queen Hill	G09	67.67	69.49	305
Zeehan	Queen Hill	G10	171.3	175.26	304
Zeehan	Queen Hill	G11	141.43	157.28	306
Zeehan	Queen Hill	G11	168.54	169.8	308
Zeehan	Queen Hill	G11W	141.4	156.91	306
Zeehan	Queen Hill	G11W	167.6	171.6	308
Zeehan	Queen Hill	G12	177.31	203.77	306
Zeehan	Queen Hill	G12	218.85	228.3	308
Zeehan	Queen Hill	G13	196.9	199.34	306
Zeehan	Queen Hill	G15	246.42	262.44	306
Zeehan	Queen Hill	G15W2	249.55	263.35	306
Zeehan	Queen Hill	G16	58.18	62.08	305
Zeehan	Queen Hill	G18	291	303.28	306
Zeehan	Montana	G20	142.65	148.74	408
Zeehan	Queen Hill	G22	198.42	216.41	308
Zeehan	Queen Hill	G24	146.71	150.82	306
Zeehan	Queen Hill	G25	147.25	149.99	304
Zeehan	Queen Hill	G26	238	263	308
Zeehan	Montana	G27	115.6	119.6	408
Zeehan	Queen Hill	G30	5.5	16.14	305
Zeehan	Queen Hill	G31	12.57	15.5	305
Zeehan	Queen Hill	G33	350.37	352.2	306
Zeehan	Queen Hill	G34B	336.57	337.65	306
Zeehan	Montana	G37	186.6	189.41	408
Zeehan	Montana	G37W	186.6	189.41	408
Zeehan	Queen Hill	G38	28.5	33.61	305
Zeehan	Severn	G39	221.6	229.2	208
Zeehan	Severn	G40	285.15	290.28	208
Zeehan	Severn	G40A	285.7	290.5	208

Impact					
Project	**Prospect**	**hole_id**	**depth_from**	**depth_to**	**code**
Zeehan	Severn	G41	231	235.8	208
Zeehan	Severn	G43	242	246	202
Zeehan	Severn	G43	270	274	208
Zeehan	Queen Hill	G45	204.38	216.43	308
Zeehan	Queen Hill	G49	128	139.8	308
Zeehan	Queen Hill	G49	173.4	196.4	306
Zeehan	Queen Hill	G51B	239.5	254.5	306
Zeehan	Queen Hill	G52	134.2	140.5	306
Zeehan	Queen Hill	G53	256.4	262	303
Zeehan	Queen Hill	G61	226.7	239.85	306
Zeehan	Queen Hill	G62	221	236	306
Zeehan	Queen Hill	G63	287.71	289.85	306
Zeehan	Severn	G65	221.5	233.5	202
Zeehan	Severn	G65	251	263.5	208
Zeehan	Montana	G67	192.7	200.3	408
Zeehan	Severn	G69	137.7	139.62	208
Zeehan	Severn	G72	285.5	294.5	208
Zeehan	Severn	G73	171	173	202
Zeehan	Severn	G74	366	371	208
Zeehan	Montana	G78	335	349.85	408
Zeehan	Severn	G81	408	412	202
Zeehan	Severn	G81	438	452	208
Zeehan	Severn	G84	407	447	208
Zeehan	Montana	G85A	435.02	439.93	408
Zeehan	Montana	G86	249	253	408
Zeehan	Montana	G86W	248.95	252.88	408
Zeehan	Severn	G87	345.97	354.08	208
Zeehan	Montana	ZM105	150.5	153	408
Zeehan	Queen Hill	ZQ93	75.7	80	308
Zeehan	Queen Hill	ZQ94	64	70	308
Zeehan	Queen Hill	ZQ96	68	72	304
Zeehan	Queen Hill	ZQ96	86	107	308
Zeehan	Queen Hill	ZQ98	93.39	98.74	308
Zeehan	Severn	ZS107W	531	535.71	208
Zeehan	Severn	ZS109	251	254	202
Zeehan	Severn	ZS109	269.9	282	208
Zeehan	Severn	ZS110	255	263	204
Zeehan	Severn	ZS110	300	305	202
Zeehan	Severn	ZS110	324	345	208
Zeehan	Severn	ZS110	360.05	368	203
Zeehan	Severn	ZS110W	255	263	204

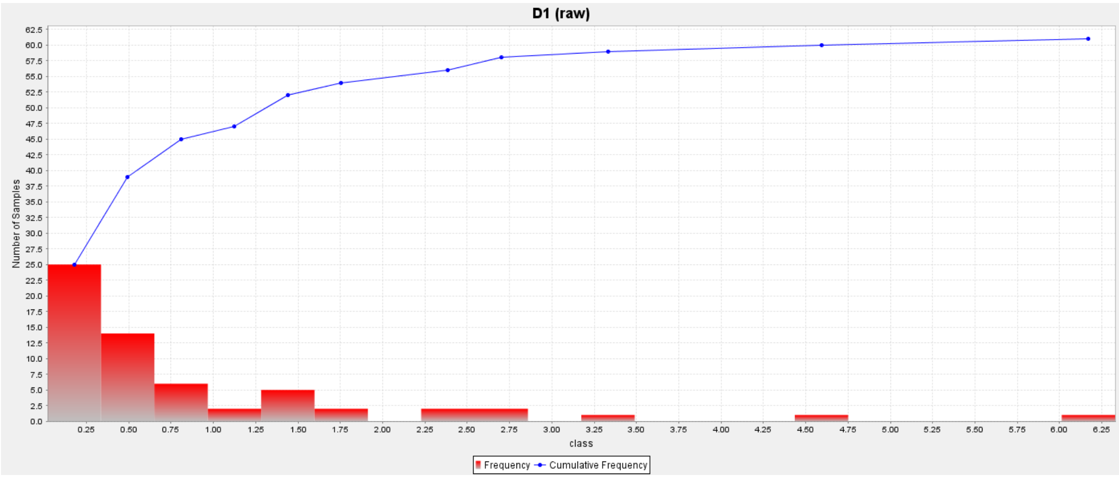
Impact					
Project	**Prospect**	**hole_id**	**depth_from**	**depth_to**	**code**
Zeehan	Severn	ZS110W	300	305.01	202
Zeehan	Severn	ZS110W	324.28	345.27	208
Zeehan	Severn	ZS110W	360.45	368.27	203
Zeehan	Severn	ZS111	228.2	235.91	202
Zeehan	Severn	ZS111W	226.59	233.73	202
Zeehan	Severn	ZS112	385.85	388	202
Zeehan	Severn	ZS112	406	410	208
Zeehan	Severn	ZS113	270.14	303	208
Zeehan	Severn	ZS113W	266	305.13	208
Zeehan	Severn	ZS115	465	481	208
Zeehan	Severn	ZS120	514	517	202
Zeehan	Severn	ZS120	534	550.6	208
Zeehan	Severn	ZS123	288.22	293.7	202
Zeehan	Severn	ZS123	299	309	208

APPENDIX 2

Basic Statistics



Severn Sn domain 208 1m composite Sn cumulative frequency histogram.



Severn Sn domain 202 1m composite Sn cumulative frequency histogram.

Severn 208 Basic Statistics								
Variable	**Sn %**	**AS_Sn ppm**	**S %**	**Cu ppm**	**Pb ppm**	**Zn ppm**	**Ag ppm**	**SG**
Number of samples	293	108	179.00	264	201	259	181	239
Minimum value	0.01	10	0.14	8	7	10	1	2.71
Maximum value	11.13	1000	26.10	4400	19000	18500	88	4.20
Mean	0.90	162	9.09	583	253	243	4	3.18
Median	0.50	92	7.66	400	24	51	2	3.15
Geometric Mean	0.49	112	6.55	381	32	53	2	3.17
Variance	2	27690	42	328189	2224677	2475184	65	0.07
Standard Deviation	1.25	166	6.49	573	1492	1573	8	0.27
Coefficient of variation	1.38	1.02	0.71	0.98	5.89	6.48	2.27	0.08

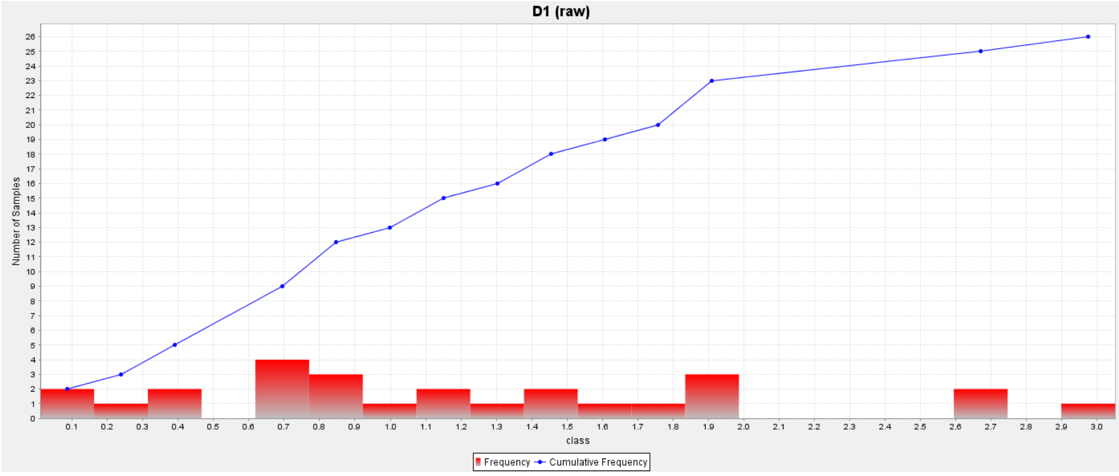
Severn 208 Correlation Coefficient Table								
Variable	**Sn %**	**AS_Sn ppm**	**S %**	**Cu ppm**	**Pb ppm**	**Zn ppm**	**Ag ppm**	**SG**
Sn %	1.00	0.17	0.31	0.27	-0.02	-0.04	0.02	0.34
AS_Sn ppm	0.17	1.00	0.41	0.56	0.00	0.23	0.58	0.47
S %	0.31	0.41	1.00	0.61	0.13	0.13	0.42	0.65
Cu ppm	0.27	0.56	0.61	1.00	0.19	-0.03	0.42	0.52
Pb ppm	-0.02	0.00	0.13	0.19	1.00	0.18	0.81	0.17
Zn ppm	-0.04	0.23	0.13	-0.03	0.18	1.00	0.09	0.11
Ag ppm	0.02	0.58	0.42	0.42	0.81	0.09	1.00	0.36
SG	0.34	0.47	0.65	0.52	0.17	0.11	0.36	1.00

Severn 202 Basic Statistics								
Variable	**Sn %**	**AS_Sn ppm**	**S %**	**Cu ppm**	**Pb ppm**	**Zn ppm**	**Ag ppm**	**SG**
Number of samples	61	27	39	51	42	48	36	51
Minimum value	0.02	60	0.76	45	10	10	1	2.87
Maximum value	6.33	780	27.71	3300	3500	1730	46	3.85
Mean	0.86	207	8.07	662	191	209	6	3.15
Median	0.42	200	5.89	503	28	71	3	3.05
Geometric Mean	0.41	163	5.74	479	40	89	4	3.14
Variance	1.32	23123	47.50	303630	325045	163244	91	0.07
Standard Deviation	1.15	152	6.89	551	570	404	10	0.26
Coefficient of variation	1.34	0.73	0.85	0.83	2.99	1.93	1.46	0.08

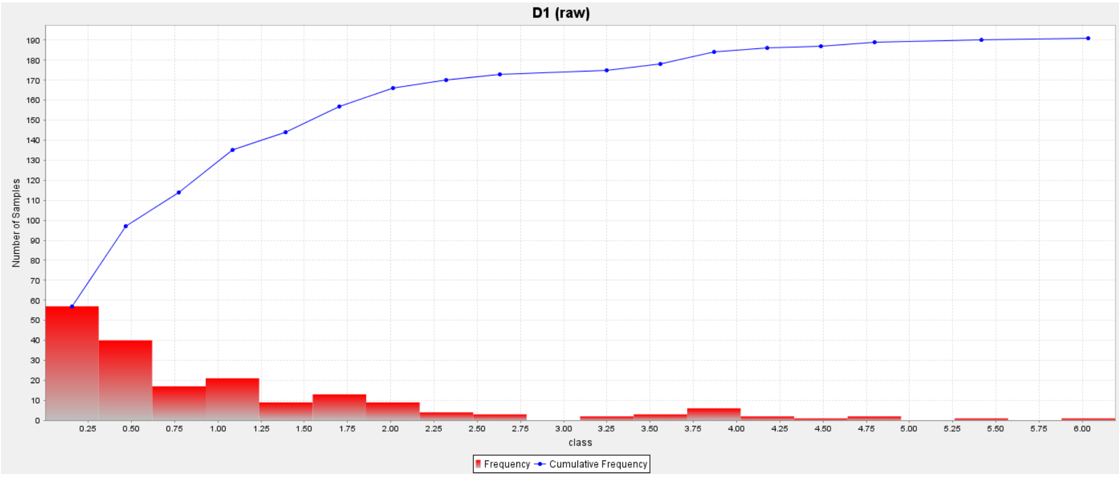
Severn 202 Correlation Coefficient Table								
Variable	**Sn %**	**AS_Sn ppm**	**S %**	**Cu ppm**	**Pb ppm**	**Zn ppm**	**Ag ppm**	**SG**
Sn %	1.00	0.27	0.46	0.41	0.19	0.30	0.63	0.45
AS_Sn ppm	0.27	1.00	0.88	0.45	0.35	0.55	0.71	0.67
S %	0.46	0.88	1.00	0.77	0.80	0.67	0.66	0.83
Cu ppm	0.41	0.45	0.77	1.00	0.16	0.44	0.83	0.58
Pb ppm	0.19	0.35	0.80	0.16	1.00	0.80	0.41	0.62
Zn ppm	0.30	0.55	0.67	0.44	0.80	1.00	0.73	0.52
Ag ppm	0.63	0.71	0.66	0.83	0.41	0.73	1.00	0.68
SG	0.45	0.67	0.83	0.58	0.62	0.52	0.68	1.00

Severn 203 Basic Statistics								
Variable	**Sn %**	**AS_Sn ppm**	**S %**	**Cu ppm**	**Pb ppm**	**Zn ppm**	**Ag ppm**	**SG**
Number of samples	16	0	16.00	16	8	16	10	16
Minimum value	0.01	0	0.60	44.35	10	10	1	2.77
Maximum value	1.70	0	10.66	791.35	10	54.5	1	3.35
Mean	0.79	0	5.40	367	10	27	1	2.97
Median	0.63	0	4.96	330	10	24	1	2.96
Geometric Mean	0.48	1	4.60	298	10	24	1	2.97
Variance	0.29	0	6.73	38627	0	157	0	0.02
Standard Deviation	0.54	0	2.59	197	0	13	0	0.15
Coefficient of variation	0.68	0.00	0.48	0.54	0.00	0.47	0.00	0.05

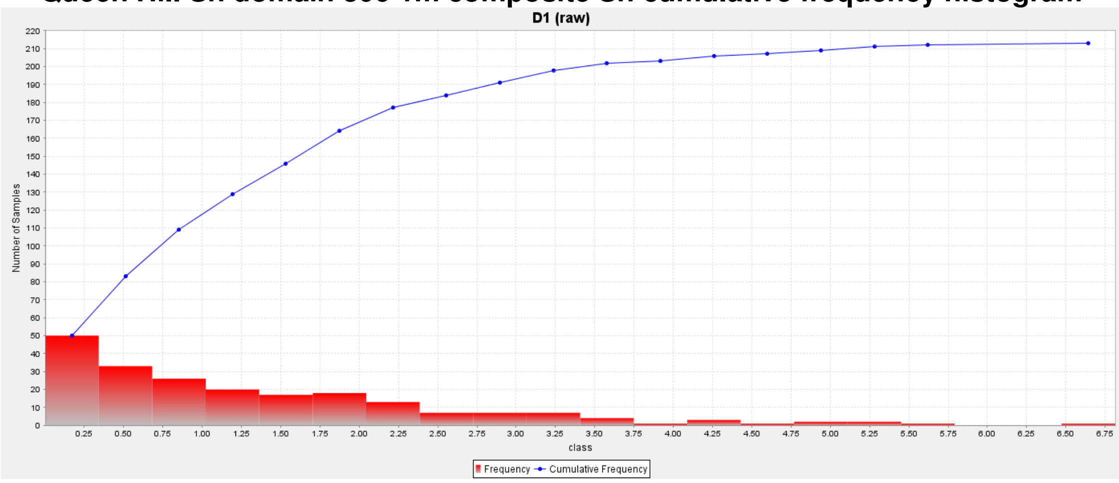
Severn 204 Basic Statistics								
Variable	**Sn %**	**AS_Sn ppm**	**S %**	**Cu ppm**	**Pb ppm**	**Zn ppm**	**Ag ppm**	**SG**
Number of samples	8	5	8.00	8	8	8	8	8
Minimum value	0.13	50	1.38	105	20	40	1	3.00
Maximum value	1.79	230	18.30	1040	29000	33200	47	3.69
Mean	0.92	122	10.73	521	3683	4279	9	3.32
Median	1.06	110	9.69	441	55	155	4	3.34
Geometric Mean	0.63	109	8.40	432	108	226	4	3.31
Variance	0.39	3496	35.61	80342	91570119	119500511	213	0.05
Standard Deviation	0.62	59	5.97	283	9569	10932	15	0.23
Coefficient of variation	0.68	0.48	0.56	0.54	2.60	2.55	1.65	0.07



Queen Hill Sn domain 305 1m composite Sn cumulative frequency histogram



Queen Hill Sn domain 306 1m composite Sn cumulative frequency histogram



Queen Hill Sn domain 308 1m composite Sn cumulative frequency histogram

Queen Hill 308 Basic Statistics								
Variable	**Sn %**	**AS_Sn ppm**	**S %**	**Cu ppm**	**Pb ppm**	**Zn ppm**	**Ag ppm**	**SG**
Number of samples	213	75	0.00	205	213	198	202	88
Minimum value	0.00	10	0.00	8	48	28	0.5	2.89
Maximum value	6.81	2500	0.00	17718	149535	170300	635	4.47
Mean	1.34	263	0.00	403	5643	5424	21	3.63
Median	0.99	163	0.00	120	587	584	6	3.61
Geometric Mean	0.61	159	1.00	142	931	942	7	3.61
Variance	1.60	117043	0.00	2117832	313589772	229748120	4473	0.16
Standard Deviation	1.26	342	0.00	1455	17708	15157	67	0.40
Coefficient of variation	0.94	1.30	0.00	3.61	3.14	2.79	3.17	0.11

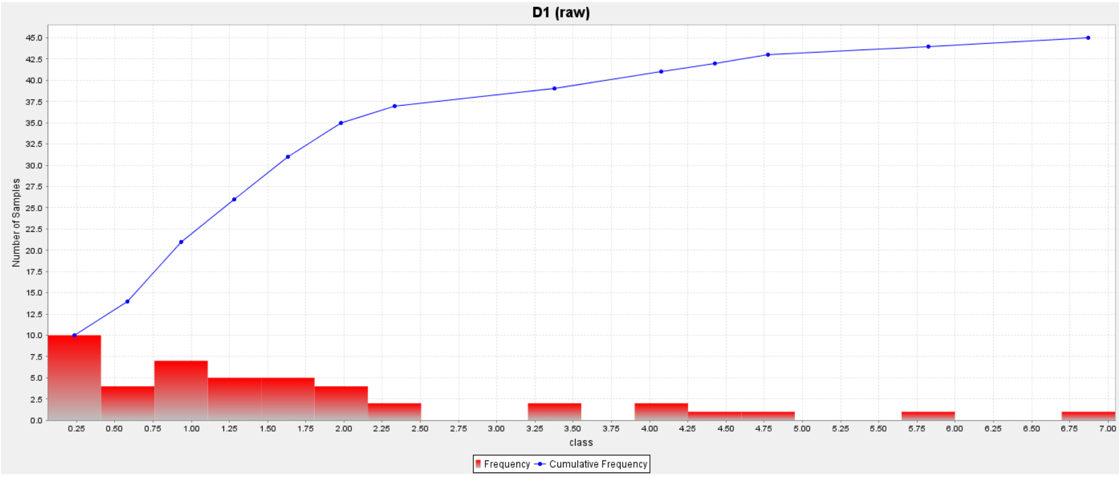
Table x. Queeen Hill 308 Correlation Coefficient Table								
Variable	**Sn %**	**AS_Sn ppm**	**S %**	**Cu ppm**	**Pb ppm**	**Zn ppm**	**Ag ppm**	**SG**
Sn %	1.00	0.41		0.14	0.04	-0.07	0.03	0.36
AS_Sn ppm	0.41	1.00		0.49	0.19	0.32	0.29	0.43
S %								
Cu ppm	0.14	0.49		1.00	0.60	0.13	0.69	0.27
Pb ppm	0.04	0.19		0.60	1.00	0.27	0.75	0.11
Zn ppm	-0.07	0.32		0.13	0.27	1.00	0.63	0.14
Ag ppm	0.03	0.29		0.69	0.75	0.63	1.00	0.26
SG	0.36	0.43		0.27	0.11	0.14	0.26	1.00

Queen Hill 306 Basic Statistics								
Variable	**Sn %**	**AS_Sn ppm**	**S %**	**Cu ppm**	**Pb ppm**	**Zn ppm**	**Ag ppm**	**SG**
Number of samples	191	73		168	184	180	161	152
Minimum value	0.00	10		5	9.86	5	1	2.71
Maximum value	6.19	18700		25946.7	305621.622	73064	703	4.46
Mean	1.07	743		893	8272	4089	28	3.28
Median	0.60	75		115	334	387	5	3.25
Geometric Mean	0.45	95		153	584	473	7	3.26
Variance	1.44	7713011		8444499	1325727169	106603800	8210	0.11
Standard Deviation	1.20	2777		2906	36411	10325	91	0.33
Coefficient of variation	1.13	3.74		3.26	4.40	2.52	3.24	0.10

Queen Hill 306 Correlation Coefficient Table								
Variable	**Sn %**	**AS_Sn ppm**	**S %**	**Cu ppm**	**Pb ppm**	**Zn ppm**	**Ag ppm**	**SG**
Sn %	1.00	0.16		0.07	-0.06	0.08	-0.07	0.52
AS_Sn ppm	0.16	1.00		0.99	0.07	-0.02	0.39	0.23
S %								
Cu ppm	0.07	0.99		1.00	0.07	0.00	0.41	0.02
Pb ppm	-0.06	0.07		0.07	1.00	0.40	0.85	0.09
Zn ppm	0.08	-0.02		0.00	0.40	1.00	0.25	0.01
Ag ppm	-0.07	0.39		0.41	0.85	0.25	1.00	0.09
SG	0.52	0.23		0.02	0.09	0.01	0.09	1.00

Storms Down 305 Basic Statistics								
Variable	**Sn %**	**AS_Sn ppm**	**S %**	**Cu ppm**	**Pb ppm**	**Zn ppm**	**Ag ppm**	**SG**
Number of samples	26	2	0.00	6	15	15	13	8
Minimum value	0.01	50	0.00	71.8	388.4	1300	3.315	3.02
Maximum value	3.05	50	0.00	321	87622	99486.9565	97.68	5.60
Mean	1.21	50	0.00	146	10225	14581	19	3.68
Median	1.10	50	0.00	100	4400	7000	14	3.18
Geometric Mean	0.80	50	1.00	125	3556	7099	13	3.59
Variance	0.63	0	0.00	7862	442280050	577131301	545	0.77
Standard Deviation	0.80	0	0.00	89	21030	24024	23	0.88
Coefficient of variation	0.66	0.00	0.00	0.61	2.06	1.65	1.23	0.24

Table x. Stormsdown 305 Correlation Coefficient Table								
Variable	**Sn %**	**AS_Sn ppm**	**S %**	**Cu ppm**	**Pb ppm**	**Zn ppm**	**Ag ppm**	**SG**
Sn %	1.00	0.00	1.00	0.75	0.29	-0.05	0.21	-0.16
AS_Sn ppm	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00
S %	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Cu ppm	0.75	0.00	1.00	1.00	0.93	0.00	0.93	-1.00
Pb ppm	0.29	0.00	1.00	0.93	1.00	-0.07	0.99	0.84
Zn ppm	-0.05	0.00	1.00	0.00	-0.07	1.00	-0.02	-0.30
Ag ppm	0.21	0.00	1.00	0.93	0.99	-0.02	1.00	0.61
SG	-0.16	0.00	1.00	-1.00	0.84	-0.30	0.61	1.00



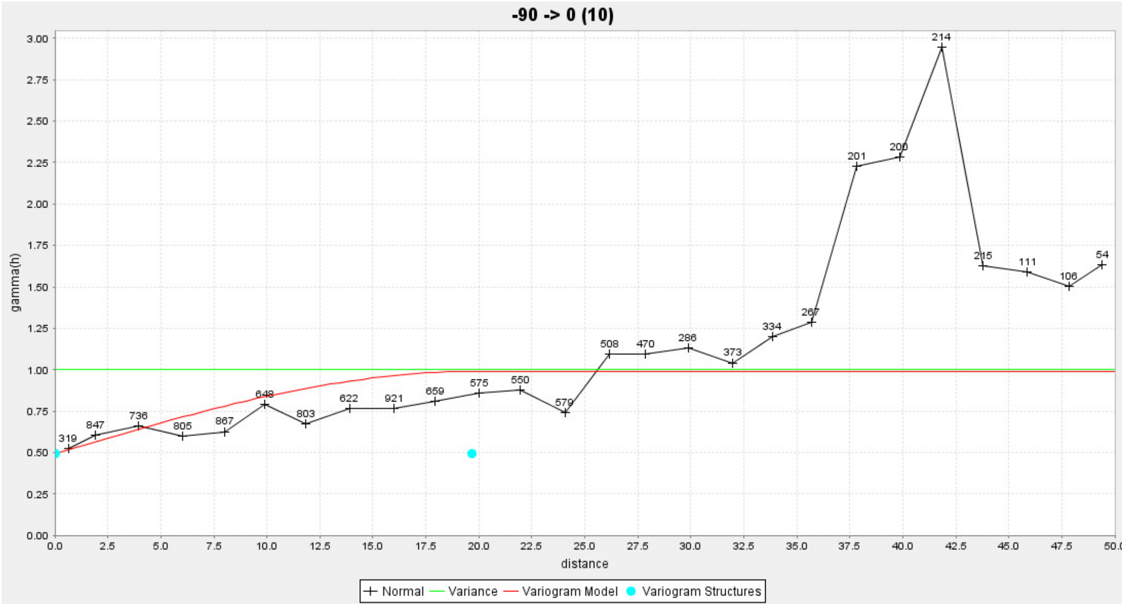
Montana 1m composite Sn Cumulative Frequency Histogram

Table 15. Montana 408 Basic Statistics								
Variable	**Sn %**	**AS_Sn ppm**	**S %**	**Cu ppm**	**Pb ppm**	**Zn ppm**	**Ag ppm**	**SG**
Number of samples	45	11	15	39	37	45	30	19
Minimum value	0.06	67	0.71	16	100	200	3	2.92
Maximum value	7.05	353.5	29.70	680	199000	139250	830	4.35
Mean	1.70	208	19.31	287	15069	20535	66	3.93
Median	1.34	200	19.86	260	3500	5700	16	3.95
Geometric Mean	1.07	189	15.91	220	2320	4654	22	3.92
Variance	2.45	7328	53.18	33648	1213475937	1134510212	22521	0.09
Standard Deviation	1.57	86	7.29	183	34835	33682	150	0.30
Coefficient of variation	0.92	0.41	0.38	0.64	2.31	1.64	2.29	0.08

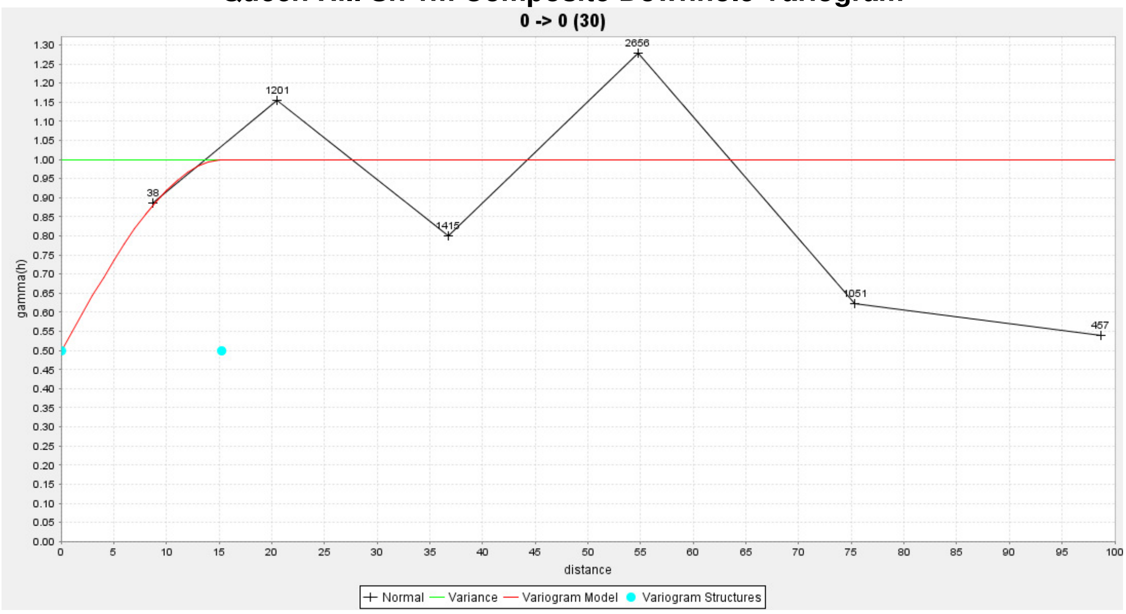
Table 16. Montana 408 Correlation Coefficient Table								
Variable	**Sn %**	**AS_Sn ppm**	**S %**	**Cu ppm**	**Pb ppm**	**Zn ppm**	**Ag ppm**	**SG**
Sn %	1.00	0.46	-0.01	0.39	0.54	-0.10	0.53	0.43
AS_Sn ppm	0.46	1.00	0.31	0.59	0.71	0.48	0.78	0.39
S %	-0.01	0.31	1.00	0.25	-0.10	0.03	-0.01	0.49
Cu ppm	0.39	0.59	0.25	1.00	0.36	-0.34	0.51	0.44
Pb ppm	0.54	0.71	-0.10	0.36	1.00	0.15	0.98	0.15
Zn ppm	-0.10	0.48	0.03	-0.34	0.15	1.00	0.07	0.25
Ag ppm	0.53	0.78	-0.01	0.51	0.98	0.07	1.00	0.22
SG	0.43	0.39	0.49	0.44	0.15	0.25	0.22	1.00

APPENDIX 3

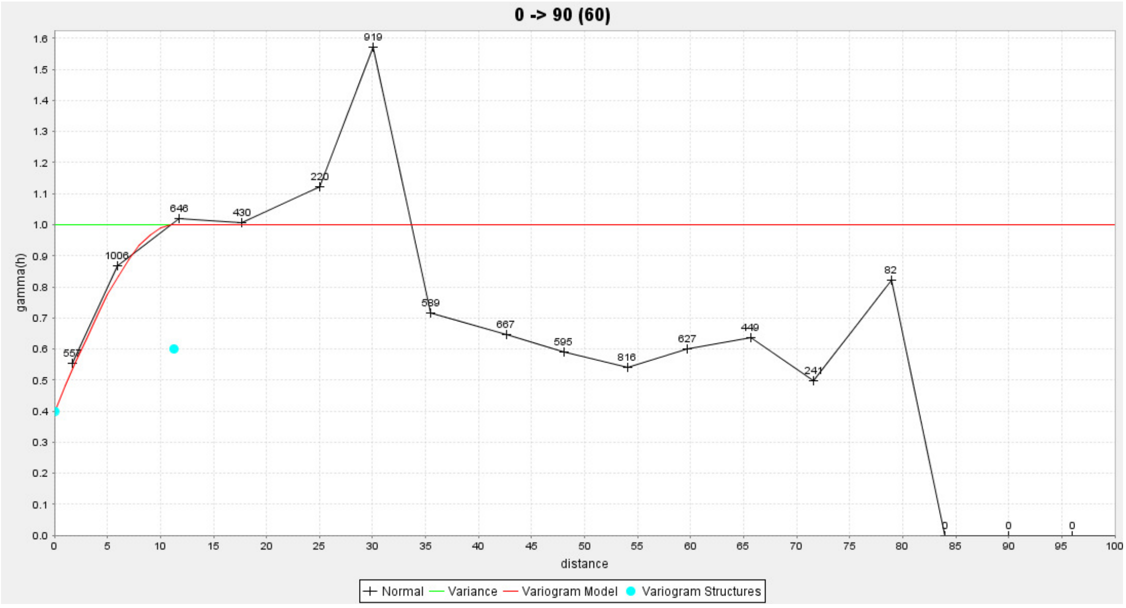
VARIOGRAM MODELS



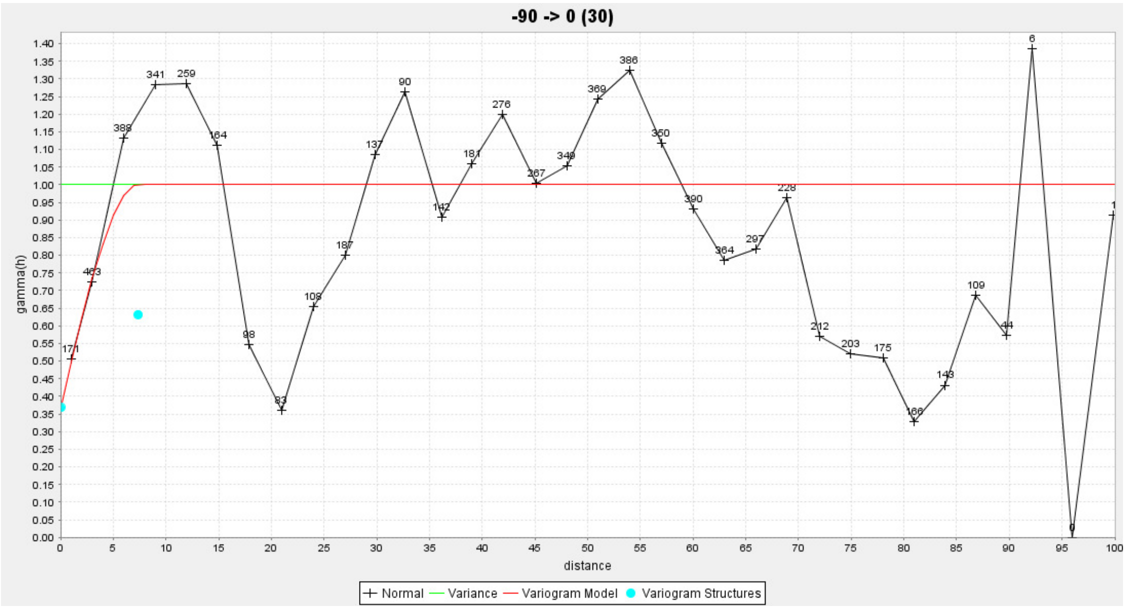
Queen Hill Sn 1m Composite Downhole Variogram



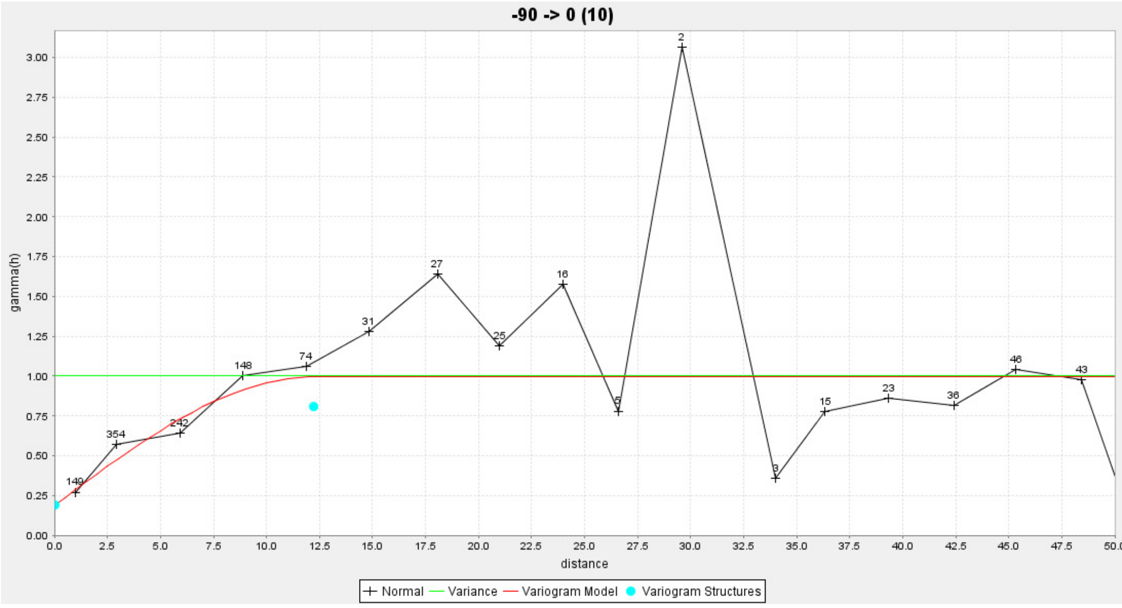
Queen Hill Sn 1m Composite Y direction Variogram



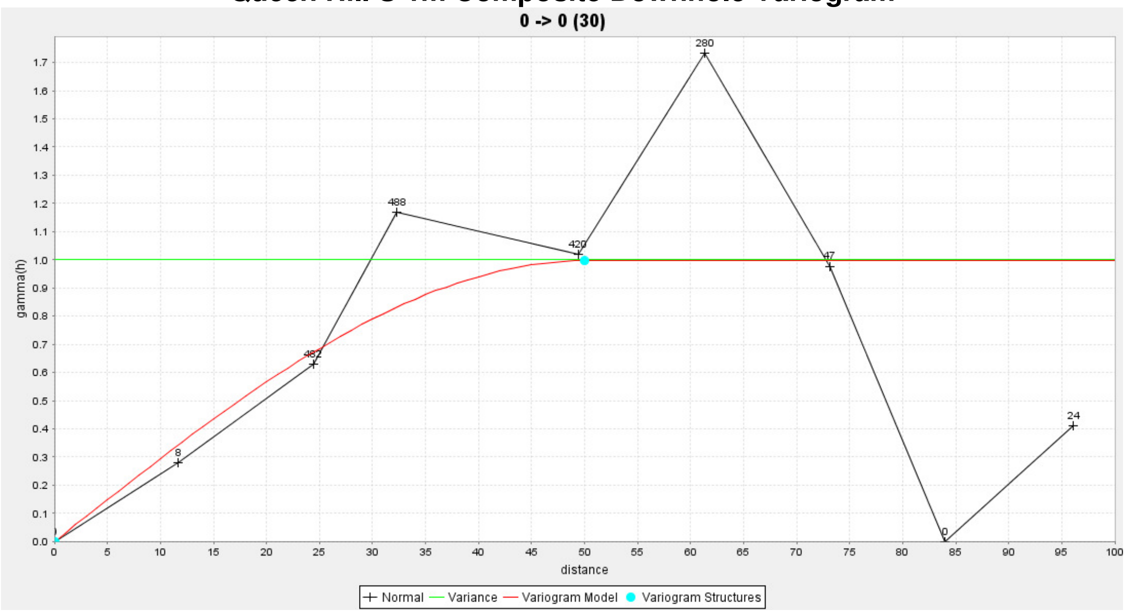
Queen Hill Sn 1m Composite X direction Variogram



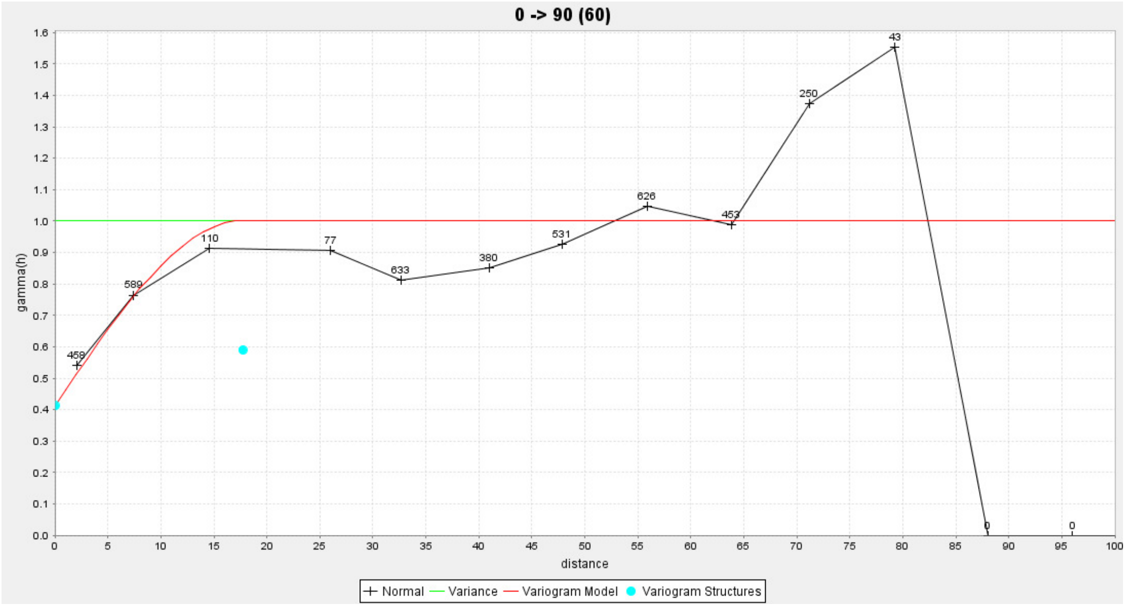
Queen Hill Sn 1m Composite Z direction Variogram



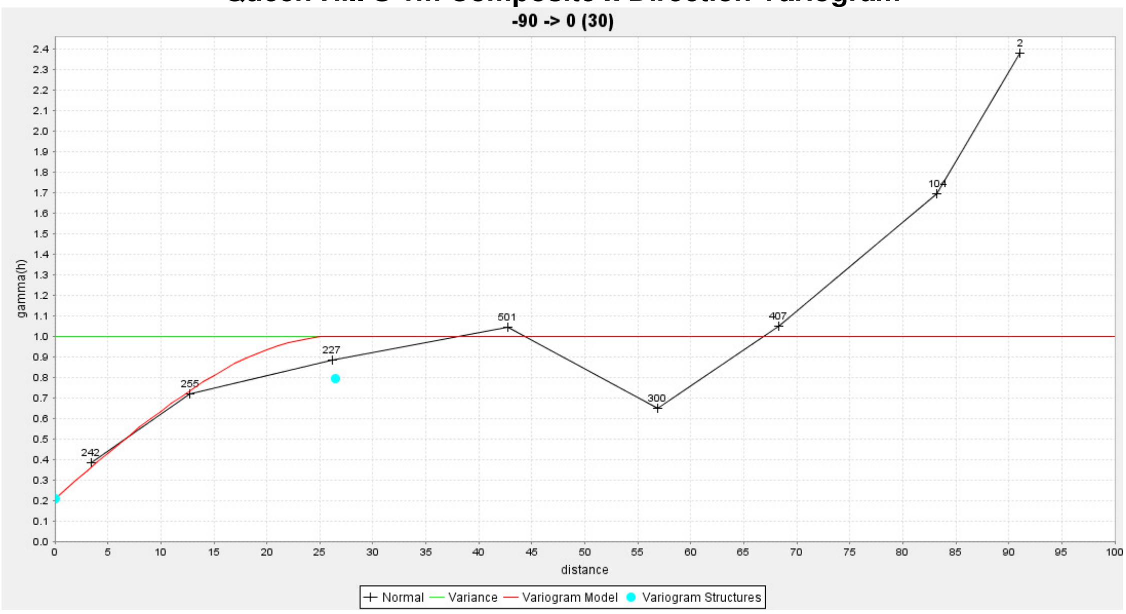
Queen Hill S 1m Composite Downhole Variogram



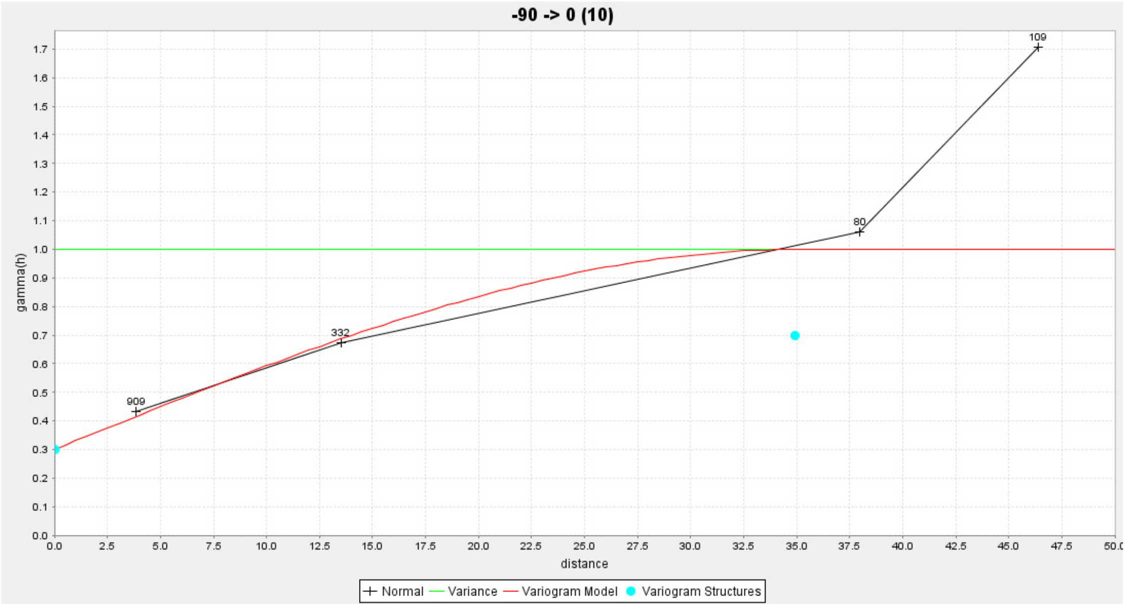
Queen Hill S 1m Composite y Direction Variogram



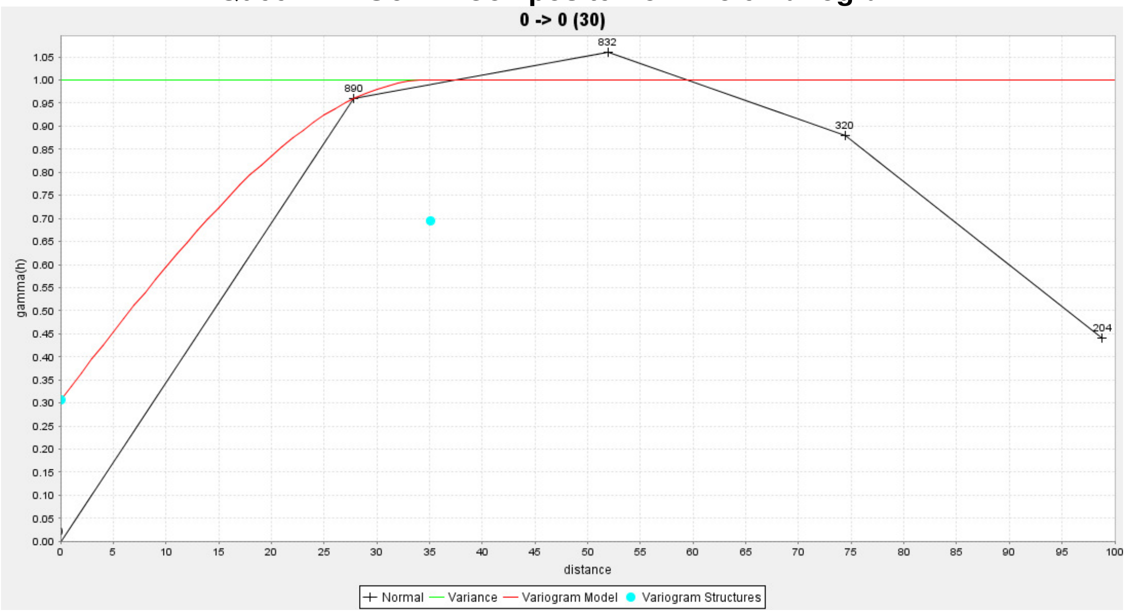
Queen Hill S 1m Composite x Direction Variogram



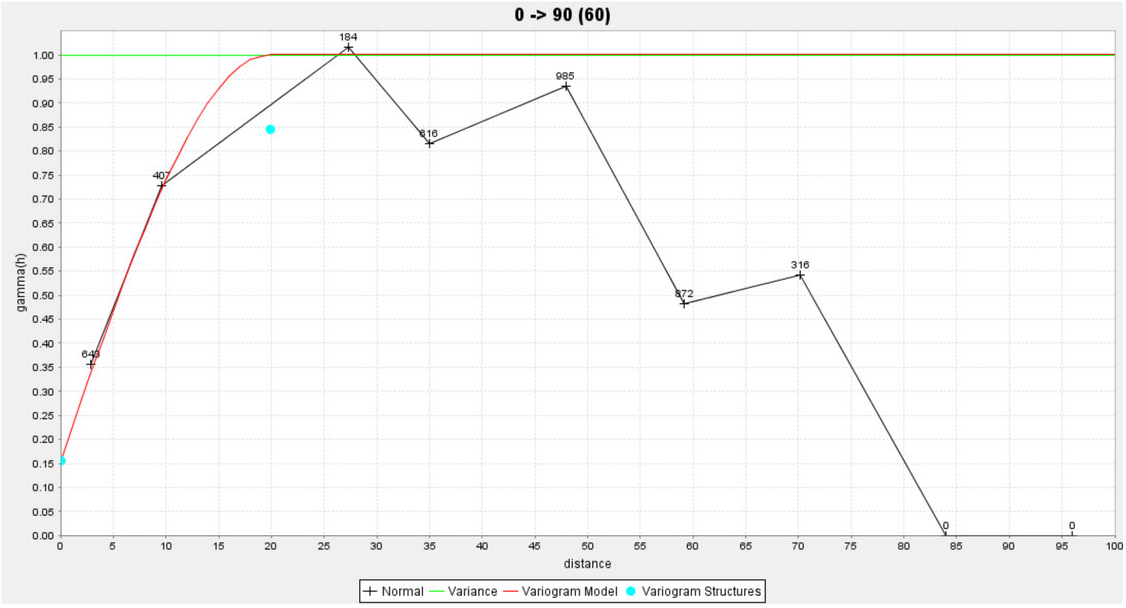
Queen Hill S 1m Composite Z Direction Variogram



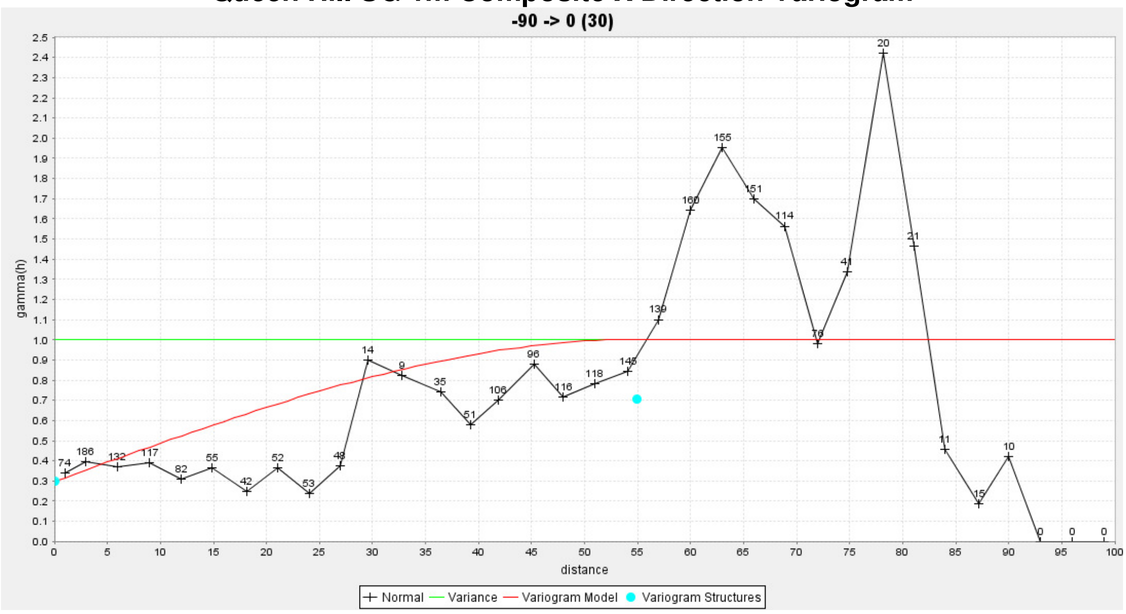
Queen Hill SG 1m Composite Downhole Variogram



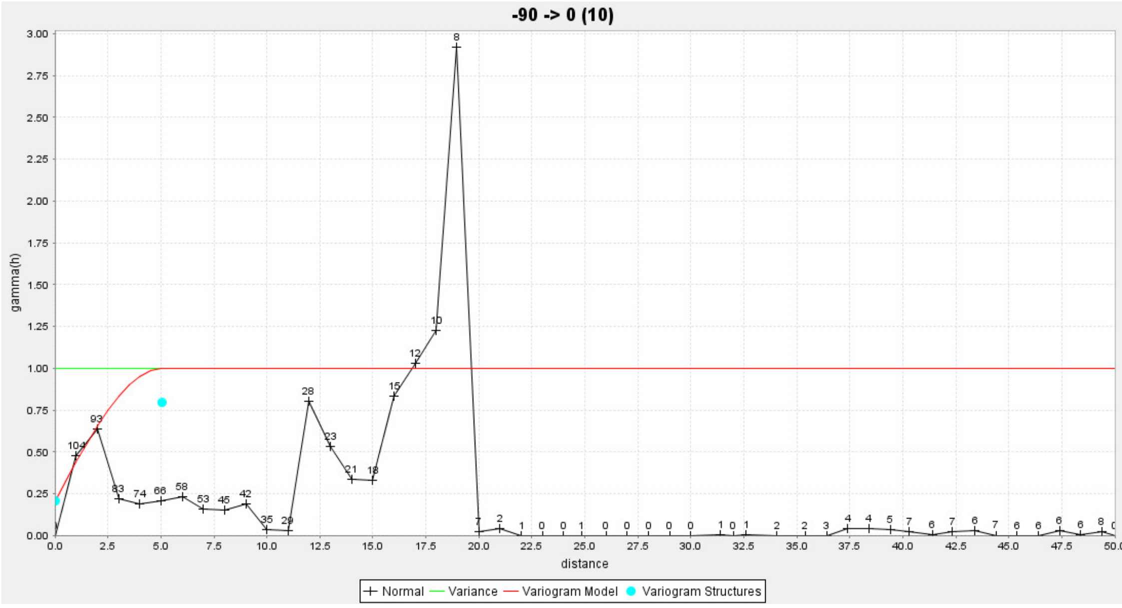
Queen Hill SG 1m Composite Y Direction Variogram



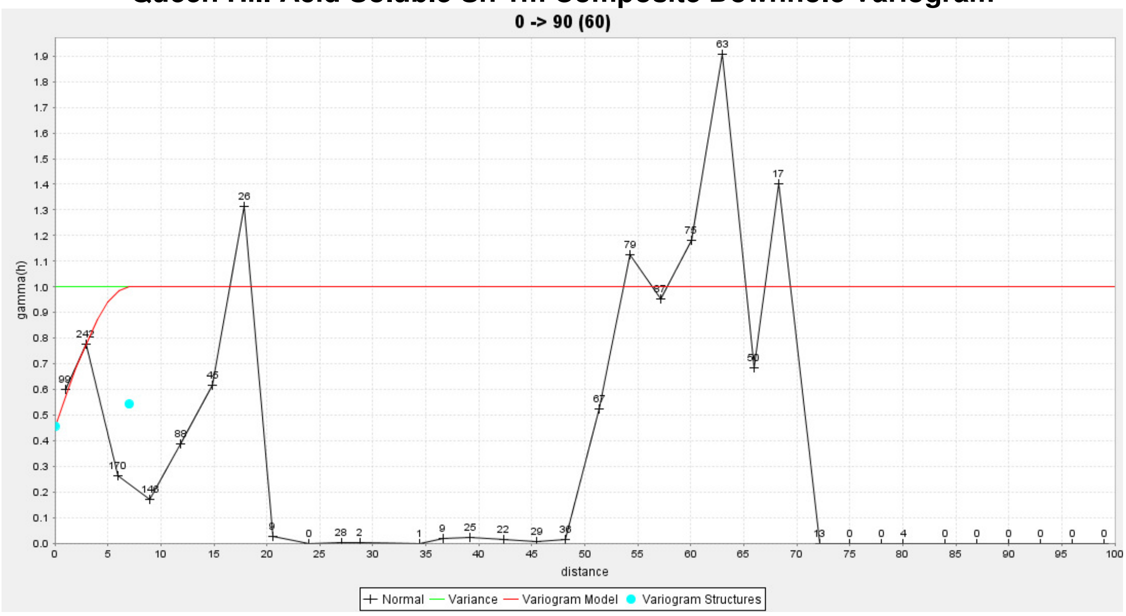
Queen Hill SG 1m Composite X Direction Variogram



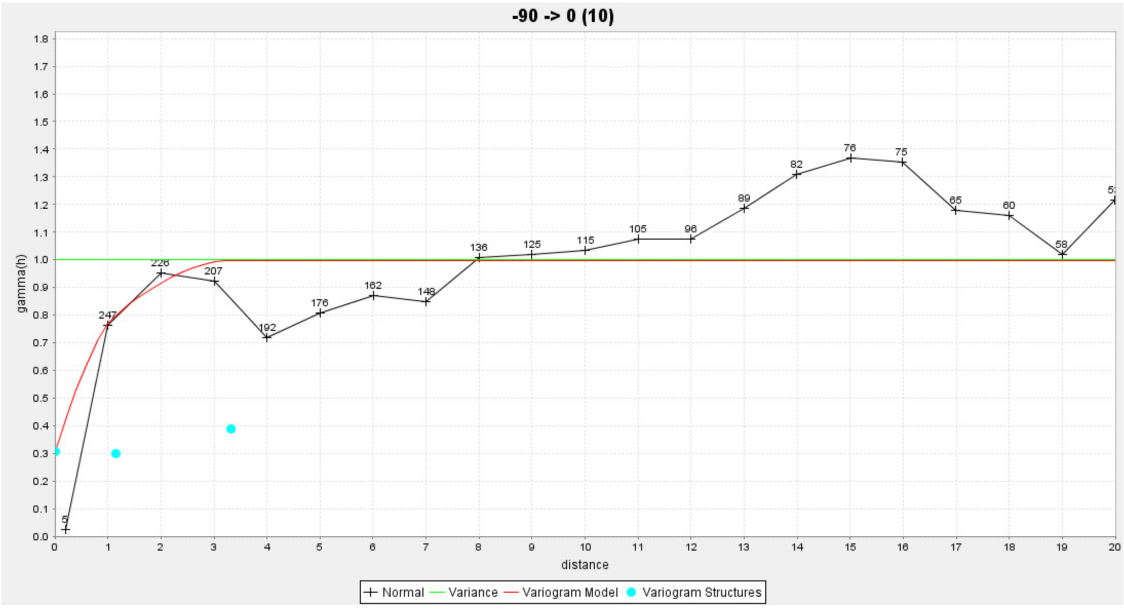
Queen Hill SG 1m Composite Z Direction Variogram



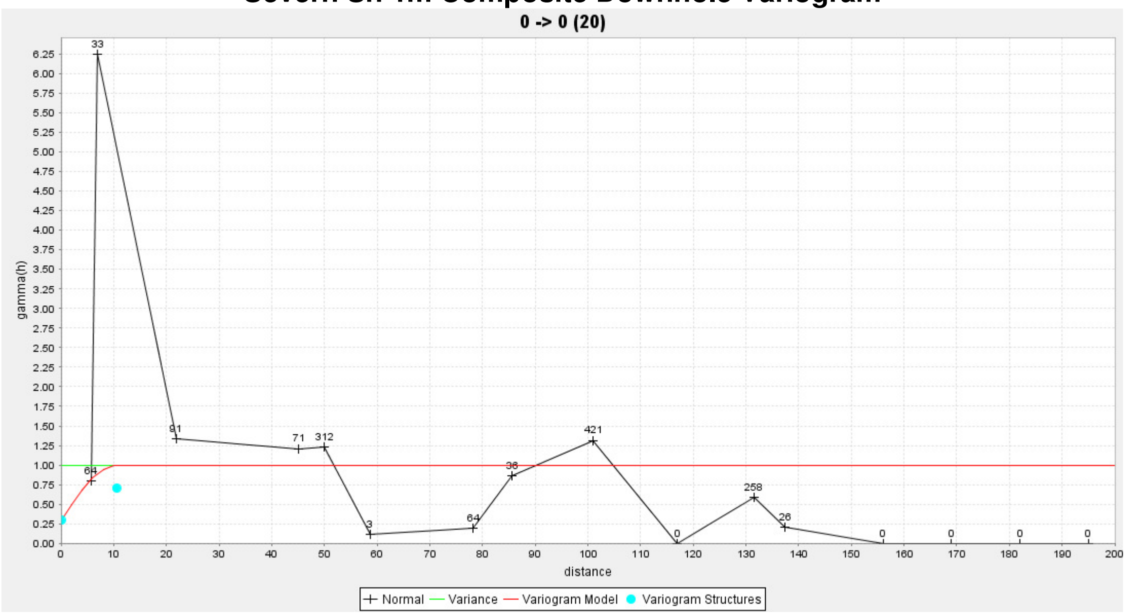
Queen Hill Acid Soluble Sn 1m Composite Downhole Variogram



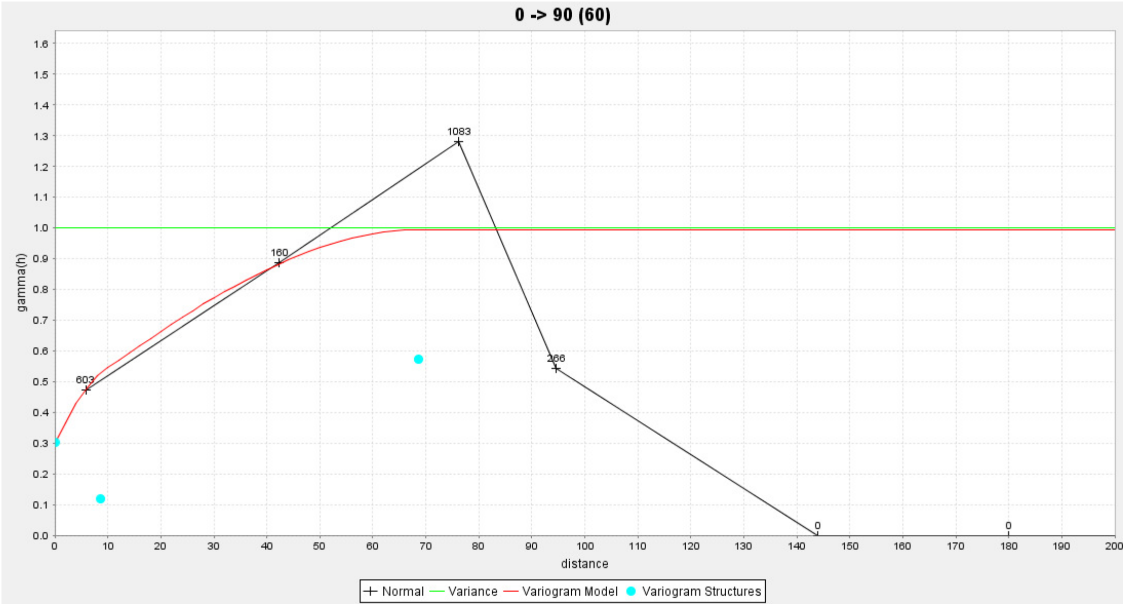
Queen Hill Acid Soluble Sn 1m Composite X Variogram



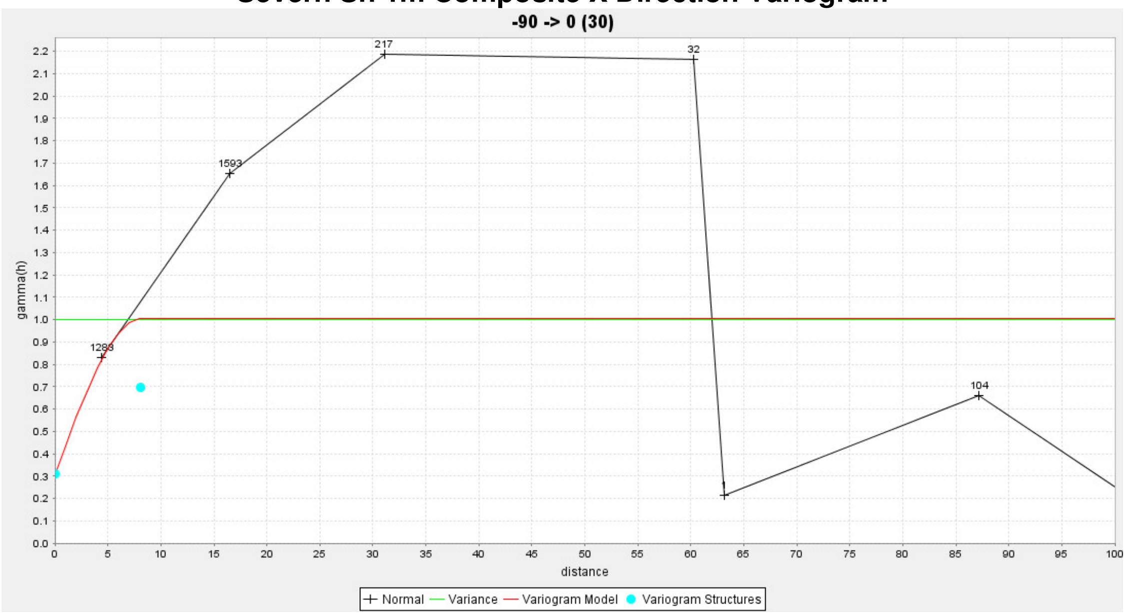
Severn Sn 1m Composite Downhole Variogram



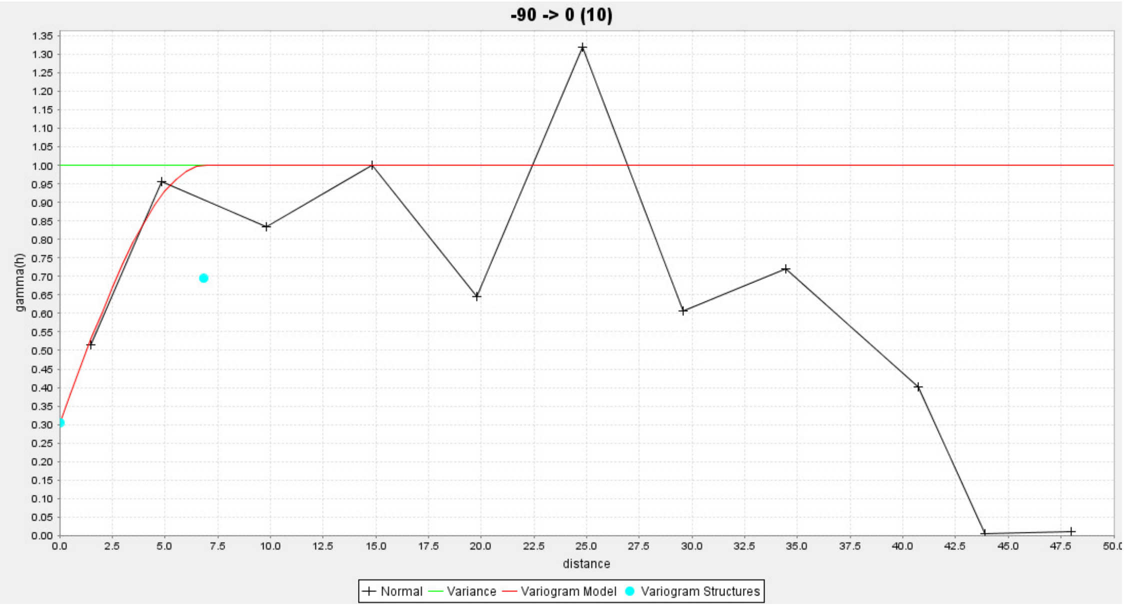
Severn Sn 1m Composite Y Direction Variogram



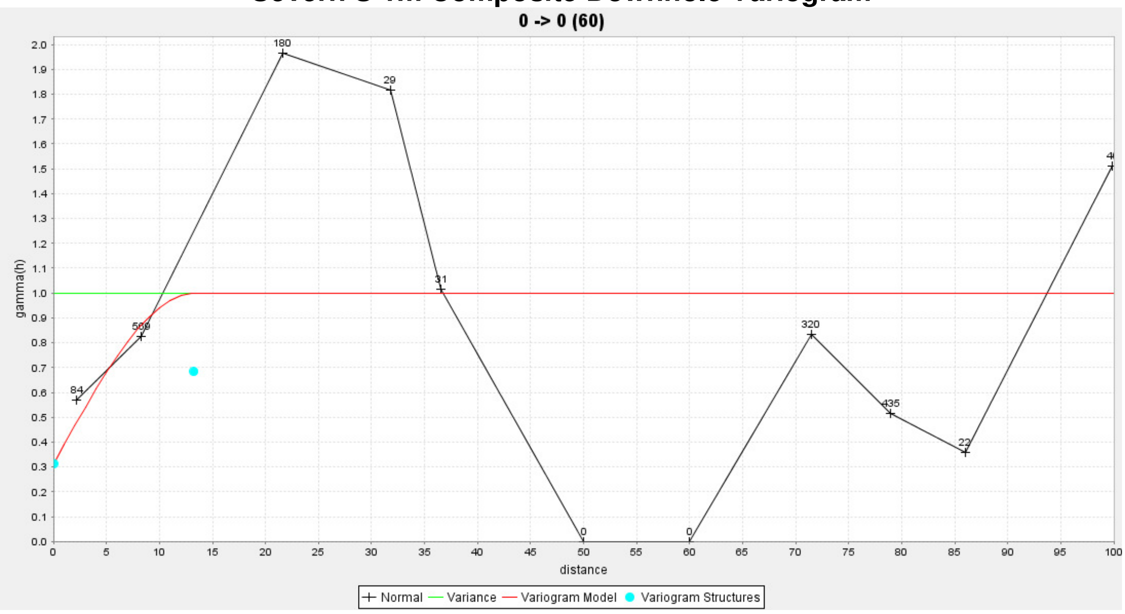
Severn Sn 1m Composite X Direction Variogram



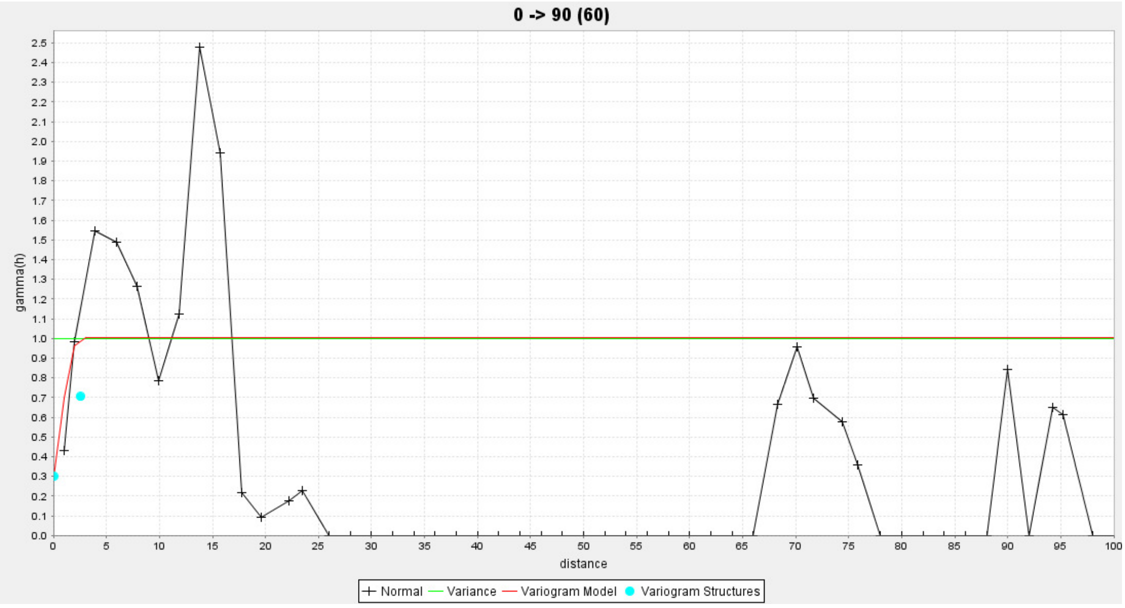
Severn Sn 1m Composite Z Direction Variogram



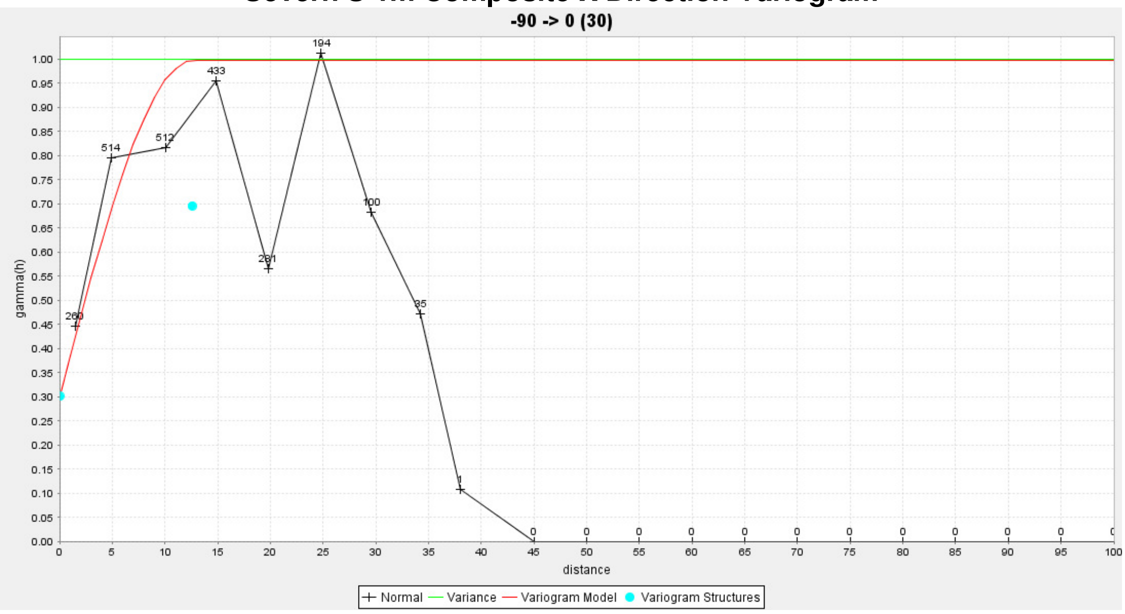
Severn S 1m Composite Downhole Variogram



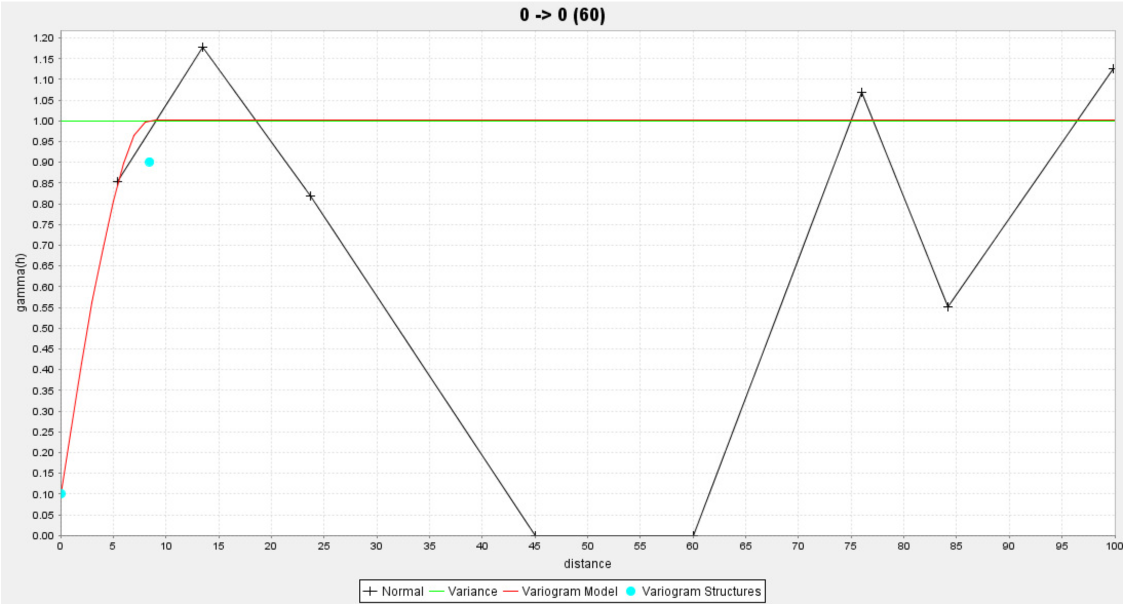
Severn S 1m Composite Y Direction Variogram



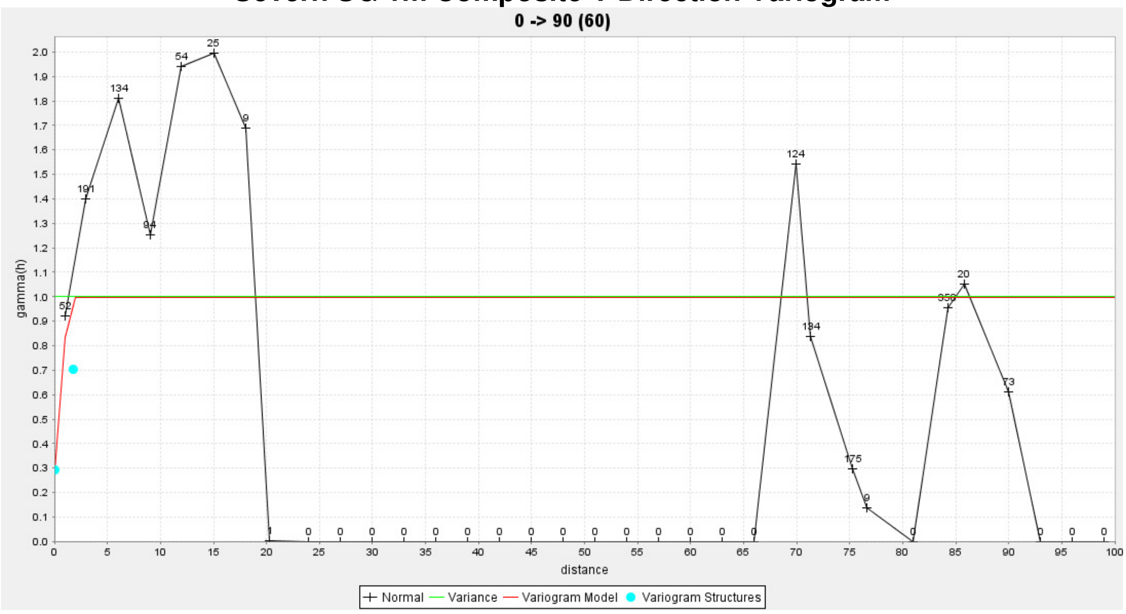
Severn S 1m Composite X Direction Variogram



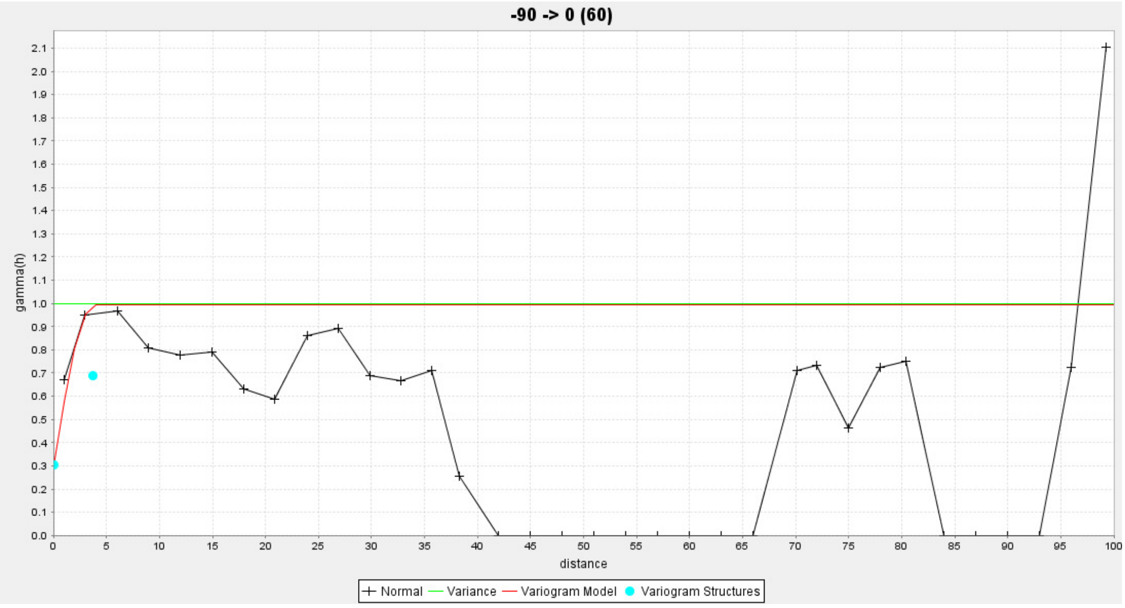
Severn S 1m Composite Z Direction Variogram



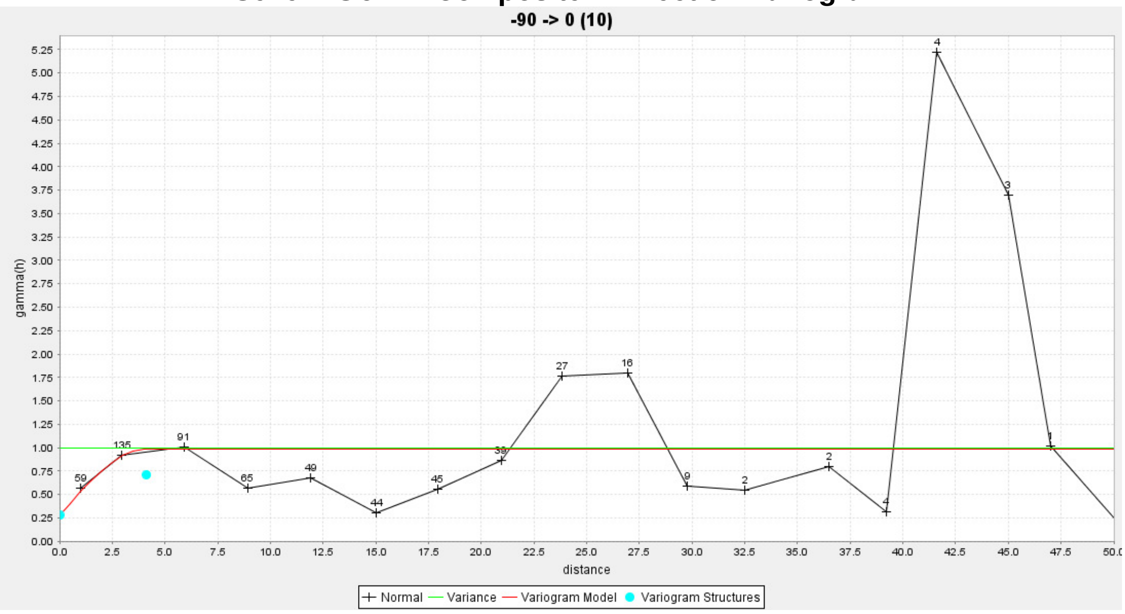
Severn SG 1m Composite Y Direction Variogram



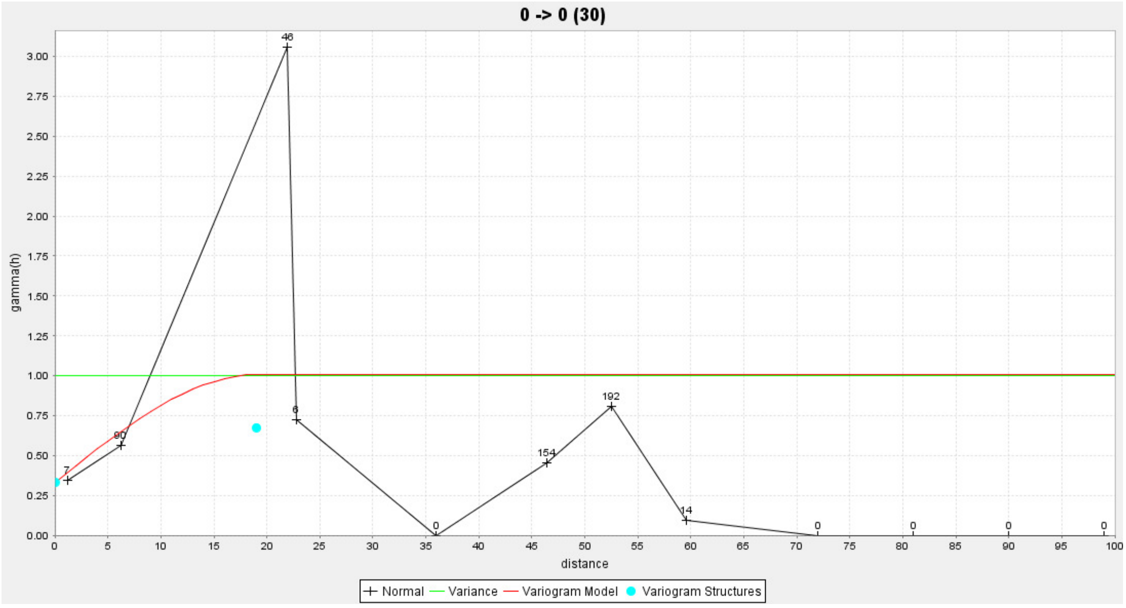
Severn SG 1m Composite X Direction Variogram



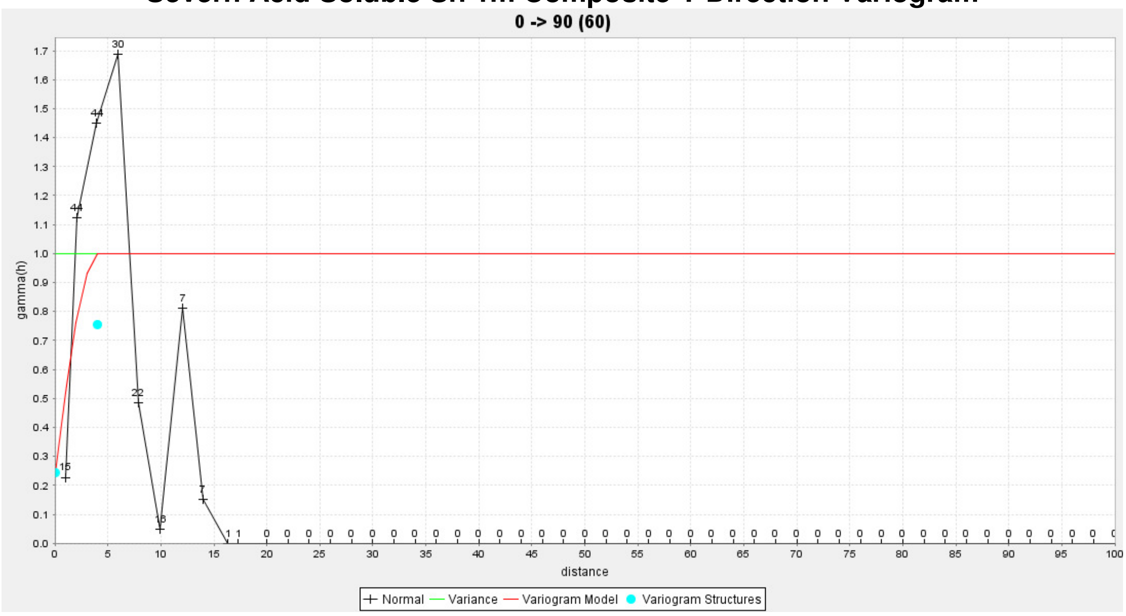
Severn SG 1m Composite Z Direction Variogram



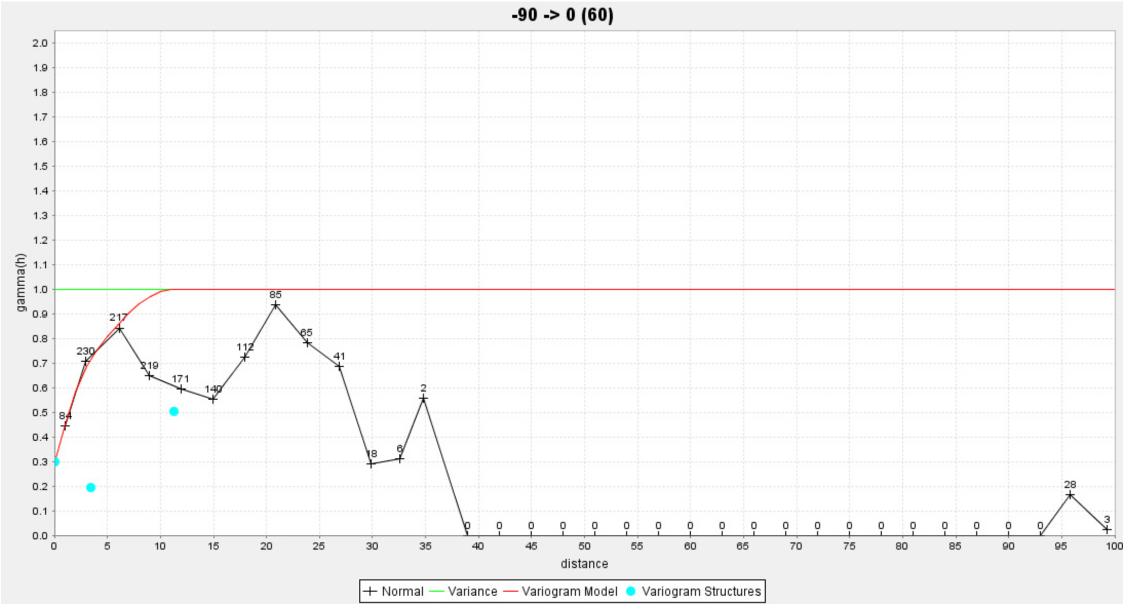
Severn Acid Soluble Sn 1m Composite Downhole Variogram



Severn Acid Soluble Sn 1m Composite Y Direction Variogram



Severn Acid Soluble Sn 1m Composite X Direction Variogram



Severn Acid Soluble Sn 1m Composite Z Direction Variogram