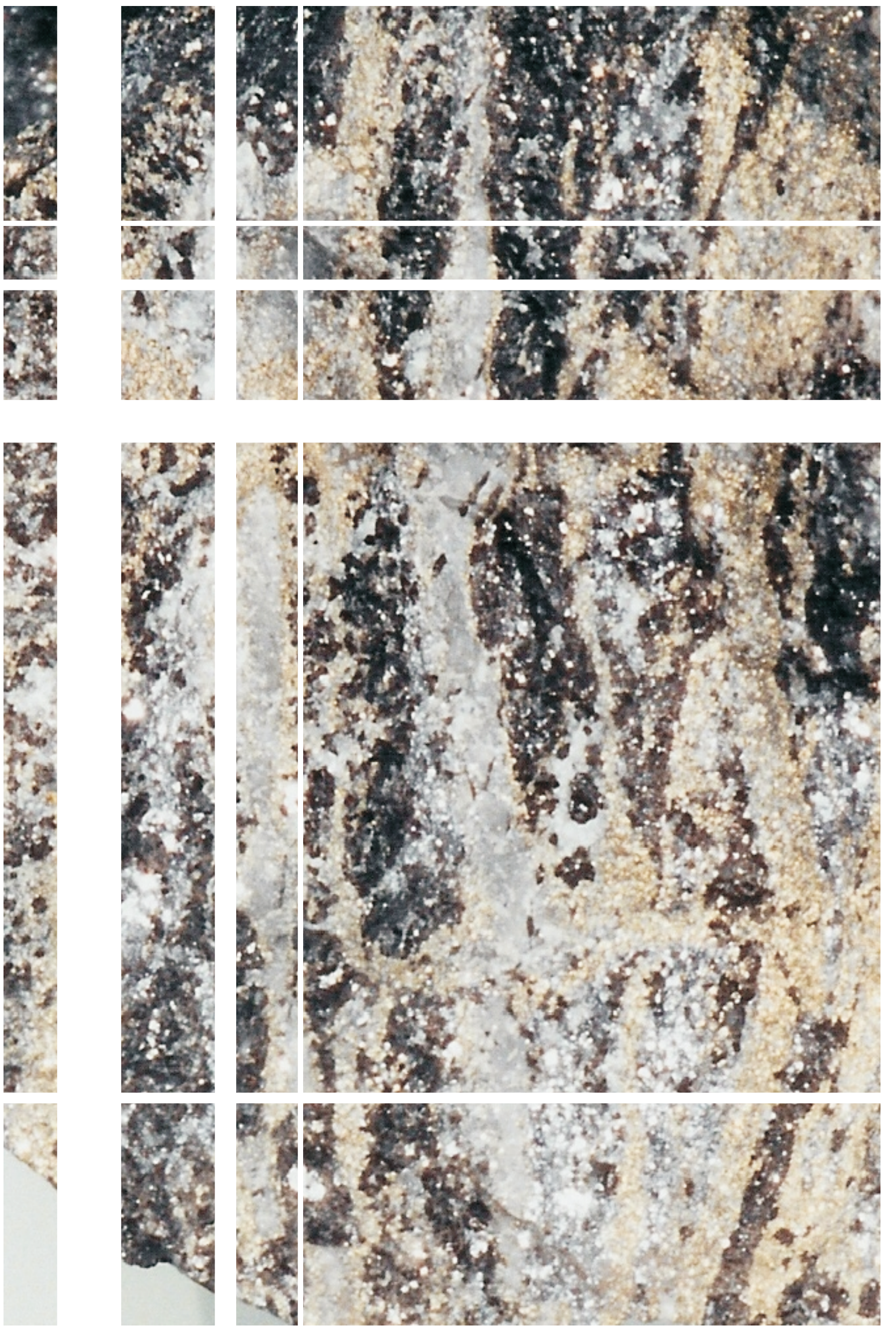
Block Model Report for the Allison's Lode

Zeehan – West Tasmania

Prepared for :

Oceania Tasmania Pty Ltd

November 2005



SMG CONSULTANTS

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1. INTRODUCTION

Oceania Tasmania Pty Ltd has requested SMG Consultants to generate a block model for their Allison's Lode zinc/lead/silver deposit, 4km west of Zeehan in Western Tasmania (Figure 1 and Figure 2). The block model will be used to provide a measure of the resource and classify the resources to JORC standards.

Figure 1
Location Map

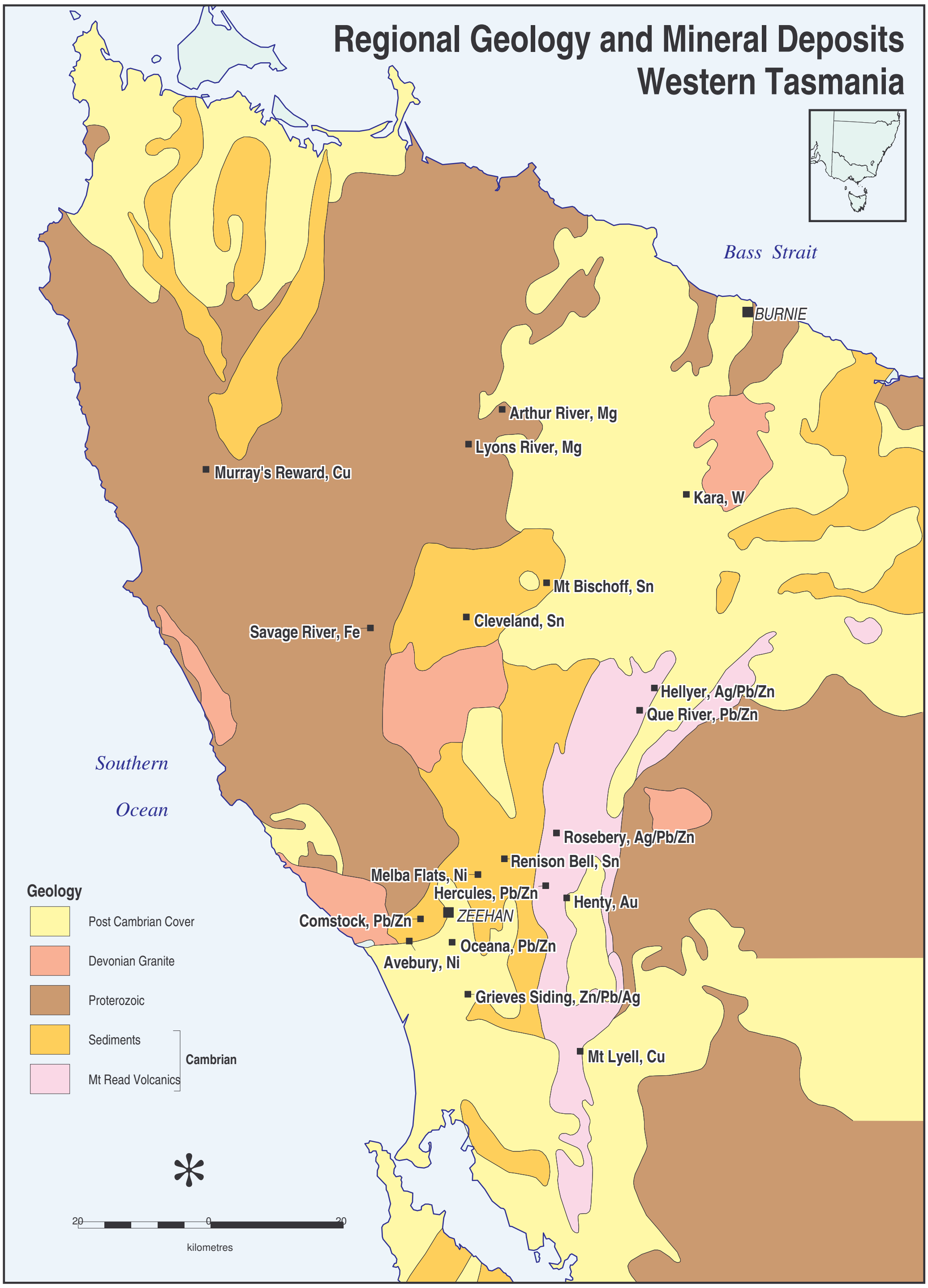
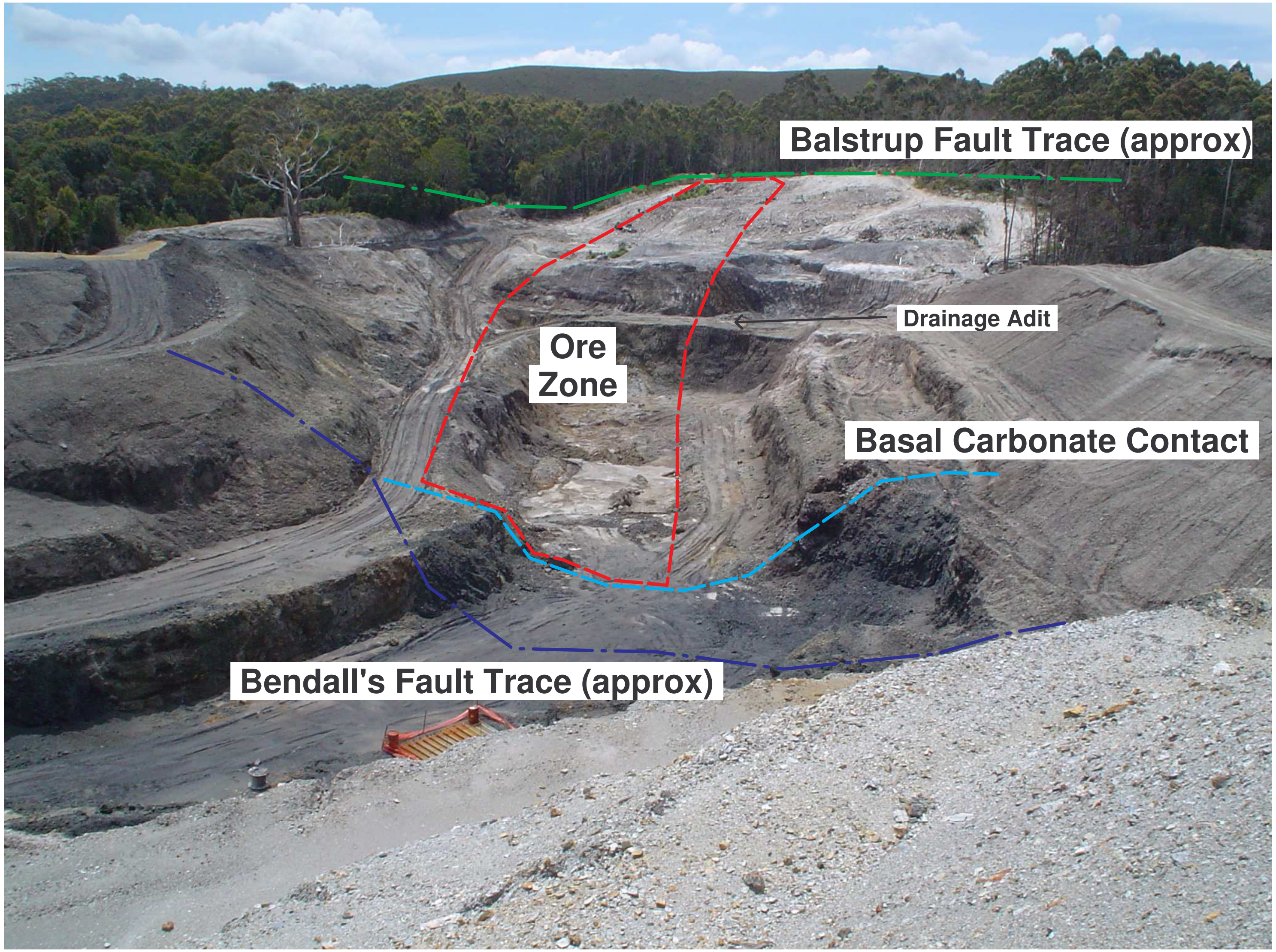


Figure 2
Allison's Pit (Looking North)



The work will use the new geological solids developed by SMGC and the newly created access database to develop a block model for the Allison's Lode using Surpac software.

The geology and mineralisation of the Allison's Lode is detailed in previous reports i.e. Tear 2005 and 2005b.

2. STATISTICAL ANALYSIS

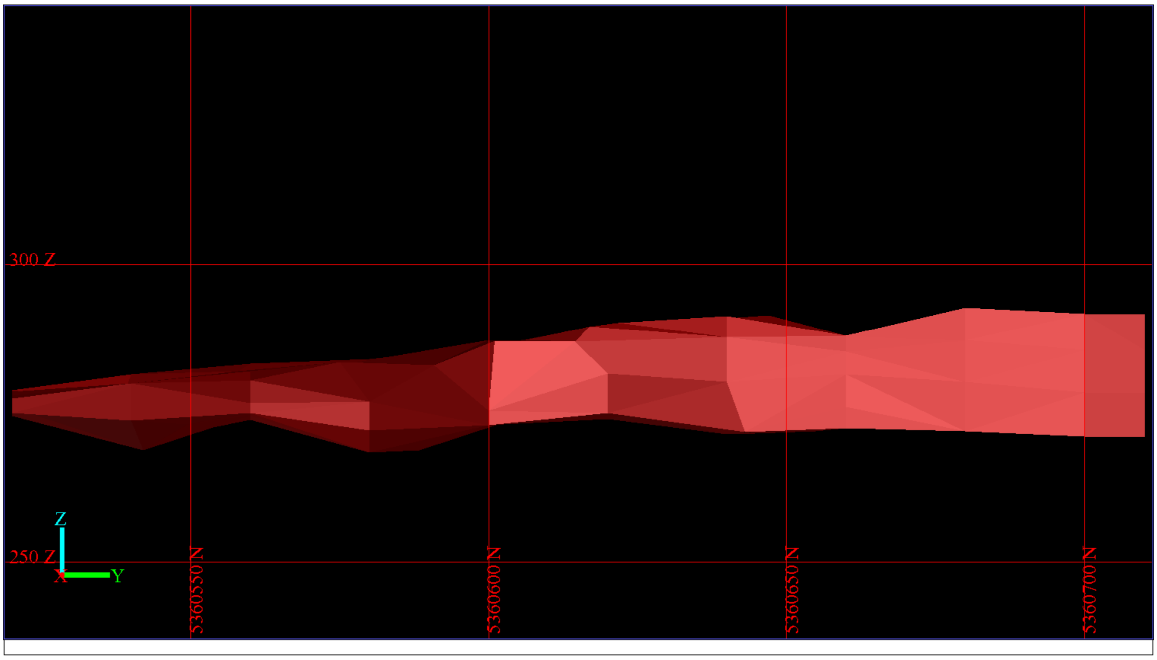
2.1 BASIC STATISTICS

Basic statistics on the resource data should be performed for two reasons namely to establish if the assay data to be used is bimodal (or polymodal) and to look for outlier values. If a histogram plot shows a bimodal distribution, the data should be segregated into two separate zones and each zone should be modelled separately. The quality of a block model estimation is sensitive to outliers (relatively large values) and as such outlier values should be cut or removed prior to block model estimation. The value used to cut outliers (a top cut) can be calculated from a cumulative probability plot, where in this case the 95th percentile is used.

(red text denotes a Surpac file name).

Assay data used in the block model construction comprises the recent aircore drilling and the 2001 channel sample data. In addition a modified version of the recently supplied ore solid dtm file called allisonoremodified.dtm was used to constrain the interpolation (Figure 3). This solid comes from the recent SMGC geological interpretation (Tear 2005b) and consists of a sensible geological shape and a notional 1% Zn outline based on the aircore drilling and the old workings picture. The modification to the solid file includes the removal of a subsidiary solid generated for the underground drillhole CP47. This solid is excluded because there is only one hole into the intersected lode, which was deemed at the time of drilling in 1948, as not part of the Allison's Lode.

Figure 3
Alison Lode Solid Model (Looking West)



Summary intercepts used in the resource calculation are listed in Appendix 1 (Surpac string files comcomp1.str, comcomp2v2.str & comcomp30cut1.str were used for various interpolations). A summary of the basic statistics for both the aircore drilling and the channel sample is included as Table 1 below:

Table 1
Allison's Lode : Summary Statistics – (Includes all Channel Samples)

AC = Aircore Data Ch = Channel Sample	Zinc		Lead		Silver		Iron	
	AC Zn	Ch Zn	AC Pb	Ch Pb	AC Ag	Ch Ag	AC Fe	Ch Fe
Mean	6.263	14.080	1.432	5.170	29.376	85.789	11.352	13.248
Standard Error	0.759	1.568	0.163	0.620	3.514	14.354	0.592	0.944
Median	2.790	11.800	0.765	2.550	16.030	37.960	9.580	12.988
Mode	3.630	15.400	1.980	12.700	1.500	41.000	11.400	21.600
Standard Deviation	8.524	12.144	1.828	4.800	39.440	111.188	6.650	7.315
Sample Variance	72.651	147.485	3.341	23.038	1555.487	12362.688	44.226	53.503
Kurtosis	6.021	-1.142	8.145	-0.633	7.846	4.505	0.536	-0.381
Skewness	2.457	0.518	2.690	0.920	2.730	2.126	1.095	0.361
Range	40.31	39.75	10.14	16.44	208.50	486.50	29.94	30.33
Minimum	0.19	0.35	0.06	0.26	1.50	0.50	2.76	1.40
Maximum	40.50	40.10	10.20	16.70	210.00	487.00	32.70	31.73
Sum	789.156	844.790	180.436	310.227	3701.348	5147.340	1430.306	794.903
Count	126.000	60.000	126.000	60.000	126.000	60.000	126.000	60.000
Confidence Level (95%)	1.503	3.137	0.322	1.240	6.954	28.723	1.173	1.890

Industry practice is to statistically inspect different sample types for compatibility of the data. From the above it appears that the channel sampling and the aircore drilling assay results are two different populations, by a simple comparison of the means, medians and modes. The zinc (log base 10) histogram plots for the aircore drilling (Figure 4) and the channel sampling (Figure 5) indicate a lognormal distribution for the former and a skewed lognormal distribution for the latter. Hence there is a bias in the channel sampling data which is not compatible for use in block modelling with the aircore drilling. If there was a lot more data points it may be possible to factor back the channel sample data to make it compatible with the aircore results. However, at the behest of Oceania Tasmania, an exercise of combining the assays from the channel sampling and the aircore drilling was undertaken, in order to show the effect of the channel sampling on the overall grade of the deposit.

There is a modest concern at the low number of data points for the both the aircore drilling and the channel sampling. Ideally there would be samples for a better statistical picture.

Figure 4
Histogram Plot for Aircore Zinc Values (Logged to Base 10)

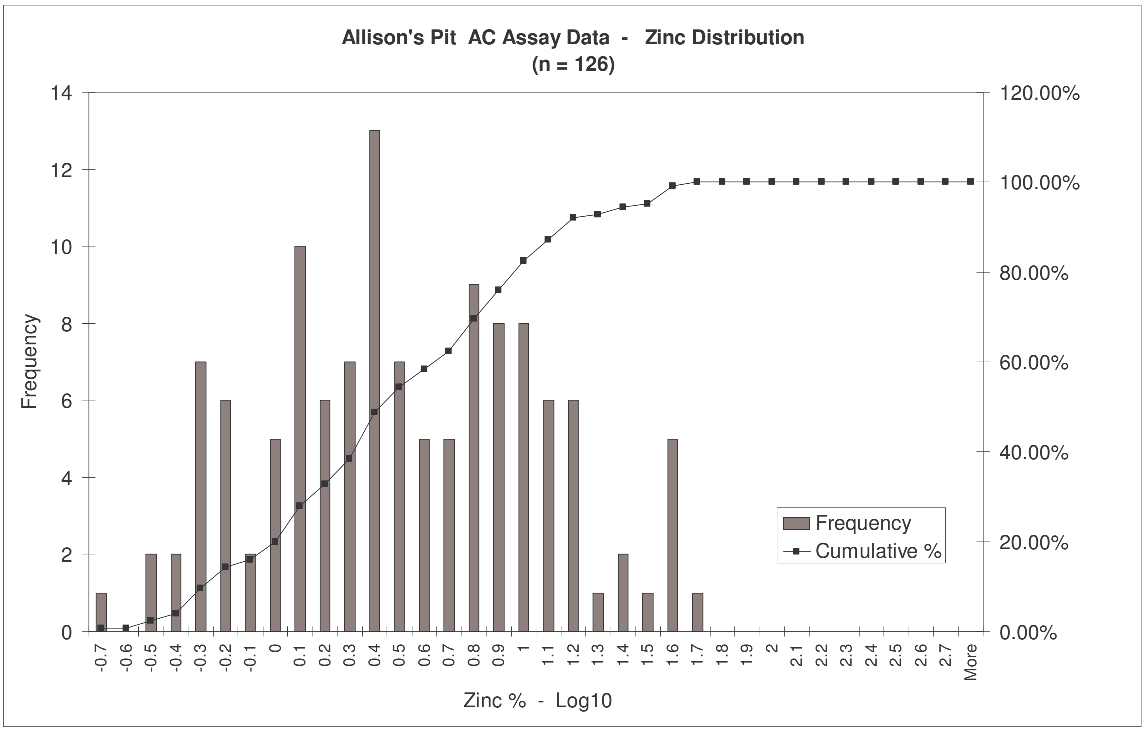
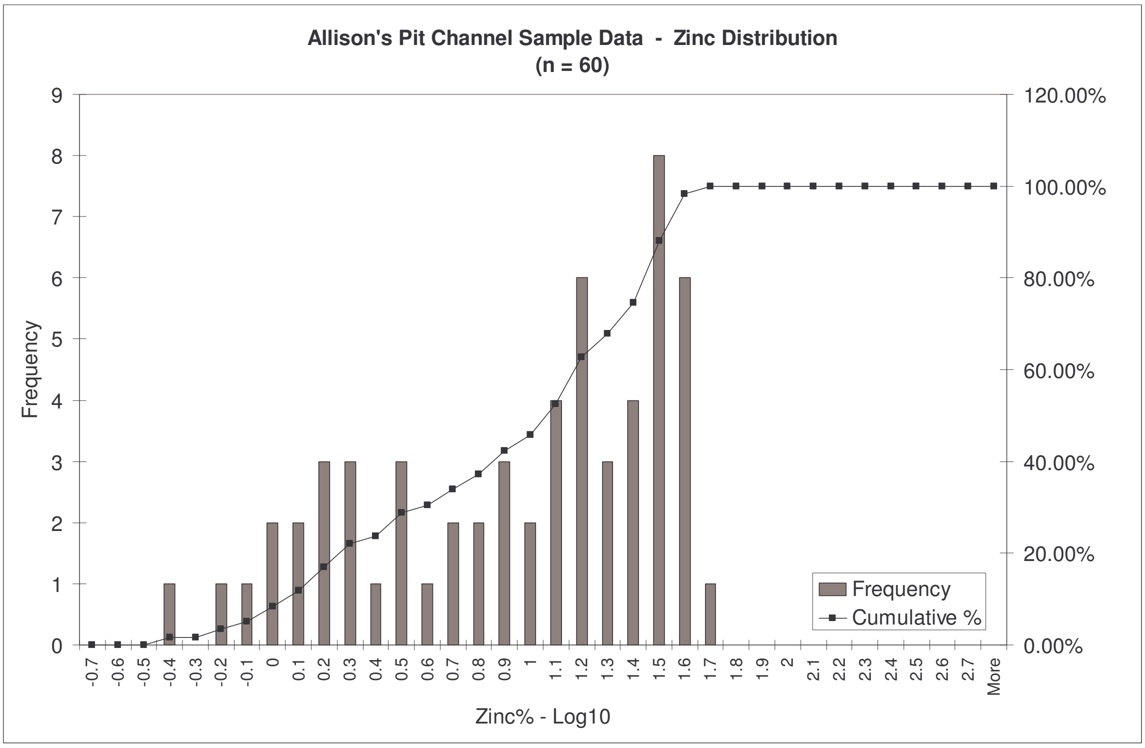


Figure 5
Histogram Plot for Channel Sample Zinc Values (Logged to Base 10)



Additional histograms for the lead, silver and iron elements for both the channel sampling and the aircore data are included in Appendix 2.

Another aspect of the mineralisation indicates that there is a moderate correlation between lead and zinc grades of the aircore samples (Figure 6) but a much worse correlation for the channel sample data (Figure 7). This again indicates the different nature of the two populations. In addition for the aircore data, there is no correlation between zinc and iron i.e. sphalerite and pyrite (Figure 8). Whereas the lead and silver correlate very well (Figure 9), as would perhaps be expected, based on the old mining records whereby galena was preferentially mined over sphalerite for the silver grades.

Figure 6
Allison's Lode Aircore Data – Correlation between Zinc and Lead

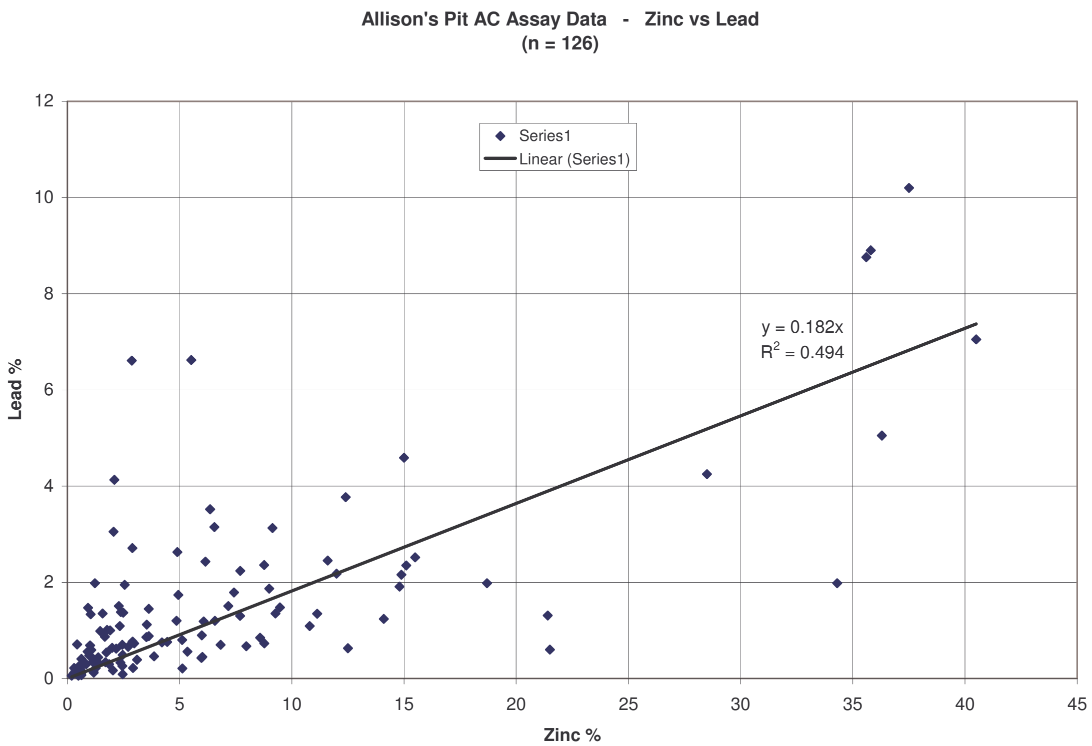


Figure 7
Allison's Lode Channel Sample Data – Correlation between Zinc and Lead

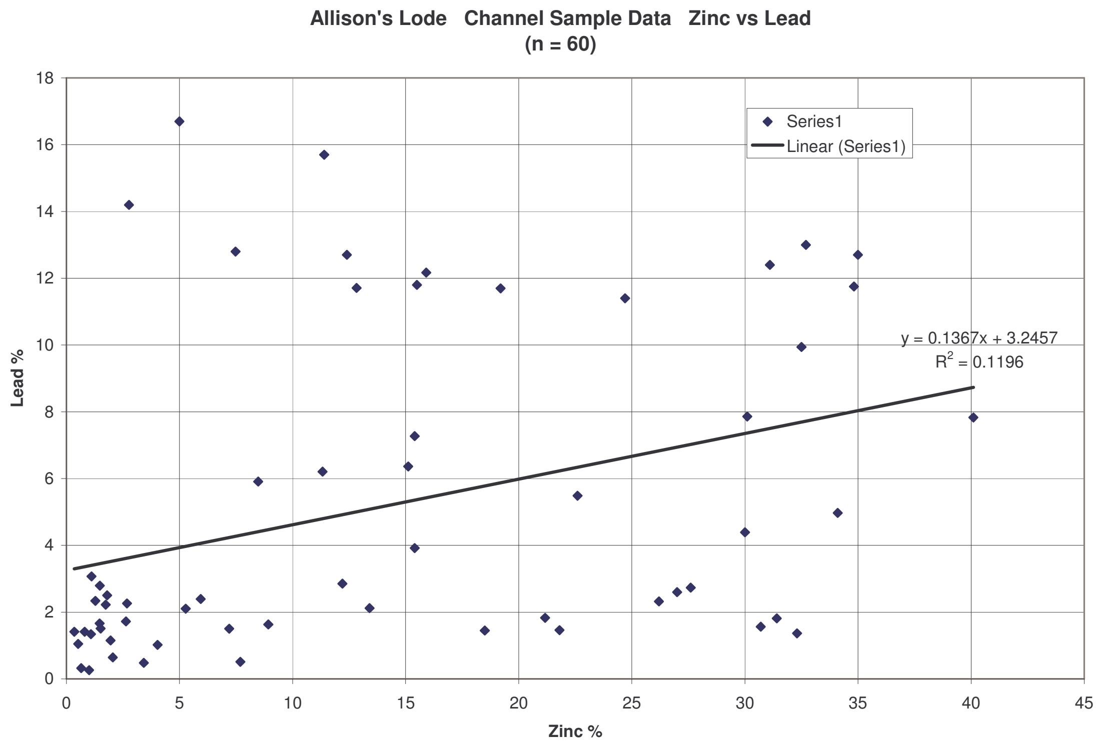


Figure 8
Allison's Lode Aircore Data – Correlation between Zinc and Iron

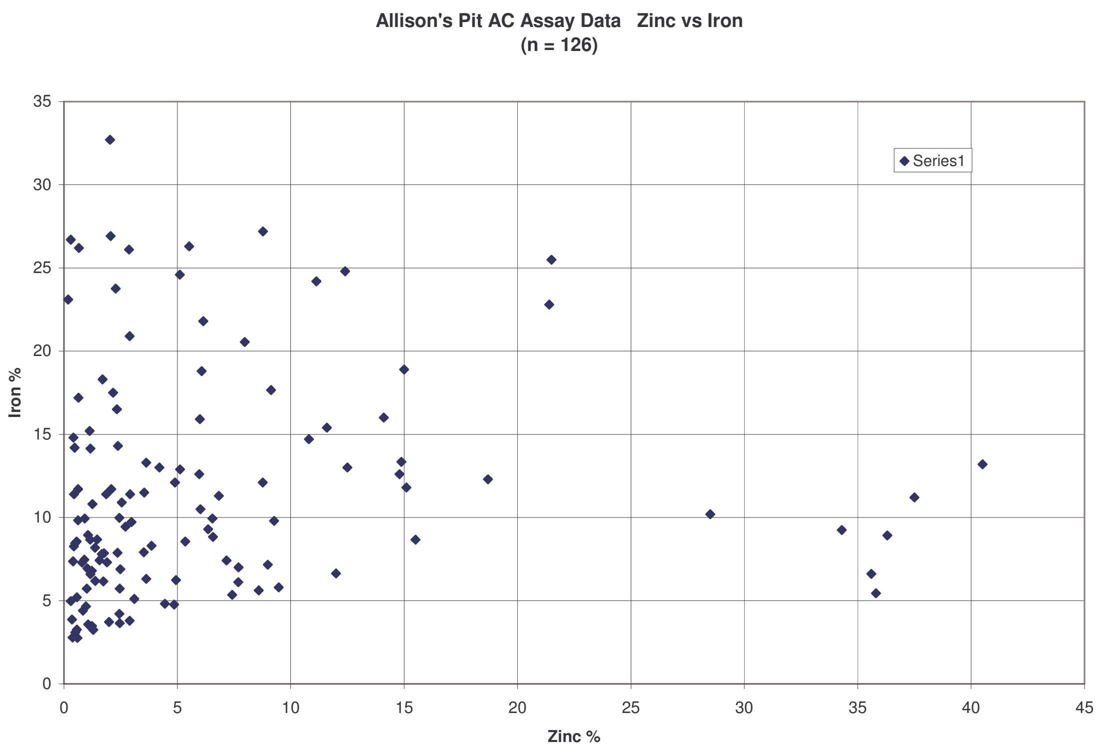
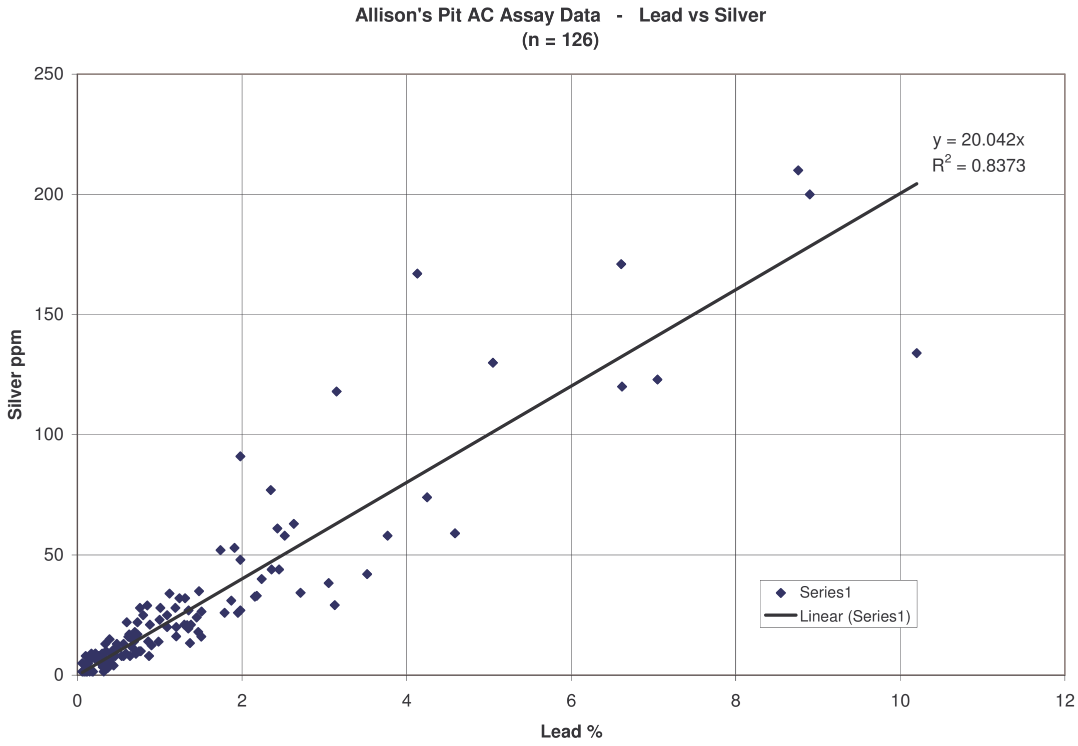


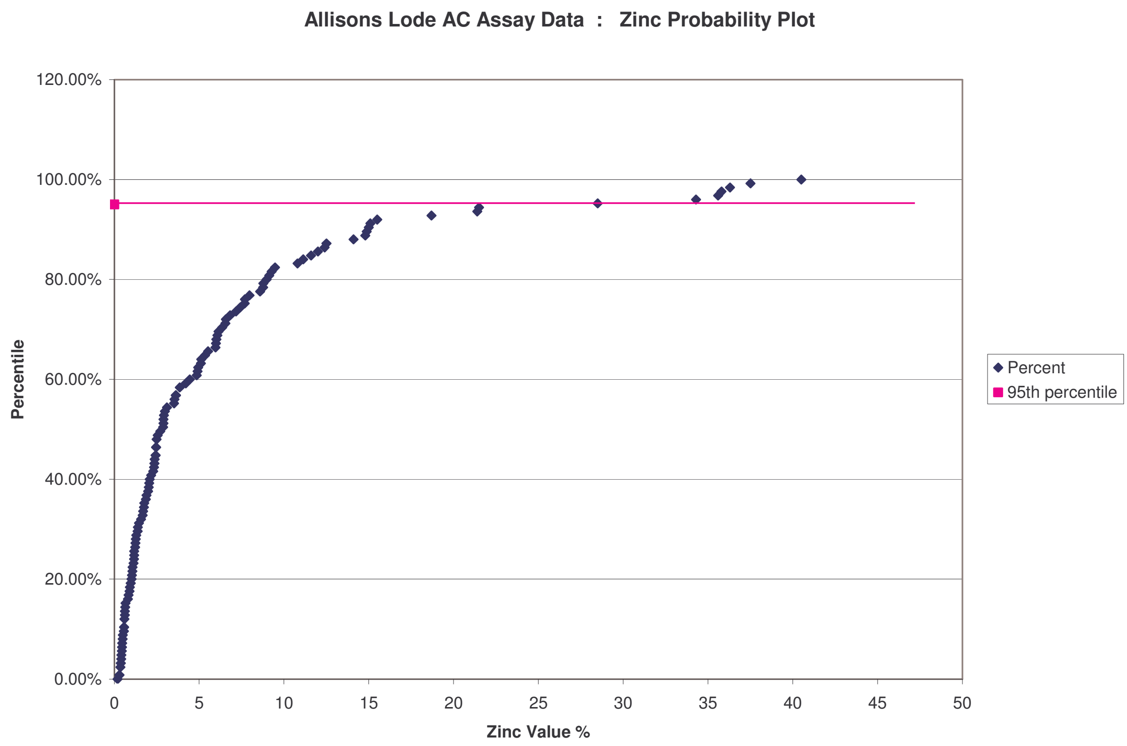
Figure 9
Allison's Lode Aircore Data – Correlation between Lead and Silver



2.2 TOP CUT

Another industry convention is to review the data and apply a top cut using probability data, in this case for zinc assays. This is done by reviewing a probability plot for the aircore zinc assay data and locating the 95th percentile, this happens to match a major break in the curve (Figure 10) and equates to 30% zinc. Hence the top cut value is 30%, any samples above 30% zinc will be cut back to 30% and in this case that is six samples.

Figure 10
Cumulative Probability Plot for Aircore Zinc Values



If the channel sample data is included minus channel sample traverse C, which ran parallel to the vein, then the 95th percentile is just under 34% Zn. This leads to the top cut for the channel sample and aircore data being put at 33%

2.3 QA/QC

No standards or duplicates were used in the aircore drilling.

Duplicates for the channel sampling consisted of an original field sample and a field duplicate collected for one traverse, Traverse D. The initial channel sample was collected by using a diamond blade circular saw to cut two 3cm deep incisions, 3cm apart, across the strike of the Allison vein system. A hammer and bolster chisel were used to remove the rock material between the two cuts at 1m intervals along the traverse line. The field duplicate consisted of a parallel sample traverse immediately next to the first one only this time rock chips were collected using a hammer rather than using a saw to cut incisions. The same sample intervals were used.

The results show that the overall average grade for each traverse was similar (Table 2) but there was considerable variation for individual samples within each set, particularly with the higher grades.

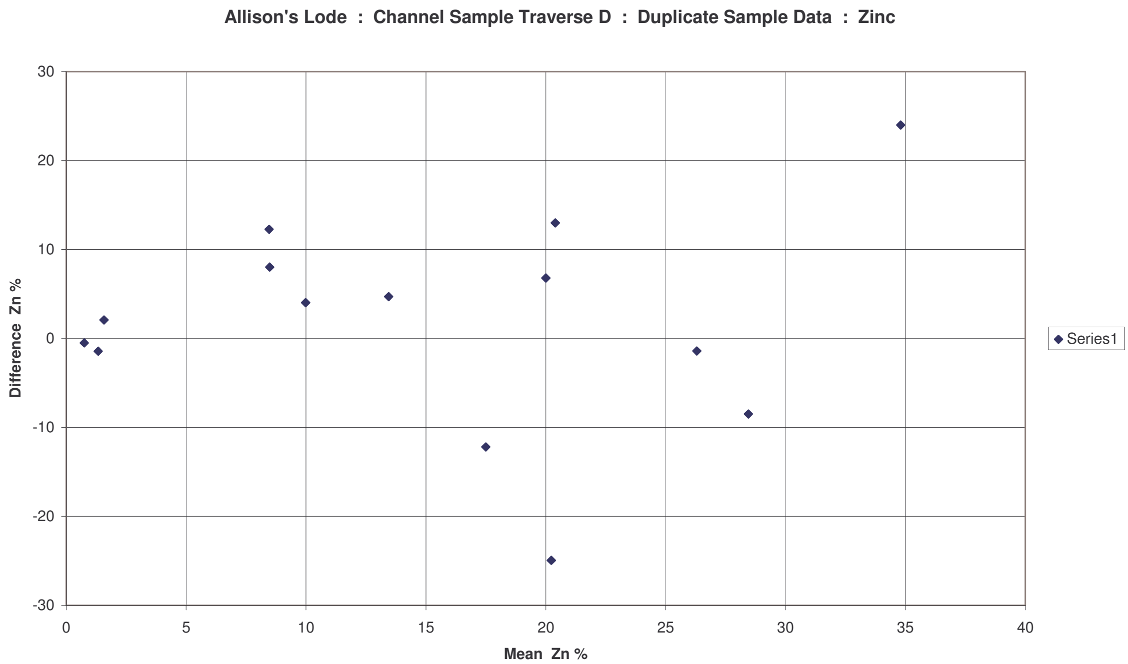
Table 2
Allison's Lode: Average Values for Traverse D Ore Intercept

Zn% (S)	Zn% (C)	Pb% (S)	Pb% (C)	Ag ppm (S)	Ag ppm (C)	Fe% (S)	Fe% (C)
14.2	16.05	4.28	4.38	74	95	16.3	16.61

(S = Cut by saw C = Chip sample)

A graph (Figure 11) showing the individual sample variation is included below:

Figure 11
Allison's Lode: Variation of Field Duplicates for Traverse D



3. ESTIMATION OF MINERAL RESOURCES

3.1 BLOCK MODEL DETAILS

Using the basic statistical data and the drillhole spacing it was considered that 10m by 10m by 10m was a suitable block size with sub-celling to 2.5m. Details of the block model (comstockV3.mdl) are provided below:

Table 3
Block Model Summary

Comstockv3.mdl

Type	Y	X	Z
Minimum Coordinates	5360390	357470	240
Maximum Coordinates	5360760	357660	300
User Block Size (m)	10	10	10
Min. Block Size (m)	2.5	2.5	2.5
Rotation	0	0	0
Total Blocks		3329	
Storage Efficiency %		98.76	

Attribute Name	Type	Decimals	Background	Description
ads20_id	Real	3	-99	Average distance to samples used in 20m search
ads_id	Real	3	-99	Average distance to samples used in 25m search
ag	Real	2	-9999	Silver with 30m search radius
ag20m	Real	1	-9999	Silver with 20m search radius
ag25m	Real	1	-9999	Silver with 25m search radius
ag25chtc33	Real	3	-9999	Silver with 25m search radius with channel samples and top cut
agcs	Real	2	-9999	Silver with the Channel samples
calcsg	Calculated	-	-	Specific Gravity (2.6 base SG) (fe*0.1071)+(pb*0.0855)+(zn*0.0632)+((100-((fe*2.1413)+(pb*1.1547)+(zn*1.561)))*0.026)
calcv2sg	Calculated	-	-	Specific Gravity (2.75 base SG) (fe*0.1071)+(pb*0.0855)+(zn*0.0632)+((100-((fe*2.1413)+(pb*1.1547)+(zn*1.561)))*0.0275)
dns20_id	Real	3	-99	Distance to nearest sample for 20m search radius
dns25_id	Real	3	-99	Distance to nearest sample for 25m search radius with channel samples
dns_id	Real	3	-99	Distance to nearest sample for 25m search radius
fe	Real	2	-9999	Iron with 30m search radius
fe20m	Real	2	-9999	Iron with 20m search radius
fe25m	Real	2	-9999	Iron with 25m search radius
fecs	Real	2	-9999	Iron with 30m radius with channel samples
nos	Integer	-	-99	Number of samples in 25m search
num	Integer	-	-99	Number samples with 20m radius
num25	Integer	-	-99	Number of samples in 25m search with channel samples
pb	Real	2	-9999	Lead with 30m search radius
pb20m	Real	2	-9999	Lead with 20m search radius
pb25m	Real	2	-9999	Lead with 25m search radius
pb25chtc33	Real	3	-9999	Lead with 25m search radius with channel samples and top cut
pbcs	Real	2	-9999	Lead with 30m search radius and channel samples
rescat	Calculated	-	-	iif(dns_id>0 and dns_id<=10,1,iif(dns_id>10 and dns_id<=25,2,iif(dns_id>25 and dns_id<=100,3,4)))
rescat2v	Calculated	-	-	iif(dns_id>0 and dns_id<=5,1,iif(dns_id>5 and dns_id<=20,2,iif(dns_id>20 and dns_id<=100,3,4)))
sg	Real	2	3.3	Default SG value
sgcs	Real	2	3.3	Default SG value with channel samples
zn	Real	2	-9999	Zinc with 30m search radius
zn20m	Real	2	-9999	Zinc with 20m search radius
zn25m	Real	2	-9999	Zinc with 25m search radius
zn25chtc33	Real	3	-9999	Zinc with 25m search radius with channel samples and top cut
zn_cut30	Real	2	-9999	Zinc with 30m search radius and a 30% top cut
zn_diff	Calculated	-	-	Difference between with and without channel samples zn25chtc33- zn25m
zncs	Real	2	-9999	Zinc with 30m search radius and channel samples included

3.2 BLOCK MODEL ESTIMATION PARAMETERS

The number of aircore assay samples (126) is considered low for estimation purposes and not sufficient for any geostatistical analysis, hence kriging is not considered a suitable method for the resource calculation. It was felt that a simple Inverse Distance Squared would be the best method for calculating the resources but that method does not allow for a measure of the error associated with the estimation technique. It does tend to promote more 'bulls-eye' features but this may be considered more reflective of the poddy nature of the Allison mineralisation (see geological descriptions in Tear 2000a, 2001 and 2005). Details of the estimation parameters are supplied below:

INTERPOLATION METHOD: INVERSE DISTANCE SQUARED

MODEL NAME: comstockv3.mdl

CONSTRAINT VALUES USED

Data Constraints

Unconstrained

Model Constraints

a. INSIDE 3DM allisonoremodified510

Keep blocks partially in the constraint : False

SEARCH PARAMETERS

Ellipsoid Search Parameters

Angles of Rotation of the Major Axis

Bearing	0.00
Dip angle	0.00
Tilt angle	0.00

Anisotropy Factors

Semi-major axis	1.00
Minor axis	1.00

OTHER INTERPOLATION PARAMETERS

Max search distance of major axis	25.000
Max vertical search distance	9999.000
Maximum number of informing samples	15
Minimum number of informing samples	3

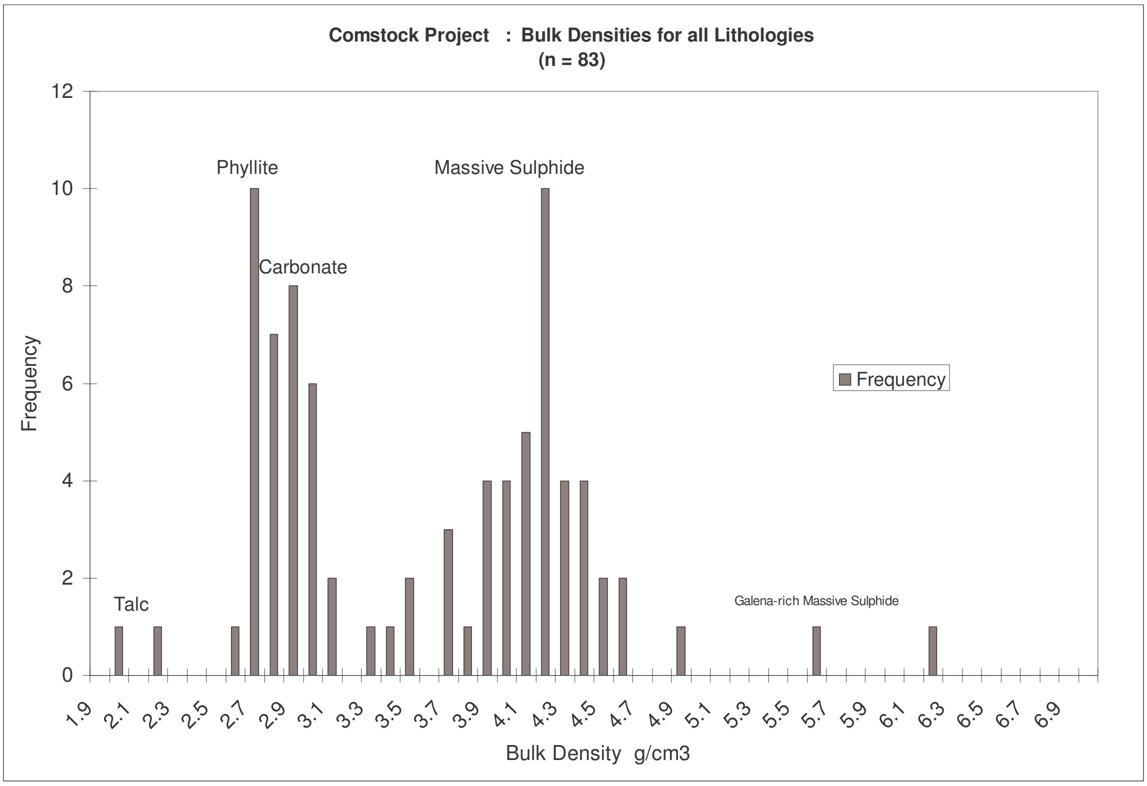
It was decided, in the absence of sufficient data, to use a spherical search ellipse.

With the poddy nature of the mineralisation, it was thought that smoothing out of high grade material into low grade areas would be a potential problem and efforts were made to reduce this effect by having a search distance of 25m, which roughly corresponded to the drillhole spacing. A 20m spacing was tried but this left some blocks with an unassigned value and hence an incomplete block model. In addition to the 20m, 25m and 30m interpolations, additional 25m and 30m ones were undertaken with the channel sample data included but a top cut applied to the former and no top cut applied to the latter (see results below).

3.3 CALCULATION OF DENSITY

An intuitive default density of 3.3g/cm^3 was assigned to the SG attribute in the block model; this matches the averaged measured density of fresh carbonate and sulphides (Figure 12 and Appendix 3). However it is possible to calculate a more accurate density for each sample based on its zinc, lead and iron assays. The complex calculation utilises the assay value of each element to calculate the amount of corresponding sulphide in the assay sample, assuming each element value is attributable to the main sulphide species for that element. Thus the zinc assays are used to estimate the amount of sphalerite (at a density of 4) present within the sample, lead is used to estimate the galena content (density 7.2) and iron is used to estimate pyrite amounts (density 5). The remaining percentage of the sample is ascribed a base density of either 2.6g/cm^3 in the first instance or 2.75g/cm^3 in the second. The density of that remaining material is difficult to ascertain, hence the two values used, as in some instances it will be vuggy quartz (about 2.3-2.6), powdery talc (2-2.6) or partially weathered carbonate (2.6-2.9) as well as possibly fresher carbonate (2.8-3.1).

Figure 12
Allison Lode: Distribution of measured density values
(Archimedes Method)



3.4 ZERO OR NULL VALUES

Within the database any below detection element values were substituted with half the detection value. Where there were cavities no value was substituted as it is confidently felt that these cavities are related to old ore stopes and hence the grade interpolation was allowed to carry across these gaps. When the resources are reported any gaps capable of being made into a solid are used to constrain the data.

3.5 BLOCK MODEL STATISTICS

Statistics for the block model comprising a 25m search for just the aircore data are given below with the original aircore drill intercepts statistics for comparison. The number of sample points for this dataset is 1101 compared to the 126 for the actual aircore intercepts.

Table 4
Allison's Lode : Block Model Summary Statistics

AC = Aircore Data Bk = Ore Block	Zinc		Lead		Silver		Iron	
	AC Zn	Bk Zn	AC Pb	Bk Pb	AC Ag	Bk Ag	AC Fe	Bk Fe
Mean	6.263	5.227	1.432	1.237	29.376	26.485	11.352	10.627
Standard Error	0.759	0.096	0.163	0.022	3.514	0.487	0.592	0.086
Median	2.790	4.540	0.765	0.980	16.030	21.600	9.580	10.060
Mode	3.630	2.290	1.980	0.760	1.500	19.600	11.400	8.940
Standard Deviation	8.524	3.189	1.828	0.729	39.440	16.163	6.650	2.849
Sample Variance	72.651	10.172	3.341	0.532	1555.487	261.228	44.226	8.116
Kurtosis	6.021	-0.601	8.145	-0.466	7.846	1.431	0.536	-0.921
Skewness	2.457	0.658	2.690	0.643	2.730	1.359	1.095	0.243
Range	40.31	14.050	10.14	3.300	208.50	93.800	29.94	10.360
Minimum	0.19	0.690	0.06	0.140	1.50	4.000	2.76	6.010
Maximum	40.50	14.740	10.20	3.440	210.00	97.800	32.70	16.370
Sum	789.156	5754.710	180.436	1361.400	3701.348	29159.500	1430.306	11700.150
Count	126	1101	126	1101	126	1101	126	1101
Confidence Level (95%)	1.503	0.189	0.322	0.043	6.954	0.956	1.173	0.168

From the data it can be seen that the block model results appear consistent with the original aircore data. In addition a review of the density data shows that using 2.60g/cm^3 as a base density for calculating the density of each aircore sample gives a mean density of 3.34g.cm^3 for the blocks whilst using a base of 2.75g/cm^3 yields an average of 3.44g/cm^3.

3.6 BLOCK MODEL REPORTS

Listed below are a series of block model reports for different case scenarios.

The constraints used were:

a. INSIDE 3DM allisonoremodified510	The ore solid
b. NOT ABOVE DTM cmkpostminetopo509	The current topography
c. NOT INSIDE 3DM allisonoldworkcav1	The old stopes/cavity solid

(Keep blocks partially in the constraint: False)

Table 5
Allison's Lode: Resource Estimation - Different Case Scenarios

Case 1 : Aircore data only, 25m search radius, 30% top cut, base SG 2.6g/cm^3

Volume	Tonnes	Zn25m	Pb25m	Ag25m
29234	98227	5.02	1.22	24.4

Case 2 : Aircore data only, 25m search radius, 30% top cut, base SG 2.75g/cm^3

Volume	Tonnes	Zn25m	Pb25m	Ag25m
29234	101144	5.01	1.21	24.8

Case 3 : Aircore data only, 30m search radius, no top cut, base SG 2.75g/cm^3

Volume	Tonnes	Zn	Pb	Ag
29234	101144	5.31	1.22	24.96

Case 4 : Aircore & channel data, 30m search radius, no top cut, base SG 2.6g/cm^3

Volume	Tonnes	Zncs	Pbcs	Agcs
29234	98227	6.90	2.01	36.09

Case 5 : Aircore & channel data, 30m search radius, no top cut, base SG 2.75g/cm^3

Volume	Tonnes	Zncs	Pbcs	Agcs
29234	101144	6.89	2.01	36.03

Case 6 : Aircore & channel data, 25m search, 33% Zn top cut, base SG 2.60g/cm^3

Volume	Tonnes	Zn25chtc33	Pb25chtc33	Ag25chtc33
29234	98227	6.64	1.80	35.54

(note the metal field descriptions in the table match the attributes in the block model)

From Case 1 and Case 2 it can be seen that a 5.6% change in the base SG produces only a 3.9% change in tonnage.

With Cases 2 & 3 the 30% zinc top cut has a 5.8% impact on zinc grade and virtually no impact on the lead and silver grades.

Cases 4 & 5 demonstrate the upper end of resource estimation figures i.e. with the channel samples and no top cut. Thus it is inferred that the inclusion of the channel samples has the greatest impact on the grade of the initial resource estimation rather than the base density and the use of top cuts.

Case 1 and Case 6 best demonstrate the effect of the channel sampling data inclusion. Table 6 indicates the different metal contents associated with the resource scenarios.

Table 6
Allison's Lode: Metal Content for the Different Case Scenarios

	Volume	Tonnes	Zn %	Pb %	Ag ppm	Zn metal (t)	Pb metal (t)	Ag metal (kg)
Case 1	29234	98227	5.02	1.22	24.4	4931.0	1198.4	2396.7
Case 2	29234	101144	5.01	1.21	24.8	5067.3	1223.8	2508.4
Case 3	29234	101144	5.31	1.22	25.0	5370.7	1234.0	2524.6
Case 4	29234	98227	6.90	2.01	36.1	6777.7	1974.4	3545.0
Case 5	29234	101144	6.89	2.01	36.0	6968.8	2033.0	3644.2
Case 6	29234	98227	6.64	1.80	35.5	6522.3	1786.1	3487.1

Figure 13 and Figure 14 show the block grade distribution for the Case 1 scenario.

Figure 13
Allison's Lode – Block Model Zinc Grades % (Looking NE)

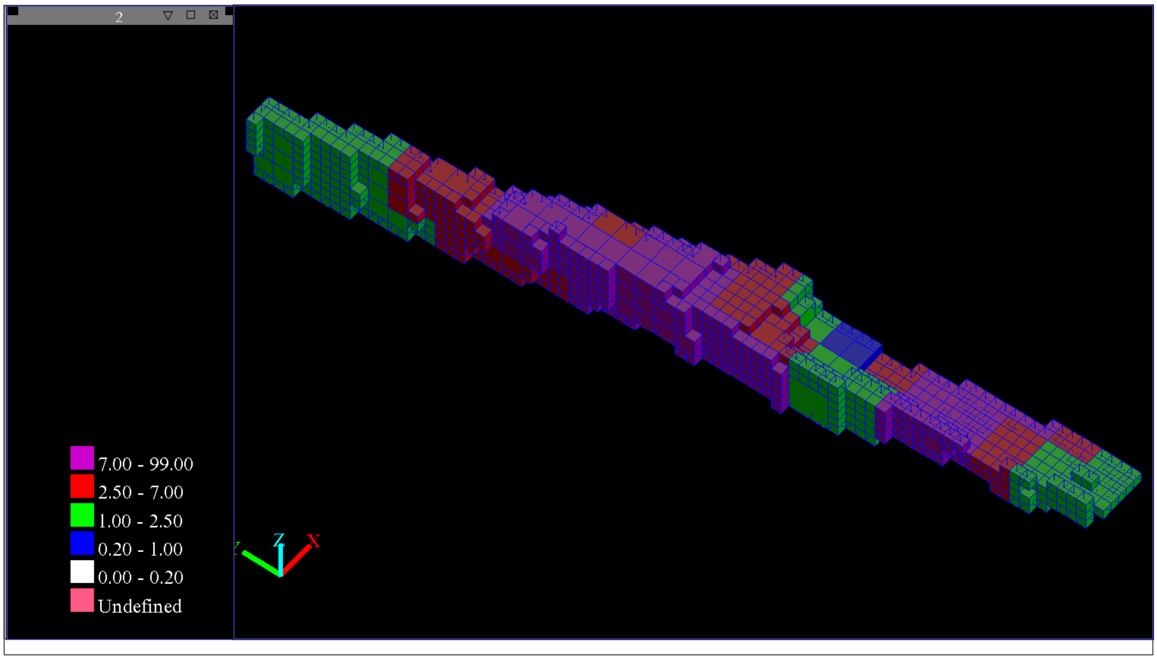
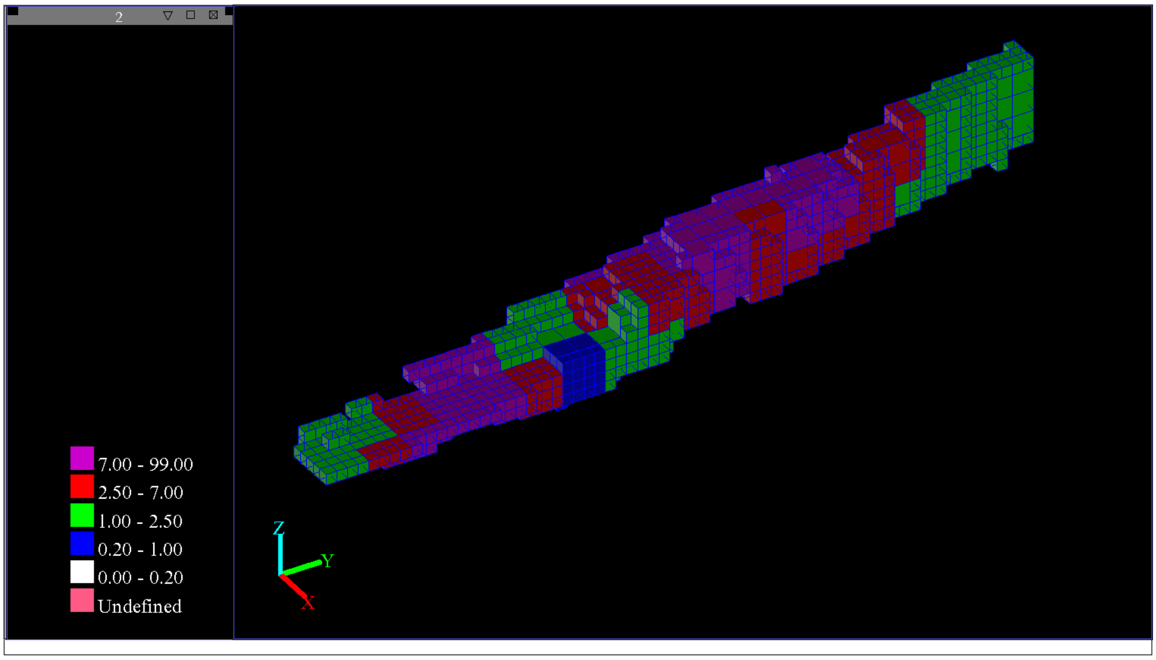


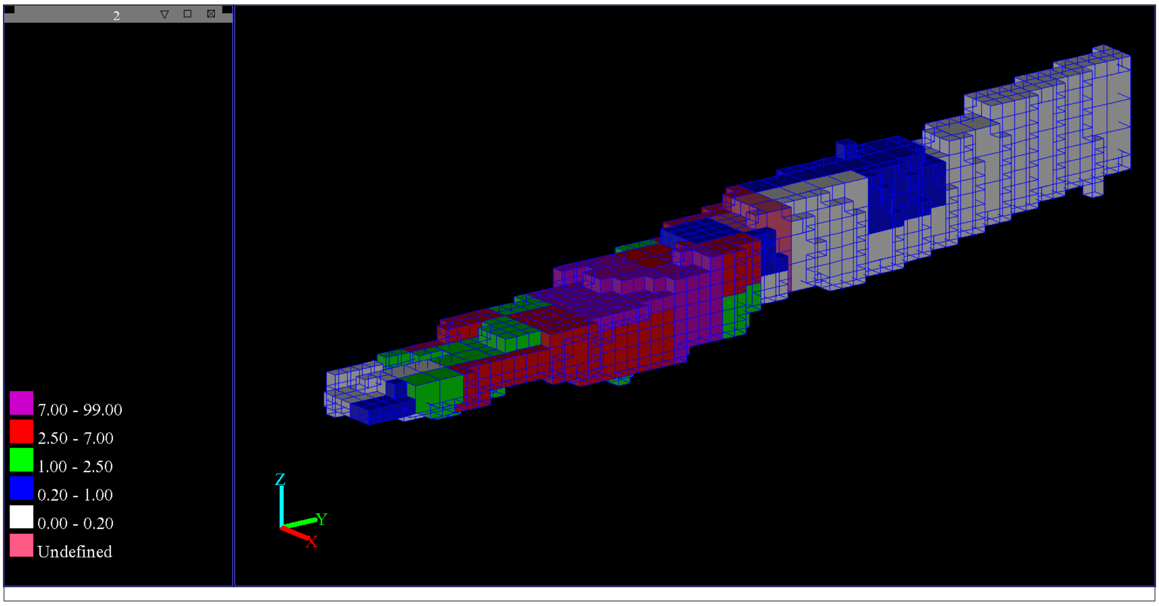
Figure 14
Allison's Lode – Block Model Zinc Grades % (Looking NW)



A series of 20m sections showing block grade, aircore drill traces, channel sample traverses, ore zone outline and surface topography is included in Appendix 4 whilst the respective 10m plans are in Appendix 5. The poddy nature of the ore is best demonstrated on section 5360580N whereby a high grade channel sample traverse (Traverse B) is undercut for most of its length by low grade material in aircore hole SY037. However on the preceding section 5360560N there is good correlation between Traverse D and drillhole SY040 where there is good sample overlap. The importance of the geological mapping in this area provides strong evidence for the continuity of high grade around the channel sample traverses which in turn can aid in the classification of the resources (see next section).

The major difference in block grades with respect to the inclusion of the channel sample data occurs in the southern portion of the deposit. Figure 15 displays the zinc percentage difference for individual blocks between Case 1 and Case 6

Figure 15
Allison's Lode: Grade Difference for Blocks (Looking NW)



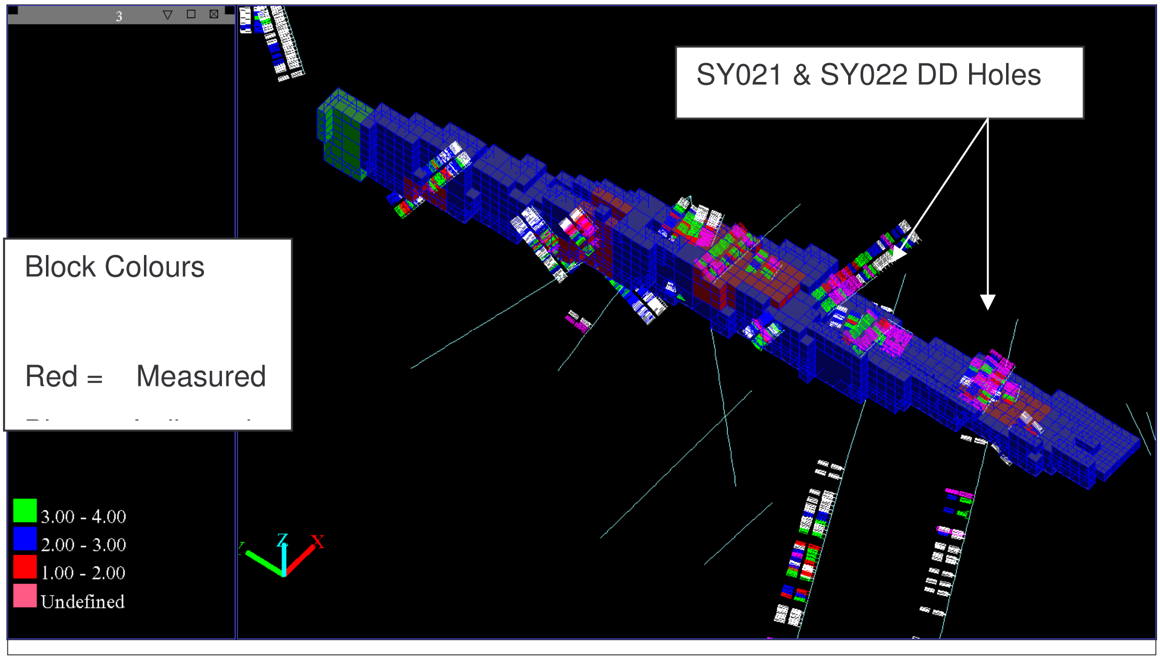
3.7 RESOURCE CLASSIFICATION

In order to assign classification status to the resource, the block attributes nos, dns_id and rescat2v were used. The first attribute is a measure of the number of samples used in estimating the individual block grade. In most instances this was 15 as per the block model specifications. The second attribute measures the distance to the nearest sample and the third attribute ascribes an integer value to that distance based on a selected range according to the formula below:

iif(dns_id>0 and dns_id<=5,1,iif(dns_id>5 and dns_id<=20,2,iif(dns_id>20 and dns_id<=100,3,4)))

Whereby the Measured Resource category is for the nearest sample distance of 0 to 5m, the Indicated Resource is for the nearest sample distance being between 5m and 20m and the Inferred Resource being from 20m to 100m. The resulting block model indicates that about 75% of the resource is in the indicated category, with 20% classed as measured and a small remaining proportion of the resource at the extreme north end is inferred.

Figure 16
Allison's Lode Classification of Resources



(not including channel sample data)

The development of the formula was based on all the statistical data and the author's field observations and mapping over the past six years.

In an attempt to accommodate the channel sampling results it was felt that additional resources could be classified as measured based on the combination of the channel sampling and the mapping in the southern areas of the pit. Thus the remaining unmined blocks from within the ore shape from the pit floor upwards and from 5360620N southwards have been included in the Measured Resourced category (277.5mRL upwards). This measured resource volume was calculated using a simple solid shape 12measured_solid.dtm to isolate the blocks but the evaluated metal grades used the assigned block grades from the interpolation without the channel sample data but with the aircore data (comcomp2v2.str) to obtain a resource value and added to the Measured Resource delineated by the equation above (outside the solid

12measured_solid.dtm). This places about 30% of the deposit in the measured category and 65% in the indicated category.

Below is the Measured Resource for a constraint comprising inside the ore solid shape, below current topography, outside the old workings cavity and within the channel sample solid shape (12measured_solid.dtm), using interpolated block model data with the channel sample data (excluding Traverse C) and with a top cut of 33% Zn.

Volume	Tonnes	Zn25chtc33	Pb25chtc33	Ag25chtc33
6359	22077	7.86	2.76	42.5

Below is the Measured Resource for a constraint comprising inside the ore solid shape, below current topography, outside the old workings cavity and within the channel sample solid shape (12measured_solid.dtm), using interpolated block model data without the channel sample data and with a top cut of 30% Zn.

Volume	Tonnes	Zn25m	Pb25m	Ag25m
6359	22077	4.93	1.53	27

Below is the remaining resource classification outside the channel sample solid shape (12measured_solid.dtm) but within the ore solid shape, outside the old workings and beneath the current topography.

Rescatv2	Volume	Tonnes	Zn25m	Pb25m	Ag25m
Measured	3938	13175	7.02	1.45	32.7
Indicated	17813	59412	4.77	1.08	22.8
Inferred	1125	3563	2.25	0.67	17.1
Mineralisation	0	0	0.00	0.00	0.0
Grand Total	22876	76150	5.04	1.13	24.2

The effect of combining the Measured Resource figures from within the channel sample solid with the remaining overall Measured Resource is as follows:

Without the channel sample interpolation

Category	Volume	Tonnes	Zn%	Pb%	Agppm
Measured	10297	35252	5.7	1.5	29.1

With the channel sample interpolation

Category	Volume	Tonnes	Zn%	Pb%	Agppm
Measured	10297	35252	7.54	2.27	38.8

In putting together a final resource figure, a conservative approach has been adopted i.e. omitting the channel sample interpolation, and thus the final Resource estimation is:

Table 7
Allison's Lode: Classification of Resources

Category	Volume	Tonnes	Zn%	Pb%	Agppm
Measured	10297	35252	5.7	1.5	29.1
Indicated	17813	59412	4.77	1.08	22.8
Inferred	1125	3563	2.25	0.67	17.1
Mineralisation	0	0	0.00	0.00	0.0
Grand Total	29235	98227	5.01	1.21	24.9

4. CONCLUSIONS

This report details the creation of a block model for the remaining in situ Allison's Lode resource. It also contains the classification of the estimated resource from the block model in accordance with JORC definitions.

The block model has been created in Surpac around a new geologically interpreted ore shape which itself has resulted from recent aircore drilling in conjunction with previous mining, mapping, channel sampling and drilling. The model has used a 10m block size with sub-celling to 2.5m. The interpolation method used is inverse distance squared with a 25m search radius and with a top cut of 30% zinc applied to the data. Statistical analysis indicated that the channel sample assay data was not compatible to the aircore data for resource calculation purposes. Hence only the aircore data was used as the basis for the final resource calculation but other scenarios were investigated including varying the density and adding in the channel sample data.

The resource classification is based on a number of aspects including geological mapping associated with the trial mining and channel sampling, interpreted geological continuity associated with the aircore drilling, the number of samples used in calculating the block grade and the distance to the nearest sample for each block.

Assuming aircore-only data, a 25m search radius, a base density of 2.6g/cm^3 with a top cut of 30% Zn, then the remaining in situ resource at Allison's is:

Category	Volume	Tonnes	Zn %	Pb %	Ag ppm
Measured	10297	35252	5.7	1.5	29.1
Indicated	17813	59412	4.77	1.08	22.8
Inferred	1125	3563	2.25	0.67	17.1
Mineralisation	0	0	0.00	0.00	0.0
Grand Total	29235	98227	5.01	1.21	24.9

The resource related to the Allison's Lode stockpile has not been estimated here. The reader is referred to Cotlco's 2005 report where the resource has been calculated as:

Category	Volume	Tonnes	Zn%	Pb%	Ag%
Measured	unknown	3300	21.5	14.5	540

Respectfully submitted,

Simon Tear

BSc(Hons), ARSM, PGEO, MAusIMM, MIMM, EurGeol

7 November 2005

5. REFERENCES

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Appendix 1
Allison's Lode Assay Intercepts

Allison Data List of Intercepts

Aircore Drilling										
Holeid	**From**	**To**	**Coord y**	**Coord x**	**Coord RL**	**Zn**	**Pb**	**Ag**	**Fe**	**Length**
SY032	3	4	5360647	357571.4	291.055	2.87	6.61	171	26.1	1
SY032	4	5	5360647	357571.8	290.149	2.09	4.13	167	11.7	1
SY032	5	6	5360647	357572.3	289.242	6.55	3.15	118	9.94	1
SY032	6	7	5360647	357572.7	288.336	36.3	5.05	130	8.92	1
SY032	7	8	5360647	357573.1	287.43	4.94	1.74	52	6.24	1
SY032	8	9	5360646	357573.5	286.523	4.45	0.76	28	4.81	1
SY032	9	10	5360646	357573.9	285.617	8.59	0.85	29	5.62	1
SY032	10	11	5360646	357574.3	284.711	34.3	1.98	91	9.25	1
SY032	11	12	5360646	357574.7	283.804	8.99	1.87	31	7.16	1
SY032	15	16	5360646	357576.4	280.179	12	2.18	33	6.63	1
SY032	17	18	5360645	357577.2	278.367	7.7	2.24	40	7	1
SY032	23	24	5360645	357579.6	272.929	3.63	0.88	21	6.31	1
SY032	24	25	5360645	357580	272.022	1.23	1.98	27	6.79	1
SY033	13	14	5360679	357565.7	284.74	2.71	0.66	16	9.44	1
SY033	14	15	5360679	357565.9	283.874	2.44	0.7	18	9.98	1
SY033	15	16	5360680	357566	283.008	3.54	1.12	34	11.5	1
SY033	16	17	5360680	357566.1	282.142	4.9	2.63	63	12.1	1
SY033	17	18	5360681	357566.3	281.276	1.77	1.01	28	7.85	1
SY033	18	19	5360681	357566.4	280.41	0.57	0.28	5	3.26	1
SY033	19	20	5360682	357566.5	279.544	1.9	1	23	7.3	1
SY033	20	21	5360682	357566.7	278.677	1.01	0.69	14	5.73	1
SY033	21	22	5360683	357566.8	277.811	0.97	0.48	13	4.65	1
SY033	22	23	5360683	357566.9	276.945	3.1	0.39	15	5.1	1
SY033	23	24	5360684	357567	276.079	2.46	0.49	11	5.72	1
SY033	24	25	5360684	357567.2	275.213	1.37	0.44	9	8.18	1
SY033	25	26	5360685	357567.3	274.347	0.84	0.3	6	4.4	1
SY033	26	27	5360685	357567.4	273.481	5.11	0.8	25	24.6	1
SY033	27	28	5360686	357567.6	272.615	2.17	0.62	16	17.5	1
SY034	14	15	5360655	357569.1	282.381	1.99	0.64	8	3.72	1
SY034	15	16	5360655	357569.6	281.474	9.47	1.48	35	5.8	1
SY034	16	17	5360655	357570	280.568	1.24	0.38	5	3.47	1
SY034	17	18	5360655	357570.4	279.662	15.5	2.52	58	8.67	1
SY034	18	19	5360655	357570.8	278.755	4.86	1.2	20	4.76	1
SY034	19	20	5360655	357571.2	277.849	1.07	0.44	4	3.57	1
SY034	20	21	5360655	357571.7	276.943	0.5	0.19	1.5	3.09	1
SY034	21	22	5360655	357572.1	276.036	2.46	0.09	1.5	3.64	1
SY034	22	23	5360655	357572.5	275.13	0.6	0.09	1.5	2.76	1
SY034	23	24	5360655	357572.9	274.224	0.36	0.18	1.5	3.86	1
SY034	24	25	5360655	357573.4	273.317	14.1	1.24	32	16	1
SY034	25	26	5360655	357573.8	272.411	5.35	0.56	13	8.55	1
SY035	0	1	5360606	357588.8	286.87	6.15	2.43	61	21.8	1
SY035	1	2	5360607	357588.4	286.004	5.52	6.62	120	26.3	1
SY035	2	3	5360607	357588	285.138	3.63	1.45	24	13.3	1
SY035	3	4	5360607	357587.6	284.272	0.9	0.56	8	7.46	1
SY035	4	5	5360608	357587.2	283.406	1.06	0.59	9	8.95	1
SY035	5	6	5360608	357586.7	282.54	2.38	1.38	21	14.3	1

Holeid	From	To	Coord y	Coord x	Coord RL	Zn	Pb	Ag	Fe	Length
SY035	6	7	5360608	357586.3	281.674	1.57	1.35	20	7.42	1
SY035	7	8	5360608	357585.9	280.808	1.74	0.54	8	6.16	1
SY035	8	9	5360609	357585.5	279.942	1.67	0.87	8	7.8	1
SY035	9	10	5360609	357585.1	279.076	2.55	1.95	26	10.9	1
SY035	10	11	5360609	357584.7	278.21	0.92	1.47	18	9.94	1
SY035	11	12	5360610	357584.3	277.344	0.57	0.19	1.5	5.2	1
SY035	12	13	5360610	357583.9	276.478	6.07	1.19	28	18.8	1
SY035	13	14	5360610	357583.5	275.612	1.13	0.35	10	15.2	1
SY036	7	8	5360599	357577.3	278.813	1.38	0.32	1.5	6.18	1
SY036	8	9	5360599	357577.5	277.947	6.36	3.52	42	9.3	1
SY036	9	10	5360600	357577.7	277.081	40.5	7.05	123	13.2	1
SY036	10	11	5360600	357577.9	276.215	37.5	10.2	134	11.2	1
SY036	11	12	5360601	357578.1	275.349	7.42	1.79	26	5.35	1
SY036	12	13	5360601	357578.2	274.483	2.9	0.77	10	3.79	1
SY036	13	14	5360602	357578.4	273.617	1.29	0.37	3	3.24	1
SY037	0	1	5360588	357593.8	278.766	0.3	0.12	1.5	4.97	1
SY037	1	2	5360588	357593.3	277.9	1.7	0.34	13	18.3	1
SY037	2	3	5360588	357592.8	277.034	2.03	0.17	9	32.7	1
SY037	3	4	5360588	357592.3	276.168	0.66	0.27	6	26.2	1
SY037	4	5	5360588	357591.8	275.302	0.45	0.11	3	11.4	1
SY037	5	6	5360588	357591.3	274.436	0.62	0.07	1.5	11.7	1
SY037	6	7	5360588	357590.8	273.57	0.19	0.06	5	23.1	1
SY037	7	8	5360588	357590.3	272.704	0.42	0.09	4	14.8	1
SY037	8	9	5360588	357589.8	271.838	0.64	0.13	5	17.2	1
SY037	9	10	5360588	357589.3	270.972	0.49	0.06	1.5	8.45	1
SY037	10	11	5360588	357588.8	270.106	0.56	0.11	1.5	8.55	1
SY037	11	12	5360588	357588.3	269.24	0.4	0.15	1.5	7.37	1
SY038	1	2	5360539	357593.6	276.184	0.38	0.13	3	2.78	1
SY038	2	3	5360539	357593.3	275.318	2.44	0.26	8	4.21	1
SY038	3	4	5360539	357593.1	274.452	2.36	0.33	9	7.88	1
SY038	5	6	5360540	357592.5	272.72	1.86	0.3	9	11.4	1
SY038	6	7	5360541	357592.3	271.854	1.16	0.14	6	8.66	1
SY038	7	8	5360541	357592	270.988	1.26	0.22	9	10.8	1
SY038	8	9	5360541	357591.7	270.122	0.3	0.22	9	26.7	1
SY038	9	10	5360542	357591.5	269.256	0.47	0.1	8	14.2	1
SY039	0	1	5360550	357600.7	276.813	18.7	1.98	48	12.3	1
SY039	1	2	5360550	357600.1	275.994	12.5	0.63	17	13	1
SY039	2	3	5360550	357599.6	275.175	5.12	0.21	7	12.9	1
SY039	3	4	5360550	357599	274.356	1.17	0.12	5	6.59	1
SY039	4	5	5360549	357598.4	273.537	2.92	0.22	8	11.4	1
SY040	0	1	5360556	357600.7	277.335	35.6	8.76	210	6.61	1
SY040	1	2	5360556	357600.2	276.516	35.8	8.9	200	5.44	1
SY040	2	3	5360556	357599.6	275.697	15.1	2.35	77	11.8	1
SY040	3	4	5360557	357599	274.878	2.98	0.73	22	9.72	1
SY041	4	5	5360622	357586.1	289.747	2.34	1.09	25	16.5	1
SY041	5	6	5360622	357585.7	288.84	14.8	1.91	53	12.6	1
SY041	6	7	5360622	357585.3	287.934	11.6	2.45	44	15.4	1
SY041	7	8	5360622	357584.9	287.028	8.77	2.36	44	12.1	1
SY041	8	9	5360622	357584.5	286.121	12.4	3.77	58	24.8	1
SY041	9	10	5360622	357584.1	285.215	15	4.59	59	18.9	1
SY041	10	11	5360622	357583.6	284.309	28.5	4.25	74	10.2	1

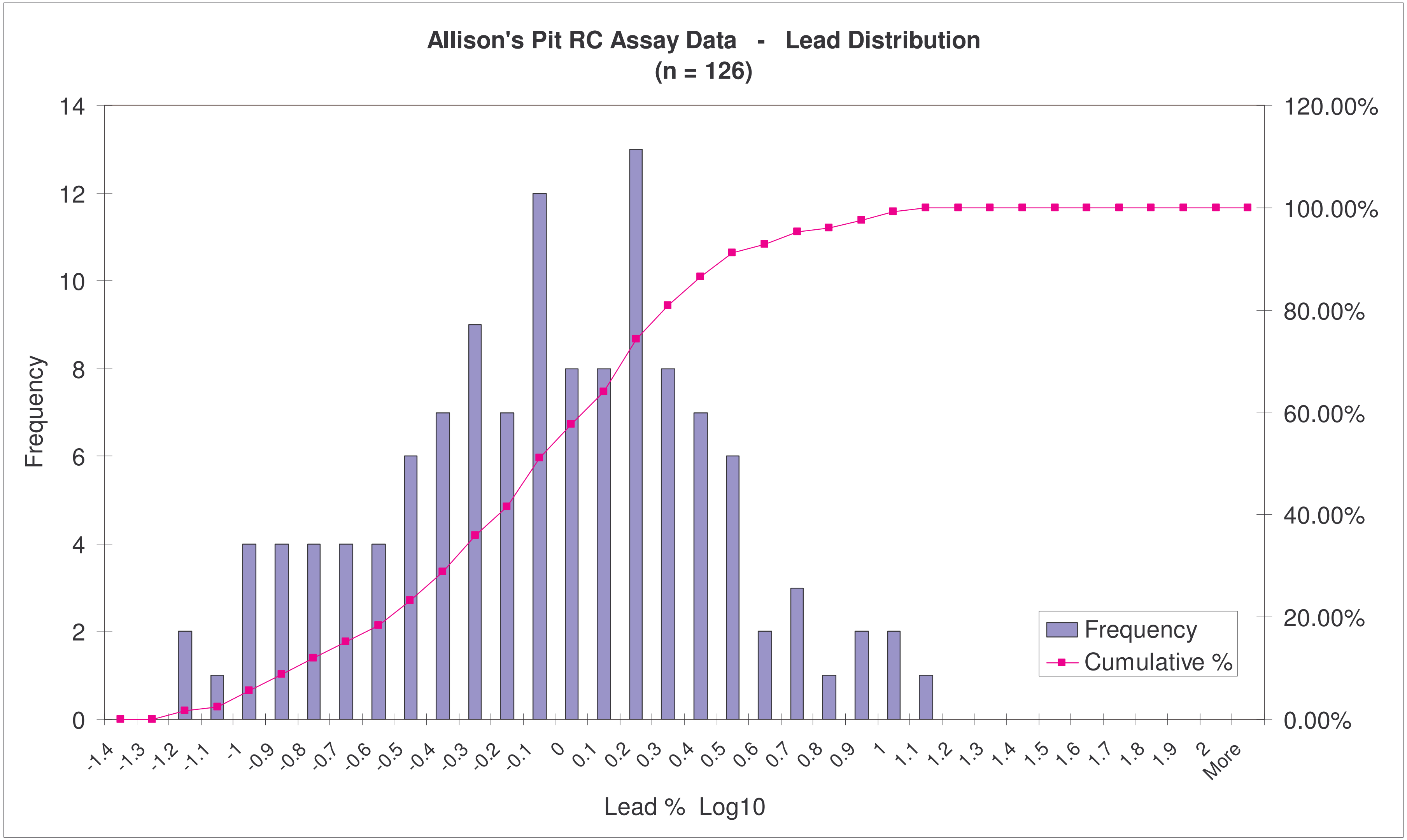
Holeid	From	To	Coord y	Coord x	Coord RL	Zn	Pb	Ag	Fe	Length
SY041	11	12	5360622	357583.2	283.402	7.69	1.3	21	6.11	1
SY041	12	13	5360622	357582.8	282.496	9.27	1.35	27	9.8	1
SY041	13	14	5360623	357582.4	281.59	3.52	0.86	14	7.91	1
SY041	14	15	5360623	357582	280.684	3.86	0.46	8	8.3	1
SY041	15	16	5360623	357581.6	279.777	8.78	0.73	17	27.2	1
SY041	16	17	5360623	357581.2	278.871	21.5	0.6	22	25.5	1
SY041	17	18	5360623	357580.7	277.965	21.4	1.31	32	22.8	1
SY041	18	19	5360623	357580.3	277.058	10.8	1.09	20	14.7	1
SY041	19	20	5360623	357579.9	276.152	6.02	0.45	11	10.5	1
SY041	20	21	5360623	357579.5	275.246	6.83	0.7	16	11.3	1
SY042	3.22	4.22	5360627	357584.9	290.033	1.0338	1.334	20.82	6.9364	1
SY042	4.22	5.22	5360627	357584.6	289.126	1.4618	0.9866	13.92	8.678	1
SY042	5.22	6.22	5360627	357584.3	288.22	2.8978	2.712	34.3	20.8978	1
SY042	6.22	7.22	5360628	357584	287.314	0.6204	0.4082	6.78	9.8302	1
SY042	7.22	8.22	5360628	357583.7	286.407	1.1692	0.4008	9.3	14.146	1
SY042	8.22	9.22	5360628	357583.4	285.501	2.2872	1.5094	26.5	23.754	1
SY042	9.22	10.22	5360629	357583.1	284.595	2.0566	3.054	38.3	26.9124	1
SY042	10.22	11.22	5360629	357582.8	283.688	0.4364	0.7116	8.91	8.2604	1
SY042	11.22	12.22	5360629	357582.5	282.782	0.8022	0.3106	3.37	7.2872	1
SY042	12.22	13.22	5360630	357582.2	281.876	6.571	1.2012	16.16	8.838	1
SY042	13.22	14.22	5360630	357581.9	280.969	14.8808	2.1574	32.72	13.339	1
SY042	14.22	15.22	5360630	357581.6	280.063	2.4906	1.367	13.34	6.8956	1
SY042	15.22	16.22	5360630	357581.3	279.157	7.1706	1.5068	16.06	7.4094	1
SY042	16.22	17.22	5360631	357581	278.251	9.1328	3.1268	29.16	17.652	1
SY042	17.22	18.22	5360631	357580.7	277.344	7.9746	0.6718	11.34	20.556	1
SY042	18.22	19.22	5360631	357580.4	276.438	5.97	0.43	9	12.6	0.78
SY042	19.22	20.22	5360632	357580.1	275.532	4.21	0.75	10	13	0.22
SY042	20.22	21.22	5360632	357579.8	274.625	5.9898	0.8996	12.42	15.904	1
SY042	21.22	22.22	5360632	357579.5	273.719	11.13	1.3483	19.4483	24.1993	0.87

Channel Sample Data										
Holeid	**From**	**To**	**Coord y**	**Coord x**	**Coord RL**	**Zn**	**Pb**	**Ag**	**Fe**	**Length**
TRAVA	0	1	5360592	357587.5	283	1.47	1.66	26	3.57	1
TRAVA	1	2	5360592	357588.5	283	1.08	1.34	0.5	5.76	1
TRAVA	2	3	5360592	357589.5	283	1.51	1.51	1	7.59	1
TRAVA	3	4	5360592	357590.5	283	15.4	3.92	30	21.6	1
TRAVA	4	5	5360592	357591.5	283	12.2	2.85	26	21.6	1
TRAVA	5	6	5360591	357592.5	283	15.116	6.362	104	12.976	1
TRAVA	6	7	5360591	357593.5	283	31.1	12.4	179	16.3	1
TRAVA	7	8	5360591	357594.5	283	34.1	4.97	82	17.6	1
TRAVA	8	9	5360591	357595.5	283	30	4.39	70	19	1
TRAVA	9	10	5360591	357596.4	283	30.1	7.86	107	19.5	1
TRAVA	10	11	5360591	357597.4	283	27.6	2.73	41	22.1	1
TRAVA1	0	1	5360615	357576.5	287	12.4	12.7	104	11.5	1
TRAVA1	1	2	5360615	357577.5	287	1.28	2.34	9	1.81	1
TRAVA1	2	3	5360615	357578.5	287	40.1	7.83	51	12.4	1
TRAVA1	3	4	5360615	357579.5	287	32.5	9.94	66	13	1
TRAVA1	4	5	5360615	357580.5	287	5.27	2.1	20	8.17	1
TRAVA1	5	6	5360615	357581.5	287	0.52	1.05	11	4.36	1
TRAVA1	6	7	5360615	357582.5	287	0.35	1.41	13	1.4	1
TRAVA1	7	8	5360615	357583.5	287	2.68	2.26	17	3.55	1
TRAVA1	8	9	5360615	357584.5	287	0.81	1.41	5	5.73	1
TRAVA1	9	10	5360615	357585.5	287	1.74	2.22	10	2.13	1
TRAVA1	10	11	5360615	357586.5	287	2.63	1.72	9	13.9	1
TRAVA1	11	12	5360615	357587.5	287	1.48	2.79	12	2.46	1
TRAVA1	12	13	5360615	357588.5	287	8.48	5.91	137	24.4	1
TRAVA1	13	14	5360615	357589.5	287	19.2	11.7	192	9.38	1
TRAVA1	14	15	5360614	357590.5	287	1.11	3.07	14	4.35	1
TRAVB	0	1	5360579	357582.5	283	1.8	2.5	29	8.8	1
TRAVB	1	2	5360579	357583.5	283	15.5	11.8	463	10.7	1
TRAVB	2	3	5360579	357584.5	283	13.4	2.12	41	15.7	1
TRAVB	3	4	5360579	357585.5	283	8.93	1.63	13	7.23	1
TRAVB	4	5	5360579	357586.5	283	7.2	1.5	12	9.16	1
TRAVB	5	6	5360579	357587.5	283	30.7	1.56	31	13.7	1
TRAVB	6	7	5360579	357588.5	283	32.3	1.36	28	13	1
TRAVB	7	8	5360579	357589.5	283	1.95	1.15	14	11	1
TRAVB	8	9	5360579	357590.5	283	26.2	2.32	71	11.6	1
TRAVB	9	10	5360579	357591.5	283	2.77	14.2	487	23.8	1
TRAVB	10	11	5360579	357592.5	283	3.42	0.48	9	4.3	1
TRAVD	0	1	5360550	357588.5	280	32.7	13	199	11.4	1
TRAVD	1	2	5360550	357589.5	280	27	2.6	41	11.1	1
TRAVD	2	3	5360550	357590.5	280	1	0.26	4	3.36	1
TRAVD	3	4	5360551	357591.4	280	2.05	0.64	12	5.49	0.42
TRAVD	3.92	4.92	5360551	357592.4	280	0.6516	0.318	4.64	9.4	1
TRAVD	4.92	5.92	5360551	357593.3	280	12.8304	11.7072	210.08	23.2272	1
TRAVD	5.92	6.92	5360551	357594.3	280	11.324	6.2048	96.44	21.64	1
TRAVD	6.92	7.92	5360551	357595.3	280	22.6	5.4836	92.36	16.248	1
TRAVD	7.92	8.92	5360551	357596.3	280	4.0316	1.0172	16.64	14.88	1
TRAVD	8.92	9.92	5360552	357597.3	280	21.1624	1.826	32.08	18.296	1
TRAVD	9.92	10.92	5360552	357598.3	280	5.9364	2.39	34.92	31.02	1
TRAVD	10.92	11.92	5360552	357599.2	280	7.69	0.5072	13.84	31.732	1
TRAVD	11.92	12.92	5360552	357600.2	280	15.9096	12.1712	230.04	16.428	1
TRAVD	12.92	13.92	5360552	357601.2	280	31.412	1.8104	57.64	13.628	1
TRAVD	13.92	14.92	5360553	357602.2	280	34.816	11.7496	361.16	9.728	1
TRAVD	14.92	15.92	5360553	357603.2	280	35	12.7	389	9.4	0.08

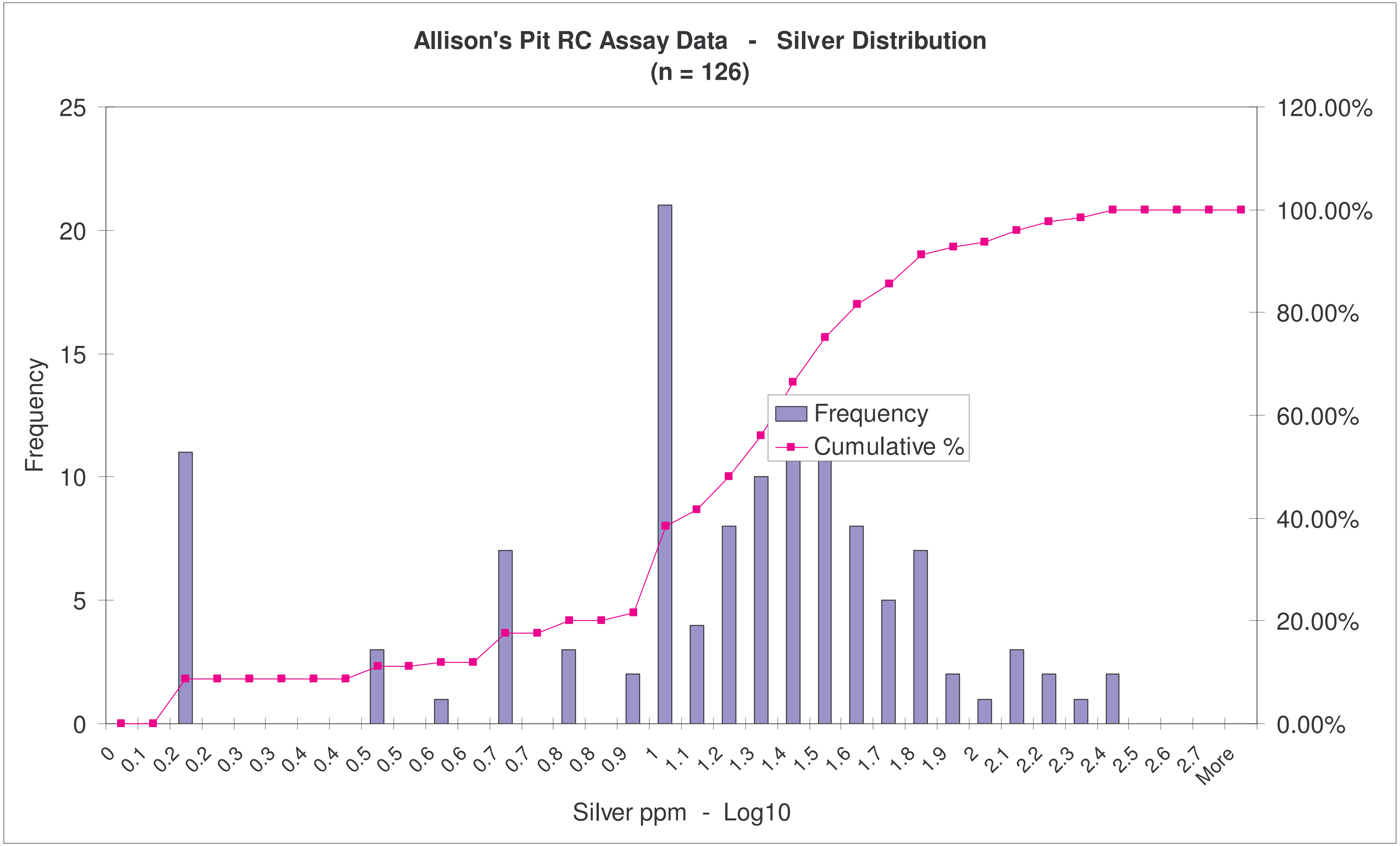
Intercepts omitted from interpolations involving channel sample data

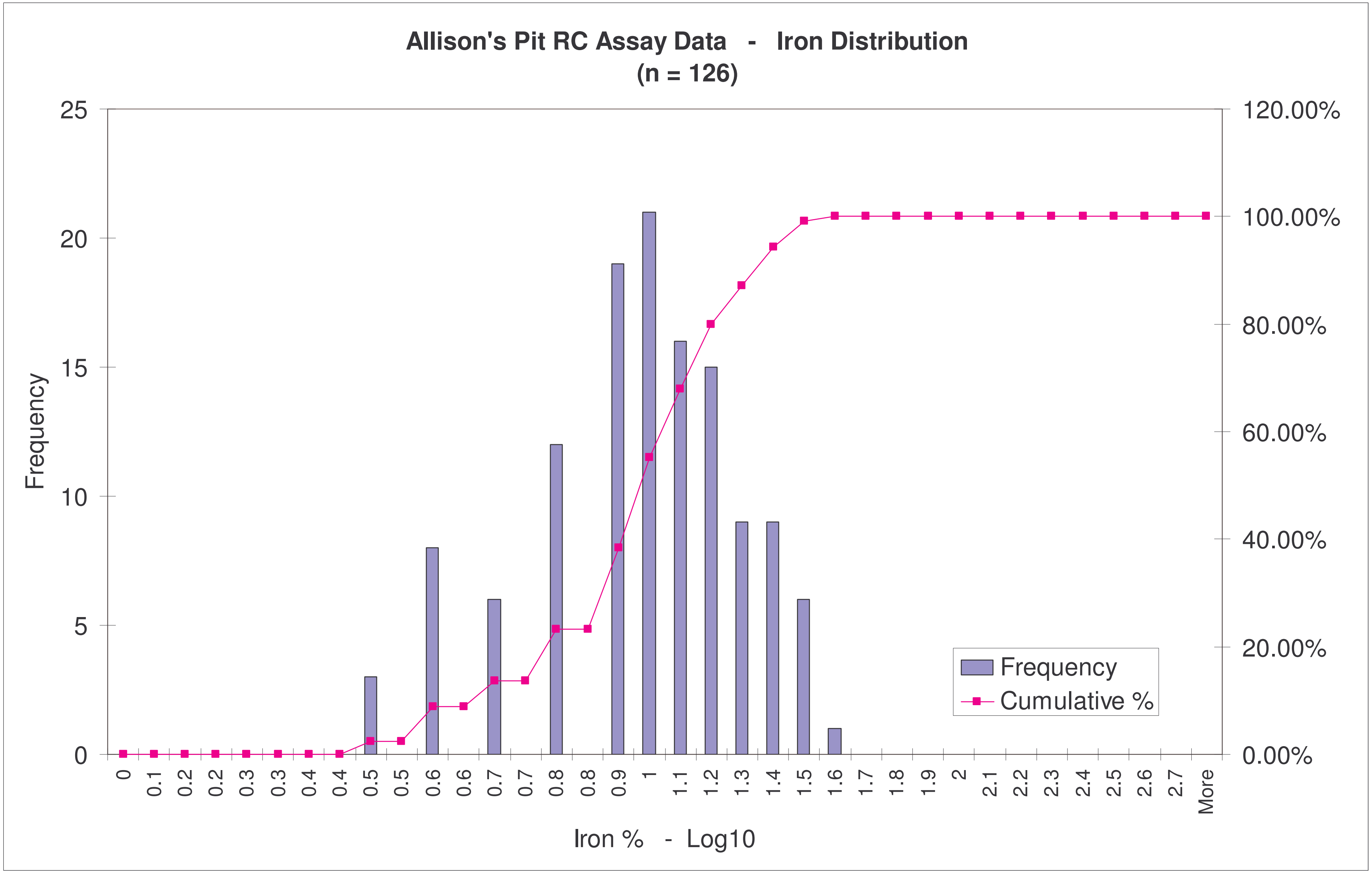
Holeid	From	To	Coord y	Coord x	Coord RL	Zn	Pb	Ag	Fe	Length
TRAVC	0	1	5360581	357594	283	18.5	1.45	18	13.4	1
TRAVC	1	2	5360580	357594	283	21.8	1.46	69	21.5	1
TRAVC	2	3	5360579	357594	283	24.7	11.4	150	14.9	1
TRAVC	3	4	5360578	357594	283	7.48	12.8	151	19.2	1
TRAVC	4	5	5360577	357594	283	11.4	15.7	191	20.7	1
TRAVC	5	6	5360576	357594	283	5	16.7	170	21.4	1
TRAVC	6	7	5360575	357594	283	15.4	7.27	69	21.7	1

Appendix 2
Histogram Plots for the Assay Intercepts

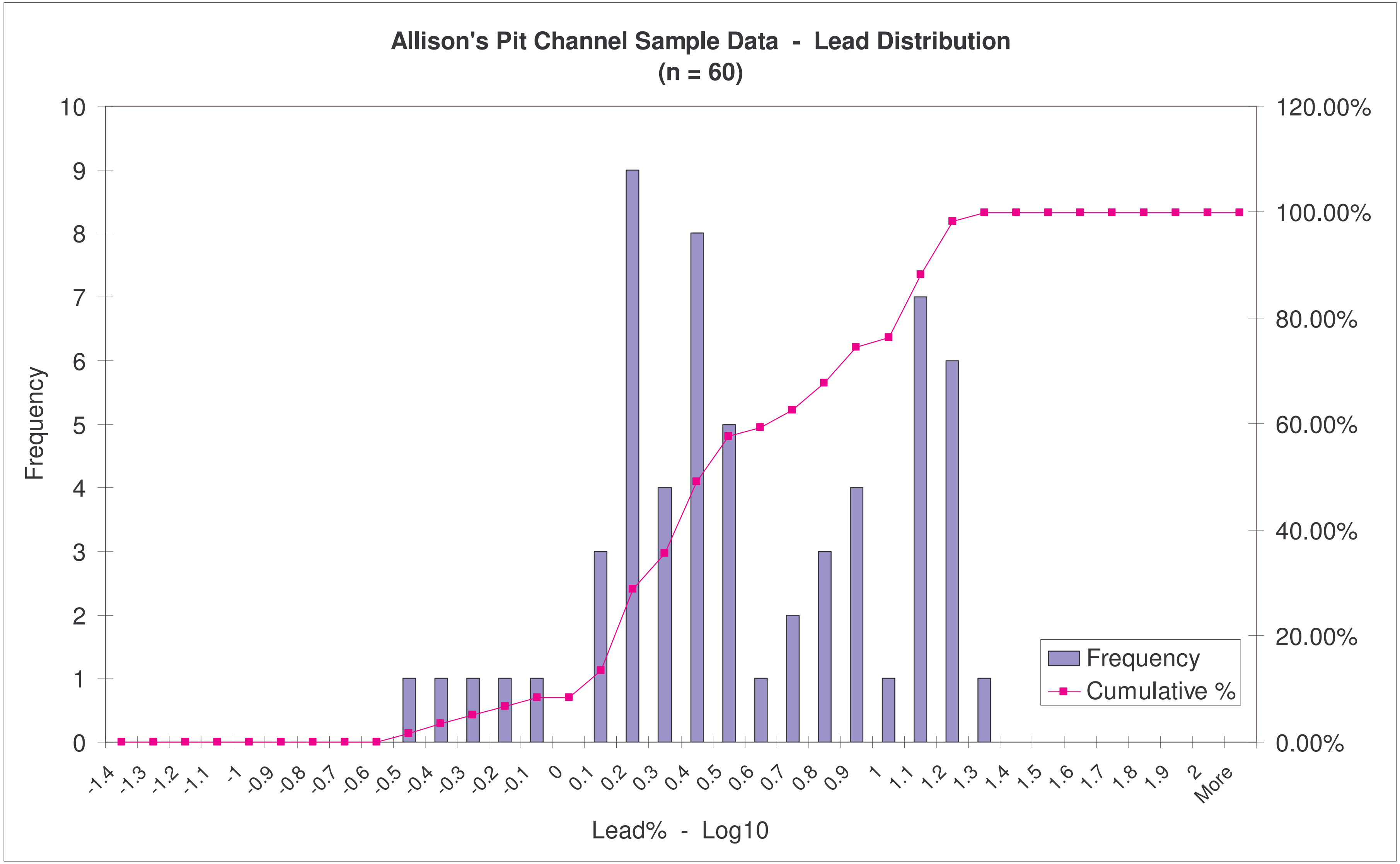


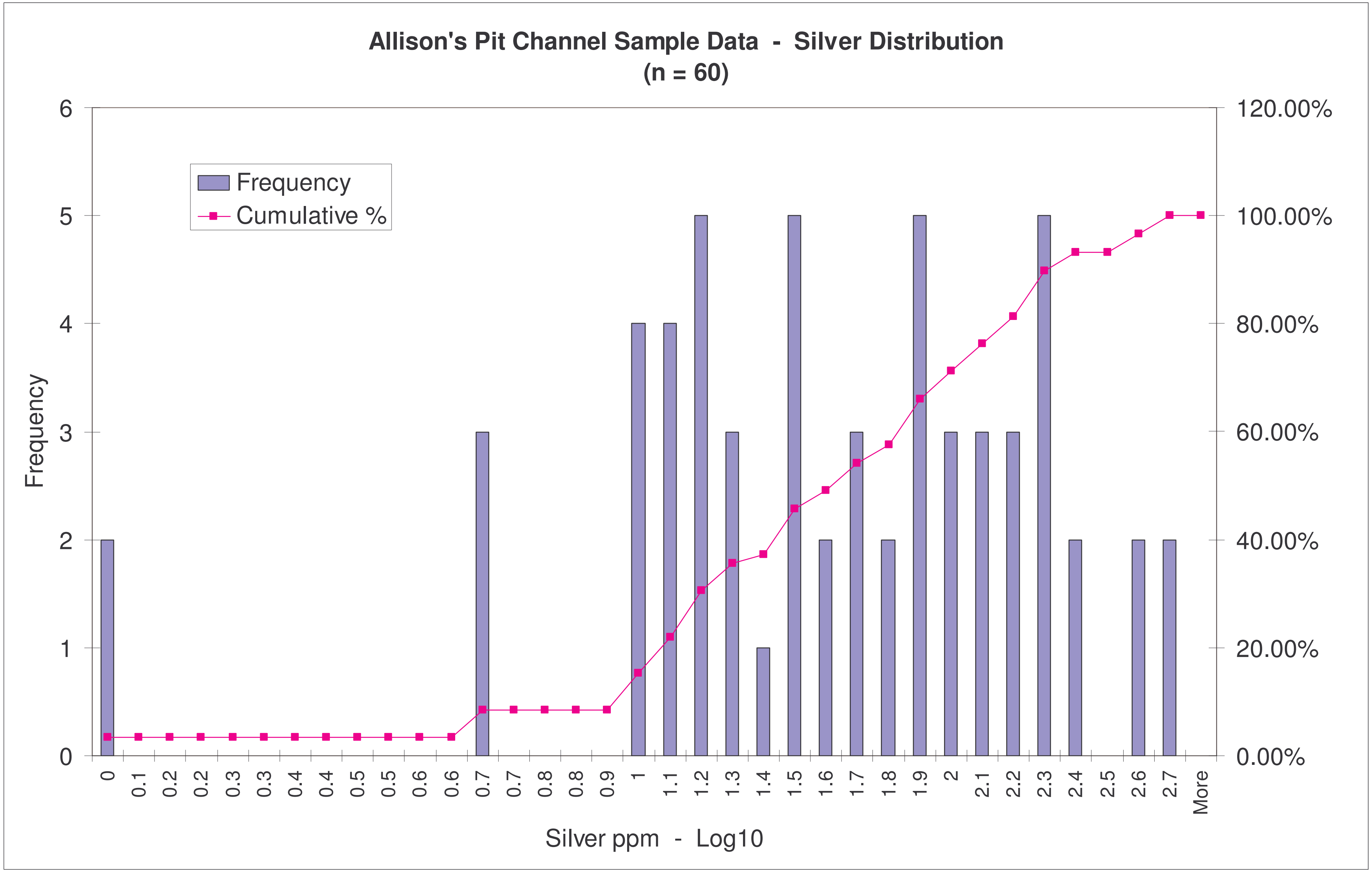
Allison's Pit RC Assay Data - Lead Distribution
(n = 126)
Frequency
14
12
10
8
6
4
2
0
120.00%
100.00%
80.00%
60.00%
40.00%
20.00%
0.00%
Frequency
Cumulative %
-1.4
-1.3
-1.2
-1.1
-1
-0.9
-0.8
-0.7
-0.6
-0.5
-0.4
-0.3
-0.2
-0.1
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9
2
More
Lead % Log10

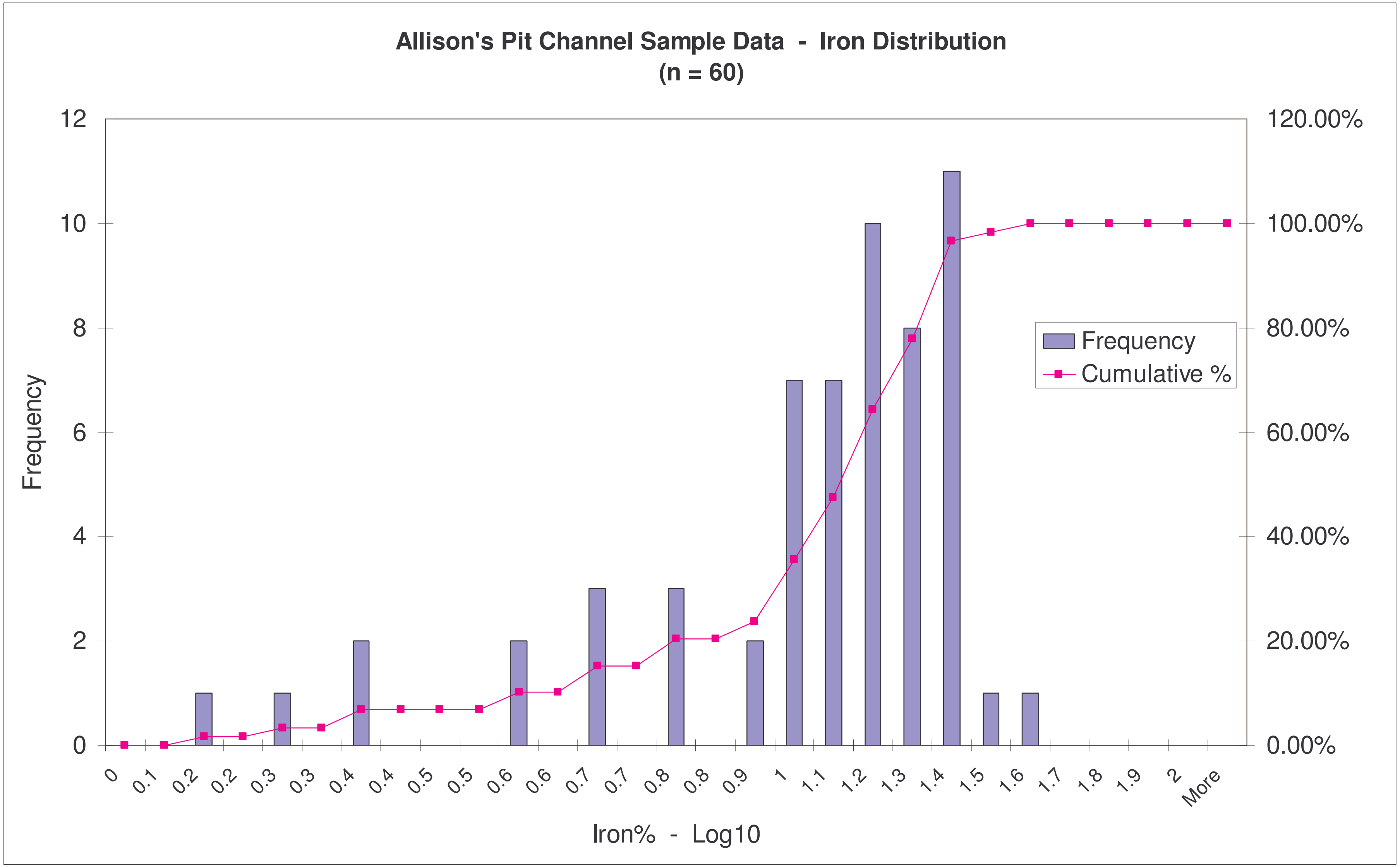

Allison's Pit RC Assay Data - Silver Distribution
(n = 126)
Frequency
Silver ppm - Log10
Frequency
Cumulative %
0
5
10
15
20
25
0.00%
20.00%
40.00%
60.00%
80.00%
100.00%
120.00%
0 0.1 0.2 0.2 0.3 0.3 0.4 0.4 0.5 0.5 0.6 0.6 0.7 0.7 0.8 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2 2.3 2.4 2.5 2.6 2.7 More



Allison's Pit RC Assay Data - Iron Distribution
(n = 126)
Frequency
25
20
15
10
5
0
120.00%
100.00%
80.00%
60.00%
40.00%
20.00%
0.00%
0 0.1 0.2 0.2 0.3 0.3 0.4 0.4 0.5 0.5 0.6 0.6 0.7 0.7 0.8 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2 2.3 2.4 2.5 2.6 2.7 More
Iron % - Log10
Frequency
Cumulative %


Allison's Pit Channel Sample Data - Lead Distribution
(n = 60)
Frequency
Lead% - Log10
10
9
8
7
6
5
4
3
2
1
0
120.00%
100.00%
80.00%
60.00%
40.00%
20.00%
0.00%
-1.4
-1.3
-1.2
-1.1
-1
-0.9
-0.8
-0.7
-0.6
-0.5
-0.4
-0.3
-0.2
-0.1
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9
2
More
Frequency
Cumulative %


Allison's Pit Channel Sample Data - Silver Distribution
(n = 60)
Frequency
Cumulative %
Frequency
Silver ppm - Log10
0
1
2
3
4
5
6
0.00%
20.00%
40.00%
60.00%
80.00%
100.00%
120.00%
0
0.1
0.2
0.2
0.3
0.3
0.4
0.4
0.5
0.5
0.6
0.6
0.7
0.7
0.8
0.8
0.9
1
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9
2
2.1
2.2
2.3
2.4
2.5
2.6
2.7
More


Allison's Pit Channel Sample Data - Iron Distribution
(n = 60)
Frequency
Iron% - Log10
0
2
4
6
8
10
12
0.00%
20.00%
40.00%
60.00%
80.00%
100.00%
120.00%
0
0.1
0.2
0.2
0.3
0.3
0.4
0.4
0.5
0.5
0.6
0.6
0.7
0.7
0.8
0.8
0.9
1
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9
2
More
Frequency
Cumulative %

Appendix 3
Details of Density Measurements

Bulk Density for Altered Carbonate	
Mean	2.6179
Standard Error	0.06268
Median	2.63263
Mode	#N/A
Standard Deviation	0.16583
Sample Variance	0.0275
Kurtosis	3.06638
Skewness	-0.73599
Range	0.5662
Minimum	2.3048
Maximum	2.87099
Sum	18.3253
Count	7
Confidence Level(95.0%)	0.15336

Bulk Density for Fresh Carbonate	
Mean	2.88764
Standard Error	0.01332
Median	2.88375
Mode	#N/A
Standard Deviation	0.03263
Sample Variance	0.00106
Kurtosis	1.53866
Skewness	0.98635
Range	0.09498
Minimum	2.84915
Maximum	2.94414
Sum	17.3258
Count	6
Confidence Level(95.0%)	0.03425

Bulk Density for Phyllite	
Mean	2.71257
Standard Error	0.0116
Median	2.71944
Mode	#N/A
Standard Deviation	0.04017
Sample Variance	0.00161
Kurtosis	-0.7618
Skewness	-0.19329
Range	0.13315
Minimum	2.64322
Maximum	2.77638
Sum	32.5508
Count	12
Confidence Level(95.0%)	0.02552

Summary	
Bulk Densities	
Lithology	BD
Altered Carbonate	2.62
Carbonate & sulphides	3.29
Fresh Carbonate	2.89
Massive Sulphide	4.29
Phyllite	2.71
Talc	2.03

Bulk Density for Carbonate & Sulphides	
Mean	3.2919
Standard Error	0.09054
Median	3.23845
Mode	#N/A
Standard Deviation	0.41491
Sample Variance	0.17215
Kurtosis	-1.37379
Skewness	0.17089
Range	1.37001
Minimum	2.59459
Maximum	3.96461
Sum	69.1298
Count	21
Confidence Level(95.0%)	0.18886

Bulk Density for Massive Sulphide	
Mean	4.29174
Standard Error	0.07674
Median	4.16902
Mode	#N/A
Standard Deviation	0.45403
Sample Variance	0.20614
Kurtosis	9.81846
Skewness	2.90247
Range	2.34609
Minimum	3.84244
Maximum	6.18852
Sum	150.211
Count	35
Confidence Level(95.0%)	0.15596

Bulk Density for Talc	
Mean	2.03517
Standard Error	0.12065
Median	2.03517
Mode	#N/A
Standard Deviation	0.17063
Sample Variance	0.02911
Kurtosis	#DIV/0!
Skewness	#DIV/0!
Range	0.2413
Minimum	1.91452
Maximum	2.15583
Sum	4.07035
Count	2
Confidence Level(95.0%)	1.53303

Zeehan Zinc Limited - Bulk Density on selected rocks within the Comstock Mine, Zeehan, Tasmania. Completed by Paul Heath 21-9-05									
Hole ID	**Deposit**		**Depth (m) (from)**	**Depth (m) (to)**	**Width (m)**	**Weight in air (g)**	**Weight in water (g)**	**Bulk Density**	**Lithology**
SY021	Allison's Lode	NQ	21.1	21.4	0.3	1375.3	859.9	2.67	ph
SY021	Allison's Lode	NQ	24.15	24.45	0.3	1183.9	736	2.64	ph
SY021	Allison's Lode	NQ	39.9	40.2	0.3	1166.3	738.5	2.73	ph
SY021	Allison's Lode	NQ	46.9	47.5	0.6	1552.3	1183.3	4.21	ms
SY021	Allison's Lode	NQ	56.1	56.7	0.6	3025	1963.2	2.85	cs
SY021	Allison's Lode	NQ	63.75	64.4	0.65	2966	1942.9	2.90	fc
SY021	Allison's Lode	NQ	68.8	69.4	0.6	3018.3	2002.1	2.97	cs
SY021	Allison's Lode	NQ	79.1	79.6	0.5	2595.7	1748.1	3.06	cs
SY021	Allison's Lode	NQ	96.1	96.63	0.53	2674	1741	2.87	fc
SY022	Allison's Lode	HQ	3.9	4	0.1	422.7	239.3	2.30	ac
SY022	Allison's Lode	HQ	9.9	10.25	0.35	2272.8	1410.5	2.64	ac
SY022	Allison's Lode	HQ	10.25	10.6	0.35	2402.8	1490.1	2.63	ac
SY022	Allison's Lode	HQ	29.65	29.82	0.17	1414.7	889.3	2.69	ph
SY022	Allison's Lode	HQ	31.2	31.65	0.45	3459	2188.4	2.72	ph
SY022	Allison's Lode	HQ	37.9	38.25	0.35	2726.7	1733.1	2.74	ph
SY022	Allison's Lode	HQ	45.73	46.2	0.47	3490.1	2181.5	2.67	ph
SY022	Allison's Lode	HQ	52	52.45	0.45	3578.5	2261.2	2.72	ph
SY022	Allison's Lode	HQ	56	56.83	0.83	1744.4	1151.9	2.94	fc
SY022	Allison's Lode	HQ	72.7	72.9	0.2	514.2	373.3	3.65	cs
SY022	Allison's Lode	HQ	92.9	93.8	0.9	2343.3	1699.8	3.64	cs
SY022	Allison's Lode	HQ	93.8	94	0.2	550.9	401.9	3.70	cs
SY022	Allison's Lode	HQ	158	159	1	2299.6	1527.5	2.98	cs
SY022	Allison's Lode	HQ	183.5	184	0.5	2343	1531.5	2.89	fc
SY022	Allison's Lode	HQ	201.4	201.9	0.5	2398.7	1556.8	2.85	fc
SY022	Allison's Lode	HQ	219.3	220	0.7	3268.8	2133.9	2.88	fc
SY022	Allison's Lode	HQ	230	231	1	3324.5	2565.6	4.38	ms
SY022	Allison's Lode	HQ	231.3	232.15	0.85	3059.4	2360.2	4.38	ms

SY022	Allison's Lode	HQ	235.3	235.65	0.35	1694.8	1119.6	2.95	cs
SY023	West Lode	HQ	0	1	1	3363.3	2507.7	3.93	ms
SY023	West Lode	HQ	1.15	1.3	0.15	547.6	413.3	4.08	ms
Hole ID	Deposit		Depth (m) (from)	Depth (m) (to)	Width (m)	Weight in air (g)	Weight in water (g)	Bulk Density	Lithology
SY023	West Lode	HQ	1.65	2.45	0.8	3341	2471.5	3.84	ms
SY023	West Lode	HQ	8.7	8.8	0.1	159.1	85.3	2.16	ta
SY023	West Lode	HQ	9.3	9.42	0.12	230.7	110.2	1.91	ta
SY023	West Lode	HQ	25.1	26.1	1	3377.8	2124.6	2.70	ph
Comsock Stock pile (Allison's Lode)									
1	Allison's Lode	Stock pile	N/A	N/A	N/A	1370.9	893.4	2.87	ac
2	Allison's Lode	Stock pile	N/A	N/A	N/A	1223.9	853.8	3.31	cs
3	Allison's Lode	Stock pile	N/A	N/A	N/A	2153.2	1446.6	3.05	cs
4	Allison's Lode	Stock pile	N/A	N/A	N/A	1891.6	1451.1	4.29	ms
5	Allison's Lode	Stock pile	N/A	N/A	N/A	2297.9	1702.8	3.86	cs
6	Allison's Lode	Stock pile	N/A	N/A	N/A	934.3	708.5	4.14	ms
7	Allison's Lode	Stock pile	N/A	N/A	N/A	2233.8	1689.2	4.10	ms
8	Allison's Lode	Stock pile	N/A	N/A	N/A	3062.7	2314.5	4.09	ms
9	Allison's Lode	Stock pile	N/A	N/A	N/A	924.4	697.5	4.07	ms
10	Allison's Lode	Stock pile	N/A	N/A	N/A	3284.7	2505.9	4.22	ms
11	Allison's Lode	Stock pile	N/A	N/A	N/A	738.4	547.1	3.86	cs
12	Allison's Lode	Stock pile	N/A	N/A	N/A	1121.1	868.7	4.44	ms
13	Allison's Lode	Stock pile	N/A	N/A	N/A	1804.9	1365.7	4.11	ms
14	Allison's Lode	Stock pile	N/A	N/A	N/A	538.1	418.6	4.50	ms
15	Allison's Lode	Stock pile	N/A	N/A	N/A	386.1	293.7	4.18	ms
16	Allison's Lode	Stock pile	N/A	N/A	N/A	850.3	646.8	4.18	ms
17	Allison's Lode	Stock pile	N/A	N/A	N/A	1181.5	898.1	4.17	ms
18	Allison's Lode	Stock pile	N/A	N/A	N/A	1950.3	1390.1	3.48	cs
19	Allison's Lode	Stock pile	N/A	N/A	N/A	481.7	360.2	3.96	cs

Hole ID	Deposit		Depth (m) (from)	Depth (m) (to)	Width (m)	Weight in air (g)	Weight in water (g)	Bulk Density	Lithology
20	Allison's Lode	Stock pile	N/A	N/A	N/A	2438.9	1820.3	3.94	ms
21	Allison's Lode	Stock pile	N/A	N/A	N/A	1561.1	1159.2	3.88	ms
22	Allison's Lode	Stock pile	N/A	N/A	N/A	169.9	128.7	4.12	ms
23	Allison's Lode	Stock pile	N/A	N/A	N/A	2271.7	1704.2	4.00	ms
24	Allison's Lode	Stock pile	N/A	N/A	N/A	1981.6	1515.3	4.25	ms
25	Allison's Lode	Stock pile	N/A	N/A	N/A	937.7	743.9	4.84	ms
26	Allison's Lode	Stock pile	N/A	N/A	N/A	1065.1	784.7	3.80	cs
27	Allison's Lode	Stock pile	N/A	N/A	N/A	6200	4700	4.13	ms
28	Allison's Lode	Stock pile	N/A	N/A	N/A	4300	3200	3.91	ms
29	Allison's Lode	Stock pile	N/A	N/A	N/A	6600	5151	4.55	ms
30	Allison's Lode	Stock pile	N/A	N/A	N/A	4800	2950	2.59	cs
31	Allison's Lode	Stock pile	N/A	N/A	N/A	7550	6330	6.19	ms
32	Allison's Lode	Stock pile	N/A	N/A	N/A	1965.9	1492.5	4.15	ms
33	Allison's Lode	Stock pile	N/A	N/A	N/A	1457.4	1096.7	4.04	ms
34	Allison's Lode	Stock pile	N/A	N/A	N/A	3035.4	2098.1	3.24	cs
35	Allison's Lode	Stock pile	N/A	N/A	N/A	3036.4	2345.9	4.40	ms
36	Allison's Lode	Stock pile	N/A	N/A	N/A	1563.8	1210	4.42	ms
37	Allison's Lode	Stock pile	N/A	N/A	N/A	3102	2214.3	3.49	cs
38	Allison's Lode	Stock pile	N/A	N/A	N/A	1180.3	778.3	2.94	cs
39	Allison's Lode	Stock pile	N/A	N/A	N/A	882.4	580	2.92	cs
40	Allison's Lode	Stock pile	N/A	N/A	N/A	2465.9	1595.7	2.83	cs
41	Allison's Lode	Stock pile	N/A	N/A	N/A	2174	1343.3	2.62	ac
42	Allison's Lode	Stock pile	N/A	N/A	N/A	2307.8	1441.3	2.66	ac

Hole ID	Deposit		Depth (m) (from)	Depth (m) (to)	Width (m)	Weight in air (g)	Weight in water (g)	Bulk Density	Lithology
43	Allison's Lode	Stock pile	N/A	N/A	N/A	1647.8	1014.2	2.60	ac
44	Allison's Lode	Stock pile	N/A	N/A	N/A	683.9	434.3	2.74	ph
45	Allison's Lode	Stock pile	N/A	N/A	N/A	1255.2	803.1	2.78	ph
46	Allison's Lode	Stock pile	N/A	N/A	N/A	1448.7	923.5	2.76	ph
Comsock Stock pile (West Lode)									
47	West Lode	Stock pile	N/A	N/A	N/A	1266.5	960	4.13	ms
48	West Lode	Stock pile	N/A	N/A	N/A	1231.8	1010.7	5.57	ms
49	West Lode	Stock pile	N/A	N/A	N/A	193	148.7	4.36	ms
Legend		Code							
carbonaceous phyllite		ph							
talc		ta							
massive sulphide (lode)		ms							
fresh carbonate		fc							
altered carbonate		ac							
carbonate with sulphide		cs							

Appendix 4
Block Model Sections

Appendix 5
Block Model Plans