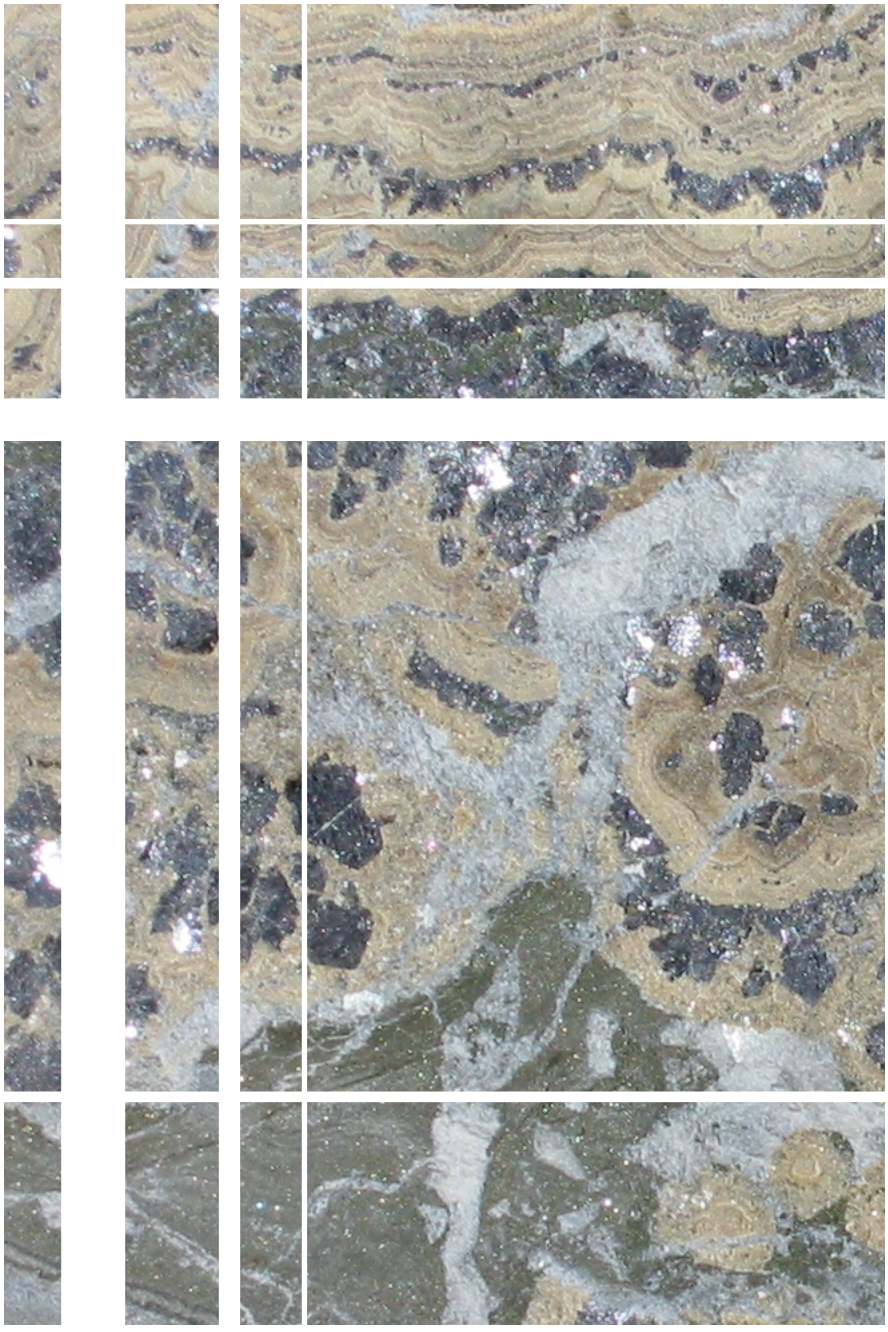
Geological Interpetation and Block Model Report for The Mariposa Prospect

Zeehan - West Tasmania

February 2006

Prepared for :

Zeehan Zinc Pty Ltd



SMG CONSULTANTS

A Member of The Minserve Group Pty Limited

CONTENTS

TABLES

FIGURES

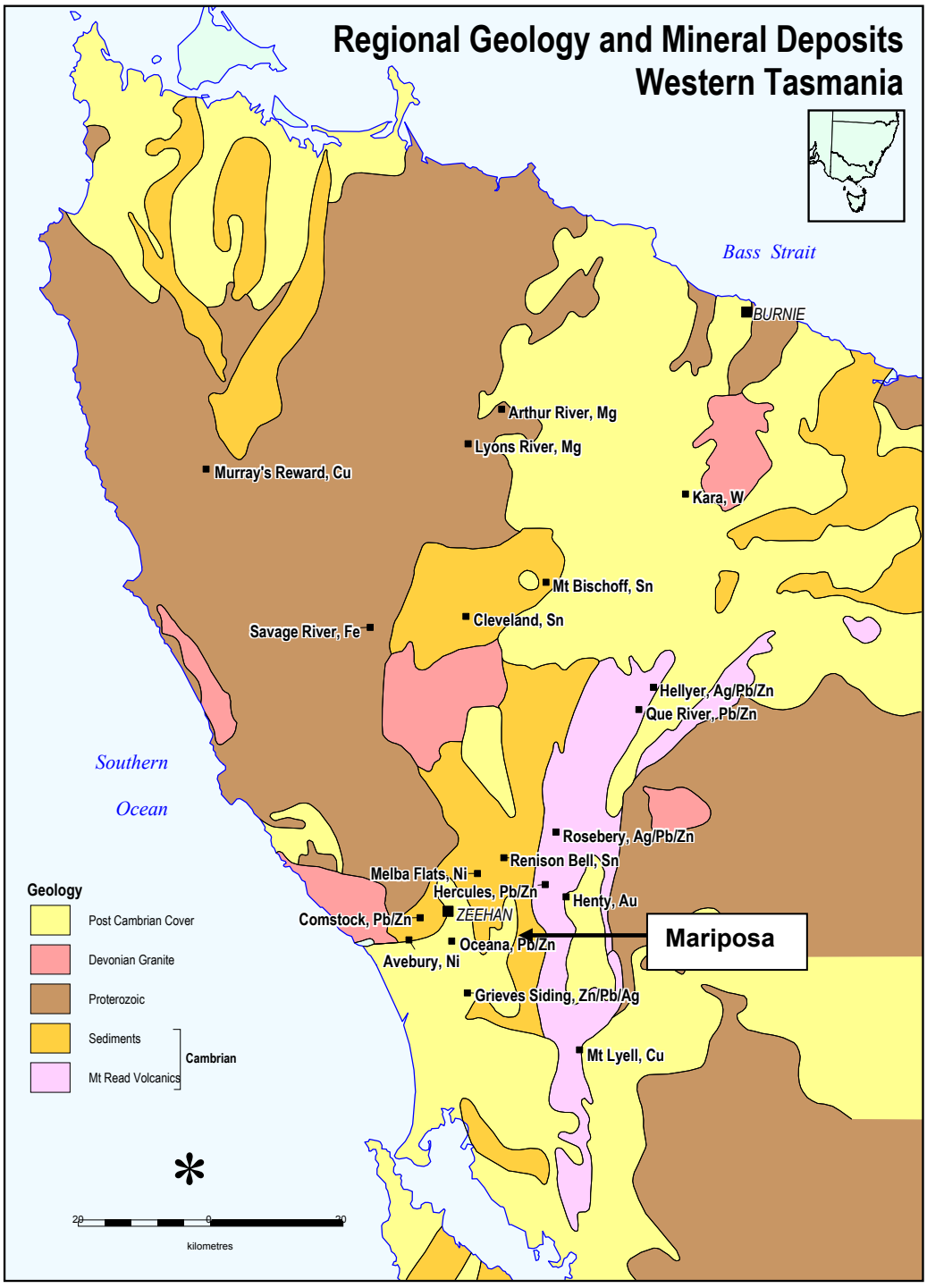
Page No.

APPENDICES

1. INTRODUCTION

Zeehan Zinc Pty Ltd has requested SMG Consultants to create a 3D geological interpretation for their Mariposa lead/silver/zinc prospect, 4km southeast of Zeehan in Western Tasmania (Figure 1). On completion of the geological interpretation SMGC were asked to generate a block model that will be used to provide a measure of the resource(s) and classify the resources to JORC standards.

Figure 1 -
Location Map



2. GEOLOGICAL INTERPRETATION

2.1 PREVIOUS WORK

The Mariposa Project is part of a series of limestone-hosted base metal prospects located around Zeehan which have been subjected to substantial previous mineral exploration. The Oceana lead/zinc deposit/mine provided much of the impetus for such exploration to be undertaken over all the outcropping areas of the Gordon Limestone in the general Zeehan area (Tear 2005a).

The original Mariposa deposit began its mine life in the 1890's as a small trial mining exercise with a shaft and underground drives developed with production amounting to "1000 tons of milling ore" at 33% Pb and 17ozs Ag (Cadwallader 1951). Various attempts at re-opening the mine ensued until North Broken Hill undertook a diamond drilling campaign in the early 1950's. This work identified a resource and included a scoping study with some estimation of mining costs, but the reports contain no maps and hence four of the twelve drillholes cannot even be located.

Macintyre Mines completed some exploration in the 1970's, drilling one diamond hole just south of the main Mariposa Lode (Bates 1972). This intersected weak lead/zinc mineralisation in the expected position. In the 1980's the area was held as an exploration licence by AMOCO/CYPRUS who subjected the ground to a systematic search looking to find an Irish-type carbonate hosted lead/zinc deposit. This included drilling of the main Mariposa Lode and substantial trenching over the whole carbonate outcrop at Mariposa. Significant mineralisation and geochemical anomalism was encountered but follow up work was limited (Ellis 2002, Jones & Kary 1983 and Kary 1985).

CRAE were the subsequent explorers in the mid 1990's and completed an extensive aircore drilling programme coupled with some diamond drilling and other geological studies including mineralogy (Parkinson 1994, Parkinson 1995, Tear 1996 and Tear & Russell 1997). Again significant mineralisation and geochemical anomalism was discovered but follow up work was not completed.

Table 1 -
Mariposa: Summary of Exploration Drilling & Trenching

Year	Company	No. of DD Holes	No. of DD metres	No. of AC Holes	No. of AC metres	No. of Trenches	No. of Trench m's
1950	N. Broken Hill	8	741.9				
1970's	MacIntyre	1	87.6				
1980's	AMOCO	9	1219.1			17	1553
1990's	CRAE	5	554.1	207	3761.8		
	Totals	**23**	**2602.7**	**207**	**3761.8**	**17**	**1553**

2.2 PROSPECT GEOLOGY

A regional picture for the Gordon Limestone is included in Tear 2002.

The base metal mineralisation that occurs at Mariposa is hosted by calcarenites and calcsiltites of the Ordovician-aged Gordon Limestone. The sequence is steeply dipping to the west with the Crotty Quartzite overlying the limestone, forming a distinct topographic high, possibly as a faulted contact (Figure 2). The footwall to the limestone is believed to be a faulted contact, now called the Mariposa Fault, juxtaposing the limestone with the older Cambrian Dundas Group of sediments and volcanoclastics. Within the limestone is a distinctive non-calcareous, mudstone unit with coarse bioclastic material called the Lords Siltstone (Appendix 1). Regionally-related reflux dolomitisation has occurred across the upper part of the limestone creating a vuggy dolomite unit. A siderite alteration zone with anomalous lead/zinc values was identified in the base-of-hole aircore samples, from the CRAE work, that is concomitant with the faulted eastern contact (Figure 3).

For the main Mariposa Lode, now called the Western Lode, the lead/zinc mineralisation is associated with a seemingly strata-parallel, siderite replacement unit. Galena is the dominant sulphide species in conjunction with lesser amounts of sphalerite. This lode has been the subject to the majority of the diamond drilling. The eastern lodes are weakly defined due to limited shallow drilling, but they are perceived to be steeply dipping and strata-parallel.

On face value, the structure for Mariposa has been presented as quite straightforward i.e. a steeply dipping package of limestone, fault bounded on its eastern margin and conformably overlain by sandstones of the Crotty Quartzite. However from the current work it is believed that there is another level of structural complexity, mainly associated with faulting, that may not have been appreciated in the CRAE & AMOCO mapping. In particular the occurrence of cross faults offsetting the geology, a faulted Crotty Quartzite contact and the possibility of shallower bed dips in the northern part of the area. There is some doubt as to the dip direction of the Mariposa Fault.

Also from the CRAE end-of-hole samples it is possible to delineate additional stratabound dolomitic alteration. This may be due to either reflux dolomitisation or base metal mineralisation.

Weathering of the Gordon Limestone produces black clays which accumulate in the valley and can form a surficial deposit ranging from <1m to 50m thick. Other surficial deposits include washed in sand and gravel from eroded Crotty Quartzite forming deposits on the western flank and the floor of the limestone valley.

.

Figure 2 -
Mariposa Prospect (Looking North)

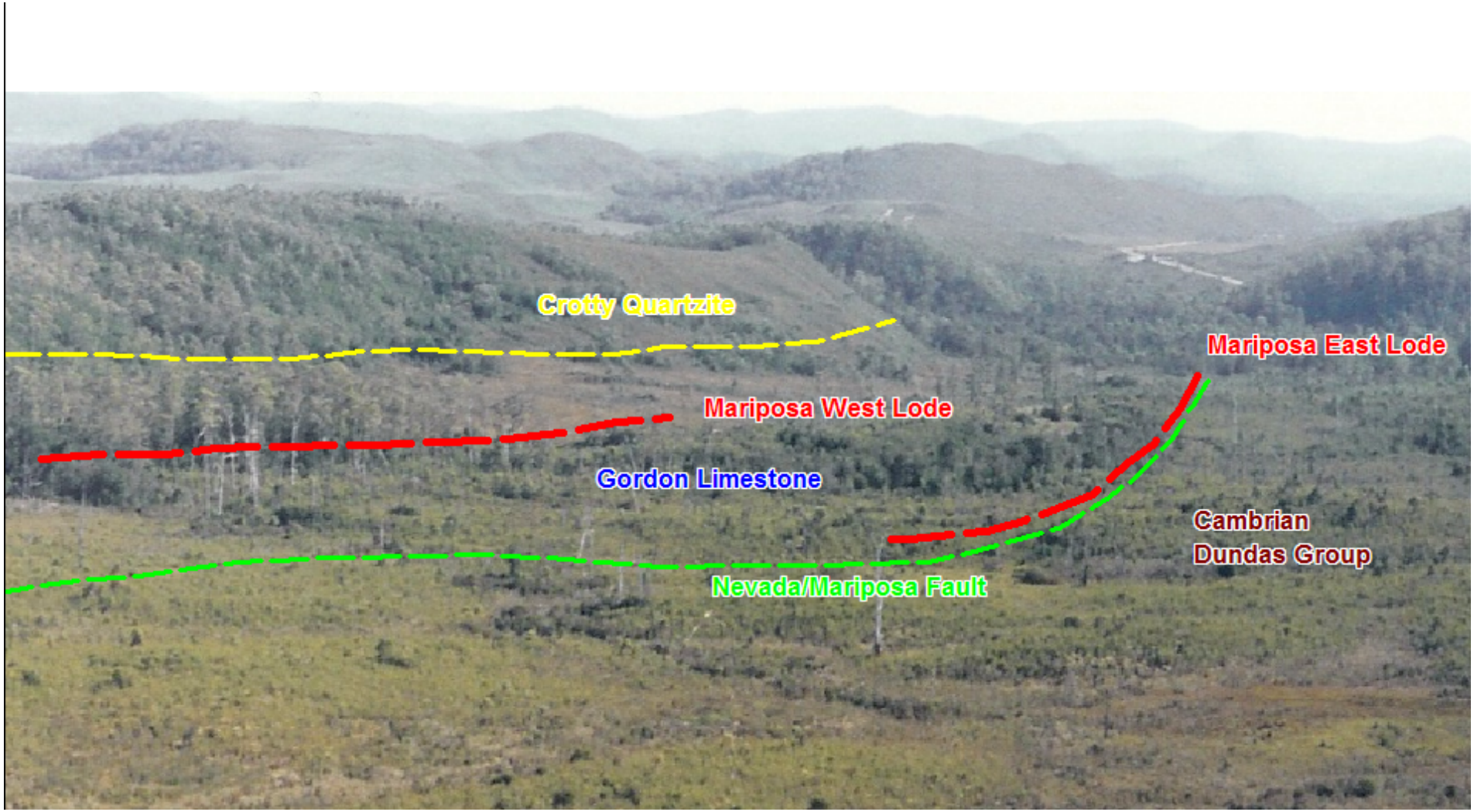
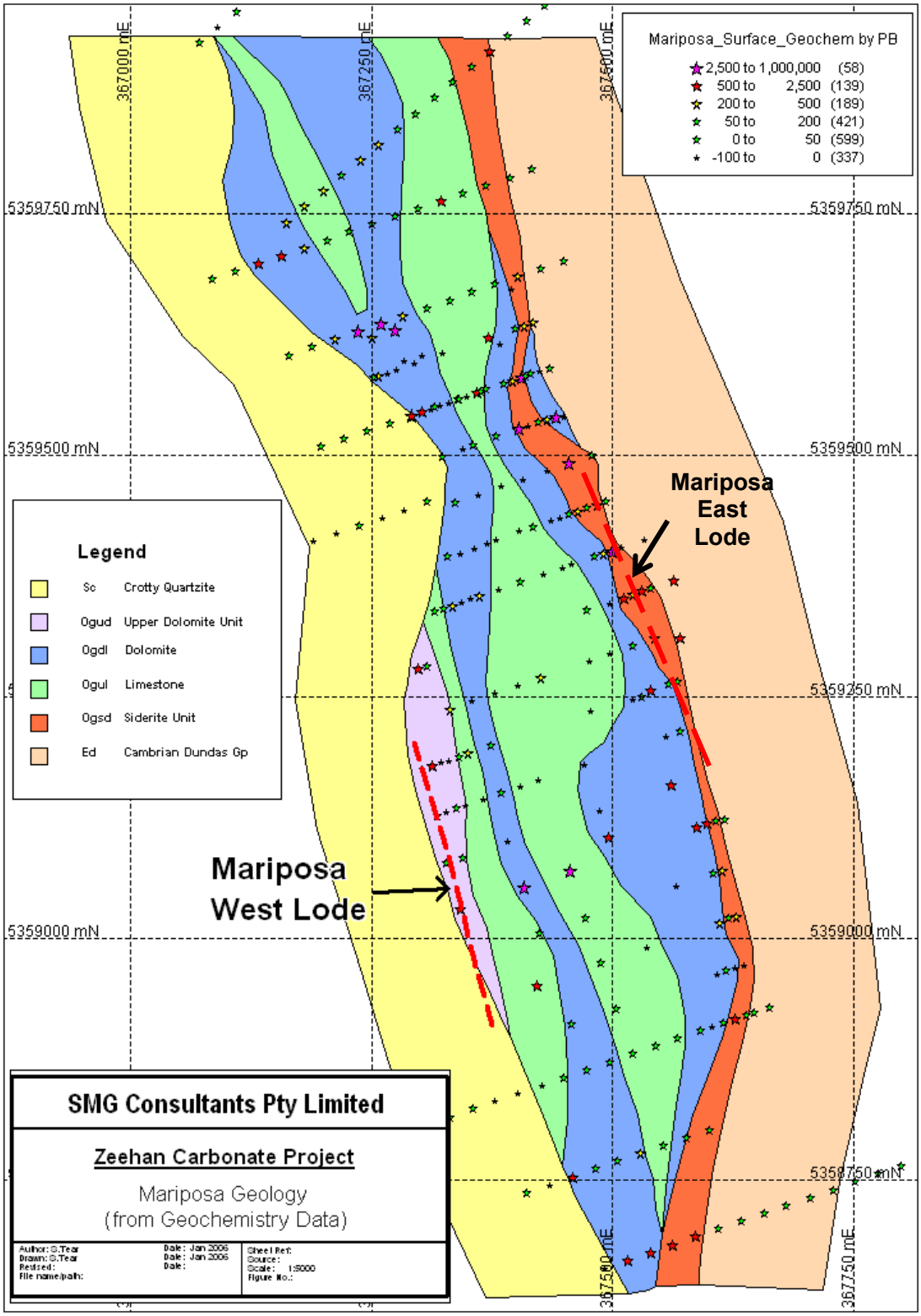


Figure 3 -
Mariposa Geology Map



2.3 GEOLOGICAL UNITS

(red text denotes a Surpac file name)

Western Lode

mariposawlodes601.dtm

This is a strata-parallel siderite vein or replacement zone with disseminated galena and sphalerite hosted within limestone. In the AMOCO drillholes the mineral zone generally appears to be competent core, in some of the North Broken Hill cores there are mentions of substantial cavities. The mineralisation occurs some 50m below the contact with the overlying Crotty Quartzite, potentially at the base of the regional dolomitised upper section of the Gordon Limestone.

The delineated zone from drilling and trenching data measures 340m long and ranges between 100m and 200m downdip with a true width ranging between 1m and 6m. The lode is regarded as open at depth and closed off to the north by a cross fault. An additional 30m has been included as an extra shape at the south end of the lode based on drillhole MM4. The lode structure persists to the south but is of diminished grade (see MM4 drill log in Bates 1972).

In Cadwallader's 1951 report this lode is referred to as having two ore blocks delineated by the 1950's drilling. In the first instance drillholes 4, 5, 6, 7, 8, 9 and 10 delineated Block A whilst holes 1, 2, 3, 11 and 12 marked out Block B. As there are no maps with the report it is inferred that Block B is a deeper part of the same lode relative to Block A. There is a reference to hole 11 being on the same section as hole 7 and there is a log for 11 which has been used to reconstruct the hole and insert it into the database. Hole 3 intersected the lode structure but contained no ore south of the main area whilst holes 1, 2 and 12 appeared to intersect the lode at greater depths than block A (based on the logs) but there are no indications as to which section lines the holes were drilled on.

Some of the early assaying was often restricted to the high grade zones sometimes with any intervening, low grade material remaining untested. Whereas for the MacIntyre, AMOCO and CRAE assaying there is full coverage for the zones of mineralisation. The geological descriptions in the logs were the primary source of information used in defining the lode shape with modifications based on any available assays generally Pb >1% and/or 1% Zn with siderite alteration.

Note that on the enclosed geological map for Mariposa the siderite associated with the West Lode has not been mapped out. This is because very little aircore drilling was completed around the actual lode and hence the siderite presence and extent was not recorded.

The confidence of the design for mineral shape for the lode at its southern end is the weakest with more than one option. Further drilling is required to resolve this.

Eastern Lodes

mariposaelodes601.dtm

These are a series of proposed lodes based mainly on the CRAE aircore drilling that occur on the eastern side of the Gordon Limestone. The narrow lodes are defined mainly on assay values encountered in the generally vertical drillholes (1% Pb and/or 1% Zn), with one or two instances of shallow diamond drillhole support (but often with poor recovery). The lodes indicate a strike length of 520m with an average of 70m depth (the depth limit being a lack of drilling). Widths vary from 1m to 5m locally. There is potential for an additional 250m of strike to the south as indicated by a solitary drillhole intercept. The level of confidence in the mineral shapes and continuity is much less than that for the West Lode.

The most persistent lode is based on lead and/or zinc assays from drillholes in conjunction with a mapped stratabound siderite zone. [Siderite alteration is ubiquitous with lead and zinc mineralisation in the Gordon Limestone around Zeehan].

Siltstone Unit

mariposasiltstone601.dtm

This is a distinct, non-calcareous unit about one third down the Gordon Limestone stratigraphy characterised by having calcirudites with large bryozoan clasts and other coral-type fragments. In the Mariposa area it appears with variable thickness and possible bifurcations, although the former may be due to a flattening of the dip in the north of the area.

Crotty Quartzite

mariposacrotty601.dtm

This is white sandstone, quite friable in places, that appears to conformably overlie the Gordon Limestone and is represented in the geological model as a surface. There are suggestions of a faulted contact, particularly in the north of the prospect. The unit forms a topographic high which has shed a lot of material into the valley with sand and gravel accumulations masking parts of the limestone.

Mariposa Fault

mariposafault601.dtm

This is a surface representing a more complex fault zone that occurs on the eastern margin of the limestone. It has been perceived to be steeply dipping to the west but very little is really known about the fault. At its southern end it is believed to pass into the Nevada Fault.

Nevada Fault

nevadafault601.dtm

This is a surface created from the linear interpretation of end-of-hole aircore samples and wacker samples (a deep overburden sampling technique) projected down as steeply dipping to the west.

Cross Faults

mariposaxfaults601.dtm

These are new features introduced to explain some of geochemical and geological patterns observed in the drilling and mapping. At this stage they are presented as simple vertical surfaces.

Topography

mariposatopolocal601.dtm

A series of gravity surveys had been completed over the Mariposa prospect by several parties and hence there would be elevation values for each station. However this data is not in Mineral Resources Tasmania's (MRT) gravity database and to cover this omission MRT politely provided a small extract of the Tasmanian digital terrain model to allow a topographic surface to be created in Surpac. This was as an AMG grid, which was converted back to the local grid using a Surpac transformation.

Bedrock

mariposa_bedrock601.dtm

A bedrock surface was created from the end-of-hole depths of the aircore and wacker drilling (deep overburden sampling technique). The great variability of depth to bedrock at Mariposa makes this a useful surface to have particularly in plotting out assay values for the end-of-hole samples in relation to shallow drillholes.

A 3D image of the Surpac generated solid geology (mariposa_geology601.dtm) is included as Figure 4 and whilst Figure 5 displays the drillhole intercepts cutting through the West Lode mineral solid.

Siderite Unit

mariposa-siderite601.dtm

From the drilling data it is possible to create a solid representing a siderite zone associated with the East Lodes. A threshold of 5% Fe was used to delineate the zone. No siderite zone was created for the West Lode due to the lack of aircore holes in proximity to the lode and no iron assays for the diamond drilling.

Old Workings

mariposa_old_workings.dtm

The 19th Century workings for the East Lode involved a shaft and a 400' long main drive along the ore. There are maps in the old reports indicating the position of these workings. A solid was created from digitising a scanned map of the workings and making the drive height 1.5m. The match up between the old workings and the new mineral shape is not good, indicating that the old workings shape is only approximate.

Figure 4 -
Mariposa 3D Geology (Looking down and to Grid Northwest)

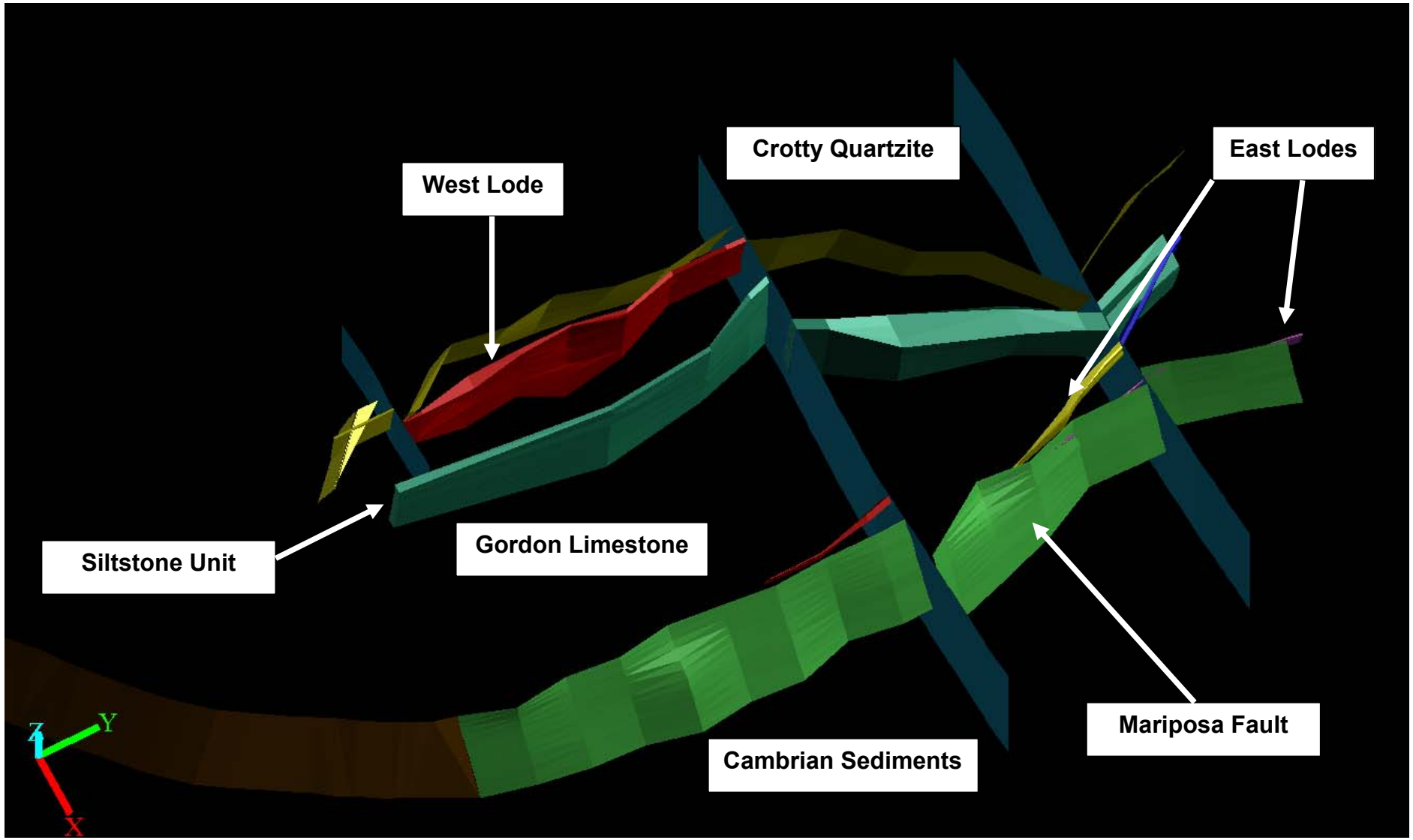
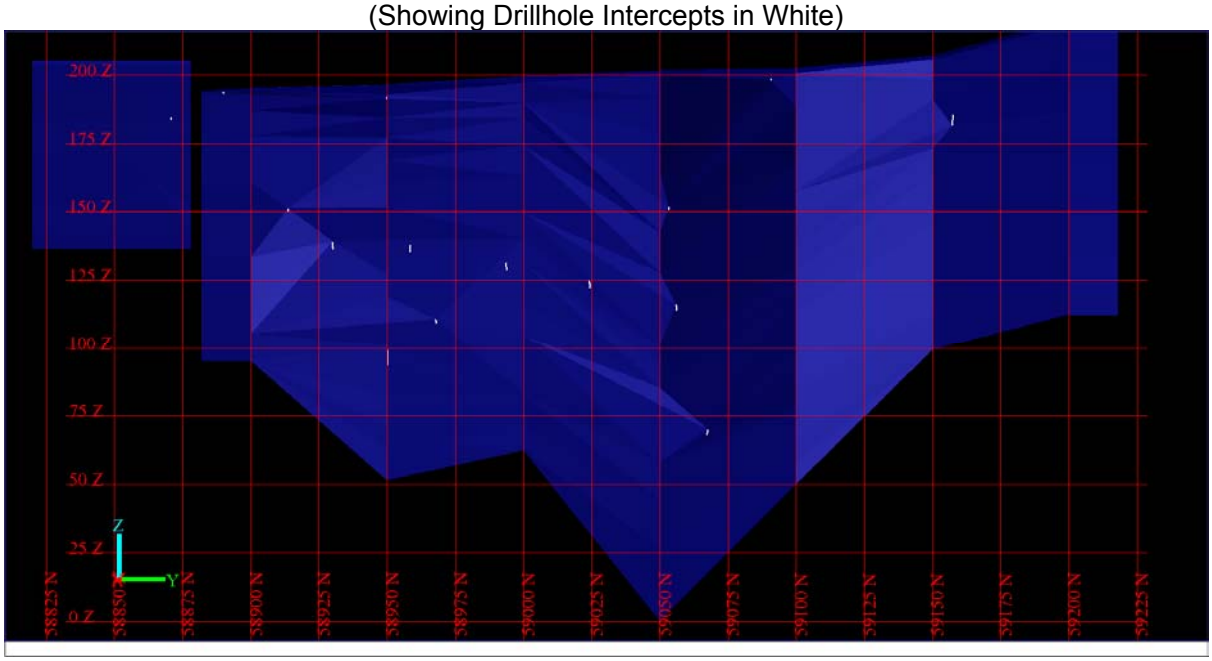


Figure 5 -
Mariposa West Lode Solid Model (Looking West)

(Showing Drillhole Intercepts in White)



2.4 GEOLOGICAL DATABASE

The Mariposa drilling and trenching information was amalgamated into a single Access database mariposa.mdb. The aircore and diamond drilling data was supplied by Zeehan Zinc which was mainly sourced from CRAE open file reports. Trenching data was entered into the database by SMGC from the AMOCO open file reports. A brief review of the open file reports was made to try and locate collar details for the North Broken Hill drilling and to ascertain if any other exploration work of relevance was completed.

Geological coding for the drillhole lithologies is based on the CRAE logging codes which are consistent across the Gordon Limestone around Zeehan (Appendix 1).

All interpretation work was completed on the Mariposa local grid developed by AMOCO. A subsequent CRAE map for the prospect has indicated a 25m eastward shift in the baseline for the grid, relative to AMG. This movement is plausible as several of the AMOCO drillholes into the Western Lode appear to occur quite high up the Crotty Quartzite slope. In any future work it is imperative to re-establish the grid and resolve these collar location issues.

AMOCO/McIntyre Mines have produced maps showing the 1950's diamond drillhole positions. It is not known from what source map the information is derived. It may be that they were able to locate the original drillholes on the ground, although this is thought unlikely. Cadwallader 1951 report makes reference to an attached longitudinal projection, which is not available.

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 reasonably felt that these drillhole cavities are related to mineralisation and hence the grade interpolation was allowed to carry across these gaps. North Broken Hill sometimes left gaps in the assaying when the material was considered of low grade (they were trying to mine high grade lodes).

Silver grades for some of the earlier drilling were represented as ounces per ton, this has been assumed to be troy ounces per long ton which was converted to ppm (or g/t) by multiplying by 30.612 (source: www.census.gov troy ounces to grams multiply by 31.1 and long tons to tonnes divide by 1.016)

3. STATISTICAL ANALYSIS

3.1 BASIC STATISTICS

Assay results from the database used in the block model construction comprises aircore and diamond drilling data along with trenching assays. The primary focus for this report is the West Lode which has substantially more diamond drilling than the East Lodes. The first section below deals with the West Lode followed by information on the East Lodes.

Compositing within the SMGC-designed West Lode mineral shape (mariposawlodes601.dtm) revealed relatively few samples (75), mainly due to the narrow width of the lode and the general lack of drilling. Summary intercepts used in the resource calculations are listed in Appendix 2 (Surpac string file mariwlcomp601.str was the composite file for the West Lode).

It was felt that there were not enough samples for performing basic statistics on the individual sample types to see if they were compatible. Cursory indications suggested that the assay results from the different sample types were compatible and that all subsequent work could be conducted on a combined data set. This will impact negatively on the resource classification.

A summary of the basic statistics for the combined data types is included as Table 2.

Table 2 -
Mariposa West Lode: Summary Statistics Combined Data

	Lead %	*Zinc %*	*Silver ppm*
Mean	5.58	1.41	62.53
Standard Error	0.58	0.39	9.68
Median	3.85	0.68	42.84
Mode	0.80	0.96	70.00
Standard Deviation	5.00	3.37	83.82
Sample Variance	25.01	11.38	7025.17
Kurtosis	0.38	63.18	26.26
Skewness	1.18	7.67	4.50
Range	20.00	28.97	611.33
Minimum	0.05	0.11	6.00
Maximum	20.05	29.08	617.33
Sum	418.57	105.92	4690.12
Count	75	75	75
Confidence Level (95.0%)	1.15	0.78	19.28

Histogram plots of the lead grades for the West Lode suggest a lognormal single population distribution (Figure 6), which is better confirmed by the zinc (Figure 7) and silver values.

Additional histograms for the combined data are included in Appendix 3.

Figure 6 -
Mariposa West Lode: Histogram for Lead Values (Logged to Base 10)

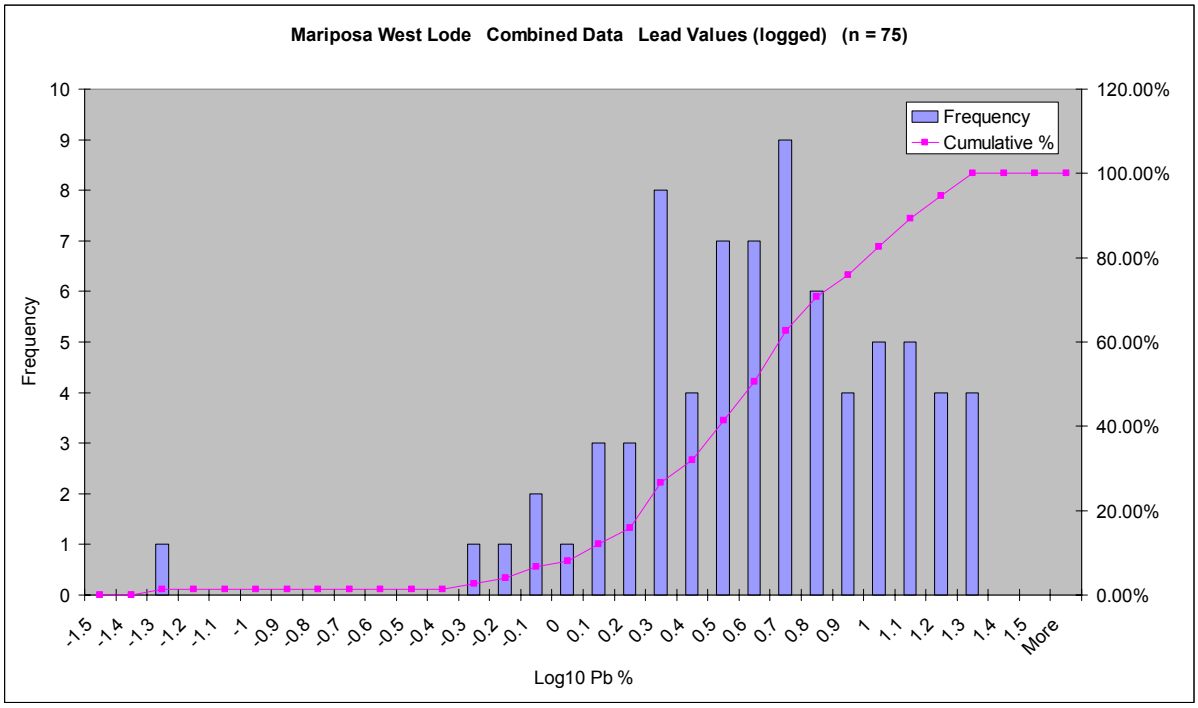
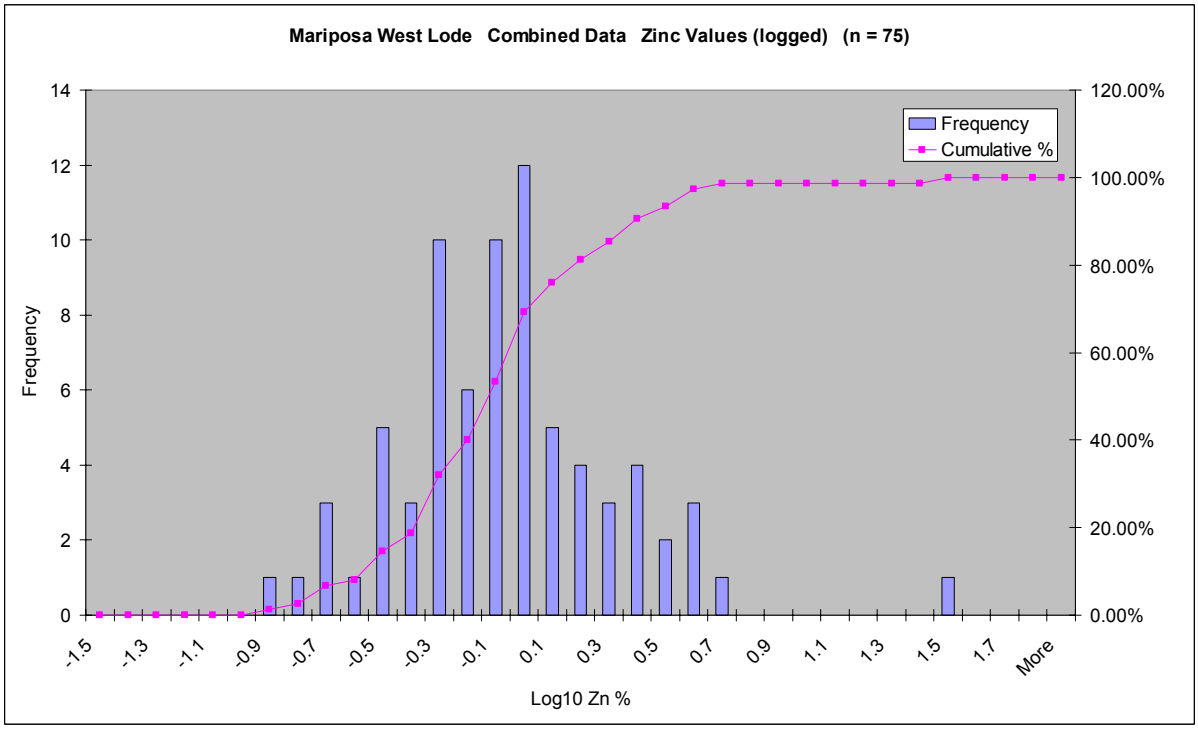
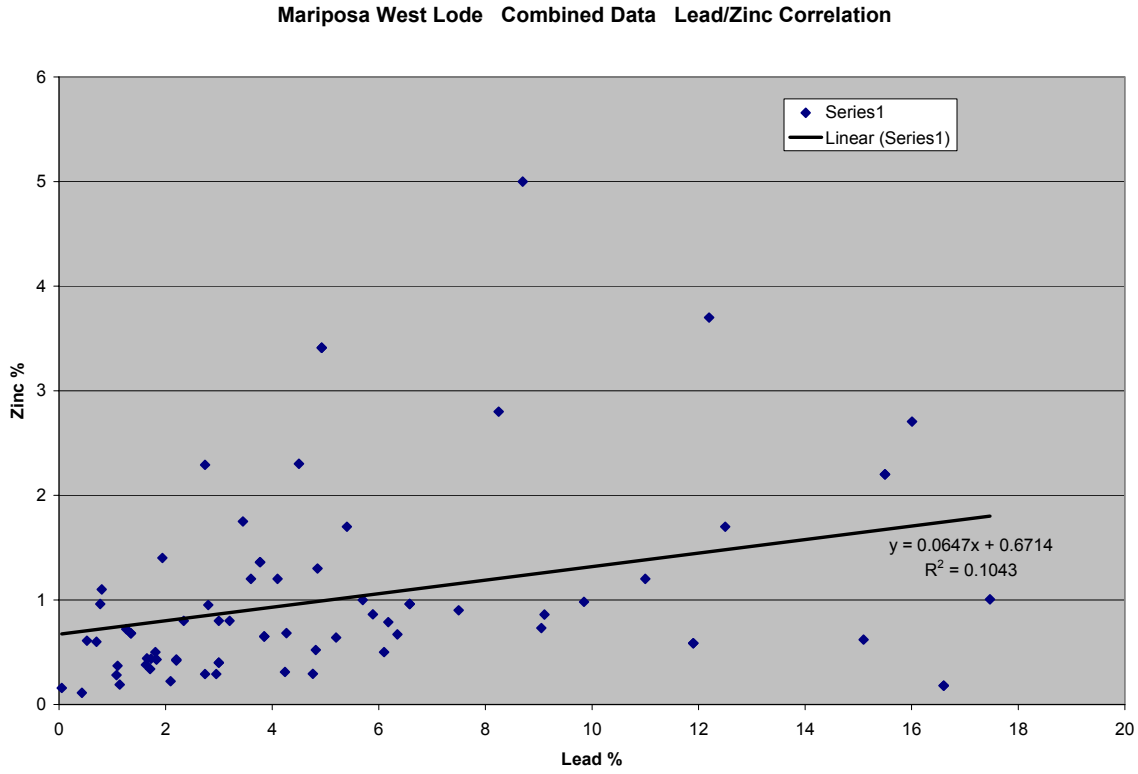


Figure 7 -
Mariposa West Lode: Histogram for Zinc Values (Logged to Base 10)



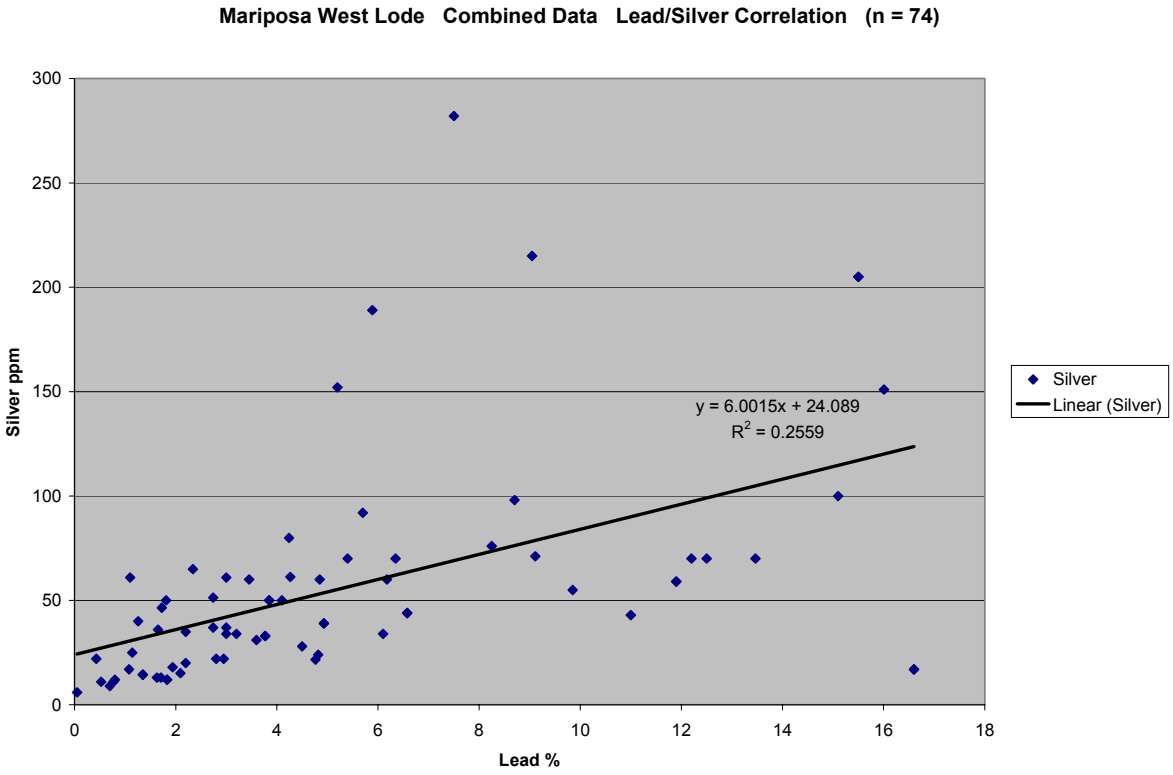
Another aspect of the mineralisation indicates that there is a poor correlation between lead and zinc grades of the combined data (Figure 8). No obvious explanation is proffered. The poor correlation may be due to either multiphase mineral formation or some weathering separation phenomena.

Figure 8 -
Mariposa West Lode: Correlation between Lead and Zinc



The lead and silver values also exhibit weak correlation (Figure 9), which was expected to be higher and may be due to a lack of data.

Figure 9 -
Mariposa West Lode: Correlation between Lead and Silver



Compositing within the SMGC-designed East Lodes mineral shape (mariposaelodes601.dtm) produced twice the number of samples as for the West Lode (158), mainly due to large contributions from the vertical aircore holes on sub-vertical lodes. Summary intercepts used in the resource calculations are listed in Appendix 4 (Surpac string file marielcomp601.str was the composite file for the West Lode).

A summary of the basic statistics for the combined data types is included as Table 3.

A lot more drilling is required in this area to enable a more confident resource to be defined.

Table 3 -
Mariposa East Lode: Summary Statistics Combined Data

	Lead %	*Zinc %*	*Silver ppm*
Mean	3.75	3.52	66.82
Standard Error	0.43	0.41	12.40
Median	1.79	1.60	23.00
Mode	1.00	0.50	6.00
Standard Deviation	5.45	5.15	155.82
Sample Variance	29.67	26.56	24279.05
Kurtosis	8.91	8.33	49.25
Skewness	2.90	2.75	6.55
Range	29.39	26.39	1299.75
Minimum	0.01	0.01	0.25
Maximum	29.40	26.40	1300.00
Sum	593.17	556.22	10557.59
Count	158	158	158
Confidence Level (95.0%)	0.86	0.81	24.48

The summary statistics for the East Lode indicate a lower average lead grade and a higher average zinc grade compared to the West Lode. The silver grade is very similar in both lodes and the lead and zinc assay ranges are of the same order.

Histogram plots of the lead grades for the West Lode suggest at a lognormal, single population distribution (Figure 10), which is matched by the zinc figures (Figure 11) and silver values.

Figure 10 -
Mariposa East Lode: Histogram for Lead Values (Logged to Base 10)

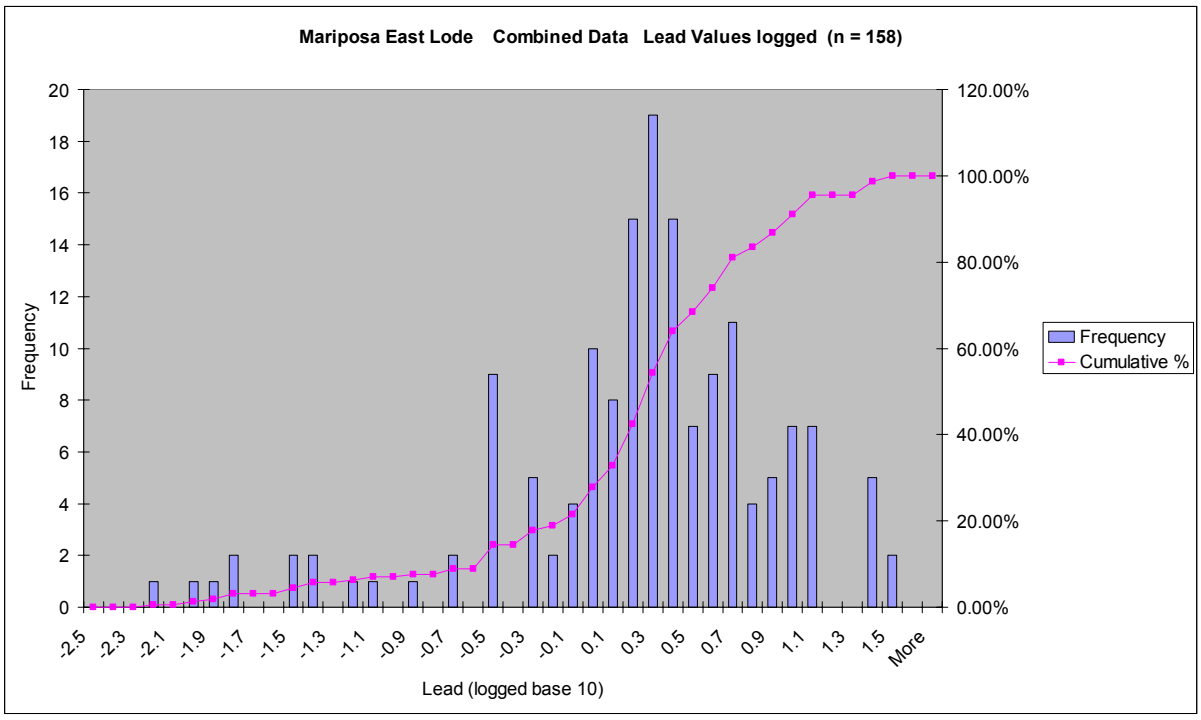
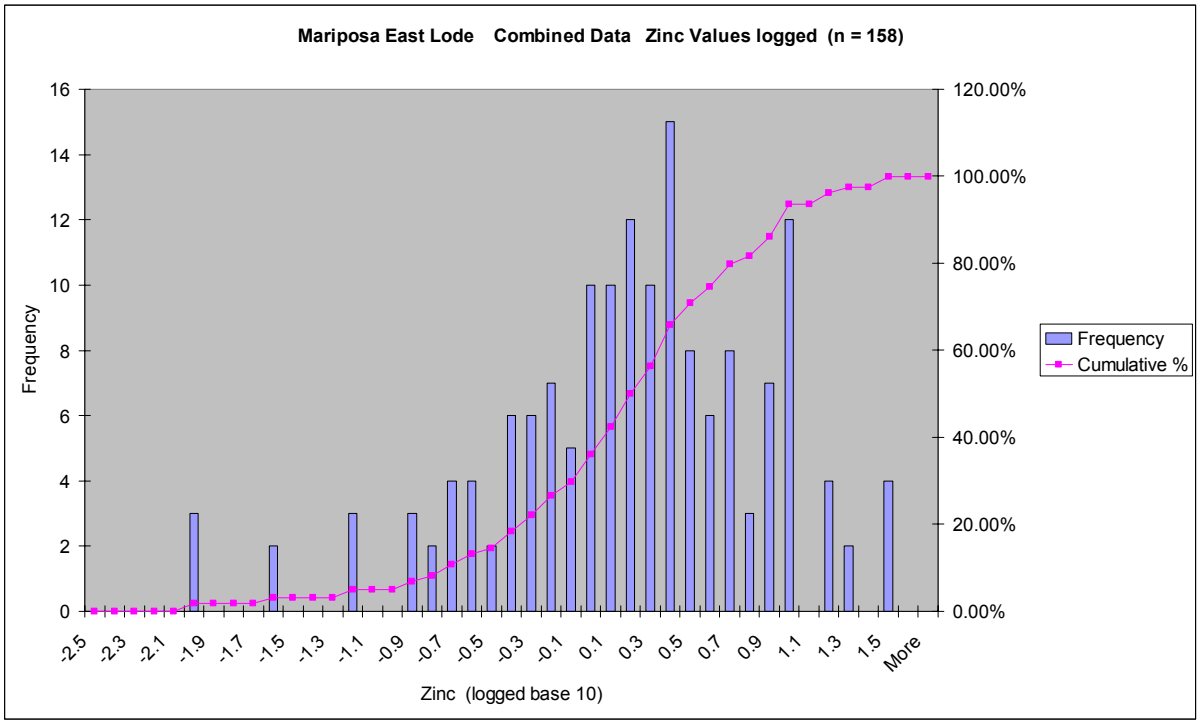


Figure 11 -
Mariposa East Lode: Histogram for Zinc Values (Logged to Base 10)



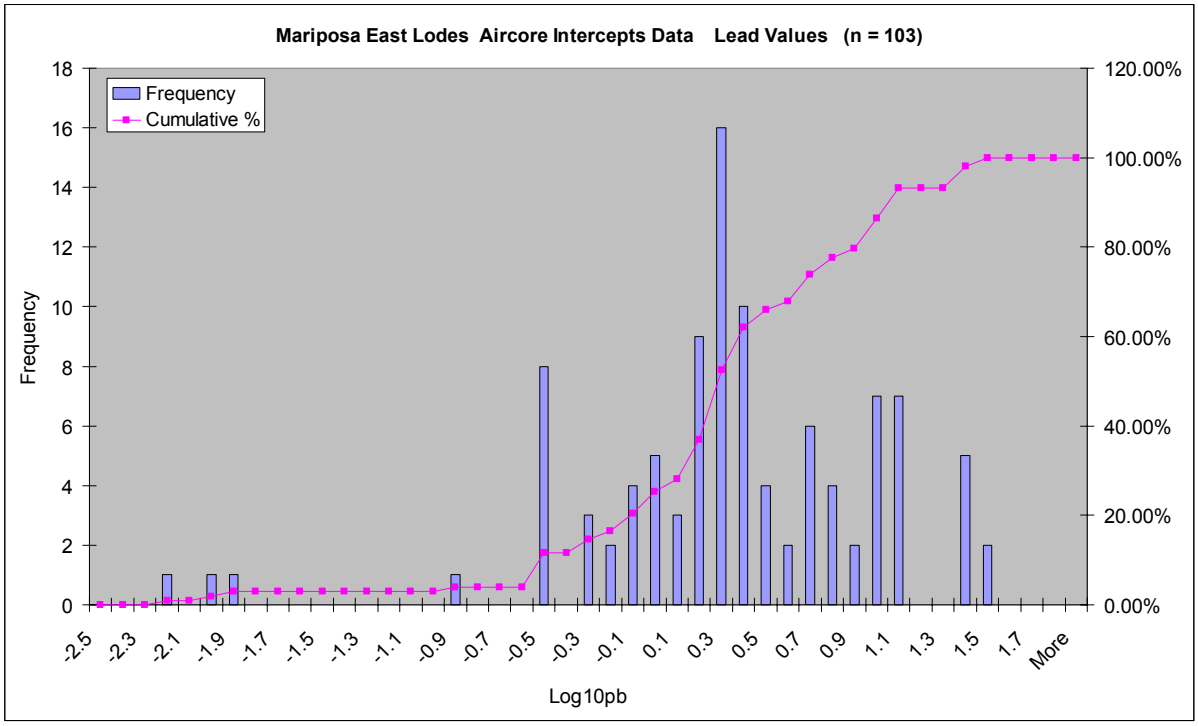
Performing basic statistics on the individual sample types to see if they were compatible showed that the aircore and trenching samples were reasonably similar, perhaps as expected as they were undertaken on weathered material (see Table 4). Whilst the diamond drilling showed lower mean values, these samples only made up 20% of the combined dataset. However this will impact negatively on the resource classification.

The distribution plot for the aircore lead values (Figure 12) indicates a similar profile for the equivalent lead diagram in the combined data set. This is used to justify the use of the combined dataset for resource calculation purposes. If it was distinctly dissimilar then there would be less justification in combining the data.

Table 4 -
Mariposa East Lode: Summary Statistics on Individual Sample Types

	Diamond			Trench			Aircore		
	Lead %	*Zinc %*	*Silver ppm*	*Lead %*	*Zinc %*	*Silver ppm*	*Lead %*	*Zinc %*	*Silver ppm*
Mean	1.47	1.51	30.15	2.76	3.48	124.80	4.62	4.06	60.67
Standard Error	0.31	0.43	7.92	0.37	0.85	63.10	0.64	0.57	7.70
Median	1.15	0.78	11.14	2.48	1.45	21.50	1.95	1.93	32.00
Mode	0.02	0.02	2.50	1.00	0.16	1.50	1.95	0.50	36.00
Standard Deviation	1.62	2.25	41.15	1.98	4.48	333.90	6.45	5.74	78.17
Sample Variance	2.63	5.04	1693.68	3.91	20.11	111486.3	41.55	32.92	6110.83
Kurtosis	2.56	8.12	1.62	1.10	2.46	10.85	5.05	6.98	7.09
Skewness	1.53	2.77	1.62	1.03	1.84	3.45	2.33	2.60	2.32
Range	6.49	9.82	144.50	7.62	15.64	1299.75	29.39	26.39	415.50
Minimum	0.02	0.02	0.50	0.17	0.16	0.25	0.01	0.01	0.50
Maximum	6.50	9.84	145.00	7.79	15.80	1300.00	29.40	26.40	416.00
Sum	39.78	40.88	814.07	77.14	97.49	3494.50	476.26	417.85	6249.02
Count	27	27	27	28	28	28	103	103	103
Confidence Level (95.0%)	0.64	0.89	16.28	0.77	1.74	129.47	1.26	1.12	15.28

Figure 12 -
Mariposa East Lode: Histogram for Aircore Lead Values (Logged to Base 10)



3.2 TOP CUT

A visual inspection of the combined data for both the West and East Lodes helped to decide that the calculation and imposition of a top cut was not needed.

3.3 QA/QC

No standards or duplicates were used in any of the drilling.

3.4 CORE RECOVERIES

The AMOCO drillhole logs do not mention recoveries in the ore zones except for some poor recovery in drillhole DTM-84-9. Core observations by the author in 1996 for DTM-84-2 and DTM-84-6 have not indicated significant core loss. The North Broken Hill report indicates variable core loss as per Table 5. This could be a result of drilling techniques used in the 1950's, and the relative shallowness of the target intersections.

Table 5 -
Mariposa West Lode: Core Recovery for NBH Drillholes

Hole No.	Recovery in Ore %
4	97
5	100
6	37
7	55
8	37
9	87
10	?
11	58

For the East lodes there is no measure of core recoveries with the aircore drilling and the diamond drill recoveries were poor, due to rock degradation associated with weathering.

4. ESTIMATION OF MINERAL RESOURCES

4.1 BLOCK MODEL DETAILS

Two block models were created, one for the West Lode and one for the East Lode. The details for the West Lode are dealt with first followed by the East Lode.

Using the basic statistical data and the drillhole spacing it was considered for the West Lode that 8m by 2m by 4m was a suitable block size with sub-celling to 2m, 0.5m, and 1m. The number of combined data composite samples (75) 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 interpolation and block grade estimation.

It was decided to use a search ellipse that was representative of the narrow elongate resource (see the anisotropy factors described below in the resource interpolation parameters).

With the sparse nature of the drilling, 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 initially using a search distance of 25m, which roughly corresponded to the drillhole spacing in the main part of the resource. This left unassigned block spaces between sections and so other search radii were tried including 50m, 75m and 90m spacing. However in each case there were some blocks with an unassigned value and hence an incomplete block model for the mineral shape. It was decided that the 50m search results would be used for the overall resource reporting.

In dealing with cavities Cadwallader 1951 is quoted that " cavities in ore itself… have been accepted as having grade similar to that of the core that preceded it". This was generally less than the weighted average grade for the intercept. He also wrote that "black pug adjacent to the solid lode carries masses and slugs of galena", which could easily be lost in the drilling. So for this report, for both the West and East Lodes, the block model has been allowed to infill cavities with block grades that are reflective of whatever were the nearest composited samples.

Details of the block model (mariposawest.mdl) are provided below in Table 6:

Table 6 -
Mariposa West Lode: Block Model Summary

Type	Y	X	Z
Minimum Coordinates	58650	66900	-150
Maximum Coordinates	59306	67200	250
User Block Size	8	2	4
Min. Block Size	2	0.5	1
Rotation	0	0	0

Total Blocks	162801
Storage Efficiency %	99.79

Attribute Name	Type	Decimals	Background	Description
ag	Float	1	-9999	Silver value for 25m search radius
ag50m	Float	3	-9999	Silver value for 50m search radius
ag75m	Float	3	-9999	Silver value for 75m search radius
ag90m	Float	3	-9999	Silver value for 90m search radius
avs	Real	3	-99	Average distance to sample 25m search
avs50m	Real	3	-99	Average distance to sample 50m search
avs75m	Real	3	-99	Average distance to sample 75m search
avs90m	Real	3	-99	Average distance to sample 90m search
dns	Real	3	-99	Distance to nearest sample 25m search
dns50m	Real	3	-99	Distance to nearest sample 50m search
dns75m	Real	3	-99	Distance to nearest sample 75m search
dns90m	Real	3	-99	Distance to nearest sample 90m search
num	Integer	-	-99	Number of samples used 25m search
num50m	Integer	-	-99	Number of samples used 50m search
num75m	Integer	-	-99	Number of samples used 75m search
num90m	Integer	-	-99	Number of samples used 90m search
pb	Float	3	-9999	Lead value for 25m search radius
pb50m	Float	3	-9999	Lead value for 50m search radius
pb75m	Float	3	-9999	Lead value for 75m search radius
pb90m	Float	3	-9999	Lead value for 90m search radius
rescatv1	Calculated	-		iif(dns50m>0 and dns50m <=5,1,iif(dns50m >5 and dns50m <=25,2,iif(dns50m >25 and dns50m <=100,3,4)))
sg2.7g	Float	1	2.70	Bulk density of 2.7g/cm^3
sg285g	Float	2	2.85	Bulk density of 2.85g/cm^3
sg315g	Float	2	3.15	Bulk density of 3.15g/cm^3
sg33g	Float	2	3.30	Bulk density of 3.3g/cm^3
sg3g	Float	2	3	Bulk density of 3g/cm^3
zn	Float	3	-9999	Zinc value for 25m search radius
zn50m	Float	3	-9999	Zinc value for 50m search radius
zn75m	Float	3	-9999	Zinc value for 75m search radius
zn90m	Float	3	-9999	Zinc value for 90m search radius

Details of the estimation parameters used for the West Lode are supplied below:

MODEL NAME: mariposawest.mdl

CONSTRAINT VALUES USED

- Data Constraints
  - Unconstrained
- Model Constraints
  - INSIDE 3DM mariposawlodes 601
  - Keep blocks partially in the constraint : True

ELLIPSOID SEARCH PARAMETERS

- ANGLES OF ROTATION OF THE MAJOR AXIS
  - Bearing 0.00
  - Dip angle 0.00
  - Tilt angle 90.00

- ANISOTROPY FACTORS
  - Semi-major axis 1.00
  - Minor axis 4.00

OTHER INTERPOLATION PARAMETERS

- Max search distance of major axis 25m, 50m, 75m and 90m
- Max vertical search distance 9999.000
- Maximum number of informing samples 15
- Minimum number of informing samples 3

Using the basic statistical data and the drillhole spacing, a suitable block size for the East Lodes is 8m by 2m by 4m with sub-celling to 4m, 1m, and 2m. The number of combined samples (158) 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.

It was decided to use a search ellipse that was representative of the narrow elongate resource (see the anisotropy factors below).

There is potential for the smoothing out of high grade material into low grade areas and efforts were made to reduce this effect by having a search distance of 25m, which roughly corresponded to the drillhole spacing in the main part of the resource. This left unassigned block spaces between sections and so other search radii were tried including 40m and 60m spacing. However in each case there were some blocks with an unassigned value and hence an incomplete block model for the mineral shape. It was decided that the 40m search results would be used for the overall resource reporting.

Details of the block model (mariposaeast.mdl) are provided below:

Table 7 -
Mariposa East Lode: Block Model Summary

Type	Y	X	Z
Minimum Coordinates	59000	67150	0
Maximum Coordinates	59704	67500	192
User Block Size	8	2	4
Min. Block Size	4	1	2
Rotation	0	0	0

Total Blocks	42448
Storage Efficiency %	99.28

Attribute Name	Type	Decimals	Background	Description
ag	Float	3	-9999	Silver value for 25m search radius
ag40m	Float	3	-9999	Silver value for 40m search radius
ag60m	Float	3	-9999	Silver value for 60m search radius
avs	Real	3	-99	Average distance to sample 25m search
avs40m	Real	3	-99	Average distance to sample 40m search
avs60m	Real	3	-99	Average distance to sample 60m search
dns	Real	3	-99	Distance to nearest sample 25m search
dns40m	Real	3	-99	Distance to nearest sample 40m search
dns60m	Real	3	-99	Distance to nearest sample 60m search
num	Integer	-	-99	Number of samples used 25m search
num40m	Integer	-	-99	Number of samples used 40m search
num60m	Integer	-	-99	Number of samples used 60m search
pb	Float	3	-9999	Lead value for 25m search radius
pb40m	Float	3	-9999	Lead value for 40m search radius
pb60m	Float	3	-9999	Lead value for 60m search radius
rescatv1	Calculated			iif(dns40m>0 and dns40m <=5,1,iif(dns40m >5 and dns40m <=25,2,iif(dns40m >25 and dns40m <=100,3,4)))
sg26	Float	2	2.6	Bulk density of 2.6g/cm^3
sg27	Float	2	2.7	Bulk density of 2.7g/cm^3
sg285	Float	2	2.85	Bulk density of 2.85g/cm^3
sg3	Float	2	3	Bulk density of 3g/cm^3
sg315	Float	2	3.15	Bulk density of 3.15g/cm^3
sg33	Float	2	3.3	Bulk density of 3.3g/cm^3
zn	Float	3	-9999	Zinc value for 25m search radius
zn40m	Float	3	-9999	Zinc value for 40m search radius
zn60m	Float	3	-9999	Zinc value for 60m search radius

Details of the estimation parameters are supplied below:

MODEL NAME : mariposaeast.mdl

CONSTRAINT VALUES USED

- Data Constraints
  - Unconstrained
- Model Constraints
  - INSIDE 3DM mariposaelodes 601
  - Keep blocks partially in the constraint : True

ELLIPSOID SEARCH PARAMETERS

- ANGLES OF ROTATION OF THE MAJOR AXIS
  - Bearing 0.00
  - Dip angle 0.00
  - Tilt angle 90.00
- ANISOTROPY FACTORS
  - Semi-major axis 2.00
  - Minor axis 4.00

OTHER INTERPOLATION PARAMETERS

- Max search distance of major axis 25, 40 and 60m
- Max vertical search distance 9999.000
- Maximum number of informing samples 15
- Minimum number of informing samples 3

4.2 CALCULATION OF DENSITY

To date there have been no density measurements made on drill core for Mariposa and none have been found for the Oceana Mine (Tear 2005b) either, which has a similar mineral style hosted in the same rocks. There is potential for substantial variability in bulk density of the rocks associated with this style of mineralisation as per the author's carbonate experience, the observations on the drill core and the geological log descriptions. Therefore a density estimate will have to be made based on a number of qualitative parameters.

Cavities and vugs are reported to exist in the drilling at Mariposa, which can indicate weathering of mineralisation or can be the result of features formed at the time of mineralisation and thus be barren. At this stage it has been decided to ignore the cavities.

Within the Gordon Limestone, weathering profiles associated with accumulated mineralisation can penetrate 100's of metres below surface reducing the whole rock bulk density. This weathering produces dark grey/black clays with a relative lower density to the original host rock. In some instances clean calcarenites are weathered to white, friable, low density sand. Increasing amounts of siderite (with a mineral density of 3.96g/cm^3) and dolomite (2.84g/cm^3) alteration are associated with the sulphide mineralisation and would increase the bulk density.

Cadwallader used a density of 11.5 cubic feet per ton for the West Lode resource estimate. Assuming a long ton, this converts 3.12g/cm^3. Cyprus in their feasibility study for Oceana used 3.6g/cm^3 seemingly derived arbitrarily (Ingham 1988). Whilst Allegiance Mining used a "density factor of 1.7 dry tonnes to the cubic metre" for their in situ surficial clay deposit at Grieves Siding.

[For interest the average density for galena is 7.5g/cm^3 and for sphalerite it is 4g/cm^3]

For the calculation of resource tonnages, several densities were tested including 2.7/cm^3, 2.85/cm^3, 3.0/cm^3, 3.15/cm^3 and 3.3g/cm^3. 2.7g/cm^3 is the conservative preference for both lodes at this stage, which takes into account the likely effect of weathering, the mineral species and alteration distribution. In any future diamond drilling programme it is strongly recommended that a substantial number of density measurements be conducted on the core. It is also uncertain that the North Broken Hill drill core exists and if it does exist it is likely to be in a useable state.

4.3 LOCATION OF DRILLHOLES

There are no reports of any drillhole collars being surveyed in by a qualified surveyor.

Open file reports for work completed in the 1970's contain maps with the old 1950's drillholes plotted; these holes have been given both an AMOCO grid coordinate and an AMG coordinate by subsequent explorers. CRAE used a mathematically based grid conversion programme to generate the AMG coordinates. For the purposes of this exercise the AMOCO local grid has been used. The accuracy of the 1950's holes is uncertain; no reference has been found in the AMOCO reports as the success of any ground truthing for the old maps. With the AMOCO drillholes it is assumed that there is an error of +/-2m for the collar locations in local grid coordinates. The correlation between the old North Broken Hill holes and the AMOCO holes in terms of lode location appears reasonable, possibly less +/-5m error. All geological interpretation work has been done on the local grid.

The topographic surface was created from an AMG data file from the digital terrain model for Tasmania converted back to the AMOCO ground grid using a Surpac grid transformation. This surface was used to decide the elevations of all the drillhole collars, using the Surpac tool of draping a string file of the collar eastings and northings onto the DTM surface.

4.4 ZERO OR NULL VALUES

The various search radii used to interpolate the composited drillhole data failed to completely fill both the mineral shapes for the East and West Lodes with assigned block grades. Block model reports for tonnages has excluded these unassigned grades, using the constraint of the 'lead attribute' field that has a value greater than or equal to 0 (default is -9999).

4.5 BLOCK MODEL STATISTICS

Statistics for the West Lode block model comprising a 25m and 50m search radius for the combined dataset are given below in Table 8 with the original combined intercepts statistics for comparison. The number of sample points for this dataset is 19088 and 40692 respectively compared to 75 for the actual combined intercepts. This would indicate too much sub-celling for the block model. This only impacts on the computer speed for the data processing, which itself was negligible for the machine used.

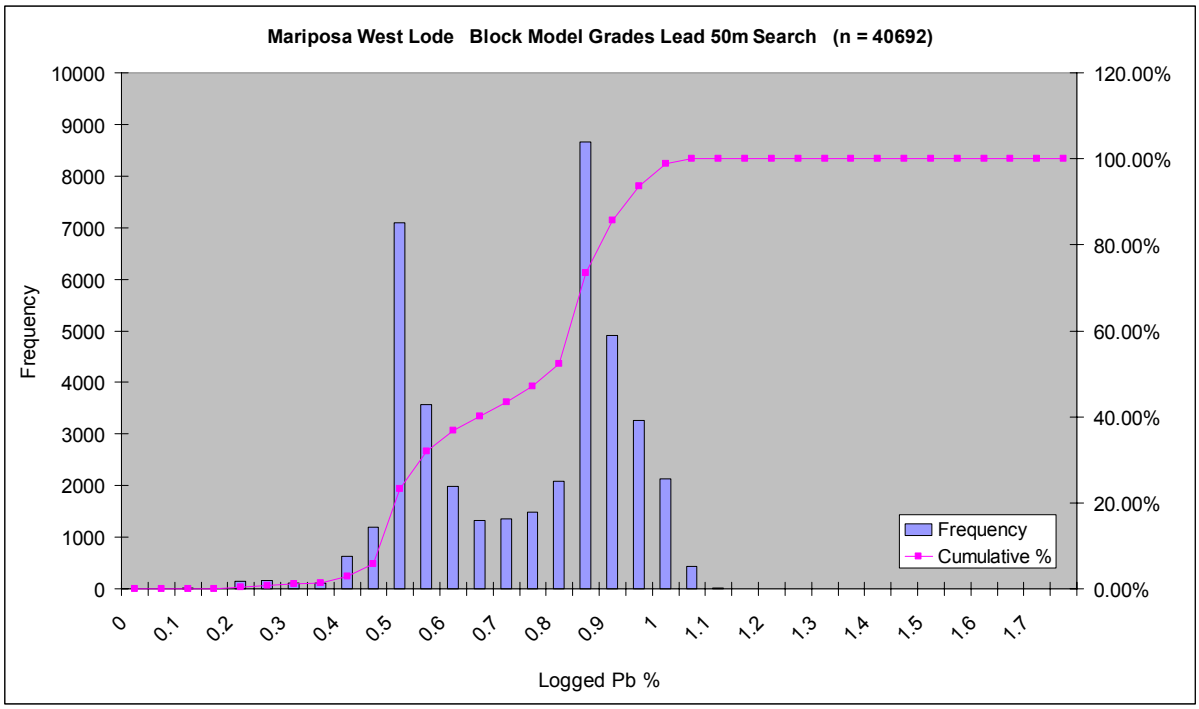
The average grade values for each dataset are roughly similar indicating that the block model data appears to reasonably reflect the original data.

The average number of samples used to calculate each block grade is 10 (the maximum number to be used was specified as 15). The average distance to all samples for each block grade was 34m whilst the average distance to nearest sample for each block grade is 27m.

Table 8 -
Mariposa West Lode: Block Model Summary Statistics (25m & 50m search)

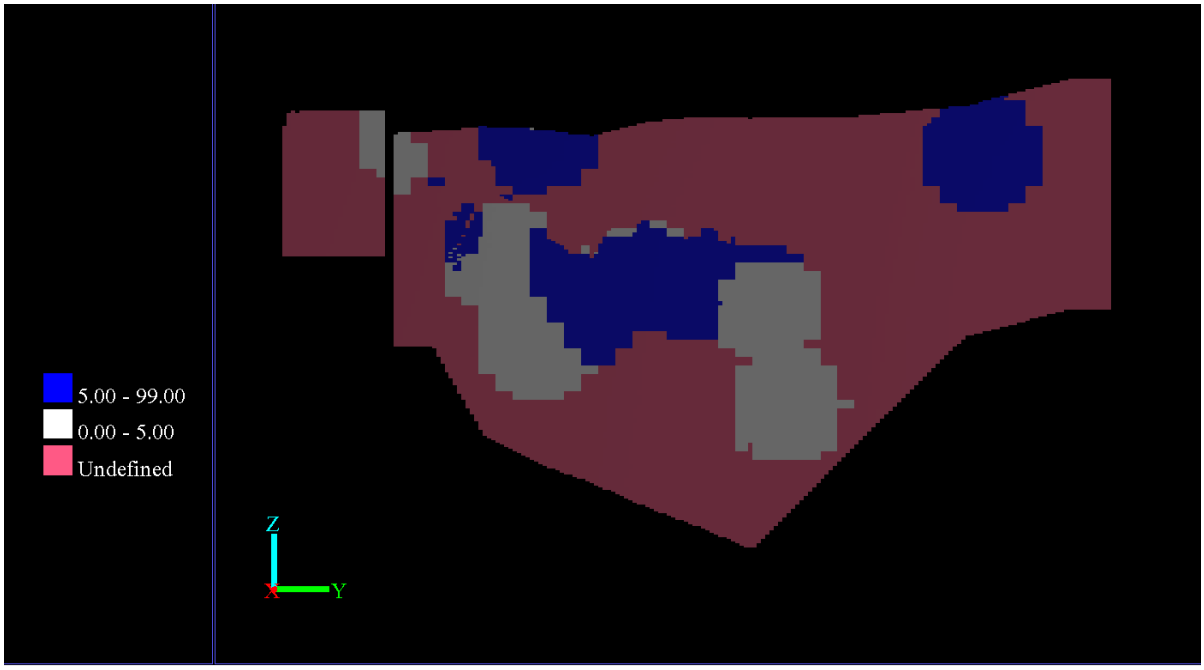
	25m Block Lead %	*50m Block Lead %*	*Lead %*	*25m Block Zinc %*	*50m Block Zinc %*	*Zinc %*	*25m Block Silver ppm*	*50m Block Silver ppm*	*Silver ppm*
Mean	5.49	5.52	5.58	1.16	1.55	1.41	63.15	59.59	62.53
Standard Error	0.02	0.01	0.58	0.01	0.01	0.39	0.34	0.15	9.68
Median	5.50	6.07	3.85	0.90	0.91	0.68	51.40	52.97	42.84
Mode	2.92	2.99	0.80	0.39	0.40	0.96	53.10	53.22	70.00
Standard Deviation	2.59	2.20	5.00	1.36	2.10	3.37	46.55	30.72	83.82
Sample Variance	6.70	4.84	25.01	1.86	4.42	11.38	2166.50	943.82	7025.17
Kurtosis	-0.91	-1.14	0.38	35.95	15.41	63.18	5.49	6.65	26.26
Skewness	0.43	0.16	1.18	5.60	3.76	7.67	2.23	2.25	4.50
Range	13.00	11.57	20.00	12.34	20.43	28.97	264.10	246.25	611.33
Minimum	1.30	1.21	0.05	0.22	0.20	0.11	12.70	14.15	6.00
Maximum	14.30	12.78	20.05	12.56	20.63	29.08	276.80	260.39	617.33
Sum	104768	224588	418.57	22076	63041	105.92	1205333	2424972	4690.12
Count	19088	40692	75	19088	40692	75	19088	40692	75
Confidence Level (95.0%)	0.04	0.02	1.15	0.02	0.02	0.78	0.66	0.30	19.28

Figure 13 -
Mariposa West Lode: Histogram for Block Model Lead Grades 50m Search



From the above graph (Figure 13), and also for the 25m search, the block model results appear to accentuate a bimodality that was suspected in the original data. It is interesting to ponder the reason for this bimodality as a plot of the blocks for the 25m search radius (Figure 14) shows that the higher grade (>5%) material appears at both the surface (from trenching) and in the area with the greatest density of diamond drilling. Thus it might reflect a steep plunge of a high grade mineralised shoot or it may be an initial mineral variation or it may be some form of weathering overprint.

Figure 14 -
Mariposa West Lode: Bimodal Block Model Grade Distribution Lead



Statistics for the East Lode block model with a 40m search radius for the combined dataset are given below in Table 9 with the original combined intercepts statistics for comparison. The number of sample points for this dataset is 19088 compared to the 158 for the actual combined intercepts.

Interestingly the lead and zinc metal averages for the block grades are higher than the combined data mean values. This is assumed to indicate some smearing of high grade into low grade areas. This difference in the mean pattern is dissimilar to the West Lode and may signify some fundamental difference in mineral style between the two.

Table 9 -
Mariposa East Lode: Block Model Summary Statistics (40m search)

	Block Lead %	*Lead %*	*Block Zinc %*	*Zinc %*	*Block Silver ppm*	*Silver ppm*
Mean	4.264708	3.75	3.93798	3.52	68.76904	66.82
Standard Error	0.062072	0.43	0.046538	0.41	1.064981	12.40
Median	2.433	1.79	2.764	1.60	46.043	23.00
Mode	1.226	1.00	0.059	0.50	20.02	6.00
Standard Deviation	4.634225	5.45	3.474459	5.15	79.51066	155.82
Sample Variance	21.47604	29.67	12.07187	26.56	6321.945	24279.05
Kurtosis	4.601358	8.91	3.223652	8.33	23.7746	49.25
Skewness	2.219309	2.90	1.813358	2.75	3.831188	6.55
Range	26.183	29.39	18.526	26.39	938.674	1299.75
Minimum	0.124	0.01	0.059	0.01	1.456	0.25
Maximum	26.307	29.40	18.585	26.40	940.13	1300.00
Sum	23771.49	593.17	21950.3	556.22	383318.6	10557.59
Count	5574	158	5574	158	5574	158
Confidence Level (95.0%)	0.121685	0.86	0.091232	0.81	2.087778	24.48

A plot of the distribution of logged block grades for the East Lode (Figure 15) again demonstrates a bimodality to the data, which like the West Lode, appears to have a separation point around the 5% Pb mark. A graphical representation of this is included as Figure 16. This figure shows that the bimodality might be more related to sample types as the higher grades are diamond drilling related but the author believes there is not enough data to be certain. There seems to be no separation between the aircore and trenching data (can be regarded as a similar sampling media). At this stage no explanation is offered for the block grade patterns observed with the East Lodes.

Figure 15 -
Mariposa East Lode: Histogram for Block Model Lead Grade Distribution

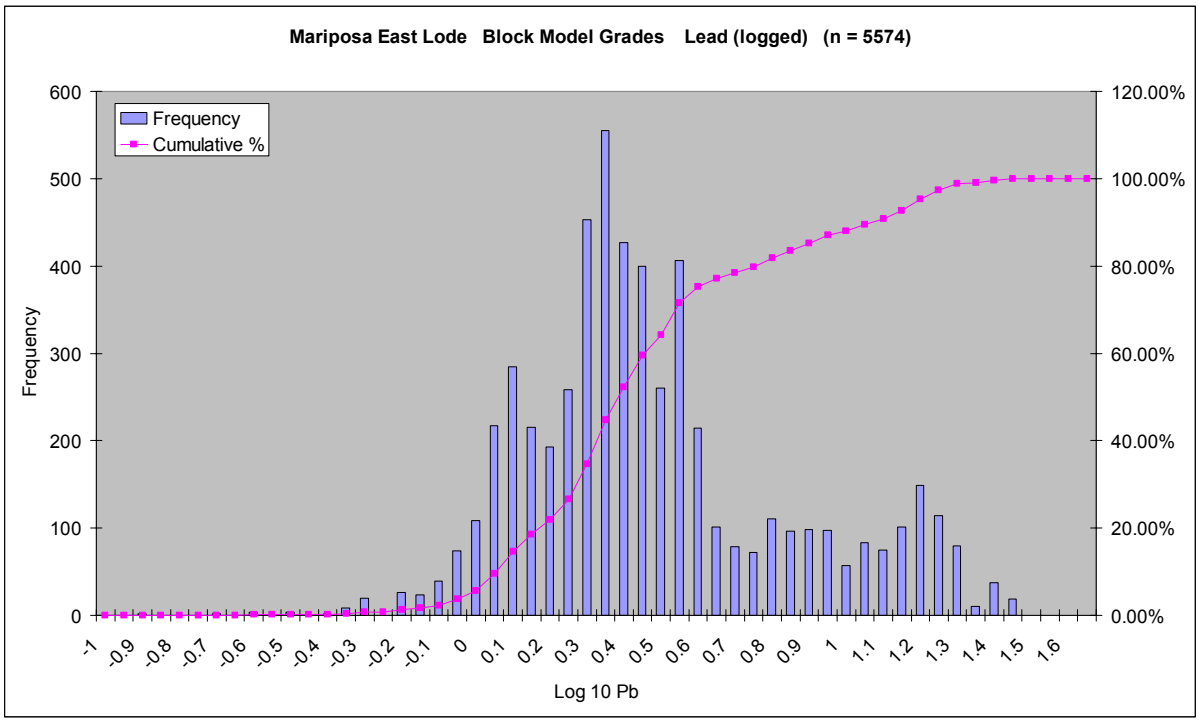
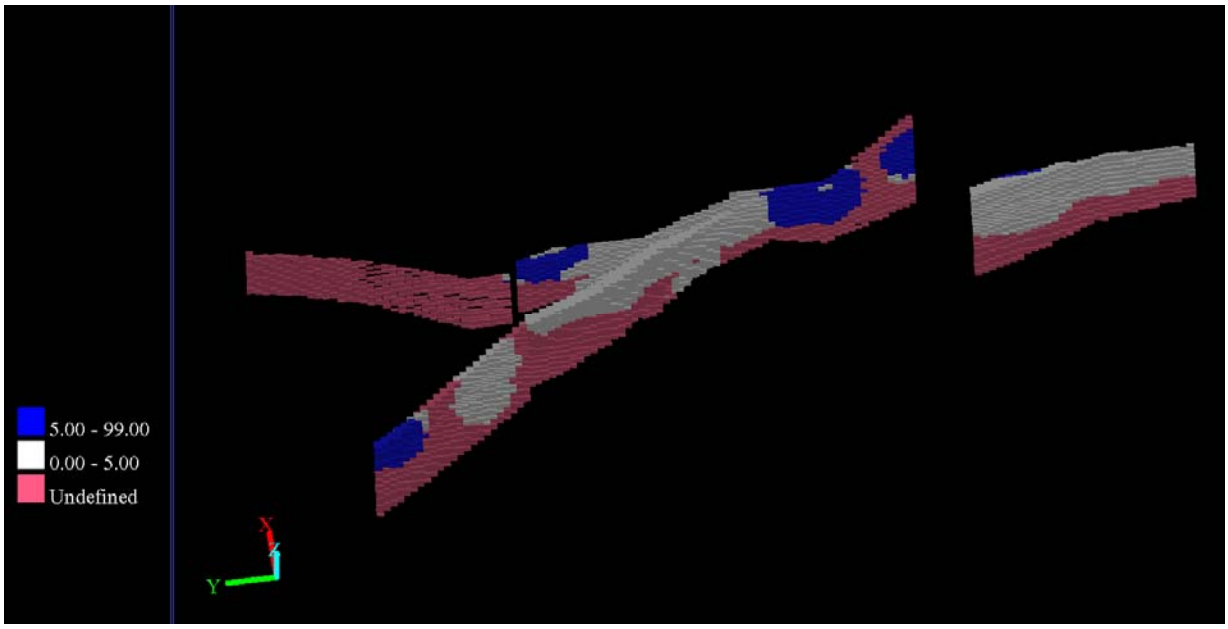


Figure 16 -
Mariposa East Lode: Bimodal Block Model Lead Grade Distribution



The average number of samples used to calculate each block grade is 9 (the maximum specified number is 15). The average distance to all samples for each block grade was 28m whilst the average distance to the nearest sample for each block grade is 23m.

4.6 BLOCK MODEL REPORTS

Listed below in Table 10 are a series of block model reports for different case scenarios for the West Lode.

Table 10 -
Mariposa West Lode: Resource Estimation - Different Case Scenarios

Constraints Used

a. INSIDE 3DM mariposawlodes 3
b. NOT < BLOCK [lead attribute] 0

Keep blocks partially in the constraint : False

Case	Search m	Density g/cm^3	Volume m^3	Tonnes t	Pb %	Zn %	Ag ppm
1	25	2.7	68361	184575	5.53	1.00	61.3
2	25	3.15	68361	225591	5.53	1.00	61.3
3	50	2.7	132973	359027	5.51	1.25	59.3
4	50	3.15	132973	418865	5.51	1.25	59.3
5	75	2.7	177718	479839	5.36	1.40	57.4
6	75	3.15	177718	559812	5.36	1.40	57.4
7	90	2.7	181819	490911	5.38	1.36	57.7
8	90	3.15	181819	572730	5.38	1.36	57.7
9	90	3.3	181819	600003	5.38	1.36	57.7

(all figures rounded up or down to relevant decimal place)

It is quite clear from the above table that increasing the search radius increases the tonnage but slightly decreases the lead and silver grades. Whereas for the zinc grades there is a slight increase in grade with increasing search radius. This is a further indication of the different behaviour between sphalerite and galena.

Table 11 demonstrates the metal content for each case scenario:

Table 11 -
Mariposa West Lode: Metal Content for the Different Case Scenarios

Case	Tonnes t	Pb %	Zn %	Ag ppm	Pb Metal t	Zn Metal t	Ag Metal kg
1	184575	5.53	1.00	61.3	10203	1849	113
2	225591	5.53	1.00	61.3	12471	2260	138
3	359027	5.51	1.25	59.3	19764	4499	213
4	418865	5.51	1.25	59.3	23059	5248	248
5	479839	5.36	1.40	57.4	25695	6737	276
6	559812	5.36	1.40	57.4	29978	7860	321
7	490911	5.38	1.36	57.7	26386	6691	283
8	572730	5.38	1.36	57.7	30784	7806	330
9	600003	5.38	1.36	57.7	32250	8178	346

Figure 17 to Figure 20 show the block lead grade distribution for the cases 1, 3, 5 and 7 respectively using a density of 2.7g/cm^3.

Figure 17 -
Mariposa West Lod: Block Model Lead Grades % 25m Search

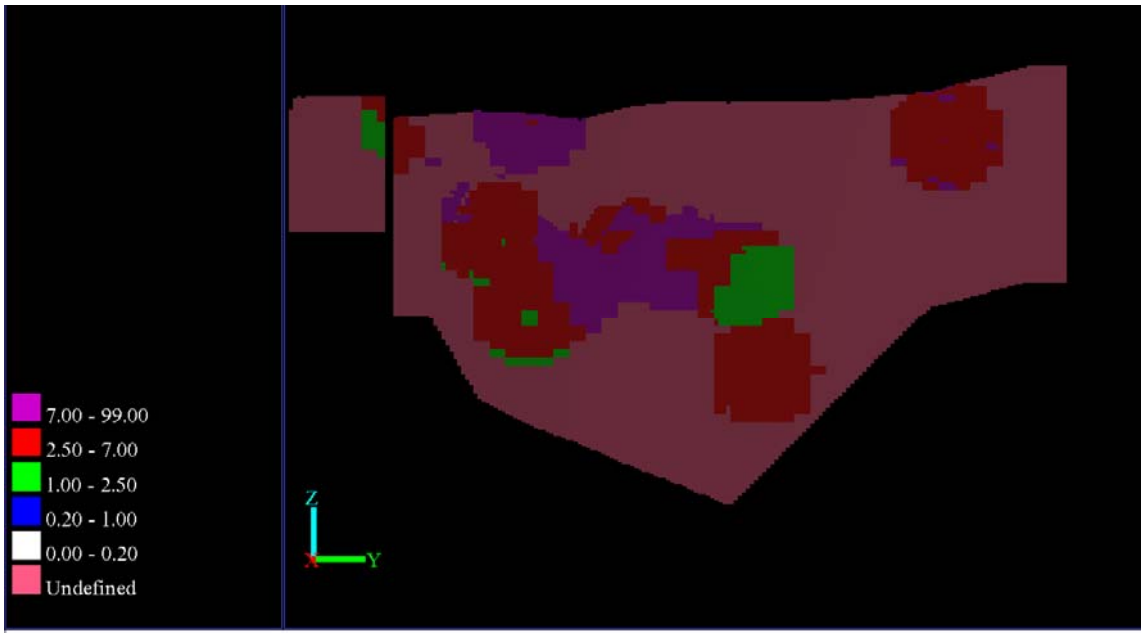


Figure 18 -
Mariposa West Lode: Block Model Lead Grades % 50m Search

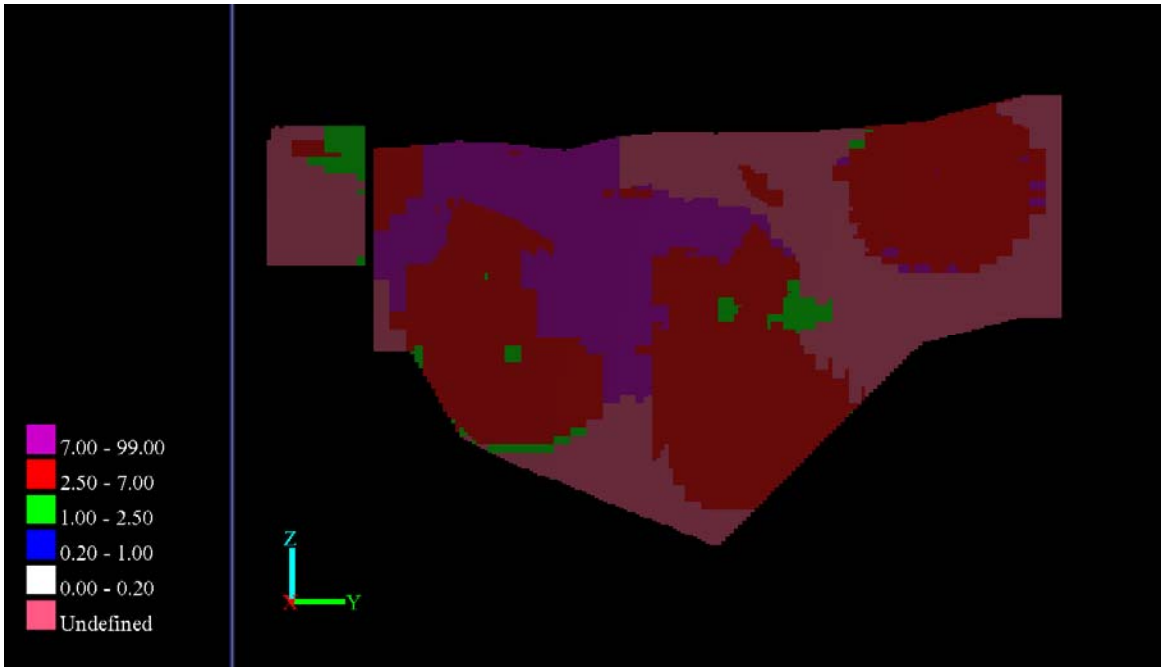


Figure 19 -
Mariposa West Lode: Block Model Lead Grades % 75m Search

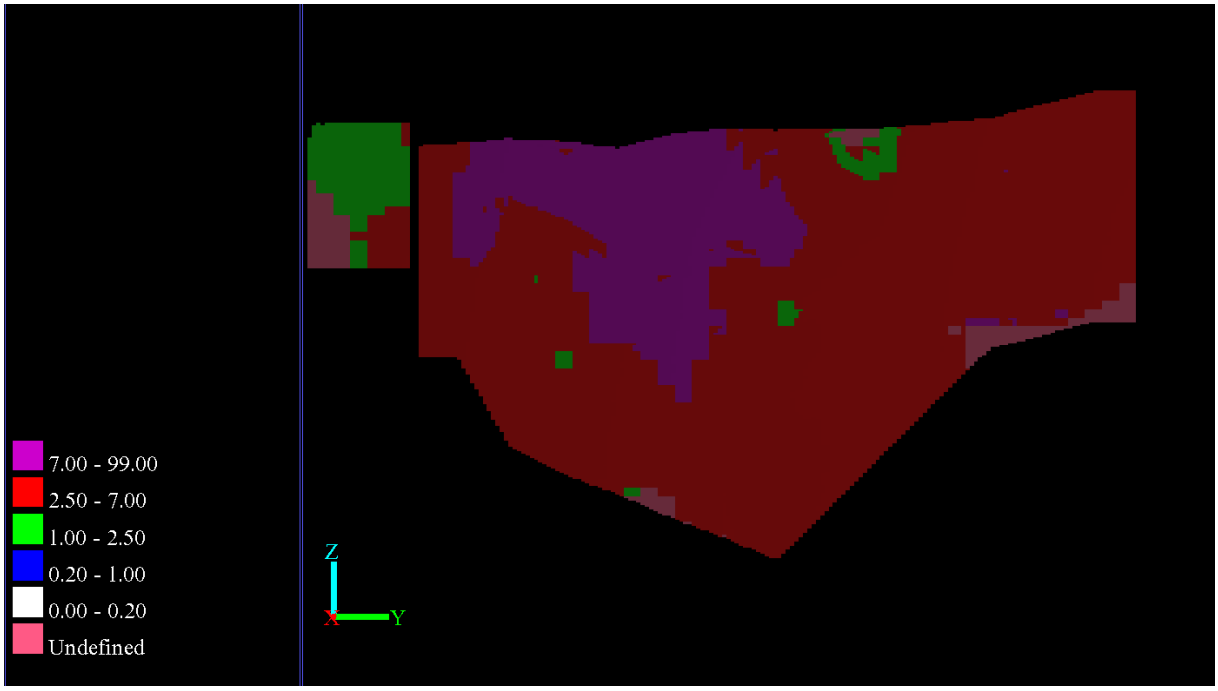
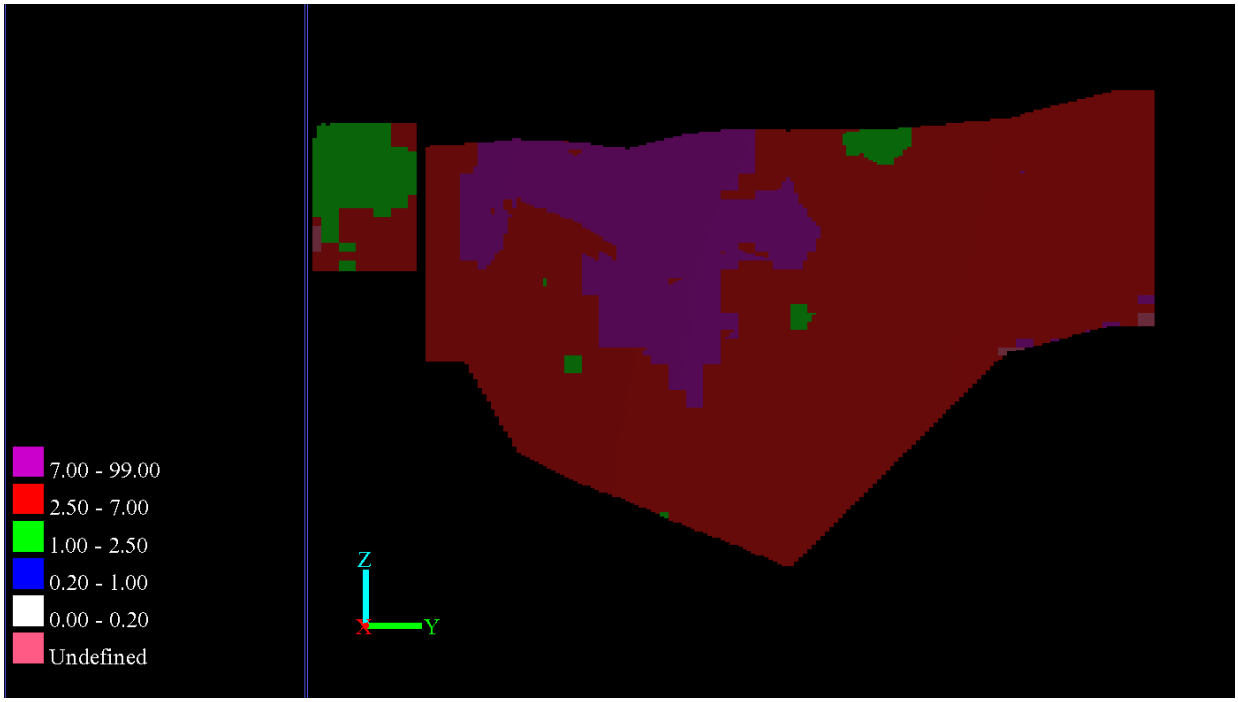


Figure 20 -
Mariposa West Lode: Block Model Lead Grades % 90m Search



A series of 50m sections showing block grade, drill traces, trench traverses, mineral zone and geology outlines and surface topography is included in Appendix 4 whilst the respective 25m plans are in Appendix 5.

Block model reports for a series of different scenarios for the East Lodes is included as Table 12:

Table 12 -
Mariposa East Lode: Resource Estimation - Different Case Scenarios

Case	Search	Density	Volume	Tonnes	Pb	Zn	Ag
1	25m	2.7	34272	92534	3.94	3.84	71. 9
2	25m	3.15	34272	107957	3.94	3.84	71. 9
3	40m	2.7	57360	154872	4.13	3.82	68.4
4	40m	3.15	57360	180684	4.13	3.82	68.4
5	60m	2.7	78472	211874	4.24	3.74	67.4
6	60m	3.15	78472	247187	4.24	3.74	67.4

Increasing the search radius increases the tonnage but this time demonstrates a slight increase in lead grade whilst decreasing slightly the zinc grade in apposition with the West Lode.

Table 13 demonstrates the metal content for each case scenario:

Table 13 -
Mariposa East Lode: Metal Content for Different Case Scenarios

Case	Tonnes t	Pb %	Zn %	Ag ppm	Pb Metal t	Zn Metal t	Ag Metal kg
1	92534	3.943	3.841	71.879	3649	3554	67
2	107957	3.943	3.841	71.879	4257	4147	78
3	154872	4.127	3.821	68.448	6392	5918	106
4	180684	4.127	3.821	68.448	7457	6904	124
5	211874	4.241	3.744	67.397	8986	7933	143
6	247187	4.241	3.744	67.397	10483	9255	167

Figure 21 to Figure 23 show the block grade distribution for the different search radii for the East Lode using a density of 2.7 g/cm^3. The 40m search radius figure demonstrates the most coherent shape without smearing grade too far. This is the preferred option for the resource reporting and combines best with the mapped surface geology.

Figure 21 -
Mariposa East Lode: Block Model Lead Grades % 25m Search

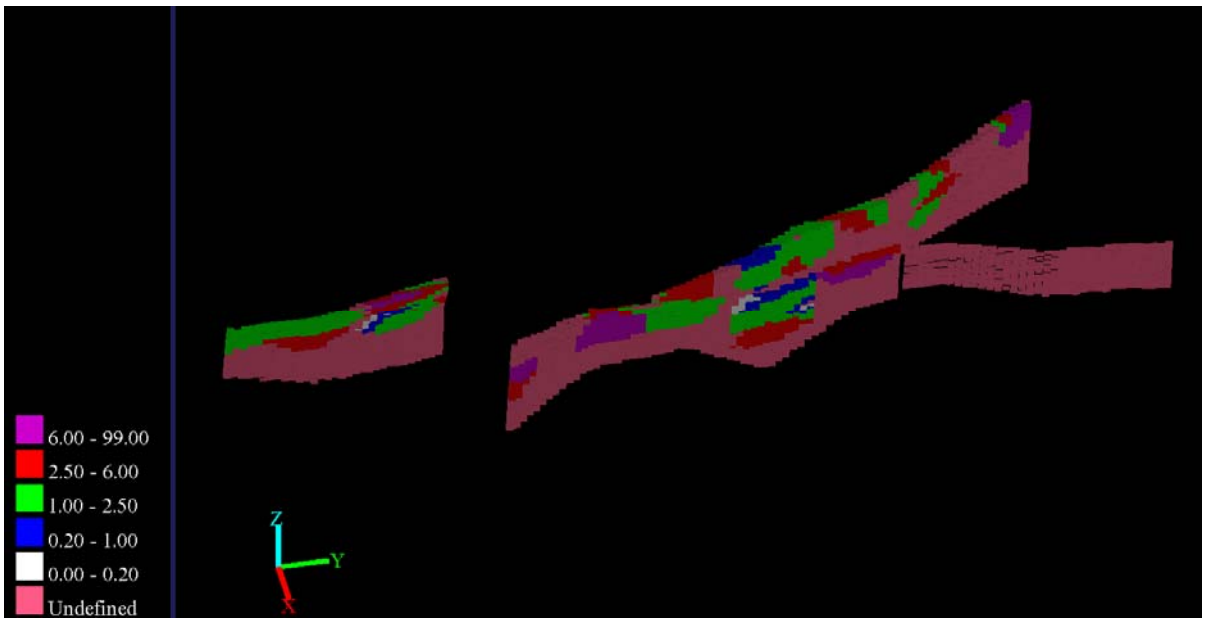


Figure 22 -
Mariposa East Lode: Block Model Lead Grades % 40m Search

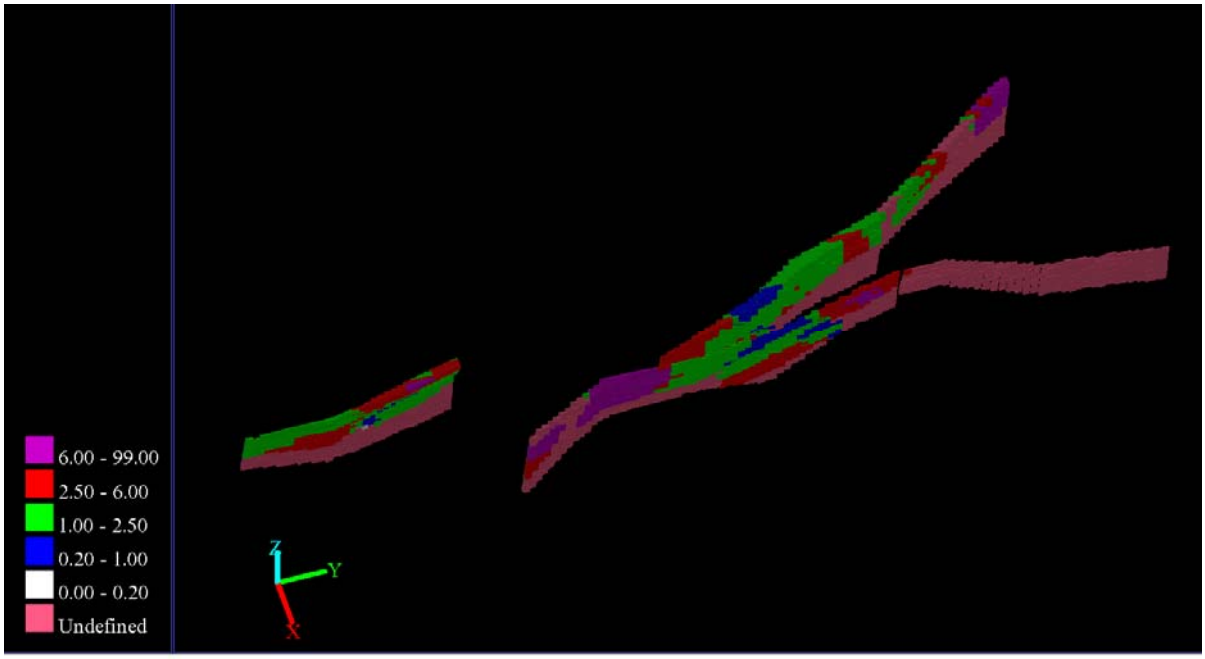
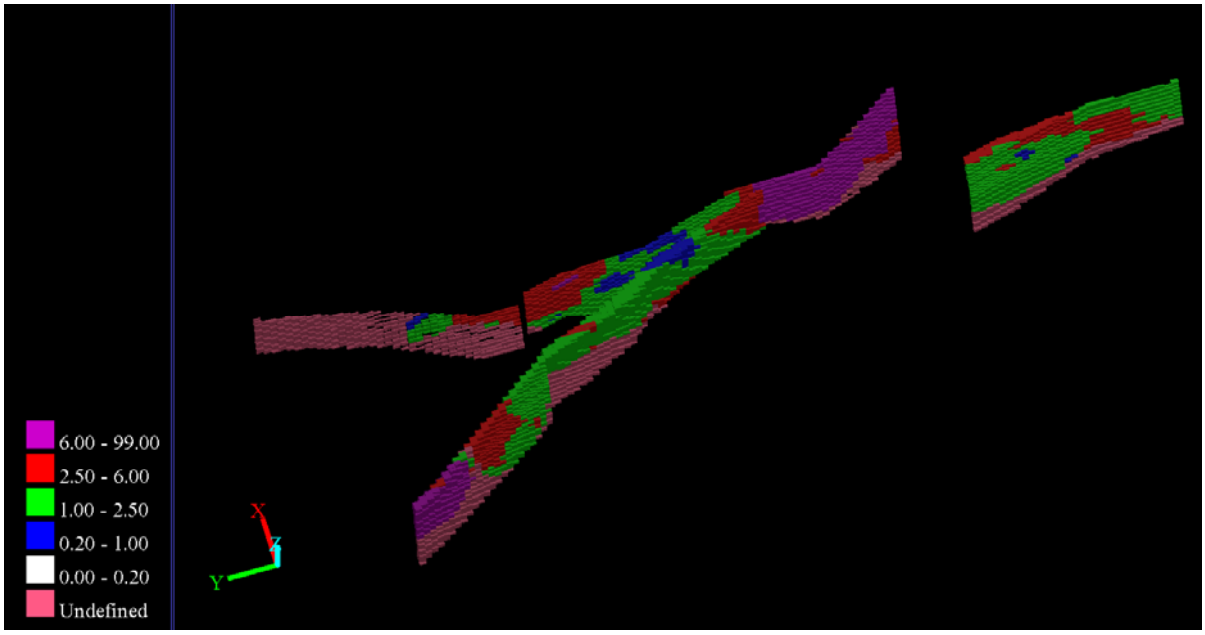


Figure 23 -
Mariposa East Lode: Block Model Lead Grades % 60m Search



4.7 RESOURCE CLASSIFICATION

In order to assign classification status to the resource, two methods have been reviewed in this report. The first method is the 'area of influence' which uses the West Lode block attributes (East Lode in brackets) num50m (num40m), dns50m (dns40m) and rescatv1 (rescatv1). The first attribute is a measure of the number of samples used in estimating the individual block grade. Due to a general lack of data this was not always 15 samples as specified in the interpolation parameters which undermine the confidence factors in the resulting data. 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:

For the West Lode **iif(dns50m>0 and dns50m <=5,1,iif(dns50m >5 and dns50m <=25,2,iif(dns50m >25 and dns50m <=100,3,4)))**

For the East Lode **iif(dns40m>0 and dns40m <=5,1,iif(dns40m >5 and dns40m <=25,2,iif(dns40m >25 and dns40m <=100,3,4)))**

Whereby the Measured Resource category is for the nearest sample distance of 0m to 5m (normally from the same, single drill intercept), the Indicated Resource is for the nearest sample distance being between 5m and 25m and the Inferred Resource being from 25m to 100m.

The results of this for the West Lode is reported in Table 14.

Table 14 -
Mariposa West Lode: Classification of Resources - Area of Influence

	Volume	Tonnes	Lead %	Zinc %	Ag ppm
Measured	2681	7239	5.91	1.16	66.9
Indicated	58443	157796	5.71	1.42	63.8
Inferred	70558	190507	5.35	1.13	55.7
Mineralisation	1291	3486	3.63	0.81	36.0
Grand Total	132973	359027	5.51	1.25	59.3

The results of this for the East Lodes are reported in Table 15.

Table 15 -
Mariposa East Lodes: Classification of Resources - Area of Influence

	Volume	Tonnes	Lead %	Zinc %	Ag ppm
Measured	2272	6134	3.68	3.14	43.1
Indicated	30208	81562	3.76	3.79	73.2
Inferred	24880	67176	4.62	3.92	65.0
Grand Total	57360	154872	4.13	3.82	68.4

An alternative method is to create a shape indicative of the confidence of continuity for the mineralisation and use this shape to report the tonnages associated with the resource classifications (the design shape method). In this instance the level plans were reviewed and for the West Lode a level plan an outline was drawn for the condition where there were two similar geological intercepts within 25m of each other. The outlines are combined to produce a shape which represents the Indicated Resource (mariwlindres601.dtm). The Inferred Resource category is the remaining material outside this new shape but within the 'high grade' mineral 3DM (mariposawlodes601.dtm).

Using this method the resource classification produced for the West Lode is in Table 16:

Table 16 -
Mariposa West Lode: Classification of Resources – Designed shape

	Volume	Tonnes	Lead %	Zinc %	Ag ppm
Indicated	21113	57005	5.82	1.70	84.3
Inferred	111860	302022	5.45	1.17	54.6
Grand Total	132973	359027	5.51	1.25	59.3

It is felt that there is an insufficient level of confidence of continuity for the identification of indicated resources for the East Lodes. Therefore all resources calculated are inferred.

4.8 RESOURCE ESTIMATION RISKS

In evaluating the resource for the Mariposa lodes there are several risks including:

- a lack of drilling for the resource,
- some doubt as to the accuracy of the drillhole locations, with no holes having been apparently surveyed in by a competent surveyor. Location of old surface holes on the ground will be difficult as all the sites are at least 20 years old, but attempts should be made to do this. In addition there are problems with the CRAE/AMOCO AMG grids which could impact on the position of the North Broken Hill drillholes,
- there are no bulk density measurements of drill core including mineralisation,
- the distribution of natural cavities is unknown and has the potential to impact negatively on the resource size. There are limited reports in the drill logs on core recoveries and thus the cores should be examined to gain some measure,
- ambiguity as to the exact nature of the ore model re stratabound (Irish-type) versus vein/fissure fill style. This can impact on the confidence of the spatial behaviour and continuity of the mineralisation. Viewing of all drill core intercepts is recommended,
- the frequency and effect of flat-lying faults is unknown,
- no QA/QC on any of the assay results. With additional drilling a standards and duplicate procedure must be in place, and
- Ore mineralogy may have an impact on recovery. CRAE undertook some work that suggested that the East Lodes had simple galena/sphalerite mineralogy.

For the West Lode there is a high level of confidence for the mineral system and its limits as per the 3DM shape, the main problems lie with the confidence of grade continuity due to assay methods, cavities and densities in particular.

As a result of these risks the confidence level of the previously mentioned measured and indicated resources is reduced to the inferred category. Thus the final resource classification is as follows in Table 17:

Table 17 -
Mariposa West Lode: Classification of Resources

Lode	Category	Volume	Tonnes	Pb %	Zn %	Ag ppm
West	Inferred	132973	359027	5.51	1.25	59.3
East	Inferred	57360	154872	4.13	3.82	68.4
	Grand Total	190333	513899	5.09	2.02	62.0

Conditions for the West Lode are 50m search radius, no top cut, base density 2.7g/cm^3, inside the mineral shape with a block grade >/= zero.

Conditions for the East Lode are 40m search radius, no top cut, base density 2.7g/cm^3, inside the mineral shape with a block grade >/= zero.

4.9 ADDITIONAL RESOURCES

It is quite clear from the work carried out in this report that there is insufficient drilling on the property. However this fact also provides the opportunity for the discovery of more resource, particularly in the immediate vicinity and peripheral to the current mineralisation outlines. Both lode systems are open at depth. Not only that but infill drilling may enhance the current resource providing better definition and an increase in the level of confidence of the resource shape, size and grade continuity. Infill drilling with more modern drilling techniques may resolve the cavity issue.

5. CONCLUSIONS

This report details the geological interpretation and subsequent creation of two block models for the in situ Mariposa resources. The original main Mariposa Lode has been renamed as the West Lode as opposed to the East Lodes which are newly identified. The report also contains the classification of the estimated resources from the block models in accordance with JORC definitions.

The mineralisation comprises galena and sphalerite with siderite gangue in a series of veins/stratabound zones hosted by the Gordon Limestone.

An Access database was created for all the previous drilling and trenching. This database was used as the basis for the geological interpretation in Surpac and includes a combination of drillhole information (aircore and diamond), trenching data and bedrock sampling results to create a series of geological solids, including mineralised zones, and fault planes. For the compositing the relative few data points meant that the different sample types were used together. Basic statistical analysis seemed to confirm that the sample data types were compatible.

The block models have been created in Surpac around the new geologically interpreted mineralisation shapes for the West Lode and the East Lodes. The model has used an 8m by 2m by 4m block size with various sub-celling to reflect the mineralisation shapes. The interpolation method used is inverse distance squared with a variety of search radii and with no top cut applied to the data. The search ellipse used an axis ratio of 2 for the major/semi-major axis and 4 for the major/minor axis which again reflects the orebody shape.

Resources were identified for both the West Lode and the East Lodes with two methods of resource classification tested, namely the ‘area of influence’ and the ‘designed shape’.

However the resource classification must be based on a number of other aspects including geological interpretation, accuracy of drillhole locations, densities, core recoveries, interpreted geological continuity of mineralisation, supposed orebody style and model, the number of sample points etc. At this stage there is sufficient risk, in particular doubts over the accuracy of the drillhole collar positions, the general lack of drilling, insufficient density information and the influence of cavities on the resources that they must be classified as inferred until such time as further work may reduce the effect of these risks.

Assuming all the data types are compatible, and a base density of 2.7g/cm^3 with no top cut, then the in situ Inferred Resources at Mariposa are:

(50m search radius for West Lode and 40m Search radius for the East Lode)

Lode	Category	Volume	Tonnes	Pb %	Zn %	Ag ppm
West	Inferred	132973	359027	5.51	1.25	59.3
East	Inferred	57360	154872	4.13	3.82	68.4
	Grand Total	190333	513899	5.09	2.02	62.0

Potential for additional resources occurs marginal to the lodes particularly at depth, whilst additional infill drilling may firm up the current inferred resources into the indicated status.

Respectfully submitted,

Simon Tear

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

31 January 2006

6. REFERENCES

1. Bates, T.E., 1972; TCR72_0861 – Final report on Special Prospecting Licence no. 46, Zeehan, West Tasmania (for McIntyre Mines)

2. Cadwallader, W.J., Garretty, M.D., Loh, R.P., 1951; TCR50_0106 - Mariposa Mine (for North Broken Hill)

3. Ellis, P.D., 2002; TCR02_4820 - Past Exploration within the area of EL 15/1976 – Dundas (for AMOCO)

4. Jones, P.A., Kary, G.L. 1983; TCR83_1998 - Progress Report, January to June 1983, Amoco/CSR Joint Venture, Part Exploration Licence 15/76, Dundas, Tasmania

5. Newham, L.A., 1999; EL38/89 Grieves Project, Zeehan Area, Annual Report (for Allegiance)

6. Kary, G.L., 1985; TCR85_2457 - Progress Report July 1984 to June 1985 Part EL 15/76 Dundas, Tasmania (for AMOCO)

7. Parkinson, R.G., 1994; TCR94_3551 - Mount Dundas EL 45/92, Tasmania, Report on Exploration for the First Year of Tenure, 16/4/93 to 15/3/94 (for CRAE)

8. Parkinson, R.G., 1995; TCR95_3722 - Mt Dundas EL 45/92 Tasmania Report on Exploration for Year 2 16.4.94 to 15.3.95 (for CRAE)

9. Russell, S.A.J., Tear, S.J., 1997; TCR97_4009 - Annual Report - EL 45/92 - Mt Dundas (for CRAE)

10. Tear, S.J., 1996; TCR96_3885 – Annual Report EL 45/92 – Mt Dundas (for CRAE)

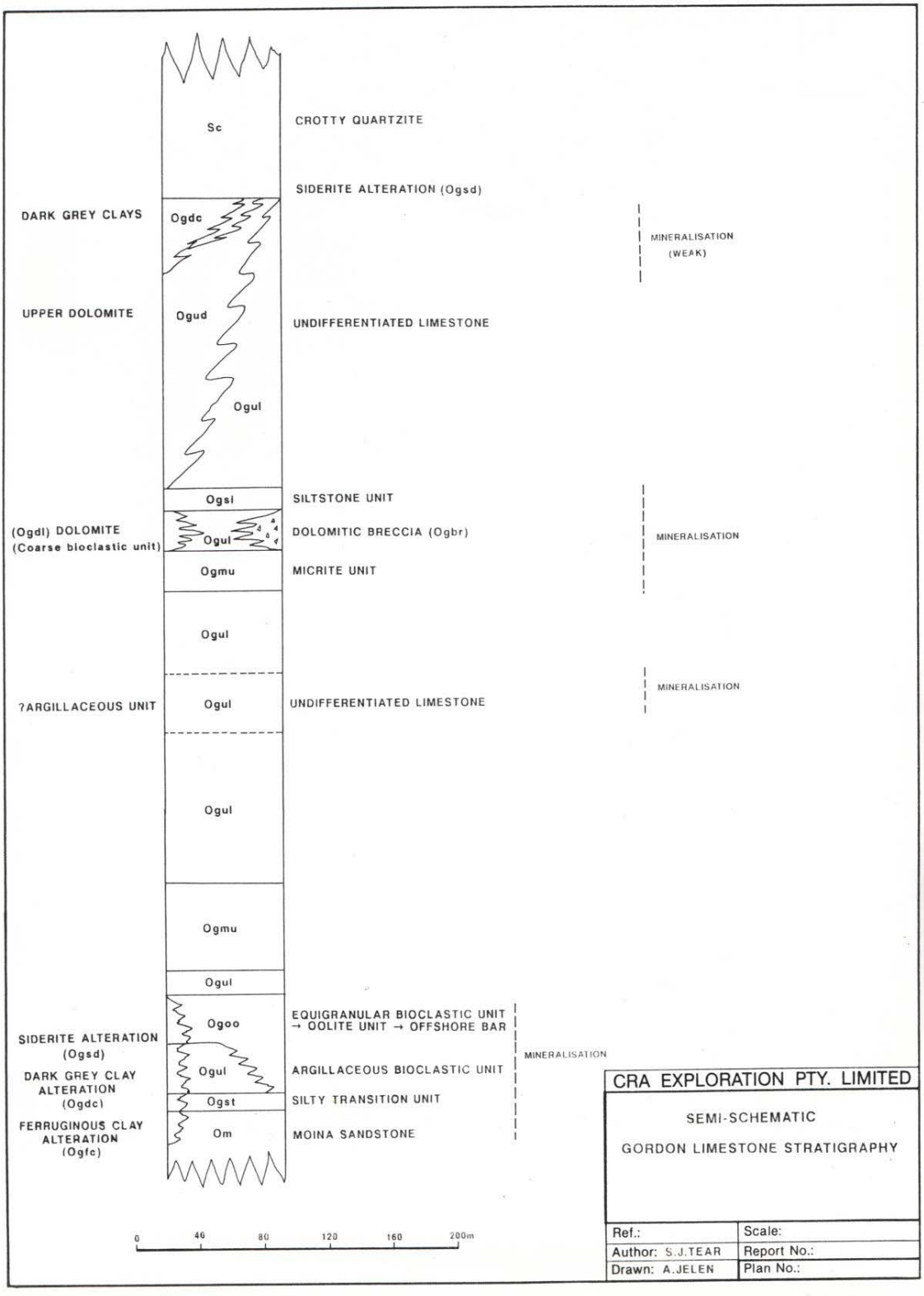
11. Tear, S.J., 2002; TCR02_4757 - Annual Report for EL 6/2001 (Professor Creek) for the period 22 June 2001 to 22 June 2002 (for Noranda Pacific)

12. Tear, S.J. 2005a: Geological Interpretation for the Allison's Lode & West Lode and Oceana Deposit, Zeehan, West Tasmania (for Zeehan Zinc)

13. Tear, S.J. 2005b: Block Model Report for the Oceana Pit Resource, Zeehan, West Tasmania (for Zeehan Zinc)

Appendix 1
Gordon Limestone Stratigraphy

(Tear 2005)


Sc
CROTTY QUARTZITE
SIDERITE ALTERATION (Ogsd)
DARK GREY CLAYS
Ogdc
MINERALISATION (WEAK)
UPPER DOLOMITE
Ogud
UNDIFFERENTIATED LIMESTONE
Ogul
Ogsi
SILTSTONE UNIT
(Ogdl) DOLOMITE (Coarse bioclastic unit)
Ogul
DOLOMITIC BRECCIA (Ogbr)
MINERALISATION
Ogmu
MICRITE UNIT
Ogul
MINERALISATION
?ARGILLACEOUS UNIT
Ogul
UNDIFFERENTIATED LIMESTONE
Ogul
Ogmu
Ogul
Ogoo
EQUIGRANULAR BIOCLASTIC UNIT → OOLITE UNIT → OFFSHORE BAR
SIDERITE ALTERATION (Ogsd)
MINERALISATION
Ogul
ARGILLACEOUS BIOCLASTIC UNIT
DARK GREY CLAY ALTERATION (Ogdc)
Ogst
SILTY TRANSITION UNIT
FERRUGINOUS CLAY ALTERATION (Ogfc)
Om
MOINA SANDSTONE
0
40
80
120
160
200m
CRA EXPLORATION PTY. LIMITED
SEMI-SCHEMATIC
GORDON LIMESTONE STRATIGRAPHY
Ref.:
Scale:
Author: S.J.TEAR
Report No.:
Drawn: A.JELEN
Plan No.:

Zeehan Carbonate Project

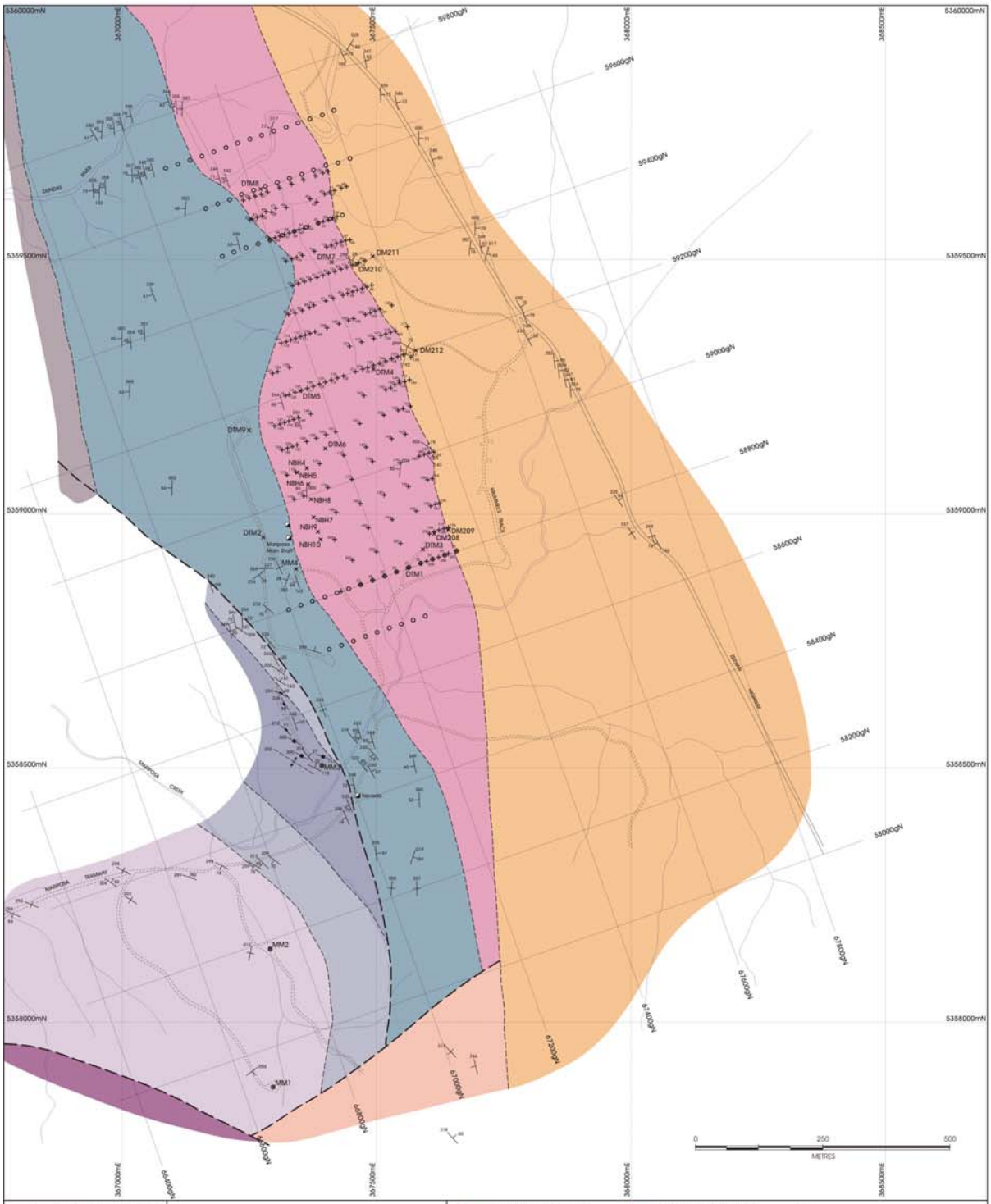
In the Zeehan sub-basin the Gordon Limestone has a thickness of 500m (DDH ZB1007). Drilling by CRAE has subdivided this formation into lithologic and lithostratigraphic units. These subdivisions have been utilised in the drillhole logging and are displayed below.

Drill Hole Logging Formation / Lithology Codes

Sc	=	Crotty Quartzite		SILURIAN
Ogud	=	Upper Dolomite	GORDON LIMESTONE	ORDOVICIAN
Ogsi	=	Siltstone Unit		
Ogul	=	Undifferentiated limestone		
Ogdl	=	Undifferentiated dolomite		
Ogmu	=	Laminated Micrite Unit		
Ogoo	=	Oolite Unit		
Ogsd	=	Siderite Unit		
Ogdc	=	Dark Grey / Black Clay Unit		
Ogfc	=	Ferruginous Clay Unit		
Ogms	=	Massive Sulphide Unit		
Ogst	=	Silty Transition Unit		
Om	=	Moina Sandstone		
Oo	=	Owen Conglomerate		
Ed	=	Dundas Group (undifferentiated)		CAMBRIAN

An explanation for the sub-divisions is given below.

Ogus = Sulphide veins in limestone



ZEEHAN ZINC

ACN 089 093 943

EL 20/2002

MARIPOSA PROSPECT
GEOLOGY AND DRILLHOLE LOCATION

Datum: AGD 66	**Date:** 30-Sept-02
Projection: AMG ZONE 55	**Scale:** 1:5,000
Drawn: J. N. Farrell	**File:** Mariposa_1-5000

Mapping by: Amoco (TCR 85-2457)
Tas. Mines Dept. Zeehan 1:50,000 sheet
CRAE air-core drilling and geological traverses
CRAE aerial photograph interpretation

- DEVONIAN - ELDON GROUP — Bell shale
- DEVONIAN - ELDON GROUP — Florence quartzite
- SILURIAN - ELDON GROUP — Austral Creek siltstone
- SILURIAN - ELDON GROUP — Amber slate
- SILURIAN - ELDON GROUP — Crotty quartzite
- ORDOVICIAN - GORDON GROUP — Gordon limestone
- ORDOVICIAN - DENISON GROUP — Moina sandstone
- ORDOVICIAN - DENISON GROUP — Owen conglomerate
- CAMBRIAN - DUNDAS GROUP — Undassigned
- GEOLOGICAL BOUNDARY (position approximate)
- FAULT (inferred, position approximate)
- Road/track
- River/creek
- Strike and dip of bedding
- Strike of vertical bedding
- Strike and dip of cleavage
- Strike of vertical cleavage
- Strike of anticline
- Abandoned/historical mine
- DM10 — Diamond drillhole - DM_ = CRA, DTM_ = Amoco, NHB_ = North Broken Hill, MM_ = Mcintyre Mines
- Air-core drillhole - prefixed DM_
- Bedrock samples

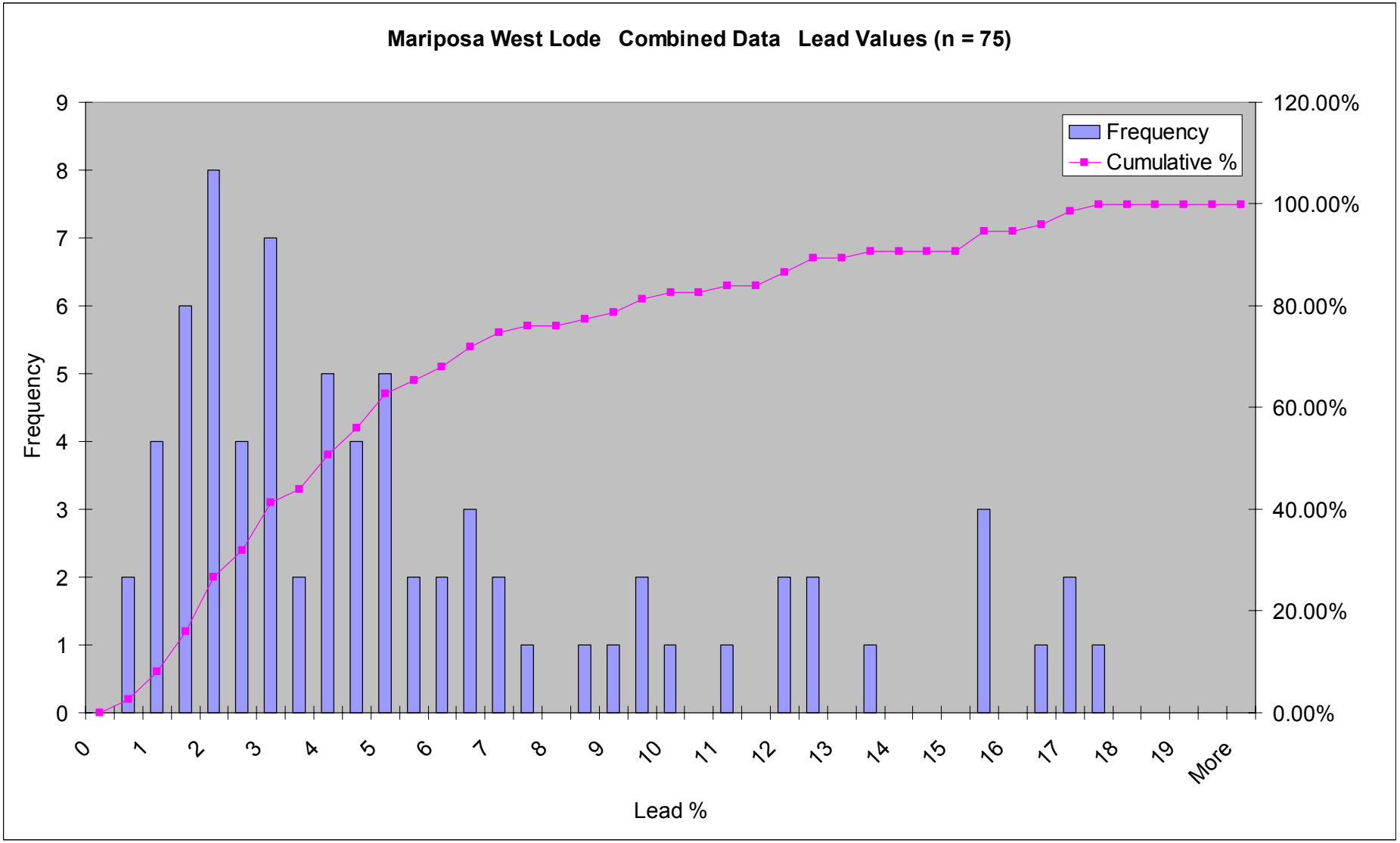
Appendix 2
Assay Composites for the West Lode

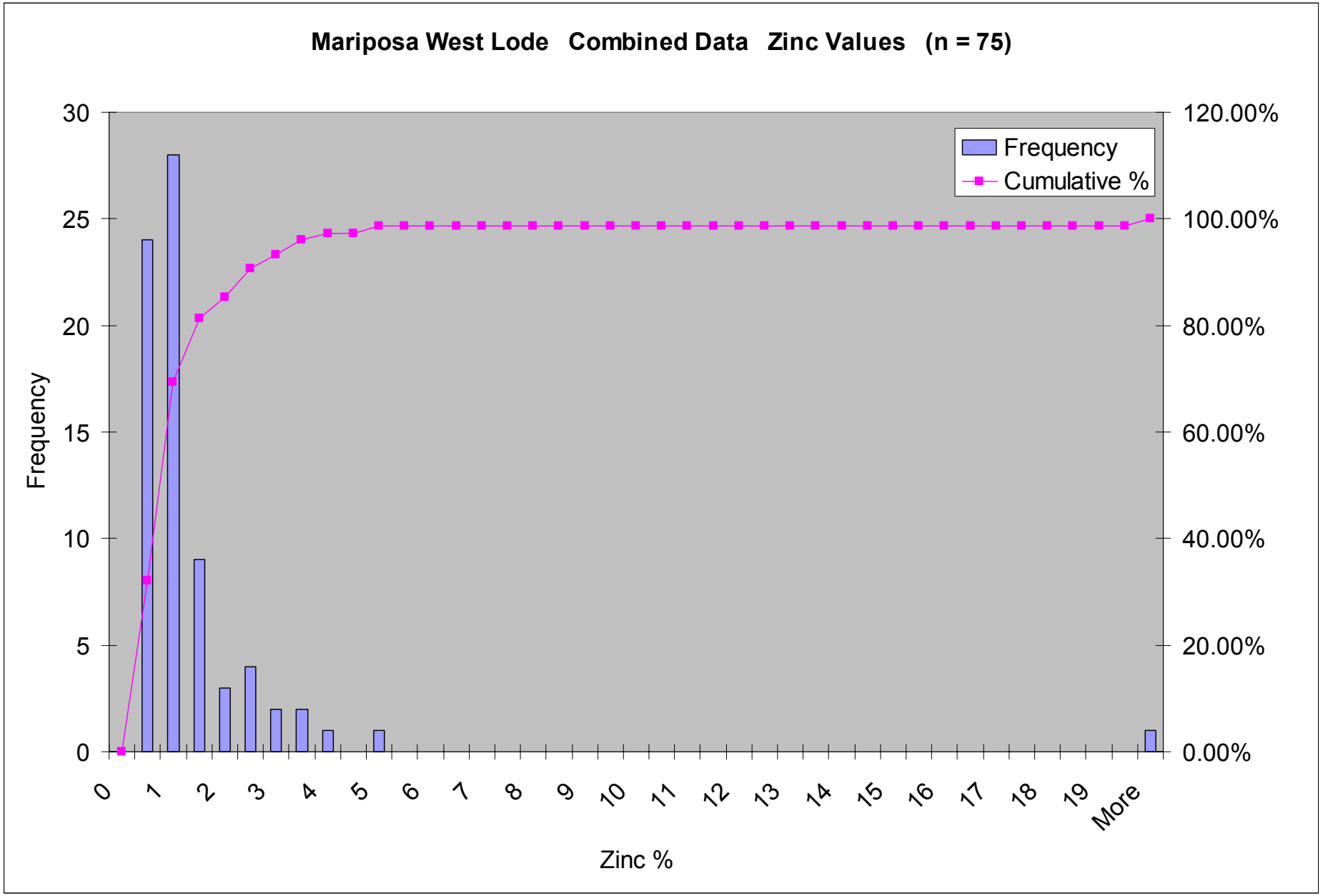
Hole ID	Depth from	Depth To	flag
58900N	24.00	26.00	1
58950N	10.00	22.00	1
59091N	0.00	2.00	1
DTM2	131.00	144.00	1
DTM6	157.00	166.00	1
DTM9	37.00	46.00	1
MM4	32.52	33.65	1
NBH10	47.55	49.00	1
NBH11	114.45	118.60	1
NBH4	93.78	97.69	1
NBH5	59.13	61.11	1
NBH6	84.43	86.56	1
NBH7	70.45	76.50	1
NBH8	73.46	78.33	1
NBH9	64.31	68.90	1

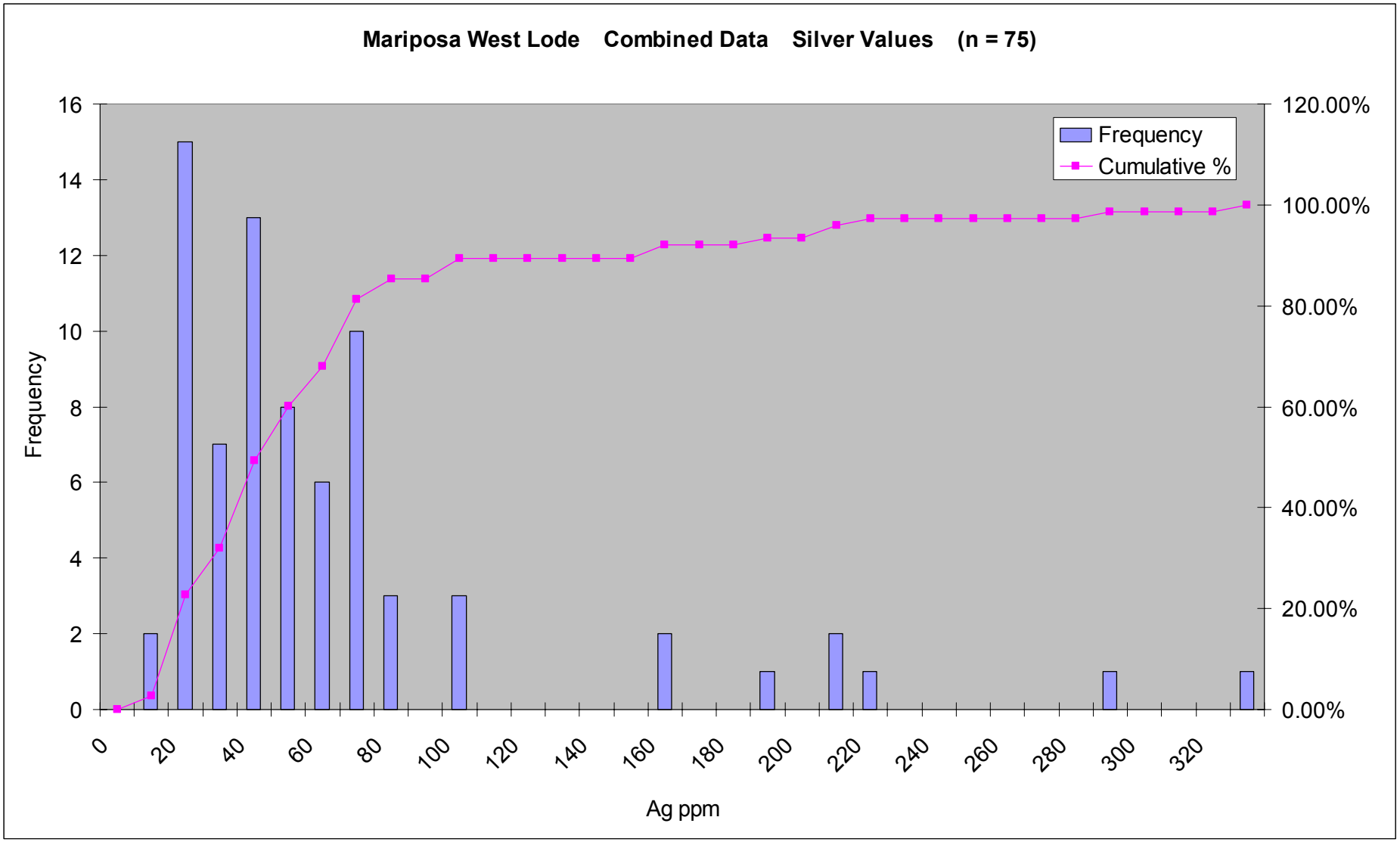
Mariposa West Lode			Lead	Zinc	Silver	Holeid	From	To	Type	Width
58889.77	67071.35	193.94	4.93	3.41	39	58900N	24	25	Trench	1
58890.09	67072.22	193.566	4.93	3.41	39	58900N	25	26	Trench	1
58950	67061.87	195.076	1.35	0.68	14.5	58950N	10	11	Trench	1
58950	67062.81	194.734	1.35	0.68	14.5	58950N	11	12	Trench	1
58950	67063.75	194.392	16.6	0.18	17	58950N	12	13	Trench	1
58950	67064.69	194.055	16.6	0.18	17	58950N	13	14	Trench	1
58950	67065.63	193.722	6.58	0.96	44	58950N	14	15	Trench	1
58950	67066.58	193.393	6.58	0.96	44	58950N	15	16	Trench	1
58950	67067.52	193.068	11.9	0.585	59	58950N	16	17	Trench	1
58950	67068.47	192.749	11.9	0.585	59	58950N	17	18	Trench	1
58950	67069.42	192.433	15.5	2.2	205	58950N	18	19	Trench	1
58950	67070.37	192.122	15.5	2.2	205	58950N	19	20	Trench	1
58950	67071.32	191.816	3.77	1.36	33	58950N	20	21	Trench	1
58950	67072.27	191.514	3.77	1.36	33	58950N	21	22	Trench	1
59091	67074.46	198.835	1.83	0.43	12	59091N	0	1	Trench	1
59091	67075.39	198.46	1.83	0.43	12	59091N	1	2	Trench	1
58950.17	67054.67	105.266	1.71	0.34	13	DTM2	131	132	Diamond	1
58950.18	67055.07	104.347	1.65	0.44	36	DTM2	132	133	Diamond	1
58950.19	67055.46	103.429	5.2	0.64	152	DTM2	133	134	Diamond	1
58950.2	67055.86	102.511	8.25	2.8	76	DTM2	134	135	Diamond	1
58950.21	67056.25	101.593	3.45	1.75	60	DTM2	135	136	Diamond	1
58950.23	67056.65	100.674	1.26	0.72	40	DTM2	136	137	Diamond	1
58950.24	67057.04	99.755	4.1	1.2	50	DTM2	137	138	Diamond	1
58950.25	67057.44	98.836	0.525	0.61	11	DTM2	138	139	Diamond	1
58950.26	67057.83	97.917	9.05	0.73	215	DTM2	139	140	Diamond	1
58950.27	67058.23	96.998	1.94	1.4	18	DTM2	140	141	Diamond	1
58950.28	67058.62	96.079	1.63	0.38	13	DTM2	141	142	Diamond	1
58950.29	67059.01	95.16	2.2	0.43	20	DTM2	142	143	Diamond	1
58950.3	67059.41	94.24	1.08	0.28	17	DTM2	143	144	Diamond	1
59067.46	67057.02	69.201	2.2	0.42	35	DTM6	158	159	Diamond	1
59067.39	67056.28	68.537	6.35	0.67	70	DTM6	159	160	Diamond	1
59067.33	67055.53	67.873	0.43	0.11	22	DTM6	160	161	Diamond	1
59067.26	67054.79	67.21	1.14	0.19	25	DTM6	161	162	Diamond	1
59067.2	67054.04	66.547	4.24	0.31	80	DTM6	162	163	Diamond	1
59067.13	67053.29	65.884	2.74	0.29	37	DTM6	163	164	Diamond	1
59067.07	67052.55	65.222	2.34	0.8	65	DTM6	164	165	Diamond	1
59067	67051.8	64.561	4.82	0.52	24	DTM6	165	166	Diamond	1
59157.55	67058.1	189.163	1.81	0.5	50	DTM9	37	38	Diamond	1
59157.54	67058.57	188.278	4.85	1.3	60	DTM9	38	39	Diamond	1
59157.52	67059.03	187.392	12.5	1.7	70	DTM9	39	40	Diamond	1
59157.51	67059.49	186.506	2.8	0.95	22	DTM9	40	41	Diamond	1
59157.5	67059.96	185.619	2.95	0.29	22	DTM9	41	42	Diamond	1
59157.48	67060.42	184.732	15.1	0.62	100	DTM9	42	43	Diamond	1
59157.47	67060.88	183.845	9.85	0.98	55	DTM9	43	44	Diamond	1
59157.46	67061.34	182.956	3.85	0.65	50	DTM9	44	45	Diamond	1
59157.44	67061.8	182.068	3.85	0.65	50	DTM9	45	46	Diamond	1
58870.91	67058.92	184.377	1.725	0.435	46.5	MM4	32.52	33.52	Diamond	1
58870.94	67059.49	183.557	1.1	0.37	61	MM4	33.52	34.52	Diamond	0.13
58913.7	67068.23	151.02	12.2	3.7	70	NBH10	47.55	48.55	Diamond	0.3
58913.78	67067.52	150.312	4.5	2.3	28	NBH10	48.55	49.55	Diamond	0.23
58967.89	67059.66	110.457	3	0.4	61	NBH11	114.45	115.45	Diamond	0.15
58967.99	67058.78	109.992	17.4692	1.0051	617.3333	NBH11	115.45	116.45	Diamond	0.78
58968.09	67057.89	109.528	8.7	5	98	NBH11	116.45	117.45	Diamond	0.29

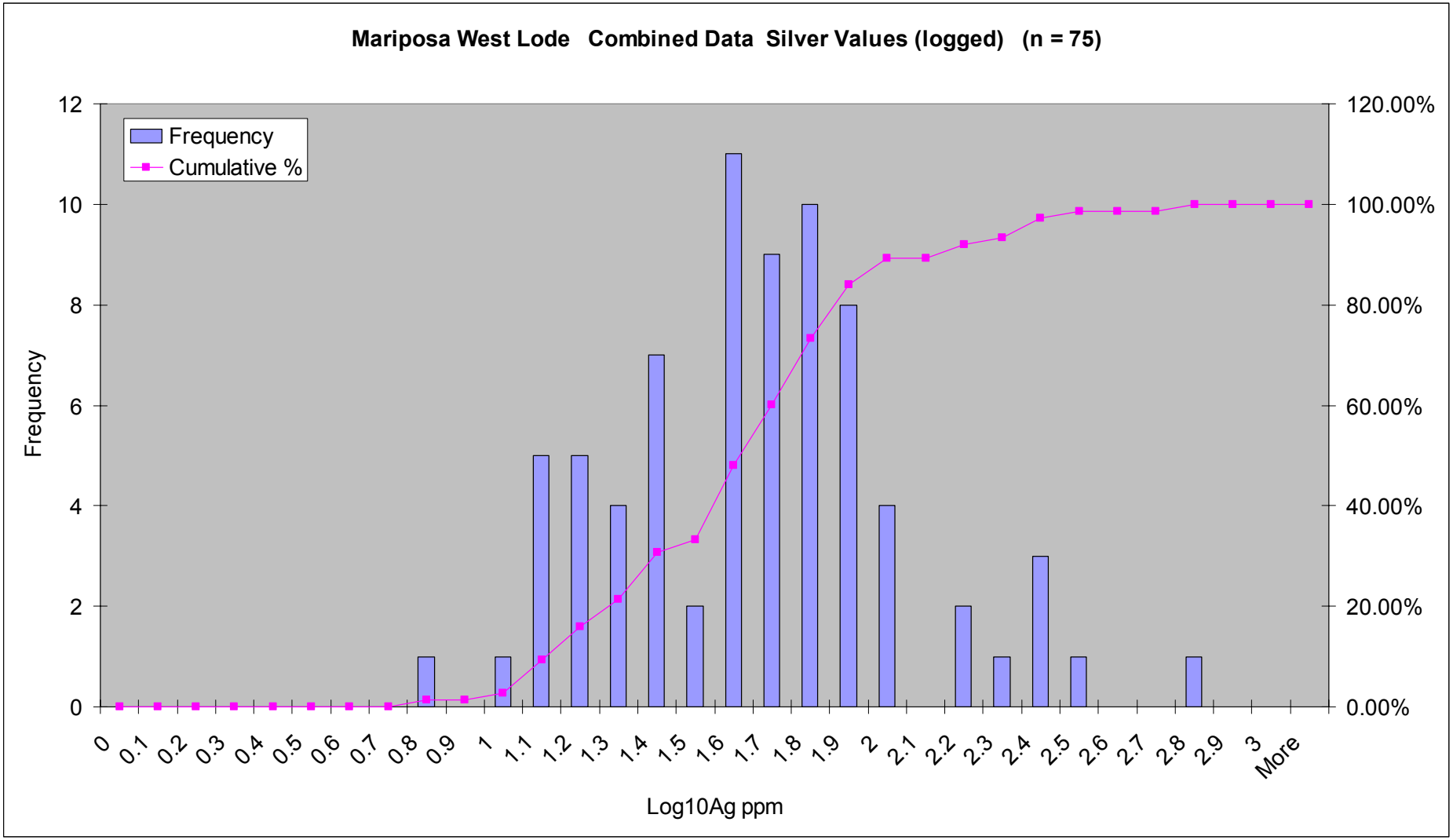
Mariposa West Lode			Lead	Zinc	Silver	Holeid	From	To	Type	Width
59056.1	67056.61	115.907	2.0935	0.222	15.15	NBH4	93.78	94.78	Diamond	1
59056.17	67055.91	115.2	0.05	0.158	6	NBH4	94.78	95.78	Diamond	1
59056.23	67055.21	114.493	4.765	0.292	21.64	NBH4	95.78	96.78	Diamond	1
59056.29	67054.5	113.786	2.7396	2.2901	51.3407	NBH4	96.78	97.78	Diamond	0.91
59053.32	67056.44	151.748	5.4	1.7	70	NBH5	59.13	60.13	Diamond	1
59053.41	67055.63	151.174	13.4653	29.0755	70	NBH5	60.13	61.13	Diamond	0.98
59024.45	67055.11	122.239	5.457	0.946	86.78	NBH6	84.43	85.43	Diamond	1
59024.5	67054.41	121.532	4.615	0.519	42.84	NBH6	85.43	86.43	Diamond	1
59024.56	67053.7	120.825	12.5	1.1	86	NBH6	86.43	87.43	Diamond	0.13
58958.72	67054.97	133.672	13.8	1.5	104	NBH7	70.45	71.45	Diamond	1
58958.93	67052.15	130.843	0.8	0.6	9	NBH7	74.45	75.45	Diamond	0.16
58958.98	67051.44	130.136	0.8	0.6	9	NBH7	75.45	76.45	Diamond	1
58993.69	67058.01	130.908	7.5	0.9	282	NBH8	73.46	74.46	Diamond	0.3
58993.77	67057.31	130.201	3.2	0.8	34	NBH8	74.46	75.46	Diamond	0.61
58993.85	67056.61	129.494	3	0.8	37	NBH8	75.46	76.46	Diamond	0.3
58993.92	67055.91	128.787	20.0462	3.5908	197.1077	NBH8	76.46	77.46	Diamond	0.65
58994	67055.2	128.08	5.875	0.6143	47.0714	NBH8	77.46	78.46	Diamond	0.56
58929.99	67059.45	138.791	3.6	1.2	31	NBH9	64.31	65.31	Diamond	1
58930.07	67058.74	138.084	9.11	0.86	71.2	NBH9	65.31	66.31	Diamond	1
58930.14	67058.04	137.377	0.7	0.6	9	NBH9	66.31	67.31	Diamond	1
58930.22	67057.34	136.67	0.772	0.96	11.16	NBH9	67.31	68.31	Diamond	1
58930.3	67056.63	135.963	0.8	1.1	12	NBH9	68.31	69.31	Diamond	0.57

Appendix 3
Additional Graphs for Mariposa Lodes

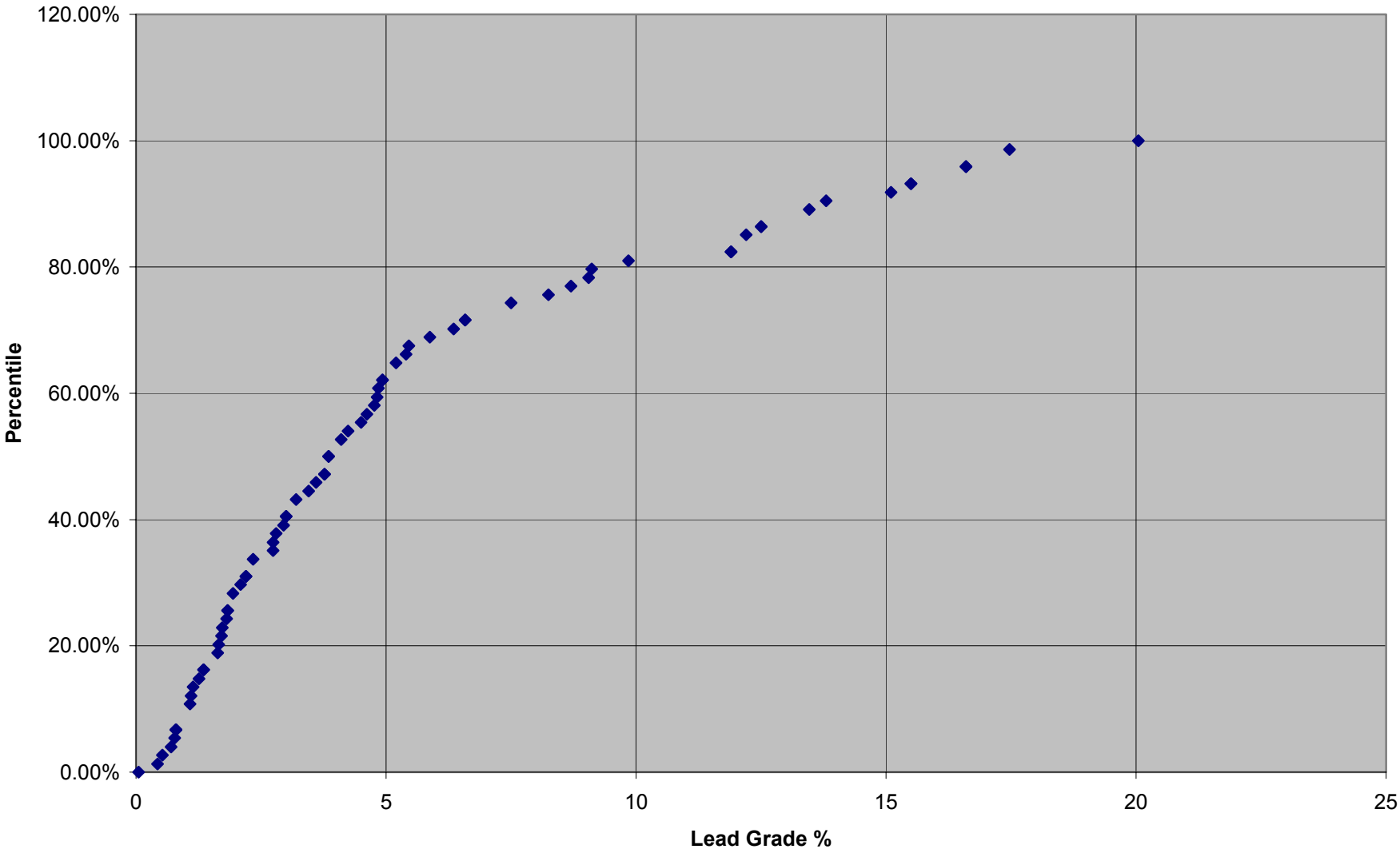

Mariposa West Lode Combined Data Lead Values (n = 75)
Frequency
Cumulative %
Frequency
Lead %
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
More
0.00%
20.00%
40.00%
60.00%
80.00%
100.00%
120.00%

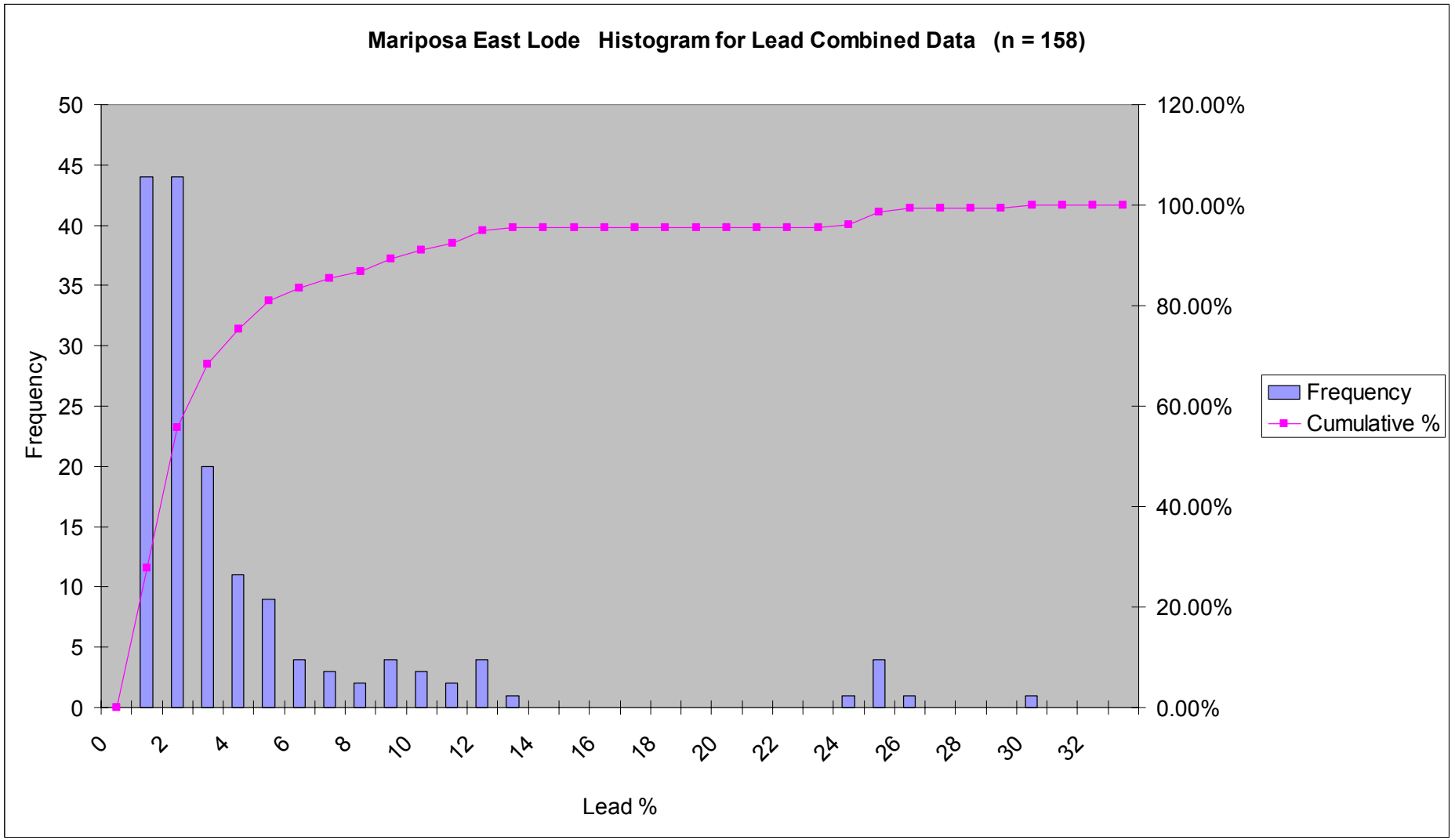

Mariposa West Lode Combined Data Zinc Values (n = 75)
Frequency
Cumulative %
Frequency
Zinc %
30
25
20
15
10
5
0
120.00%
100.00%
80.00%
60.00%
40.00%
20.00%
0.00%
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
More

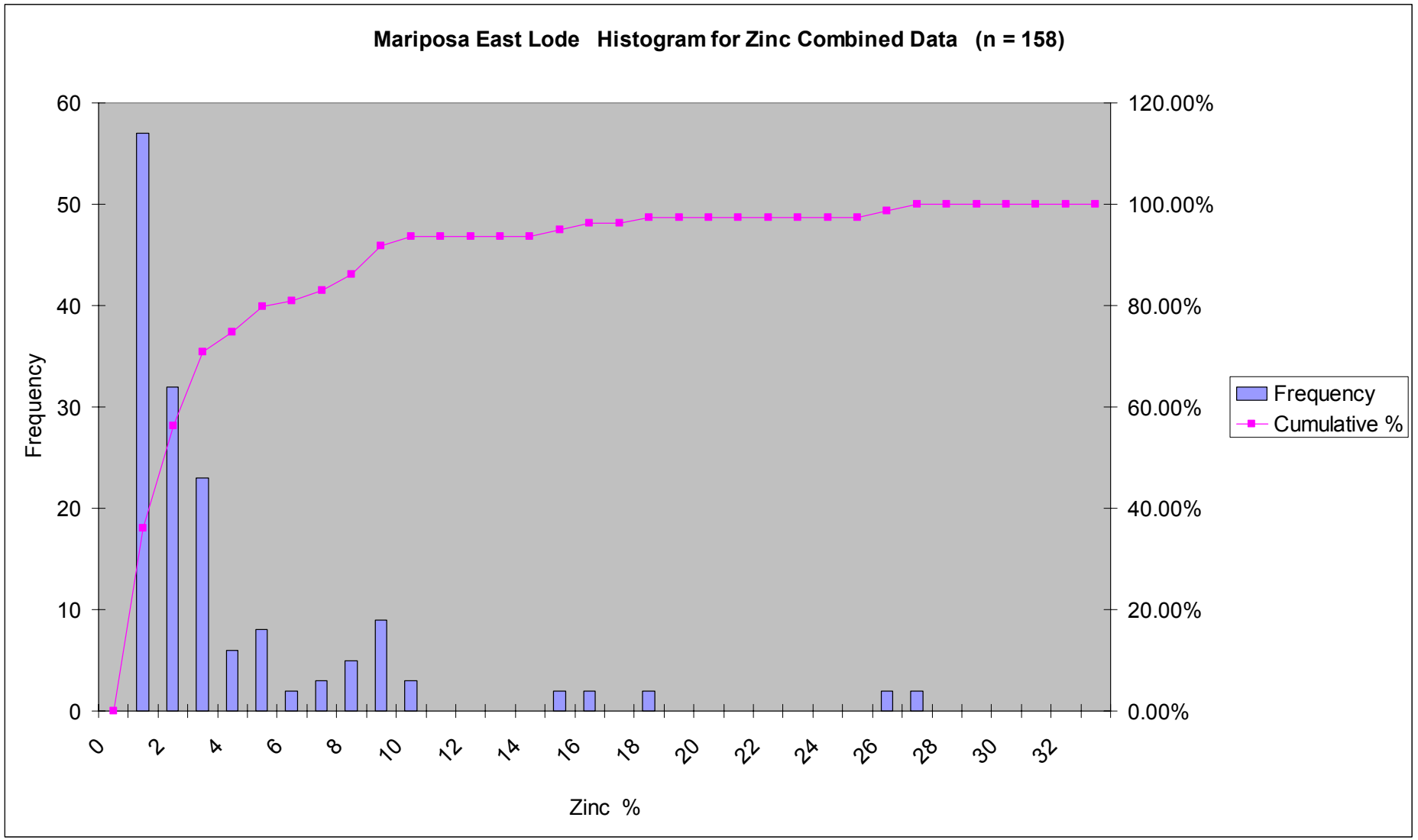

Mariposa West Lode Combined Data Silver Values (n = 75)
Frequency
Cumulative %
Frequency
Ag ppm
0
2
4
6
8
10
12
14
16
0.00%
20.00%
40.00%
60.00%
80.00%
100.00%
120.00%
0
20
40
60
80
100
120
140
160
180
200
220
240
260
280
300
320

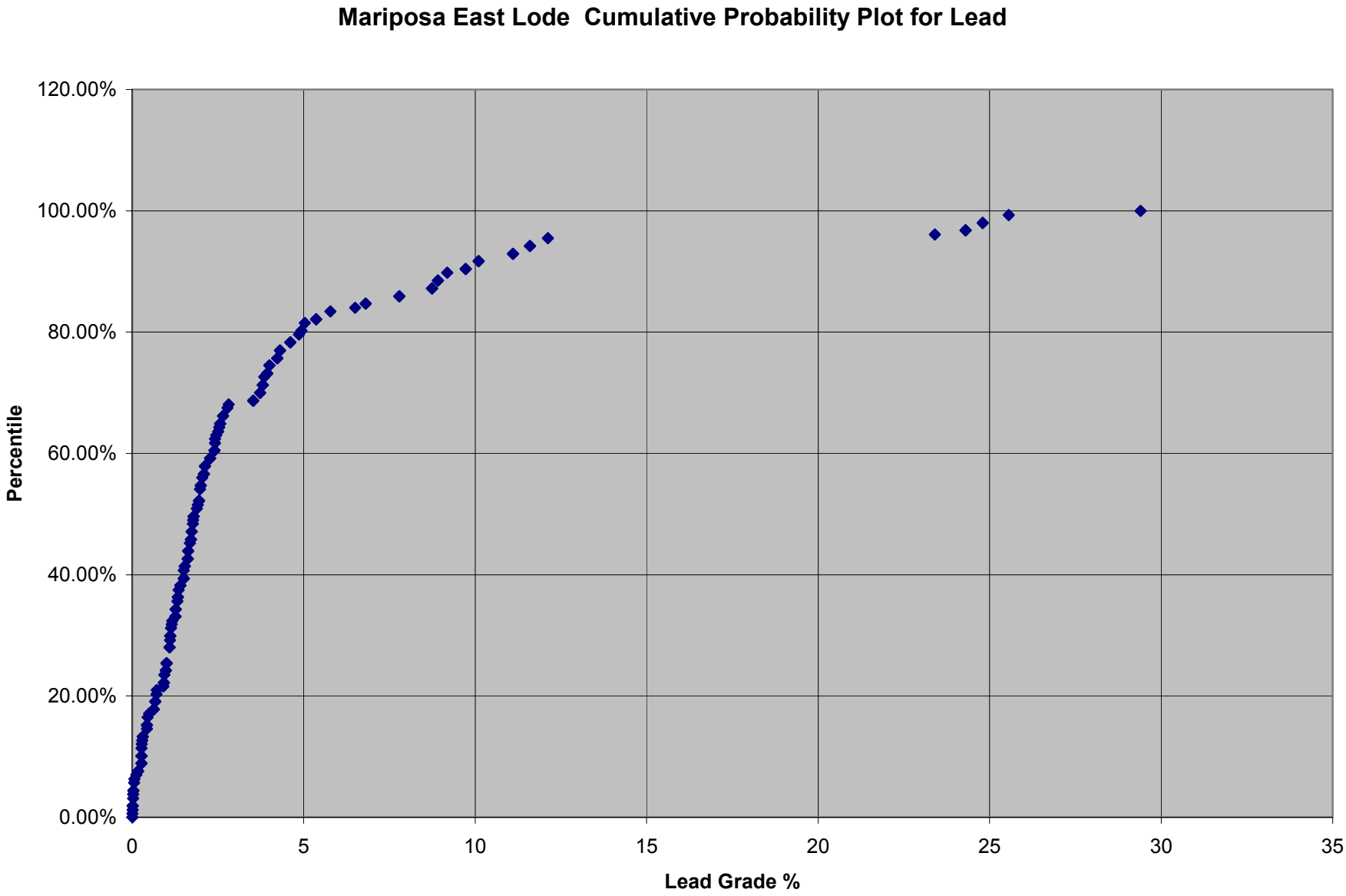

Mariposa West Lode Combined Data Silver Values (logged) (n = 75)
Frequency
Cumulative %
Frequency
Log10Ag ppm
0
2
4
6
8
10
12
0.00%
20.00%
40.00%
60.00%
80.00%
100.00%
120.00%
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9
2
2.1
2.2
2.3
2.4
2.5
2.6
2.7
2.8
2.9
3
More

Mariposa West Lode Cumulative Probability Plot for Lead




Mariposa East Lode Histogram for Lead Combined Data (n = 158)
Frequency
Lead %
Frequency
Cumulative %
0
5
10
15
20
25
30
35
40
45
50
0.00%
20.00%
40.00%
60.00%
80.00%
100.00%
120.00%
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32


Mariposa East Lode Histogram for Zinc Combined Data (n = 158)
Frequency
Zinc %
Frequency
Cumulative %
0
10
20
30
40
50
60
0.00%
20.00%
40.00%
60.00%
80.00%
100.00%
120.00%
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32


Mariposa East Lode Cumulative Probability Plot for Lead
120.00%
100.00%
80.00%
60.00%
40.00%
20.00%
0.00%
Percentile
0
5
10
15
20
25
30
35
Lead Grade %

Appendix 4
Drillhole Intercepts for the East Lode

Hole ID	Depth from	Depth To	flag
59200N	220.00	226.00	1
59400N	120.00	128.00	1
59450N	46.00	52.00	1
59500N	68.00	72.00	1
59550N	62.00	68.00	1
DM102	14.00	26.00	1
DM118	32.00	40.00	1
DM13	0.42	12.00	1
DM150	12.00	18.00	1
DM164	8.87	11.50	1
DM210	17.16	24.13	1
DM211	66.23	69.50	1
DM23	18.00	22.00	1
DM42	14.00	16.00	1
DM47	0.36	10.66	1
DM60	22.00	32.00	1
DM61	0.11	10.00	1
DM65	20.00	22.00	1
DM70	5.39	10.00	1
Problems calculating if drill hole DM73 is inside or outside object.			
DM84	20.00	32.50	1
DM97	8.00	14.00	1
DM98	16.00	20.00	1
DTM4	23.79	26.38	1
DTM7	7.57	19.65	1
DTM7	45.40	47.42	1

Mariposa East Lodes			Pb	Zn	Ag	Holeid	From	To	Width
59200	67330.61	178.871	1	0.16	112	59200N	220	221	1
59200	67331.61	178.871	1	0.16	112	59200N	221	222	1
59200	67332.61	178.871	3.53	8.76	101	59200N	222	223	1
59200	67333.61	178.871	3.53	8.76	101	59200N	223	224	1
59200	67334.61	178.871	7.79	15.8	1300	59200N	224	225	1
59200	67335.61	178.871	7.79	15.8	1300	59200N	225	226	1
59400	67318.62	165.975	2.4	9.41	63	59400N	120	121	1
59400	67319.62	165.984	2.4	9.41	63	59400N	121	122	1
59400	67320.62	165.992	0.98	2.25	16	59400N	122	123	1
59400	67321.62	166.001	0.98	2.25	16	59400N	123	124	1
59400	67322.62	166.01	0.17	1.42	0.25	59400N	124	125	1
59400	67323.62	166.02	0.17	1.42	0.25	59400N	125	126	1
59400	67324.62	166.03	1.5	1.28	13	59400N	126	127	1
59400	67325.62	166.04	1.5	1.28	13	59400N	127	128	1
59450	67294.39	167.204	1.09	1.47	6	59450N	46	47	1
59450	67295.39	167.189	1.09	1.47	6	59450N	47	48	1
59450	67296.39	167.178	3.81	2.8	50	59450N	48	49	1
59450	67297.39	167.168	3.81	2.8	50	59450N	49	50	1
59500	67267.25	167.21	3.94	0.9975	1.5	59500N	68	69	1
59500	67268.25	167.185	3.94	0.9975	1.5	59500N	69	70	1
59500	67269.25	167.161	2.56	0.5775	1.5	59500N	70	71	1
59500	67270.25	167.137	2.56	0.5775	1.5	59500N	71	72	1
59550	67228.87	166.594	4.31	1.41	27	59550N	62	63	1
59550	67229.87	166.529	4.31	1.41	27	59550N	63	64	1
59550	67230.87	166.466	4.23	2.03	52	59550N	64	65	1
59550	67231.87	166.405	4.23	2.03	52	59550N	65	66	1
59550	67232.87	166.346	1.26	0.38	4	59550N	66	67	1
59550	67233.86	166.289	1.26	0.38	4	59550N	67	68	1
59300	67350	161.75	1.62	0.86	0.5	DM102	14	15	1
59300	67350	160.75	1.62	0.86	0.5	DM102	15	16	1
59300	67350	159.75	0.307	0.202	0.5	DM102	16	17	1
59300	67350	158.75	0.307	0.202	0.5	DM102	17	18	1
59300	67350	157.75	6.81	17.6	113	DM102	18	19	1
59300	67350	156.75	6.81	17.6	113	DM102	19	20	1
59300	67350	155.75	24.3	25.8	233	DM102	20	21	1
59300	67350	154.75	24.3	25.8	233	DM102	21	22	1
59300	67350	153.75	24.8	26.4	416	DM102	22	23	1
59300	67350	152.75	24.8	26.4	416	DM102	23	24	1
59300	67350	151.75	11.6	4.2	164	DM102	24	25	1
59300	67350	150.75	11.6	4.2	164	DM102	25	26	1
59250	67375	146.307	10.1	8.11	104	DM118	32	33	1
59250	67375	145.307	10.1	8.11	104	DM118	33	34	1
59250	67375	144.307	8.74	4.96	135	DM118	34	35	1
59250	67375	143.307	8.74	4.96	135	DM118	35	36	1
59250	67375	142.307	4.93	3.6	93	DM118	36	37	1
59250	67375	141.307	4.93	3.6	93	DM118	37	38	1
59250	67375	140.307	2.12	1.79	49	DM118	38	39	1
59250	67375	139.307	2.12	1.79	49	DM118	39	40	1
59400	67325	168.802	0.006	0.01	0.5	DM13	0.42	1.42	1
59400	67325	167.802	0.0081	0.0096	0.71	DM13	1.42	2.42	1
59400	67325	166.802	0.011	0.009	1	DM13	2.42	3.42	1
59400	67325	165.802	0.1248	0.1195	13.6	DM13	3.42	4.42	1

Mariposa East Lodes			Pb	Zn	Ag	Holeid	From	To	Width
59400	67325	164.802	0.282	0.272	31	DM13	4.42	5.42	1
59400	67325	163.802	0.718	0.8214	35.2	DM13	5.42	6.42	1
59400	67325	162.802	1.32	1.58	41	DM13	6.42	7.42	1
59400	67325	161.802	1.7778	4.6544	25.46	DM13	7.42	8.42	1
59400	67325	160.802	2.41	8.9	4	DM13	8.42	9.42	1
59400	67325	159.802	1.6792	5.9726	3.16	DM13	9.42	10.42	1
59400	67325	158.802	0.67	1.93	2	DM13	10.42	11.42	1
59400	67325	157.802	0.67	1.93	2	DM13	11.42	12.42	0.58
59150	67340	167.5	1.33	1	6	DM150	12	13	1
59150	67340	166.5	1.33	1	6	DM150	13	14	1
59150	67340	165.5	1.63	2.22	23	DM150	14	15	1
59150	67340	164.5	1.63	2.22	23	DM150	15	16	1
59150	67340	163.5	4.61	7.18	234	DM150	16	17	1
59150	67340	162.5	4.61	7.18	234	DM150	17	18	1
59100	67340	170.63	0.71	0.056	12	DM164	8.87	9.87	1
59100	67340	169.63	2.537	0.0604	29.4	DM164	9.87	10.87	1
59100	67340	168.63	2.81	0.061	32	DM164	10.87	11.87	0.63
59398.14	67338.62	152.728	0.033	0.123	2.5	DM210	18.16	19.16	0.66
59398.15	67338.28	151.789	0.033	0.123	2.5	DM210	19.16	20.16	1
59398.15	67337.94	150.849	0.0554	0.1936	2.5	DM210	20.16	21.16	1
59398.16	67337.59	149.909	0.067	0.23	2.5	DM210	21.16	22.16	1
59398.17	67337.25	148.97	0.4483	0.3788	6.74	DM210	22.16	23.16	1
59398.18	67336.91	148.03	2.45	1.16	29	DM210	23.16	24.16	0.97
59400.4	67332.67	125.886	0.428	0.708	12	DM211	66.23	67.23	1
59400.33	67331.96	125.187	4.8606	7.3744	81.35	DM211	67.23	68.23	1
59400.26	67331.25	124.488	6.5	9.84	107	DM211	68.23	69.23	1
59400.19	67330.54	123.79	1.8815	2.8896	38.1111	DM211	69.23	70.23	0.27
59200	67325	161.483	3.73	4.23	56	DM23	18	19	1
59200	67325	160.483	3.73	4.23	56	DM23	19	20	1
59200	67325	159.483	1	1.01	21	DM23	20	21	1
59200	67325	158.483	1	1.01	21	DM23	21	22	1
59550	67340	153.425	0.43	1.11	9	DM42	14	15	1
59550	67340	152.425	0.43	1.11	9	DM42	15	16	1
59555	67230	165.584	11.1	1.65	97	DM47	3.36	4.36	0.26
59555	67230	164.584	11.1	1.65	97	DM47	4.36	5.36	1
59555	67230	163.584	9.1848	2.5428	75.04	DM47	5.36	6.36	1
59555	67230	162.584	5.78	4.13	36	DM47	6.36	7.36	1
59555	67230	161.584	12.1232	5.4944	76.68	DM47	7.36	8.36	1
59555	67230	160.584	23.4	7.92	149	DM47	8.36	9.36	1
59555	67230	159.584	25.56	6.1488	150.08	DM47	9.36	10.36	1
59555	67230	158.584	29.4	3	152	DM47	10.36	11.36	0.3
59500	67260	146.365	2.65	2.32	14	DM60	22	23	1
59500	67260	145.365	2.65	2.32	14	DM60	23	24	1
59500	67260	144.365	8.91	3.77	127	DM60	24	25	1
59500	67260	143.365	8.91	3.77	127	DM60	25	26	1
59500	67260	142.365	0.272	0.456	6	DM60	26	27	1
59500	67260	141.365	0.272	0.456	6	DM60	27	28	1
59500	67260	140.365	0.27	0.383	4	DM60	28	29	1
59500	67260	139.365	0.27	0.383	4	DM60	29	30	1
59500	67260	138.365	1.71	1.62	6	DM60	30	31	1
59500	67260	137.365	1.71	1.62	6	DM60	31	32	1
59500	67270	165.497	1.95	0.5	4	DM61	2.11	3.11	0.11
59500	67270	164.497	1.95	0.5	4	DM61	3.11	4.11	1

Mariposa East Lodes			Pb	Zn	Ag	Holeid	From	To	Width
59500	67270	163.497	1.95	0.5	4	DM61	4.11	5.11	1
59500	67270	162.497	1.7656	0.4692	3.67	DM61	5.11	6.11	1
59500	67270	161.497	0.274	0.22	1	DM61	6.11	7.11	1
59500	67270	160.497	0.4936	0.2673	1.44	DM61	7.11	8.11	1
59500	67270	159.497	2.27	0.65	5	DM61	8.11	9.11	1
59500	67270	158.497	2.27	0.65	5	DM61	9.11	10.11	0.89
59500	67320	148.044	2.09	2.56	147	DM65	20	21	1
59500	67320	147.044	2.09	2.56	147	DM65	21	22	1
59450	67331	163.711	0.9084	1.566	5.44	DM70	5.39	6.39	1
59450	67331	162.711	2.04	2.42	3	DM70	6.39	7.39	1
59450	67331	161.711	5.0352	7.2482	32.64	DM70	7.39	8.39	1
59450	67331	160.711	9.72	14.8	79	DM70	8.39	9.39	1
59450	67331	159.711	9.72	14.8	79	DM70	9.39	10.39	0.61
59400	67337	149.531	1.4	0.54	18	DM84	20	21	1
59400	67337	148.531	1.4	0.54	18	DM84	21	22	1
59400	67337	147.531	1.73	2.1	36	DM84	22	23	1
59400	67337	146.531	1.73	2.1	36	DM84	23	24	1
59400	67337	145.531	1.27	2.14	36	DM84	24	25	1
59400	67337	144.531	1.27	2.14	36	DM84	25	26	1
59400	67337	143.531	1.11	0.82	15	DM84	26	27	1
59400	67337	142.531	1.11	0.82	15	DM84	27	28	1
59400	67337	141.531	0.63	0.6	10	DM84	28	29	1
59400	67337	140.531	0.63	0.6	10	DM84	29	30	1
59400	67337	139.531	1.53	1.14	36	DM84	30	31	1
59400	67337	138.531	1.53	1.14	36	DM84	31	32	1
59400	67337	137.531	1.13	0.68	22	DM84	32	33	0.5
59350	67340	163.864	5.36	8.93	113	DM97	8	9	1
59350	67340	162.864	5.36	8.93	113	DM97	9	10	1
59350	67340	161.864	4	6.64	79	DM97	10	11	1
59350	67340	160.864	4	6.64	79	DM97	11	12	1
59350	67340	159.864	2	3.3	37	DM97	12	13	1
59350	67340	158.864	2	3.3	37	DM97	13	14	1
59350	67350	156.401	1.79	8.15	108	DM98	16	17	1
59350	67350	155.401	1.79	8.15	108	DM98	17	18	1
59350	67350	154.401	0.92	1.09	18	DM98	18	19	1
59350	67350	153.401	0.92	1.09	18	DM98	19	20	1
59192.61	67327.98	163.68	0.0268	0.1921	1.21	DTM4	23.79	24.79	1
59192.59	67328.69	162.978	0.0294	0.1308	1.79	DTM4	24.79	25.79	1
59192.58	67329.4	162.274	0.2941	0.1504	1.3559	DTM4	25.79	26.79	0.59
59418.87	67305.64	163.442	0.9401	0.7796	3.71	DTM7	7.57	8.57	1
59418.85	67306.33	162.718	1.169	0.8829	5	DTM7	8.57	9.57	1
59418.83	67307.01	161.991	1.1027	0.5707	20.39	DTM7	9.57	10.57	1
59418.81	67307.7	161.263	1.15	0.345	32	DTM7	10.57	11.57	1
59418.79	67308.38	160.532	1.9765	1.1744	20.6	DTM7	11.57	12.57	1
59418.77	67309.06	159.8	1.9103	1.686	10.86	DTM7	12.57	13.57	1
59418.75	67309.74	159.065	2.5072	2.797	11.14	DTM7	13.57	14.57	1
59418.73	67310.42	158.329	2.4095	2.275	15.42	DTM7	14.57	15.57	1
59418.71	67311.09	157.59	1.5005	1.3311	56.19	DTM7	15.57	16.57	1
59418.69	67311.76	156.85	1.35	1.43	85	DTM7	16.57	17.57	1
59418.67	67312.43	156.108	2.775	1.8689	119.2	DTM7	17.57	18.57	1
59418.65	67313.1	155.363	3.85	2.2	145	DTM7	18.57	19.57	1
59417.99	67330.36	134.84	0.015	0.022	0.5	DTM7	45.4	46.4	1
59417.97	67330.99	134.064	0.015	0.022	0.5	DTM7	46.4	47.4	1

Appendix 5
Mariposa West Lode Block Model Sections

Appendix 6
Mariposa West Lode Block Model Plans

Appendix 7
Mariposa East Lode Block Model Sections

Appendix 8
Mariposa East Lode Block Model Plans