REPORT ON STATSISTICAL ANALYSIS OF COMPOSITES FOR THE GRUM DEPOSIT

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SUMMARY

Drill hole analytical data for the Grum Deposit has been composited by a varity of methods. Compositing styles vary in weighting and composite interval methods. A vigorous program of univarient statsistical analysis has been performed on the raw analyitical and composited data.

Analytical results for lead, zinc, silver, gold, and specific gravity of pulp have been cut to the 95th percentile before compositing. Composites have been grouped into similar rock code catagories then statistically analysed.

The current version of PCXPLOR software does not provide the capabilities to assign rock codes based on weighting within a composite interval. Rock codes have therefore been assigned to composites based on the occurence at the interval center. Univarient statistical analysis for this method of assigning rock codes to composites (ICCOMP) has been completed. A fortran program called RKCOMP, written by Dr. L.C. Pigage of Curragh Resources Inc., was utilized. RKCOMP determines the most abundant rock code within a composite interval and assigns that rock code to the composite. RKCOMP data was also statsistically analysed. Statstical results of ICCOMP and RKCOMP are compared in this report.

INTRODUCTION

The purpose of this report is to document the statistical analysis and results for Grum Deposit drill hole composites. All drill holes occuring within the limits of the current Grum Model (G9005) have been composited. Composites consist of either 7.0 meter lengths starting at the collar or by intervals occuring between a selected set of parallel planes. A total of three sets of parallel planes were used to composite the drill hole data.

Analytical results for Pb, Zn, Ag, Au, and SG-pulp have been cut to the 95th percentile. The cut data has been used in the compositing proceedure. The data composited consists of: cut Pb+ZN%, cut Pb%, cut Zn%, cut Ag (AA), cut Au, Po+Py%, Po%, Py% and SG-pulp. Cut Pb+Zn has been determined by the sum of cut Pb and Zn.

Two methods of assigning rock codes to composites has been utilized. The first method assigined the rock code occuring at composite center as the code for the entire interval (ICCOMP). The second method utilized RKCOMP, a fortran program written by Dr. L. C. Pigage of Curragh Resources Inc. RKCOMP determines the most abundant rock type within a composited interval and assigns that rock code to the composite. Both ICCOMP and RKCOMP have been statsitically analysed.

Three groups of rock codes have been statistically analysed, these are 20-30, 50-70, and 210. The statistical results from ICCOMP and RKCOMP are critically analysised within this report.

METHOD

Analytical data has been cut to the 95th percentile before compositing. Cut assays have been used for compositing. Table 1 contains the 95th percentile used for each element in each rock code group statistically analysed. Table 2 lists the total number of data points cut used in the statistical analysis, as well as the numbert of values cet to the 95th percentile.

ROCK CODE GROUP	95th PERCENTILE CUT OFF VALUES				
	P %	Zn%	Ag (g/t)	AU (g/t)	SG
20-30	6.44	11.34	106.68	1.848	3.86
50-70	9.68	16.85	160.44	2.36	4.85
210	3.48	5.66	56.44	1.26	3.5

Ta le 1. 95th percentile cut off values for uncut assasys.

ROCK CODE GROUP	95th PERCENTILE CUT OFF VALUES									
	Pb%		Zn%		Ag(g/t)		Au(g/t)		SG	
	TOTAL # OF ANALYSIS	# OF CUT ANALYSIS	TOTAL # OF ANALYSIS	# OF CUT ANALYSIS	TOTAL # OF ANALYSIS	# OF CUT ANALYSIS	TOTAL # OF ANALYSIS	# OF CUT ANALYSIS	TOTAL # OF ANALYSIS	# OF CUT ANALYSIS
20-30	6,719	321	6,720	311	6,702	300	4,891	237	6,724	295
50-70	2,933	145	2,933	146	2,928	130	2,330	108	2,938	112
210	804	39	811	40	787	36	577	28	812	37

Ta le 2. Total number of analysis and number of values cut to 95th percentile.

The current version of PCXPLOR software will not allow rock codes to be assigned to composite intervals based on weighting. Rock codes occuring at the composite center were initially assigned as the interval rock code. These composites were then statistically analysed by rock code groups. The composited data was then manipulated by the fortran program RKCOMP. RKCOMP determines the rock code which occurs most often within the composited interval. This rock code is then assigned to the interval. The composites with this new rock code were statistically analysed.

Cut assay composites were length and SG-length weighted.

Drill holes with a collar inclination steeper than **45° are composited by parallel planes 7.0 meters apart. These planes are coincident with proposed mining benches. Drill holes with a collar inclination of less than **45° were composited by one of two methods; either by 7.0 meter lengths from the collar or by parallel planes. Parallel planes selected for these composites are selected to allow an orthogonal relationship between drill hole orientation and the parallel planes. To acheive this relationship for all drill holes three sets of parallel planes were required. The three sets used are oriented i) coincident with proposed mining benches, ii) parallel longitudinal sections and iii) parallel cross sections. All planes within a particular set are spaced 7.0 meters apart.

Two Scenarios have been set for compositing the Grum drill hole data.

Scenario 1 (SN1A and SN1B) represents compositing by parallel planes for drill holes steeper than **45°. All other drill holes have been composited using 7.0 meter lengths from the collar. The composites have been weighted by length and length*SG. The details of compositing for scenario 1 are as follows:

PCXPLOR Table 5 (SN1A):

- all composites in table 5 are length weighted

- drill holes with an inclination steeper than **45° are composited by 7.0 meter benches

- drill holes with an inclination less than **45° are composited by 7.0 meter lengths starting at the collar

PCXPLOR Table 6 (SN1B):

- all composites in table 6 are length*SG weighted

- compositing style in table 6 is similar to that in table 5.

Scenario 2 (SN2A and SN2B) represents compositing by parallel planes for drill holes steeper than **45°. All other drill holes have been composited a variety of parallel planes. An attempt to maintain an orthogonal relationship between drill hole orientation and plane orientation. The composites have been length and length*SG weighted. The details of compositing for scenario 2 are as follows:

PCXPLOR Table 7 (SN2A):

- all composites in table 7 are length weighted

- drill holes with an inclination steeper than **45° are composited by 7.0 meter benches

- drill holes with an inclination of less than **45° are composited by one of two sets of parallel planes. One set is oreinted parallel to cross sections, the second coincident with longitudinal sections. An attempt to composite which would allow an orthogonal relationship between drill holes and parallel planes has been maintained.

PCXPLOR Table 8 (SN2B):

- composites in table 8 are length*sg weighted

- compositing style in table 8 is identical to that in table 7.

RESULTS

i)ICCOMP

Arithmetic mean values of composites with rock codes assigned by the interval center are located in table 3.

Arithmetic mean values for scenario 1 are outlined in table 3. Detailed statsistical results and histograms are located in Appendix II.

Arithmetic mean values for scenario 2 statsistics are outlined in table 4. Detailed statsistical results and histograms are located in Appendix III.

table 3 (iccomp)

table 4 (iccomp)

ii)RKCOMP

table 5 (RKCOMP)

table 6 (RKCOMP)