July 18th, 2022

<u>Elmore</u>

Market Update

KEY POINTS

- Elmore has executed an agreement to purchase the Peko Magnetite, Copper, Cobalt, Gold and Bismuth project along with all related project Companies
- Purchase has been funded by a Vendor Finance Agreement
- The purchase allows Elmore to widen its focus from the minerals processing contract that only covered the stockpiled tailings, to also extend to the known and potential open pit and underground mineralisation and the significant exploration potential of the tenements.
- The project has historic and recent JORC compliant defined resources for gold, copper, cobalt and bismuth within the stockpile, along with oxide gold resources and potentially significant remnant mineralisation in the old underground mine below the stockpile.
- Elmore has extended the previously announced Avior funding facility by a further \$1.5m to assist in the ownership transition.

Elmore Ltd (ELE: ASX or Elmore) is pleased to provide an update on the development of the Peko magnetite, copper, cobalt, gold and bismuth project in the Northern Territory.

Project Purchase

Elmore has executed agreements to purchase the Peko Project in the Northern Territory, plus all of the Companies related to the project held by the existing owners. The binding purchase agreements has now been finalised, subject to Shareholder and any relevant Government Approvals and standard share transfer administration that is normal in such transactions.

Vendor Finance has been provided, ensuring that the purchase is not subject to finance and that the deal metrics can be set now, rather than change with a variable balance sheet of the operations as they ramp up.

The Vendor Finance Facility allows the Company ample time to both refinance the facility utilising a longer-term debt instrument, plus reduce the facility utilising project cash-flows.



Background

In mid-2021, when ICAs retiring shareholders (Peko Gold Lending) took control of the Peko project, Elmore was asked to manage the construction and day to day operations of the project under a duly executed Management Agreement.

Elmore has since completed the construction and commissioning of the Stage 1 Magnetite Recovery Plant and is now producing magnetite product with regularly deliveries, via train, to the Port of Darwin.

Peko Gold Lending's shareholders focus primarily on funding conventional property construction projects and do not have a history of funding mining, minerals processing or exploration projects. The funding provided to ICA was considered a Special Situations facility, not business as usual.

Now that the project has been constructed and production has commenced, Peko Gold Lending's shareholders have decided to take the opportunity to exit the project and return their focus to their normal business. The sale timing allows for a reasonable rate of return to Peko Gold Lending, plus significant potential returns to Elmore, thus satisfying both parties.

Peko Gold Lending's Mr David McIntosh said "While the investors in ICA are giving up significant amounts in terms of future opportunities, this isn't our area of expertise and the combined knowledge and skills of the Elmore Board, led by David Mendelawitz, are much better positioned to gain the most benefit from the mine, to make it work commercially and to give the best returns for all investors. I look forward to the success of the Peko Mine, and to what David Mendelawitz and the Board of Elmore can do with it and with Elmore's other activities across the market."

Purchase Price and Arrangements

The key points of the new contract are:

- \$30 million purchase price
- Elmore to guarantee the performance a pre-existing royalty agreement between the ICA group and ICAs retiring shareholders so that they will receive a total of 20,000 ounces of gold at the higher of 900 ounces per quarter, or 25% of production from commencement of production, which must occur within 3 years.

Vendor financing package:

- 12-month term
- Initial interest rate of 2.5% pa for 3 months (Initial Rate)
- Rate increased to 17.5%pa for the next 3 months (Standard Rate) and 27.5% for final 6 months (Extended Rate).

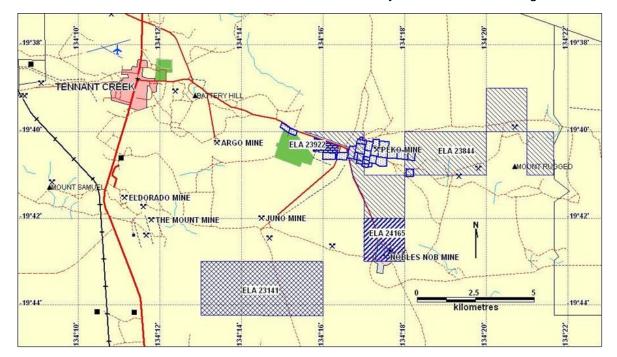
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The Vendor Financing Agreement has been negotiated to allow Elmore to obtain financing without the risk of the deal metrics changing during the finance period. It is not intended to be used as a means of paying off the purchase. The acceptance of a high interest rate is reflective of Elmore confidence in the re-financing and to encourage Elmore to re-finance the purchase. Elmore is targeting refinance of the Vendor Finance Facility in Q4, 2022 (prior to the Extended Rate) and expects, based on initial discussions with potential funders and debt advisory groups, that this should be achievable with a 3-year debt facility with interest rates below the Standard Rate provided in the Vendor Finance Facility.

About Peko

The Peko Project is located approximately 10km SE of Tennant Creek in the Northern Territory, 900km south of Darwin. The Project site is situated near the Stuart Highway, and the Adelaide-Darwin railway, both of which are utilised for transport and logistics.

Previous mining of Peko and surrounding tenements has had a significant impact on the development and prosperity of the Tennant Creek township. Peko Iron Project has continued this trend by supporting local businesses and by sourcing a large proportion of the workforce locally. This serves to not only bolster support for the Project and Elmore's standing within the community, but also helps to reduce operational costs associated with a fly-in, fly-out workforce. The current workforce is 80% Northern Territory based and 30% Indigenous.



Peko/ ICA Tenements



Peko Tailings Dams

The Project resource is a complex of five adjoining tailings dams containing a total of approximately 3.75M tonnes of dry-stacked tailings. The figure below shows a still frame of the tailings dams taken from drone footage. Ore mined from the historical Peko mine and nearby mines including El Dorado, Warrego, Nobles Nob, Juno, Gecko, White Devil, Orlando, and Ivanhoe - operating from as early as 1932 to the late 1990s - was processed and stockpiled at the Project site. Historical production focussed on the recovery of gold, copper, and bismuth. At the height of production, Tennant Creek was one of the largest gold producers in Australia. Production of copper was also lucrative, especially during World War Two, as it was needed for munitions and ordnance.



Peko Tailings Dams looking northeast – drone footage

Copper, Cobalt and Gold

Copper, cobalt and gold resources were modelled by Normandy Gold (1997) and PekoBull (2016) over the stockpile generating Historic Resources

Tailings Dam	ngs Dam Tonnes		old	Copper		Cobalt	
	Tonnes	OZ	g/t	tonnes	%	tonnes	%
No 1	72,201	5,104	2.2	619	0.85	227	0.31
No 2	645,283	33,402	1.6	3,024	0.47	1,238	0.19
No 3	516,629	21,261	1.3	1,369	0.26	485	0.09
No 4	2,519,235	78,567	1.0	4,555	0.18	2,003	0.08
TOTAL	3,753,348	138,244oz	1.14	9,567t	0.25	3,953t	0.11

Normandy Gold 1997 Metal Historic resources within the Peko tailings

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Dam	Tonnage	% of Overall	Drilling	Gold	Cobalt	Copper
Dain	Tonnage	Tonnage	Program	g/t	ppm	ppm 3456 8573 4952 4686 2588 2650
DAM 1	72,201	1.9%	PekoBull	2.68	1166	3456
DAWII	72,201	1.5%	Normandy	2.16	3138	ppm 3456 8573 4952 4686 2588
DAM 2	DAM 2 (45.202	17.2%	PekoBull	1.63	2201	4952
DAIVI Z	645,283	17.270	Normandy	1.61	1919	4686
DAM 3	E16 620	13.8%	PekoBull	1.17	983	2588
DAIN S	516,629	15.0%	Normandy	1.28	939	2650
DAM 4	2 5 10 225	67.1%	PekoBull	0.99	807	1729
DAIVI 4	2,519,235	07.1%	Normandy	0.97	795	1808

2016 Comparison of Normandy & PekoBull Drilling Programs

The PekoBull drilling results are closely correlated with the 1997 Normandy grade estimates, and in a number of cases, Au and Co exceed them. Copper and cobalt in Dam 1 are lower as a result of a short period of copper leaching by a previous operator (mid 2000s).

Recent modelling to convert these Historic Resources into JORC 2012 Resource statements have been undertaken, though lacked some of the survey data, so were incomplete in their estimation of the resources.

Elmore will undertake remodelling and surveying at its earliest convenience to convert these resources into JORC 2012. Until then, investors should use these resource statements as a guide, rather than a definitive statement of the contained metals.

The grade in the material is further concentrated as the magnetite is recovered from the stockpile material. Elmore believes that it has options to recover circa 60% of the gold contained in the stockpile

Magnetite

As well as containing gold, copper, and bismuth, the mined ore was also rich in magnetics – particularly magnetite; however, previous ventures have not capitalised on this resource. Historically, magnetite production has not been economically justifiable due to low prices and government restrictions on exportation to foreign markets. Owing to this, all magnetic products at the Peko site were processed as a tail. On average, the tailings stockpiled at the Peko site contains approximately 75% magnetite. Elmore's processing circuit produces a high-grade magnetite concentrate, for which a premium can be charge. The final product contains between 65% and 68% iron, exceeding the industry benchmark of 62%.

At a planned feed rate of 100 tonne per hour feed rate (yielding circa 50 tonnes per hour of product produced now, along with circa 25 tonnes per hour of oversized material produced which will be reground into product in coming years) the magnetite resource is not expected to be exhausted until 2030.





Stockpile material being fed into the plant in background



Containers of product ready to be dispatched to the rail in background

Plans to expand into copper (Cu) and cobalt (Co) processing

In parallel with the Peko Iron Project are plans to expand the operation to include recovery of copper, cobalt, and gold. A Project Management Plan has been developed to purchase and relocate an existing processing pilot plant for the purpose of extracting soluble Co/Cu from the 'loaded' process water generated by the magnetite processing circuit. Only minimal modifications will be required to the plant that the Company plans to purchase.

Commissioning of this plant is targeted to be achieved within 6 months of investment decision. Test-work and modelling by Elmore and external parties estimate that approximately 5,000 tonnes of copper and 1,500 tonnes of cobalt metals can be recovered from retreating the process water. This represents approximately half of the copper and a third of the cobalt estimated to be contained in the stockpile. Further copper and cobalt may be recovered through additional processing with an alternative process, though at this stage the Company has not investigated the merit of doing so. The rapidly growing market for electric vehicles



has seen demand for and price of cobalt increase. Cobalt is currently selling for approximately USD 60,000 per tonne.



Copper carbonate (left) and cobalt sulphide (right) products made by Elmore in the laboratory using Peko soluble metals

Additional Gold Mineralisation

Beyond the gold in the stockpile, there are additional historic resources of gold near surface and left as unmined remnants of the Peko underground operations located below the project. Subject to re-confirming the resources and permits, Elmore is looking to extract the near surface gold mineralisation as soon as possible, with the aim of processing it with the plant that has been acquired by the Company for processing the Territory Minerals project in Far North Queensland.

When time and financial resources allow, the Company with investigate the robustness and economics of the underground remnants.

Extension of Avior Facility

Elmore have extended the previously announced funding facility provided by Avior by a further \$1.5 million (minus fees) provided in 2 tranches over 1 month.

- The facility has a term of 2 years at an interest rate of 15% per annum.
- In addition, 10% establishment and exit fees are paid on the facility.
- The principal and interest are paid in roughly equal monthly instalments over the term of the loan.
- The loan is secured.



Elmore is now entitled to 100% of the proceeds of product sales, including inventories currently in Darwin and on site.

Financial Modelling

Financial models to forecast the cash surplus that can be generated from the Peko project through the sale of the various commodities were previously built to guide the project and, more recently, purchase valuation. Avior have now been commissioned to generate detailed, independent cashflow models to use to re-finance the Vendor Finance Facility. Whilst these models will soon be ready to use for re-financing the Vendor Finance package over Peko, they are not yet ready for public dispersal due to the status of JORC compliant resources over the project.

Managing Director's Comments

Elmore's Managing Director Mr David Mendelawitz commented, "The Peko project is really starting to show potential to be both long-term and lucrative. With magnetite production underway, near-term copper and cobalt production forecast and multiple potential sources of gold, Peko offers a wide range of income streams to act as both additions to revenue and hedges to each other during market fluctuations. All this, whilst rehabilitating an old eye-sore and employing locals to the project make us happy to be involved.

Whilst the purchase of the project was not something that we had expected or planned for, after being involved with Peko for the last few years we believed that it was an opportunity that we could not pass up. Now that our focus is broadening beyond the stockpile, we can see that Peko has the potential to be significantly more to Elmore that we had previously planned and we look forwards to being part of this project and the local community for many years to come."

END



8 Burnettia Lane Mt. CLAREMONT WA 6010, AUSTRALIA Phone +61 (08) 9284 6137 e-mail: marat.z.abzalov@gmail.com

PEKO TAILINGS: Estimation of Mineral Resources

(concise report)

2017 November

Consultant:

Dr. M. Abzalov

15 November, 2017



Report:

PEKO TAILINGS: Estimation of Mineral Resources (concise report)

Prepared by:	Dr. Marat Z. Abzalov
Contributors:	
Edition	Version 2
Prepared for:	Peko Bull
Date:	15 November, 2017
Key words:	Tailings, Peko
Re:	PEC20171115

CONCISE REPORT

The report presents Resources of the Peko mine tailings that were estimated using new drilling data.

GEOLOGICAL BACKGROUND

The mineralisation is not a natural deposit but is represented by the tailings of the Au-Cu-Fe processing plant. In total, there are 6 tailings dams at the Peko mine site (Fig. 1). The tailings were formed by slowly and evenly infilling the natural depressions by the rejects (tailings) of the processing plant. This has created horizontal layering of the mineralisation infilling tailings.



Figure 1: Map of the Peko tailings showing distribution of the drill holes drilled in 2016

The tailings consist of mainly magnetite (~80%) with smaller amounts of silicate gangue mineral and minor amounts of sulphides and quartz. The sulphide minerology consists of mainly gold bearing pyrite with small amounts of chalcopyrite, marcasite, arsenopyrite and pyrrhotite. The primary copper bearing mineral is chalcopyrite. Main cobalt bearing mineral is pyrite. Cobalt also present in arsenopyrite, which is rare and occurs only as the traces in the tailings samples.

DATA

Resource database contains 65 drill holes with 496 samples (Table 1).

Dam	No. Auger Holes	Total Metres	No. RC Holes	Total Metres	Average Depth
1	15	30			2
1X	4	8			2
2			9	126	14
3			9	83	9
4			20	180	9
5			8	20	2.5
Total	19	38	46	409	

Table 1: Distribution of the drill holes, drilled in 2016, by the tailings dams

TAILINGS DENSITY

Dry Bulk Density was determined in 1989 by Laurie Smith and Associates. For this purpose they dug two trenches in Dam 2 and three trenches in Dam 3. The bulk density of tailings was determined by measuring of the excavated volumes ranging from 25-53m³ and the sample weights ranging from 60-100 tonnes. The bulk dry density determinations of the 5 trenches varied from 1.48 to 2.58 tonnes/m3 (ie. BDD22 - 2.31, BDD21 - 1.48, BDD33 - 2.21, BDD32 - 1.79 and BDD31 - 2.58).

Based on these data the following density values were estimated for the tailings dams:

Dam 1; 2.15 dry tonnes /m³

Dam 2; 2.17 dry tonnes /m³

Dam 3; 2.17 dry tonnes /m³

Dam 4; 2.16 dry tonnes /m³

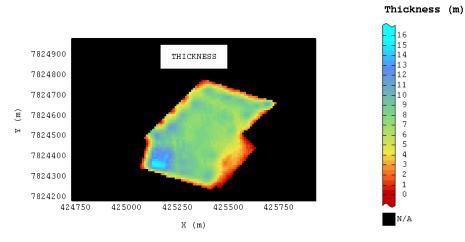
These values were used for tailings Resource estimation in 1997 by Normandy and used for the current Resource estimation.

ESTIMATION METHODOLOGY

Resources were estimated in a 2D system.

- Geostatistical analysis was made using ISATIS, a special geostatistical software.
- The 2D model area was constrained by the boundaries of the tailings dams digitised from the map shown on the Figure 1

 Volume of the mineralised bodies was estimated using thickness of the tailings deduced form the drill holes and extrapolated between drill holes using Ordinary kriging (Fig. 2).





Volume of the mineralised bodies was estimated using thickness of the tailings d

• 2D variograms of Au, Cu and Co are summarised on the Figures 3 and 4:

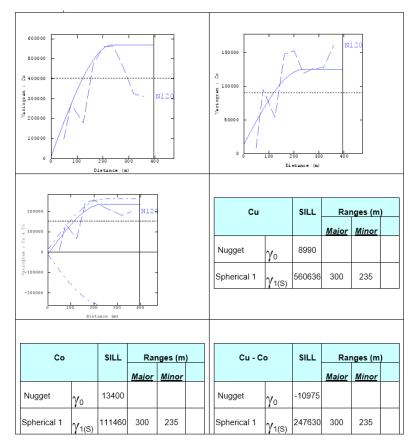


Figure 3: 2D variograms and cross-variograms of Cu - Co and their models

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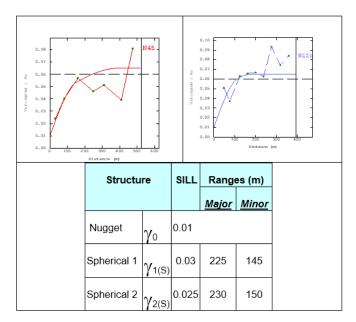


Figure 4: 2D variograms of Au

• Grade was estimated as follows:

Dams 3, 4 and 5 were estimated as one body. Au by Ordinary kriging; Cu and Co by Ordinary Co-kriging;

Dam 2: was estimated separately. Au by Ordinary kriging; Cu and Co by Ordinary Co-kriging;

Dam 1x: grade of Au, Cu and Co was estimated as average of 8 samples collected from 4 holes drilled in this dam;

Dam 1 was not estimated due to insufficient data.

<u>RESULTS</u>

Resources of the Peko tailings

Dam	Tonnage (Kt)	Grade			Со	ontained me	tal
		Au g/t	Cu %	Co %	GOLD (Koz)	COPPER (Kt)	COBALT (Kt)
1		not	estimate	d due to	insuffient data	а	
1x	11	2.9	0.66	0.20	1	0.1	0.02
2	384	1.6	0.48	0.21	20	1.8	0.8
3	476	1.2	0.24	0.09	18	1.1	0.4
4	2,157	1.0	0.17	0.08	68	3.7	1.7
5	136	1.2	0.09	0.02	5	0.1	0.03
TOTAL	3,163	1.1	0.22	0.10	112	6.9	3.0

RECOMMENDATIONS

Mineralisation is constrained by the tailings borders. A high resolution topographic model need to be created for a more detailed evaluation of the project. It is recommended to create the detailed DTM using LiDAR technology.

The drilling grid shoud be infilled to the level of details sufficient for estimation Indicated and Measured Resources and Ore Reserves.

A robust QAQC procedures for assuring integrity and high quality of the drill hole samples should be developed and implemented at the next phase of drilling.

DISCLAIMER

The report is prepared for exclusive use of PEKO BULL for the sole purpose of the mine project evaluation of the mineralised Peko tailings.

The report must be read in light of:

- report distribution and purposes for which it was intended
- its reliance upon information obtained from Peko Bull
- the limitations of the data that were explained in the JORC Check list (JORC Table 1)
- the assumptions referred to throughout the report
- limited scope imposed on the report
- other relevant issues which are not within the scope of the report.

Subject to the limitations referred to above, all due care in the preparation of the report has been exercised and that the information, conclusions, interpretations and recommendations of the report are both reasonable and reliable.

MASSA Geoservices makes no warranty or representation to a company (expressed or implied) with regard to any commercial investment decision made on the basis of the report

- the report is integral and must be read in its entirety
- this Disclaimer must accompany every copy of this report.

The conclusions of the reported study are made using various assumptions, conditions, limitations and abbreviations, main of them are briefly explained in the report.

APPENDIX 1

CP Consent Form



ABN 28 154 057 274

8 Burnettia Lane Mt. CLAREMONT WA 6010, AUSTRALIA Phone +61 (08) 9284 6137 e-mail: marat.z.abzalov@gmail.com

COMPETENT PERSON'S CONSENT FORM

Pursuant to the requirements of ASX Listing Rules 5.6, 5.22 and 5.24 and Clause 9 of the JORC Code 2012 Edition (Written Consent Statement)

Report name

PEKO TAILINGS: Estimation of Mineral Resources (concise report)

(Insert name or heading of Report to be publicly released) ('Report')

Peko Bull

(Insert name of company releasing the Report)

Peko Tailings

(Insert name of the deposit to which the Report refers)

If there is insufficient space, complete the following sheet and sign it in the same manner as this original sheet.

15 November 2017

(Date of Report)

Statement

I, Marat Abzalov

confirm that I am the Competent Person for the Report and:

• I have read and understood the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition).

• I am a Competent Person as defined by the JORC Code 2012 Edition, having five years experience that is relevant to the style of mineralisation and type of deposit described in the Report, and to the activity for which I am accepting responsibility.

• I am a Fellow of The Australasian Institute of Mining and Metallurgy.

• I have reviewed the Report to which this Consent Statement applies.

I am a consultant working under the business name MASSA Geoservices

I am a consultant working under the business name MASSA Geoservices.

(Insert company name)

and have been engaged by

Peko Bull

(Insert company name)

to prepare the documentation for

PEKO tailings

(Insert deposit name)

on which the Report is based, for the period ended

15 November 2017

(Insert date of Resource/Reserve statement)

I have disclosed to the reporting company the full nature of the relationship between myself and the company, including any issue that could be perceived by investors as a conflict of interest.

I verify that the Report is based on and fairly and accurately reflects in the form and context in which it appears, the information in my supporting documentation relating to Exploration Targets, Exploration Results and Mineral Resources (select as appropriate).

Consent

I consent to the release of the Report and this Consent Statement by the directors of:

Peko Bull

ire of Competent Person

15 November, 2017

Date:

AusIMM Professional Membership:

Signature of Witness:

202718

Membership Number:

GEOFFRET ALEXANDER HAWKINS

5 HELICONIA TORN STIRLING WA 6021

Print Witness Name and Residence: (eg town/suburb)

APPENDIX 2

JORC CHECK LIST (Table 1)

JORC (2012) TABLE 1 Checklist of Assessment and Reporting Criteria

Section 1 - Sampling Techniques and Data

Criteria of JORC Code 2012	Explanation given in the JORC Code 2012	Details of the Reported Project
(1.1.) Sampling techniques	• Nature and quality of sampling (eg cut channels, random chips, or specific specialized industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	 Resource database includes 19 hand auger drill holes (38m drilled) and 46 track mounted RC drill holes (409m drilled). All drilling was made in January 2016. Drill holes were sampled at 1m intervals. A total of 447 samples were analysed at ALS in Perth for the following elements: Au - ALS laboratory code of assay method is Au-AA26 (fire assay with atomic absorption finish) Cu, Co, Ag, Bi, Fe, S - ALS laboratory code of assay method is ME-ICP61 (inductively coupled plasma atomic emission spectroscopy, ICP – AES)
	• Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Drilling in 2016 was carried using standard drilling and sampling procedures.

	• Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been	Reverse Circulation and auger drilling was used to obtain 1 m samples, approximately 3 kg. The samples were delivered to ALS Metallurgy laboratory in Perth for preparation and assaying.							
	done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.			ere individually ay determinati				en from the pul nalyses	lverised
Drilling techniques	• Drill type (eg core, reverse circulation, open-hole hammer,	Types the tab		nd the distribut	tion of the dr	ill holes per	the tailings da	ams is summa	rised in
(1.2.)	rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube,		Dam	No. Auger Holes	Total Metres	No. RC Holes	Total Metres	Average Depth	
	depth of diamond tails, face-		1	15	30			2	
	sampling bit or other type, whether core is oriented and if so, by what		1X	4	8			2	
	method, etc).		2			9	126	14	
			3			9	83	9	
			4			20	180	9	1
			5			8	20	2.5	1
		1			1	1			

Drill sample recovery	• Method of recording and assessing core and chip sample recoveries and results assessed.	Sample weight was recorded and used to control the samples recovery				
(1.3.)	• Measures taken to maximise sample recovery and ensure representative nature of the samples.	The tailings at the Peko project was drilled by previous owners and RC drilling was found well suited for this environment allowing to obtain a good quality samples for Resource estimation. Based on the knowledge gained by the previous explorers the RC drilling was chosen as the main method for Resource definition drilling at the Peko tailings project.				
	• Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	No evidences of relationships between samples recovery and grade was noted. In most of the dams there is evidence of copper and cobalt grade decreased in the upper two metres of the tailings. A.L.Govey, geologist, who reviewed the 2016 data, has explained the systematic decrease of Cu and Co grade in the upper layer of the tailings by leaching of these metals, possibly as a result of supergene weathering processes.				
Logging (1.4.)	• Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	Geological logging was limited to documentation of the tailings material with an emphasis on recording of the depth where natural ground material has appeared in the drill hole samples. Level of detail is sufficient to support Inferred Resource estimation Drill holes were not geotechnically logged.				
	• Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging was qualitative. Photos of the tailings dam was made for better understanding the type of material drilled and the tailings shapes.				
	• The total length and percentage of the relevant intersections logged.	100% of the drill holes was logged				
Sub- sampling techniques	• If core, whether cut or sawn and wether quarter, half or all core taken	Not applicable. Non-core type of drilling (i.e RC) was used				
and sample preparation (1.5.)	• If non-core, whether riffled, tube sampled, rotary split, etc and	RC samples were split using a riffle splitter built into the drill rig.				

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whether sampled wet or dry.	
• For all sample types, the nature, quality and appropriateness of the sample preparation technique.	 Samples were sent to the ALS laboratory where they were prepared following the standard protocol of ALS. The samples were all checked against the logsheet supplied by the company and found to be all present and accounted for. The samples were placed in labelled trays and dried at 95DegC for 24hours to remove any moisture. The dried samples were placed into sealed plastic bags labelled with the corresponding sample details The dried samples were pulverized with double silica flushed between each sample. Portions of the pulverized sample were removed for analyses
• Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Quality of the pulp pulverising was controlled by test sieving. Results confirm that 95% pass for 75 μ m fraction is commonly achieved.
• Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	Field duplicates was not used. Pulp duplicates were re-assayed if high grade Cu and Fe results were obtained by 1 st analysis (laboratory code ME-ICP61). The samples were re-assayed using ICP-AES method, laboratory code OG62
• Whether sample sizes are appropriate to the grain size of the material being sampled.	3 kg sample representing 1 m of the drilled interval is a standard size of the RC samples used for estimation Resources of the base-metal mineralisation. This size is well suited for estimation of the tailings which are composed by a finer grained material then the natural ore.

Quality of assay data and laboratory tests (1.6.)	• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	All analyses were made at the ALS laboratory in Perth. Au was assayed by fire assay method with atomic-absorption finish. Laboratory code Au-AA26. Cu, Co, Ag, Bi, Fe, S assayed by Inductively Couple Plasma Atomic Emission Spectroscopy, Laboratory code ME-ICP61. Sample preparation was made using 4 acid digest.
	• For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	Not applicable. Geophysical tools not used.
	• Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	Pulp duplicates were re-assayed if high grade Cu and Fe results were obtained by 1 st analysis (laboratory code ME-ICP61). The samples were re-assayed using ICP-AES method, laboratory code OG62. Accuracy control was limited to using of the internal ALS reference materials
Verification of sampling and assaying	 The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. 	The 2016 drilling results have been compared with the previous drilling data, in particular the Resource definition database of Normandy. The comparison indicates that 2016 results are in a good agreement with the previous drilling results. Twin holes were not used.
(1.7.)	• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Assays results were obtained from the laboratory in electronic format as *.csv files. The data were compiled into a single Excel file, and checked by consulting geologist (A.L.Govey). The files were electronically sent to the project CP for Resource estimation.
	• Discuss any adjustment to assay data.	No adjustments were made to the data.

Location of data points (1.8.)	 Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control. 	Location of the drill hole collars was determined by a hand-held GP Holes are shallow and were drilled vertically down, therefore down MGA (GDA94) zone 53 Topographic control was not used. The volume of the mineralised t the thickness of the drillhole intersections and the spatial extents of digitized from the map of the testing down	hole survey was not used.
Data spacing and distribution (1.9.)	• Data spacing for reporting of Exploration Results.	AMIX ADA1 ADA2 ADA3 ADA3	Drill holes spacing is as oblows: Dam 1x 40 x 20m Dam 2 40 x 20m Dam 3 30 x 60m Dam 4 50-60 x 80-100m Dam 5 40 x 40-50m
	• Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	The drill spacing is suitable for estimation Inferred Resources	

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	• Whether sample compositing has been applied.	All samples were 1 m long. No compositing of samples was used.
Orientation of data in relation to geological structure (1.10.)	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	The mineralisation in tailings is essentially horizontal and all drill holes are drilled vertically intersecting the mineralisation at right angle, which ensures that the sampling is unbiased.
	• If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	Orientation of the drill holes is orthogonal to the strike of mineralisation providing unbiased results
Sample security (1.11.)	• The measures taken to ensure sample security	Sampling in the field was made by authorised personnel. In the laboratory security of samples and assays were controlled by the internal security procedures of the ALS.
Audits or reviews (1.12.)	• The results of any audits or reviews of sampling techniques and data.	Results of the 2016 drilling was reviewed by A.L.Govey, an independent consultant. He has concluded: "Drilling by PekoBull has successfully verified or exceeded the grade, thickness and lateral and downhole continuity of the Peko tailings deposit as reported by predecessor companies. In addition ample new sample material was made available for extensive metallurgical test work. The project has passed a significant milestone in reducing, if not eliminating, any uncertainty relating to the Au-Cu-Co grades. There is sufficient previous work to reliably establish the volume and tonnage of tailings present and hence the contained metal inventory".

Section 2 - Reporting of Exploration Resu	ılts
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Criteria of JORC Code 2012	Explanation given in the JORC Code 2012	Details of the Reported Project
Mineral tenement and land tenure status (2.1)	• Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	Airport Tennent Creek Township North-South Rail North-South Highway 1 58

	• The security of the tenure held at the time		Title Id	Status	Percent	Grant Date / Expiry	Holder Name
			EL23141 EL23844	Application Application	100		SITZLER SAVAGE PTY_LTD SITZLER SAVAGE PTY_LTD
	of reporting along with any known		EL23922	Application	100		SITZLER SAVAGE PTY_LTD
	impediments to obtaining a licence to operate		EL24165	Application	100		SITZLER SAVAGE PTY_LTD
			HLDC19	Grant	100	19/07/1954	SITZLER SAVAGE PTY_LTD
	in the area.		HLDC20	Grant	100	30/06/1955	SITZLER SAVAGE PTY_LTD
			HLDC21 HLDC22	Grant Grant	100	30/06/1955 30/06/1955	SITZLER SAVAGE PTY_LTD SITZLER SAVAGE PTY_LTD
			HLDC22 HLDC25	Grant	100	23/08/1955	SITZLER SAVAGE PTY_LTD SITZLER SAVAGE PTY_LTD
			HLDC26	Grant	100	23/08/1956	SITZLER SAVAGE PTY LTD
			HLDC27	Grant	100	3/05/1957	SITZLER SAVAGE PTY_LTD
			HLDC28	Grant	100	23/05/1957	SITZLER SAVAGE PTY_LTD
			HLDC29	Grant	100	26/02/1958	SITZLER SAVAGE PTY_LTD
			HLDC30 HLDC31	Grant Grant	100	25/06/1958 13/04/1961	SITZLER SAVAGE PTY_LTD SITZLER SAVAGE PTY_LTD
			HLDC33	Grant	100	14/06/1962	SITZLER SAVAGE PTY LTD
			HLDC38	Grant	100	16/08/1967	SITZLER SAVAGE PTY_LTD
			HLDC60	Grant	100	17/08/1976	SITZLER SAVAGE PTY_LTD
			HLDC61	Grant	100	17/08/1976	SITZLER SAVAGE PTY_LTD
			HLDC62 HLDC63	Grant Grant	100	17/08/1976 15/08/1977	SITZLER SAVAGE PTY_LTD SITZLER SAVAGE PTY_LTD
			HLDC63 HLDC64	Grant	100	15/08/1977	STIZLER SAVAGE PTY_LTD SITZLER SAVAGE PTY_LTD
			HLDC66	Grant	100	15/08/1977	SITZLER SAVAGE PTY_LTD
			HLDC67	Grant	100	15/08/1977	SITZLER SAVAGE PTY_LTD
			MLC10	Renew Retained	100	31/12/2031	SITZLER SAVAGE PTY_LTD
			MLC11	Renew Retained	100	31/12/2031	SITZLER SAVAGE PTY_LTD
			MLC12 MLC125	Renew Retained Renew Retained	100	31/12/2031 31/12/2023	SITZLER SAVAGE PTY_LTD SITZLER SAVAGE PTY_LTD
			MLC125	Renew Retained	100	31/12/2023	SITZLER SAVAGE PTY LTD
			MLC128	Renew Retained	100	31/12/2023	SITZLER SAVAGE PTY_LTD
			MLC13	Renew Retained	100	31/12/2031	SITZLER SAVAGE PTY_LTD
			MLC14	Renew Retained	100	31/12/2018	SITZLER SAVAGE PTY_LTD
			MLC156 MLC157	Renew Retained Renew Retained	100	31/12/2024 31/12/2024	SITZLER SAVAGE PTY_LTD SITZLER SAVAGE PTY_LTD
			MLC19	Renew Retained	100	31/12/2024 31/12/2020	SITZLER SAVAGE PTY_LTD
			MLC3	Renew Retained	100	31/12/2023	SITZLER SAVAGE PTY_LTD
			MLC43	Renew Retained	100	31/12/2034	SITZLER SAVAGE PTY_LTD
			MLC44	Renew Retained	100	31/12/2034	SITZLER SAVAGE PTY_LTD
			MLC507	Renew Retained	100	31/12/2033	SITZLER SAVAGE PTY_LTD
			MLC509 MLC510	Renew Retained Renew Retained	100	31/12/2020 31/12/2020	SITZLER SAVAGE PTY_LTD SITZLER SAVAGE PTY_LTD
			MLC510 MLC519	Renew Retained	100	31/12/2033	SITZLER SAVAGE PTY_LTD
			MLC6	Renew Retained	100	31/12/2025	SITZLER SAVAGE PTY_LTD
			MLC664	Renew Retained	100	31/12/2025	SITZLER SAVAGE PTY_LTD
			MLC665	Renew Retained	100	31/12/2020	SITZLER SAVAGE PTY_LTD
			MLC666	Renew Retained	100	31/12/2020	SITZLER SAVAGE PTY_LTD
			MLC667 MLC7	Renew Retained Renew Retained	100	31/12/2020 31/12/2025	SITZLER SAVAGE PTY_LTD SITZLER SAVAGE PTY_LTD
			MLC7 MLC8	Renew Retained	100	31/12/2025	SITZLER SAVAGE PTY_LTD
			MLC9	Renew Retained	100	31/12/2031	SITZLER SAVAGE PTY_LTD
Innlanation		Sovoral	•				on was undertaken a
Exploration	• Acknowledgment and appraisal of	Several	campaigi	is or unning			JII Was UNUERIANEIT
lone by other	exploration by other parties.	Peko tailings.					
parties (2.2)		 Drilling by ADL in 1985 was made using an open hole power auge 					
			• •			-	showed that the 19
		S	amples h	ad become :	significa	ntly oxidized, p	rompting a decision

		redrill the dams, concentrating on Dams 1, 2 and 3 for a total of 135
		holes and 1,213m (average depth 8.9m). The method of drilling and
		sample collection for this program is not known.
		 The Normandy drilling comprised 50m by 50m spaced, auger cased,
		core holes, with samples taken every metre downhole. This was the first
		confirmed use of cased holes and the implied greater confidence in
		sample integrity.
		The drilling program totalled 103 holes for 760.25 metres and covered
		the four main dams, a small dump east of Dam 4.
		For the greater part sample recoveries exceeded 90% with more difficult
		moist material near the bottom of the dams. Normandy found that there
		were no apparent high grade gold domains within the resource despite a
		long processing history (1954-1976) and multiple ore sources.
Geology (2.3)	• Deposit type, geological setting and style of mineralisation.	The mineralisation is not a natural deposit but is represented by the tailings of the Au-Cu-Fe processing plant (map is shown on the section 1.9).
		The tailings consist of mainly magnetite (~80%) with smaller amounts of silicate
		gangue mineral and minor amounts of sulphides and quartz.
		The sulphide minerology consists of mainly gold bearing pyrite with small amounts of chalcopyrite, marcasite, arsenopyrite and pyrrhotite. The primary
		copper bearing mineral is chalcopyrite. Main cobalt bearing mineral is pyrite.
		Cobalt also present in arsenopyrite, which is rare and occurs only as the traces
		in the tailings samples. Within the ferromagnetic material of the tailings, all elements (with the exception
		of iron) generally decrease with finer particle size.

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Drill hole Information	• A summary of all information material to the understanding of the exploration results	Dam	No. Auger Holes	Total Metres	No. RC Holes	Total Metres	Average Depth
(2.4)	including a tabulation of the following	1	15	30			2
	information for all Material drill holes:	1X	4	8			2
		2			9	126	14
		3			9	83	9
		4			20	180	9
		5			8	20	2.5
		Total	19	38	46	409	
	• Easting and Northing of the drill hole collar.	Hole ID	Depth Contac Grou		GA)53 N	orth (MGA)53	DAM
		D1-01	2				1
		D1-02	2				1
		D1-03	2				1
		D1-04	2				1
		D1-05	1				1
		D1-06	2				1
		D1-07	2				1
		D1-08	2				1
		D1-09	2				1
		D1-10	2				1
		D1-11	2				1
		D1-12	2				1
		D1-13	2				1
		D1-14	2				1
		D1-15	2				1
		D1X-01	2 2	4248	47	7824351	1x
		D1X-02	2 2	4248	79	7824339	1x

			je 23			·
	D4-10	12	9	425594	7824601	4
	D4-09	11	9	425484	7824592	4
	D4-07 D4-08	11	9	425426	7824614	4
	D4-00	12	9	425377	7824634	4
	D4-05 D4-06	12	10	425038	7824658	4
	D4-04 D4-05	12	10	4255638	7824668	4
	D4-03 D4-04	12	10	425505	7824690	4
	D4-02 D4-03	12 12	10 10	425465 425505	7824698 7824690	4 4
	D4-01	12	11	425403	7824725	4
	D3-09	12	9	425390	7824275	3
	D3-08	12	9	425320	7824295	3
	D3-07	11	9	425270	7824312	3
	D3-06	12	10	425399	7824301	3
	D3-05	12	9	425327	7824323	3
	D3-04	11	9	425277	7824343	3
	D3-03	12	9	425406	7824326	3
	D3-02	12	9	425333	7824351	3
	D3-01	10	9	425284	7824370	3
	D2-09	15	14	425183	7824337	2
	D2-08	15	14	425152	7824341	2
	D2-07	15	14	425121	7824349	2
	D2-06	15	14	425190	7824362	2
	D2-05	15	14	425155	7824368	2
	D2-04	15	14	425128	7824372	2
	D2-03	15	14	425197	7824404	2
	D2-02	15	14	425139	7824419	2
	D2-01	15	14	425156	7824404	2
	D1X-04	2	2	424875	7824319	1x
	D1X-03	2	2	424839	7824328	1x

r							
		D4-11	11	11	425270	7824599	4
		D4-12	9	7	425326	7824570	4
		D4-13	10	9	425388	7824537	4
		D4-14	11	9	425441	7824525	4
		D4-15	11	9	425523	7824522	4
		D4-16	12	10	425215	7824542	4
		D4-17	11	9	425261	7824514	4
		D4-18	10	8	425304	7824493	4
		D4-19	10	8	425365	7824445	4
		D4-20	10	9	425421	7824405	4
		D5-01	4	3	425533	7824422	5
		D5-02	4	3	425563	7824405	5
		D5-03	4	3	425504	7824394	5
		D5-04	4	3	425536	7824359	5
		D5-05	3	2	425483	7824362	5
		D5-06	3	2	425500	7824339	5
		D5-07	1	1	425493	7824307	5
		D5-08	1	1	425473	7824280	5
	• Elevation or RL (Reduced Level –	Elevation	of the colla	ars was no	t recorded		
	elevation above sea level in metres) of the drill hole collar.						
	• <i>dip and azimuth of the hole.</i>	All holes	drilled verti	cally down			
	• down hole length and interception depth	0.3	Nb Samples: 65 Minimum: 1.0		Average	down hole length	n of interceptions

	• hole length.		6.85 m			
	• If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	<i>d</i> The drill hole information is material and included in this table				
Data aggregation methods (2.5)	 In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated. 	Not applicable. Tailings grade was estimated geostatistically into 3D block model using 1m long samples				
	• Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	e				
	• The assumptions used for any reporting of metal equivalent values should be clearly stated.	Not applicable. Metal equivalents were reported for Au, Cu and Co	re not estimated. Resources estimated and			
Relationship between mineralisation	• These relationships are particularly important in the reporting of Exploration Results.		width and intercept length is irrelevant for d for estimation of the tailings Resources			
widths and intercept lengths (2.6)	• If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Mineralisation is distributed as flat lying beds in the tailings. All drill holes are vertical and intersect the mineralisation approximately orthogonally providing the good estimate of the true thickness of mineralisation				
	 If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known'). 					

Diagrams (2.7)	• Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	A Top of the tailings B Basement (natural ground) B B
Balanced reporting (2.8)	• Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Not applicable because tonnage and grade of the tailings were estimated and reported as Mineral Resource
Other substantive exploration data (2.9)	• Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	A substantial amount of historical (pre 1987) testwork has been completed for the recovery of gold, copper and cobalt metals from the Peko tailings material. Almost all testwork completed after 1987 (mainly in the early 2000s) has been focused on magnetic separation of a suitable coal washery magnetite product. Historical flotation work on the tailings showed ~50% of the gold reports to a flotation concentrate, with the remainder to the flotation tail (consisting of magnetite plus gangue). Cyanide leaching of the float tail yielded a residue which contains 0.2 to 0.3g/t Au. Total copper and cobalt recovery of 86% to 88%, (including water soluble plus concentrate) was produced when a flotation concentrate weight of 10 to 12% was produced. Gold recoveries of 65% - 75% were regularly achieved from this historical testwork.
		Additional metallurgical tests have been undertaken in 2016. Results of the tests are as

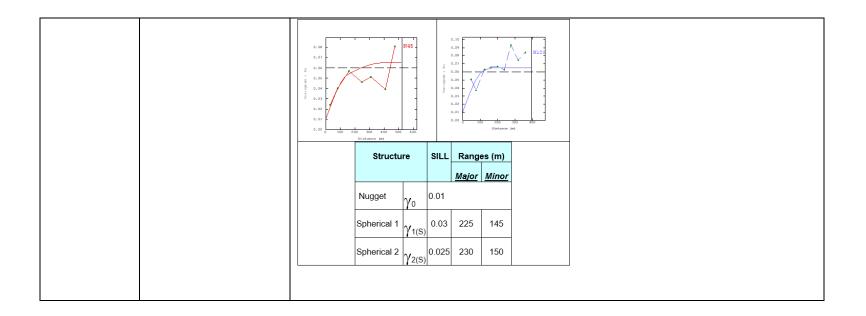
		 follows: Upfront grinding of the material is unlikely to have any additional benefits for gold, copper and cobalt extraction and can likely be eliminated from future flowsheets. A clean sulphide concentrate can be produced from the tailings by flotation. This fact was demonstrated in the proof of concept testwork and also in previous testing (1985 to 1987), which demonstrated that flotation could recover a concentrate which amounted to between 10 to 12% of the weight containing 50% of the gold. The tailings will produce a saleable grade coal washery magnetic concentrate. The tailings are acidic and a significant proportion of the copper and cobalt are soluble when the tailings are mixed with water. Historical testing also demonstrated that LoPOx leaching can have a significant improvement in total metal recovery. A 50% increase was observed for cobalt recovery.
Further work (2.10)	 The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of 	Mineralisation is constrained by the tailings borders. A high resolution topographic model will be created using LiDAR technology. The drilling grid will be infilled to the level of details sufficient for estimation Indicated and
	possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Measured Resources and Ore Reserves.

Section 3 - Estimation and Reporting of Mineral Resources

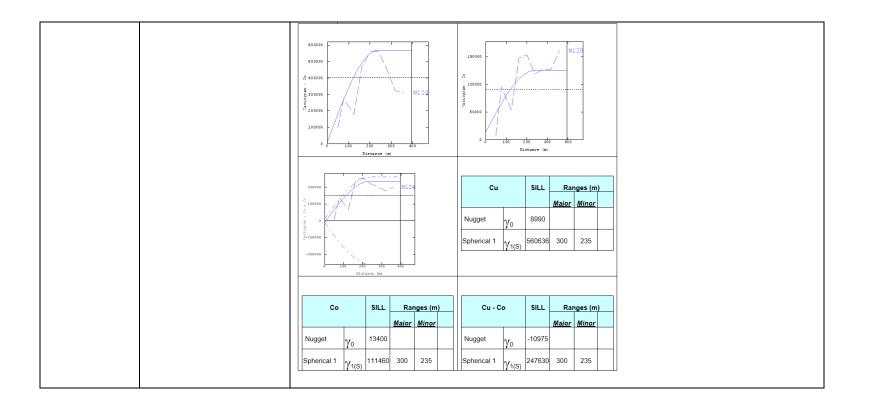
Criteria of JORC Code 2012	Explanation given in the JORC Code 2012	Details of the Reported Project
Database integrity (3.1)	• Measures taken to ensure that data has	Assays results were obtained from the ALS laboratory in electronic format as *.csv files. The data were compiled into a single Excel file, which is located on the company server which
	not been corrupted by, for example, transcription or keying	is regularly backed up.
	errors, between its initial collection and its use for Mineral Resource estimation	The data were electronically sent to the project CP for Resource estimation.
	 purposes. Data validation procedures used. 	The data were checked by consulting geologist (A.L.Govey).
Site visits (3.2)	• Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Dr.M.Abzalov did not visit the project site.
	• If no site visits have been undertaken indicate why this is the case.	Dr.M.Abzalov was approached and requested to estimate Resources of the Peko tailings in late October 2017. Timing and concurrent commitments did not permit to undertake site visit.
Geological interpretation (3.3)	• Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The current interpretation is based on 65 drill holes distributed as approximately regular grid. All drillholes were sampled at 1m intervals and logged. The available information together with the mapped tailing contacts have provided a sound base for the current geological interpretation.

	• Nature of the data used and of any assumptions made.	There appears to be a limited scope for alternative interpretations. The biggest uncertainty is the volume of the tailings which is approximately deuced from the thickness of the drill hole intersections.					
	• The effect, if any, of alternative interpretations on Mineral Resource estimation.						
	• The use of geology in guiding and controlling Mineral Resource estimation.						
	• The factors affecting continuity both of grade and geology.						
Dimensions	• The extent and	Dam	Length, m	Width.m	Depth.m		
(3.4)	variability of the	1	80	70	1.9		
	Mineral Resource	1x	80	60	2.0		
	expressed as length	2	150	130	14.0		
	(along strike or otherwise), plan width,	3	230	140	9.1		
	and depth below	4	400	350	9.0		
	surface to the upper and lower limits of the	5	230	100	2.5		
	<i>Mineral Resource.</i>						

• The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a	Resources were estimated in a 2D system using special geostatistical software (lsatis). Volume of the mineralised bodies was estimated using thickness of the tailings which was extrapolated using Ordinary kriging between drill holes within the boundaries of the tailings dams. The boundaries was digitised from the map of the tailings. Thickness (m) 7824900 7824400 782490 782
aata points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	Treation of the second seco
	Search neighbourhood was as follows: Radius 350 x 200m Declustering 16 sectors with 1 sample per sector Minimum number of samples 3 Grade was estimated to the 2D blocks of 40 x 40m Variograms and their estimated models of Au, Cu-Co are as follows:
	appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and



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• The availability of		Dam	Tonnage (Kt)		Grade		Co	ontained me	tal
check estimates,	te			Au g/t	Cu %	Co %	GOLD (Koz)	COPPER (Kt)	COBALT (Kt)
previous estimates	na ov)	1		no	t estimate	d due to i	insuffient dat	а	
and/or mine production	stir cal	1x	11	2.9	0.66	0.20	1	0.1	0.02
records and whether	es	2	384	1.6	0.48	0.21	20	1.8	0.8
the Mineral Resource	ent 1.4	3	476	1.2	0.24	0.09	18	1.1	0.4
estimate takes	rre , N	4	2,157	1.0	0.17	0.08	68	3.7	1.7
appropriate account of such data.	The current estimate (2017, M.Abzalov)	5	136	1.2	0.09	0.02	5	0.1	0.03
	Ē	TOTAL	3,163	1.1	0.22	0.10	112	6.9	3.0
	2	1	72	2.2	0.86	0.31	5	0.6	0.2
		1x				ot exist i			
	, 1	2	645	1.6	0.47	0.19	33	3.0	1.2
	dy	3	517	1.3	0.27	0.09	21	1.4	0.5
	lan	4	2,519	1.0	0.18	0.08	79	4.6	2.0
	Normandy, 1997	5		was no	t considere	ed as a se	eprate dam in	1997	
	Ňo								
		TOTAL	3,753	1.1	0.25	0.11	138	9.6	4.0
• The assumptions made regarding recovery of by- products.	Recove estimat		the by-products	was i	not ana	lysed a	and not us	sed in the	Resource
• Estimation of deleterious elements or	Deleter	ious ele	ements were not	estima	ated				
other non-grade variables of economic									
significance (eg									
sulphur for acid mine									
drainage									
characterisation).									

• In the case of block model interpolation, the block	Parent blocks are 40 x 40m. This size is optimal for the drill spacings which are as follows:
size in relation to the	Dam 1x 40 x 20m Dam 4 50-60 x 80-100m
average sample spacing and the search employed.	Dam 2 40 x 20m Dam 5 40 x 40-50m Dam 3 30 x 60m
Any assumptions behind modelling of selective mining units.	SMU size was not considered for the current Resource estimation
• Any assumptions about correlation between variables.	Co and Cu exhibit strong correlation. The grade of these metals was estimated by Co-Kriging.
Description of how the geological interpretation was used to control the resource estimates.	Layered structure of the mineralised tailings was understood as is considered as the main factor that controls distribution of the valuable metals, including Au, Cu and Co. This interpretation was implemented in the Resource estimation procedure

• Discussion of basis for using or not using grade cutting or capping.				Samp withou In ord grade	up was not us le grades are ut outliers. er to prevent s values from t ated separate	distributed e smearing of he Dam-2 it	the high-
• The process of validation, the checking process used,	Results pi tailings da	resented in th ms with corr	ne table showed a show	w good reconnem samples		e estimated	
the comparison of	Dam		hole samp			ock model	A
model data to drill hole data, and use of	- 1	Cu, ppm	Co, ppm	Au, ppm	Cu, ppm	Co, ppm	Au, ppm
reconciliation data if	1	(570	107/	2.00	(570	107/	2.00
available.	1x	6572	1976	2.89	6572	1976 2122	2.89
	2	4952	2201	1.63	4786		1.62
	3	2588	983	1.17	2393	925	1.18
	4 5	1728 932	807 217	0.99 1.24	1725 928	784 196	0.99 1.19

Moisture (3.6)	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnage is estimated on a dry basis, using Dry Bulk Density as a tonnage factor
Cut-off parameters (3.7)	• The basis of the adopted cut-off grade(s) or quality parameters applied.	Cut-off was not applied because it is assumed that the whole dam will have to be excavated.

Mining factors	Assumptions made	Mining factors was not applied and was not considered at the given Resource
or	regarding possible	estimate
assumptions	mining methods,	
(3.8)	minimum mining	
	dimensions and	
	internal (or, if	
	applicable, external)	
	mining dilution. It is	
	always necessary as	
	part of the process of	
	determining	
	reasonable prospects	
	for eventual economic	
	extraction to consider	
	potential mining	
	methods, but the	
	assumptions made	
	regarding mining	
	methods and	
	parameters when	
	estimating Mineral	
	Resources may not	
	always be rigorous.	
	Where this is the case,	
	this should be reported	
	with an explanation of	
	the basis of the mining	
	assumptions made.	

Metallurgical factors or assumptions (3.9)	• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	 The general metallurgical characteristics are: The metal distribution within the tailings is as follows: Gold: 50% in magnetite, 50% in pyrite; Copper: 100% in copper sulphides; and Cobalt: 80% in pyrite, 20% in cobalt sulphides. Significant water soluble copper and cobalt are present in each dam. A relatively small amount of cyanide soluble copper and cobalt is also present. The tailings contain some agglomerates which were most likely caused by the oxidising sulphides. Based on historical (pre 1990) drilling, all but one dam is acidic in nature (Dam 1 - pH 1.6, Dam 2 - pH 4.0, Dam 3 - pH 6.0, Dam 4 - pH 7.2). It is suspected that all dams have deteriorated further since that date, as the pH of a composite from recent (2015) sampling was below pH 3.0. Historical flotation work on the tailings showed ~50% of the gold reports to a flotation concentrate, with the remainder to the flotation tail (consisting of magnetite plus gangue). Cyanide leaching of the float tail yielded a residue which contains 0.2 to 0.3g/t Au. Total copper and cobalt recovery of 86% to 88%, (including water soluble plus concentrate) was produced when a flotation concentrate weight of 10 to 12% was produced. Gold recoveries of 65% - 75% were regularly achieved from this historical testwork. Additional metallurgical tests undertaken in 2016. Results of the tests are as follows: Upfront grinding of the material is unlikely to have any additional benefits for gold, copper and cobalt recover of of concept testwork and also in previous testing (1985 to 1987), which demonstrated that flotation could recover and concentrate. A clean sulphide concentrate can be produced from the tailings by flotation. This fact was demonstrated that flotation could recover a concentrate which amounted to between 10 to 12% of the weight containing 50% of the gold. The tailings will produce a saleable grade coal washery magnetic concentrate.<!--</th-->
---	---	---

Environmental	• Assumptions made	Environmental factors were not considered at the current Resource estimation
factors or	• Assumptions made regarding possible	
assumptions	waste and process	
(3.10)		
(3.10)	residue disposal	
	options. It is always	
	necessary as part of the	
	process of determining	
	reasonable prospects	
	for eventual economic	
	extraction to consider	
	the potential	
	environmental impacts	
	of the mining and	
	processing operation.	
	While at this stage the	
	determination of	
	potential	
	environmental impacts,	
	particularly for a	
	greenfields project,	
	may not always be well	
	advanced, the status of	
	early consideration of	
	these potential	
	environmental impacts	
	should be reported.	
	Where these aspects	
	have not been	
	considered this should	
	be reported with an	
	explanation of the	
	environmental	
	assumptions made.	

Bulk density (3.11)	• Whether assumed or determined. If	Average	values, assig	ned to the Dams are as follows		
()	assumed, the basis for	Dam	DBD (t/m3)	Source		
	the assumptions. If	1	2.15	Resource estimation by Normandy, 1997		
	determined, the method	1x	2.15	assumed that it is simialr to Dam 1		
	used, whether wet or	2	2.17	Resource estimation by Normandy, 1997		
	<i>dry, the frequency of</i>	3	2.17	Resource estimation by Normandy, 1997		
	the measurements, the nature, size and	4	2.16	Resource estimation by Normandy, 1997		
	representativeness of	5	2.15	Data was not awailable. The value simiar to Dam 1 was used		
	• The bulk density for bulk material must have been measured by	These values were determined in 1989 by digging trenches and determining the Bulk Dry Density of the bulk samples which were approximately 60 – 100 tonnes each.Dry Bulk Density was determined in 1989. Laurie Smith and Associates in 1989 carried out a comprehensive analysis of the specific gravity of the Peko tailings including digging two trenches in Dam 2 and three trenches in Dam 3 and determining the bulk specific gravities of volumes ranging from 25-53m ^a and with wet sample weights from 60-100 tonnes. The bulk				
	methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.	dry densi 2.31, BD Based on the curren Dam 1; 2 Dam 2; 2 Dam 3; 2 Dam 4; 2	ty determination D21 - 1.48, BD these data the M nt Resource esti 2.15 dry tonnes 2.17 dry tonnes 2.17 dry tonnes 2.16 dry tonnes	ns of the 5 trenches varied from 1.48 to 2.58 tonnes/m ₃ (ie. BDD22 - D33 - 2.21, BDD32 - 1.79 and BDD31 - 2.58). Normandy used the following density values, that were also used in mation: m ³ /m ³ /m ³		
	• Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	walls who	ere the tailings	t the location of the samples with the high values taken from near the were discharged and the two low values from the centre of the dams tion might be expected to accumulate.		

Classification (3.12)	• The basis for the classification of the Mineral Resources into varying confidence categories.	The Resources are classified as Inferred because of lacking of the topographic data preventing construction of the detailed 3D model. Data quality, quantity and the spatial distribution are sufficient for accurate estimation of the Inferred Resources							
	• Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	All factors were co because of lacking sample assays.							
	• Whether the result appropriately reflects	Dr. M. Abzalov (C tailings are as follor	WS:		consent				
	the Competent Person's view of the	Tonnage (Kt)		Grade Cu %	Co %				
	deposit.	3,163	Au g/t 1.1	0.22	0.10	GOLD (Koz) 112	COPPER (Kt) 6.9	COBALT (Kt) 3.0	
Audits or reviews (3.13)	• The results of any audits or reviews of Mineral Resource estimates.	No audits of the Re	sources	vere und	ertaken				

Discussion of relative accuracy/ confidence (3.14)	• Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of	Quantitative assessment of the relative accuracy and confidence level in the tailings Resource estimate was not undertaken. Data distribution, with the distances between drill holes varying from 40 x 20m to 80-100m is suitable for accurate estimation of the Inferred Resources of Au, Cu and Co, which spatial continuity, according to variogram ranges is approximately 250 – 300m.
	the Competent Person.	
	For example, the	
	application of	
	0	
	5 0	
	the resource within	
	stated confidence	
	limits, or, if such an	
	approach is not	
	deemed appropriate, a	
	qualitative discussion	
	of the factors that	
	could affect the relative	
	accuracy and	
	confidence of the	
	estimate.	

The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	Resources were estimated as 2D block model. In other words, they accurately represent the lateral changes of the Au, Cu and Co grades by can not be used for Analysis of the vertical profiles of the metal in the tailings.
1	Not applicable. Production data not available for the Peko tailings

PEKO TAILINGS RESOURCE REPORT

AUGUST 1997

PEKO TAILINGS PROJECT TENNANT CREEK 1:250,000 SHEET SE 53-14

VOLUME 1 OF 1

AUTHORS: S MUJDRICA SUPERVISING EXPLORATION GEOLOGIST

> M HATCHER CHIEF GEOLOGIST

DATE: AUGUST 1997

AUTHORISED BY:

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AFFIRMATION

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The Ore Reserves and Resources estimates presented in this document were prepared by a Corporate Member of the Australian Institute of Mining and metallurgy, with a minimum of five years relevant experience in the assessment of gold mineralisation of the type reported.

Stefan Mujdrica Supervising Exploration Geologist BappSc (QUT), MSc (Rhodes) S. Booth Chief Geologist Metals Division BA (Hon) Macquarie

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August 1997

NOTE: Tonnage and grade figures in many tables are linked and/or formula-derived yet displayed in rounded form only. Contained ounces quoted are derived from the full unrounded figures.

Aug

1997

CONTENTS

1.	EXECUTIVE SUMMARY	1
	1.1 Project Objectives1.2 Mineral Resource	1 2
2.	LOCATION AND TENURE	
3.	PREVIOUS RESERVE AND RESOURCE ESTIMATE	
4.	RECENT DRILLING OF RESOURCE	
	 4.1 Procedure 4.2 Drill Sample Recovery 4.3 Assay Results 4.4 Tonnes/m³ Determinations 4.5 Volume Survey 	
5.	REASSESSMENT OF TAILINGS RESOURCE	
	 5.1 Procedure 5.2 Modeling Parameters 5.3 Clay Layer 5.4 Copper and Cyanide Soluble Copper Distribution 5.5 Gold and Bismuth Distribution 5.6 Cobalt and Arsenic Distribution 5.7 Other Elements 5.8 Metallurgical Samples 	
6.	PEKO TAILINGS RESOURCE	
7.	METAL VALUES	
•		

- 8. CONCLUSION
- 9. REFERENCES

APPENDICES

Aug

1997 **3**

Page

LIST OF FIGURES

Figure No. <u>Title</u>

1	Peko Mine Locality Map
2	Peko Mine Surface Infrastructure
3	Peko Tailings Project – Plan of Dams 1, 2, 3 and 4

LIST OF TABLES

Table No. <u>Title</u>

1	Peko Tailings Mineral Resource
2	Peko Tailings Mineral Resource - Contained Metal
3	Peko Tailings Lease Status
4	PWL Undated Resource Estimate of Peko Tailings
5	ADL/Golconda Peko Tailings Resource
6	October to December 1996 Peko Tailings Drill Statistics
7	Comparison of Cu and Co Grades between Laboratory's
8	Peko Tailings Volume Estimate Comparisons
9	Interpolation Parameters for Resource Model
10	Cu and CuCN Distribution
11	Cu and CuCN Depth Distribution within Peko Tailings
12	Peko Tailings Au and Bi Depth Distribution
13	Drill Results from the Centre of Dam 4
14	Peko Tailings Co and As Depth Distribution
15	Spectrographic Analysis of Peko Tailings
16	Peko Tailings – Tailings Measured Resource

LIST OF APPENDICES

<u>Appendix No</u> .	Title
1	Drill Hole Collar Information
2	Drill Hole Lithology Descriptions
3	Drill Hole Assays used to Establish Peko Tailings Resource
4	Peko Tailings Assay Comparisons
5	Original AssayCorp Assays
6	Histograms and Log-Probability Plots of Combined Dams Assay Data
7	Histograms and Log-Probability Plots of Dam 1 Assay Data
8	Histograms and Log-Probability Plots of Dam 2 Assay Data
9	Histograms and Log-Probability Plots of Dam 3 Assay Data
10	Histograms and Log-Probability Plots of Dam 4 Assay Data
11	Block Model Level Plans of Combined Dams for Au, Cu and Co

REPORT NO:TITLE:RESOURCE REPORT AUGUST 1997, PEKO TAILINGS PROJECTAUTHOR:C.BOSEL S.MUJDRICA AND M.HATCHER.DATE:AUGUST 1997

1. EXECUTIVE SUMMARY

1.1 Project Objectives

The previous surveys of the Peko tailings were reportedly undertaken using uncased power auger drill holes and there were doubts about the veracity of the samples collected particularly at the bottom of deep wet holes. The first objective of the survey was to check the previous resource estimates and produce a new Peko Au/Cu/Co resource estimate.

The 1996 evaluation of the Warrego tailings showed segregations of the gold grades reflecting the different sources of ore treated by the Warrego concentrator and there was also some evidence of "post-depositional" remobilisation of gold within the tailings dam.

The Peko tailings are almost 20 years older than Warrego and it was considered possible that higher Au grade portions of the dam may exist. No detailed plans or results of previous surveys of the Peko tails survived and there was no means of determining whether the Peko tailings could be selectively mined. The second objective of the 1996/97 Peko Tailings survey was to determine whether there were high grade gold zones within the Peko tailings that could be treated separately.

The Warrego tailings plant will cease operations in early 1998 and a metallurgical/economic revaluation of the Peko tailings was warranted in light of developments and experience gained treating the Warrego tailings. The third objective of the survey was to provide fresh representative samples of the tailings dam for metallurgical evaluation.

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1.2 Mineral Resource

The resource inventory for the Peko tailings project as at August 1997 has been compiled in accordance with the Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves (September 1992).

All applicable drill hole, mining and sampling data available at August 1997 has been utilised in the generation of the Resource estimate. The Mineral Resource is considered to be in the Measured category and was based on 50 by 50m spaced, auger cased, core holes. The holes were systematically sampled at one metre down hole intervals and Table 1 summarises the resource estimate.

	Peko Tailings Measured Mineral Resource								
	August 1997								
DAM Number									
DAM 1	72,201	2.16	8,573	3,191	3,138	4,170	897		
DAM 2	645,283	1.61	4,686	1,755	1,919	2,502	833		
DAM 3	516,629	1.28	2,650	1,251	939	1,243	578		
DAM 4	2,519,235	0.97	1,808	839	795	1,119	429		
TOTAL	3,753,348	1.14	2,548	1,098	1,053	1,432	527		

TABLE 1 : Peko Tailings Mineral Resource

Table 2 summarises the total metals contained in each of the four tailings dams.

 TABLE 2 : Peko Tailings Mineral Resource - Contained Metal

	Peko Tailings Measured Mineral Resource - Contained Metal							
	AUGUST 1997							
DAM	Au	Cu	Со	Bi	As			
Numbe	Number ozs tonnes tonnes tonnes ton							
DAM 1	5,014	619	227	65	301			
DAM 2	33,402	3,024	1,238	538	1,614			
DAM 3	21,261	1,369	485	299	642			
DAM 4	78,567	4,555	2,003	1,081	2,819			
Total	138,244	9,567	3,953	1,982	5,377			

One of the interesting features of the tailings dams is the leaching of cobalt in the upper levels of the dams with individual 0-1m samples assaying less than 50 ppm cobalt. This natural leaching of cobalt suggests it may be possible to leach cobalt in a commercial plant.

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2. LOCATION AND TENURE

The Peko tailings are located 10 Kms ESE of Tennant Creek on the Nobles Nob Road (Figure 1). Figure 2 shows the Peko Mine surface infrastructure relative to the tenements and Table 3 shows the status of the leases.

Lease Number	Name	Area (Ha)	Granted	Expires	Extension/ Renewal Date
MLC 6	Bushall No1	17.00	11/05/53	31/12/94	30/9/2004
MLC 7	Peko Nth. Ext.	12.00	11/05/53	30/9/2004	
MLC 10	Bushall No 3	17.00	24/01/55	30/9/2006	
MLC 11	Bushall No2	13.00	23/01/55	31/12/96	
MLC 43	Bushall No2 Ext	9.00	12/02/64	31/12/2009	
MLC 44	Bushall No3	13.00	12/02/64	31/12/2009	
MLC 519	Peko North	8.00	23/02/51	31/12/92	24/9/92

TABLE 3 : Peko Tailings Lease Status - Tennant Creek Operations

The leases were granted before the 1993 Wurrumungu Land Trust, and are not affected directly affected by Aboriginal Freehold Land, but the area surrounding the leases is Aboriginal Freehold.

3. PREVIOUS RESOURCE EXSTIMATES

The four Peko tailings dams contain the Au/Cu/Co tailings from the treatment of the Warrego (part), Orlando, Juno, Ivanhoe and Peko Mines accumulated from 1954 to 1976 (refer Figure 3). The Peko processing operation was managed by Peko Wallsend Ltd (PWL) and the dams were constructed by discharging the tailings around the perimeter and building the walls by hand shovel. The undated resource estimate in Table 4 was derived from PWL records.

DAM Number	Source of Ore	Tonnes	Au (g/t)	Cu (%)	Co (%)
1	Peko	54,000	2.70	0.86	0.38
2	Peko	575,000	2.20	0.50	n/a
	Ivanhoe				
3	Peko Ivanhoe	518,000	1.20	0.31	n/a
	Orlando				
4	Peko Ivanhoe	2,387,000	1.12	0.20	n/a
	Orlando Juno				
	Warrego				
Total		3,534,000	1.33	0.27	

TABLE 4 : PWL Undated Resource Estimate of Peko Tailings

In 1985 ADL entered into a joint venture with PWL to evaluate the Peko tailings and in mid 1985 ADL carried out a comprehensive drilling programme of the tailings dams. The tailings were assessed with an open auger power drill method.

ADL entered into an agreement with Golconda Ltd to evaluate the mineral recovery from the tailings and began metallurgical test work in September 1985. The funding of the evaluation was driven by the cobalt price, which dropped from US\$25 in 1985 to US\$9 in 1986 then US\$15 by mid 1987. Metallurgical test work based on the 1985 ADL drill samples did not commence until

1997

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early 1987. In November 1987 "twinned" holes were drilled to check three holes in Dams 2 and 3 which showed the original ADL samples had been significantly oxidised before the 1987 metallurgical survey. A decision was then made to re-drill the tailings dams. A total of 135 holes and 1213 meters of drilling was undertaken with the evaluation concentrating on Dams 1, 2 and 3.

The records available for the ADL/Golconda work are not complete and the method of drilling and sample collection is not fully understood, but Table 5 summarises the calculated resource (L.A. Newcombe & Associates 1992).

Dam Number	Tonnes	Au (g/t)	Cu (ppm)	Co (ppm)	Oxidation State
1	66,435	2.36	8,200	3,660	
2	425,993	1.57	5,400	2,620	>2m. Fresh
2	205,383	1.47	4,200	1,980	0-2m. Oxidised
3	527,002	1.36	2,900	1,100	
4	2,407,495	1.00	1,500	820	
Total Dams	3,632,218	1.17	2,436	1,189	

 TABLE 5 : ADL/Golconda Peko Tailings Resource

4. RECENT DRILLING OF RESOURCE

4.1 Procedure

During October-December 1996, a total of 103 holes and 760.25 meters of hollow auger cased, core holes on a 50 by 50 meter surveyed leveled grid were drilled over the four Peko tailings dams, the small Au/Cu/Pb/Zn dump east of Dam 4, and the surrounding areas where a veneer of tailings had been spread. Appendices 1, 2 and 3 outline the grid collar co-ordinates, logged descriptions and down hole sample assay information used to establish the Peko tailings resource. Table 6 summarises the drill results and Figure 3 shows the drill hole locations.

Dam Number	Number Holes	Meters Drilled	Average Depth of Hole	Resource Tonnes /m Drilled.
1	6	46.05	7.70	1550.00
2	9	128.90	14.30	4903.00
3	12	100.10	8.30	5035.00
4	49	438.20	8.94	5917.00
Base Metals Dam	3	6.50	2.20	n/a
Dam Perimeter	24	40.50	1.70	
Total	103	760.25		

TABLE 6 : October to December 1996 Peko Tailings Drilling Statistics

Samples were collected at one metre intervals through the tailings and the contact with the underlying red-orange ferruginious clay was measured to the nearest 0.05 meter. In most cases the holes were drilled to refusal in the clay base of the dam and this resulted in a 0.1 - 0.5 meter clay sample from the bottom of most holes. The tailings and clay samples were split in halves using a knife while still in the core barrel and half was packaged and sent to AssayCorp in Pine Creek for analysis and the duplicates were delivered to the Project Metalurgist, who was responsible for sealing the samples in impervious aluminium bags under nitrogen and refrigerating the samples until they were required for test work. This procedure was designed to prevent oxidation of the metallurgical sample.

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AssayCorp fire assayed the samples for Au, and used AAS for Cu, Bi, As and Co and cyanide soluble copper was undertaken with the Warrego Laboratory.

All holes were logged by the drillers as either tailings or clay. The recovery measured a qualitative estimate of the moisture content made.

4.2 Drill Sample Recovery

Drilling was slow averaging between 25-35 metres per day and recovery was depended to some degree on the moisture content of the samples, which varied from dry at the top of the dam to, in the worst case, sludge at the base of the dam. Preliminary results indicate the sample moisture content varied from 3% in the first few meters to greater than 16% towards the base of the dam.

Several contract employees were used to handle samples and in many instances the recovery measurements were not correctly recorded particularly in the early stages of the survey. In most instances sample recoveries exceeded 90% and the main recovery problems were in the moist bottoms of holes.

4.3 Assay Result Comparisons

The initial assay results received from AssayCorp in Pine Creek indicated that the copper and cobalt assays were lower than expected compared to the previous resource studies by PWL and ADL/Golconda. AssayCorp used fire assay (FA50) for gold and their G300A analytical method for base metals which is regarded as a general low order assay method.

The low values of copper and cobalt from AssayCorp initiated the urgency to establish whether the G300A method was a suitable assay technique. Sixteen samples of pulverised residues from AssayCorp were then sent for re-assay at AMDEL Darwin (MET 1 ICP method) and Analabs Perth (test tube digestion and AAS) for comparison. The results of the comparison (Table 7) indicated that AssayCorp's copper and cobalt G300A assays could not be used in the resource determination of the Peko tailings.

Ray Wooldridge from AssayCorp was approached by Normandy about the assay inconsistencies and Ray began test work on the samples to resolve the problem. AssayCorp's test work concluded that the G320I assay technique would be suitable for determining the copper and cobalt grades (refer Table 7 and Appendix 4). When comparing AssayCorps G320I results with AMDEL and Analabs, the copper correlates well with all the labs but cobalt only correlates with Analabs. There does appear to be some problems with AMDEL's assay technique for cobalt. Generally AssayCorp's G320I technique compared well with Analabs and with AMDEL's copper assays so AssayCorp re-assayed all the Peko tailings samples using the G320I assay technique. These assays were then used to evaluate the Peko tailings resource. A copy of the original assay sheets from AssayCorp are shown in Appendix 5 outlining the G300A and G320I assay techniques.

	AssayCorp	AssayCorp	AMDEL	Analabs	AssayCorp	AssayCorp	AMDEL	Analabs
Laboratory	Cu (ppm)	Cu (ppm)	Cu (ppm)	Cu (ppm)	Co (ppm)	Co (ppm)	Co (ppm)	Co (ppm)
	G300A	G320I			G300A	G320I		
Mean Grades	3,573	4,148	4,452	4,156	1,168	1,461	1,714	1,533
Comparison with								
AsayCorps		+16.09%	+24.6%	+16.32%		+25.09%	+46.75%	+31.25%
G300A method								
Comparison with								
AsayCorps	-16.09%		+7.33%	+0.19%	-25.09%		+17.32%	+4.93%
G320I method								

TABLE 7 : Comparison of Cu and Co Grades between Laboratory's

1997 9

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4.4 Tonnes/m³ Determination

Normandy did not undertake any specific gravity (SG) determinations.

Records indicate PWL used bulk Densities ranging from 1.8 to 2.52 dry tonnes/m³ (average of 1.91 dry tonnes/m³).

Laurie Smith and Associates (1989) carried out a comprehensive analysis of the specific gravity of the Peko tailings including digging two trenches in Dam 2 and three trenches in Dam 3 and determining the bulk specific gravities of volumes ranging from 25-53m³ and with wet sample weights from 60-100 tonnes. The bulk dry density determinations of the 5 trenches varied from 1.48 to 2.58 tonnes/m³ (ie. BDD22 - 2.31, BDD21 - 1.48, BDD33 - 2.21, BDD32 - 1.79 and BDD31 - 2.58). The SG's reflect the location of the samples with the high SG material taken from near the walls where the tailings were discharged and the two low values (BDD21 and BDD32) from the centre of the dams where the fine slime fraction might be expected to accumulate. The moisture content of the samples also reflects this change in location with the three edge samples ranging from 8.1 - 10.5% (average 9.1%) and the two central samples 21.1 and 29.4% moisture.

Laurie Smith and Associates also calculated particle density for a composite sample representing the total tailings ($3.89 \text{ dry tonnes}/\text{m}^3$) and for 6 composite drill hole samples from Dams 2 and 3 ($3.43-4.17 \text{ dry tonnes}/\text{m}^3$, average 3.8 dry tonnes/m³). At 45% porosity the total tailings density was estimated at 2.14 dry tonnes /m³.

For Normandy's calculations the following densities were used :

Dam 1; 2.15 dry tonnes /m³ Dam 2 ; 2.17 dry tonnes /m³ Dam 3 ; 2.17 dry tonnes /m³ Dam 4 ; 2.16 dry tonnes /m³

This compares with the 2.04 dry tonnes/m³ used for the Warrego tailings. The density of the tailings used in this survey is probably accurate to +/-6% and possibly high, but considering the variation of the material and the difficulty in getting suitable representative samples, it is going to be difficult to get a better estimate.

4.5 Volume Survey

A digital terrain model of the surface of the dams and the surrounding area was generated from aerial photography by Qasco. The base of each dam was established from each drill hole and a file "CLAYTOPP" was generated to represent the topography of the clay base of the dams.

Table 8 compares the current volume calculation with the predecessors.

	Normandy (m ³)	Peko (m ³)	ADL (m ³)	Golconda (m³)
Dam 1	33,582	21,430	n/d	30,900
Dam 2	297,365	258,230	265,684	283,815
Dam 3	240,293	221,110	237,993	245,518

TABLE 8 : Peko Tailings Volume Estimate Comparisons

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Dam 4	1,166,313	1,530,730	1,035,882	1,114,539

Except for Peko's volume calculations for Dams 1 and 4 the rest of the dam volumes are in general agreement. The Normandy calculations should be higher than the others, because the perimeters of the dams were drilled where wind and water erosion has dumped up to 1metre of tailings on the area immediately adjacent to the dams.

There is a discrepancy between the wireframed resource and the block model resource and this is because none of the dams have right angle corners and the subcelling of the block model cannot exactly replicate the dam corners and sides and consequently slightly overestimates the wireframe volume. In the resource statement the block model volume is used.

5. REASSESSMENT OF THE PEKO TAILINGS RESOURCE

Only the 1996 drill hole data was used to make this assessment of the Peko tailings resource as at August 1997 and the defined resource is considered to be a **measured resource**.

5.1 Procedure

All drill hole data was entered into a Lotus 1-2-3 spreadsheet and subsequently transferred into Datamine (v3.6.9). A precise digital terrain model of the surface and areas surrounding the dams was produced by Qasco and in conjunction with the drill hole information was used to produce an accurate wireframe model of the tailings dams using the "Guide v2.3.2" software package released by Datamine Australia.

5.2 Modeling Parameters

The vertical dimension of the blocks was chosen to relate to the assumed approximate horizontal layering of the tailings and the effects of weathering. The parent block size was 10 by 10 by 1 metres (E, N, RL) with subcelling to a minimum size of 10 by 5 by 0.5 metres.

The SG's used in the calculations were

Dam 1 ; 2.15 dry tonnes/m³ Dam 2 ; 2.17 dry tonnes/m³ Dam 3 ; 2.17 dry tonnes/m³ Dam 4 ; 2.16 dry tonnes/m³

and are based on the work of Peko and Golconda. For the Warrego tailings a lower 2.04 tonnes/m³ was used and the density should be reviewed before a reserve statement is produced.

Grade interpolation was carried out using inverse distance squared. Log probability plots were generated and it was decided no top cuts would be applied to the assay data for any element (refer Appendix 6, 7, 8, 9, 10). A two pass interpolation search with an initial search distance of 30 metres for Dam 1 to 100 metres for Dam 4 followed by a second pass interpolation of 10 metres for Dam 1 to 40 metres for Dam 4 provided a smoothing effect between holes. The dams were modeled as a horizontally layered "beach deposit" with equal search distances in the horizontal plane and a 1/25 search influence in the vertical direction (Table 9).

TABLE 9 : Interpolation Parameters for Resource Model

Aua

1997

	Dam 1	Dam 2	Dam 3	Dam 4
Search Ellipse				
Axis 1 Azimuth	0°	0°	0°	0°
Axis 1 Dip	0°	0°	0°	0°
Weighting Ratio				
Axis 1 (N)	1	1	1	1
Axis 2 (E)	1	1	1	1
Axis 3 (RL)	25	25	25	25
Search Distance (m)				
Pass 1	30.00	80.00	80.00	100.00
Pass 2	10.00	30.00	30.00	40.00
Method	ID ²	ID ²	ID ²	ID ²

Block model level plans of Au, Cu and Co for the Peko tailings dams are shown in Appendix 11.

5.3 Clay Layer

The red-brown sandy ferruginious clay layer beneath the tailings dam was sampled to determine whether gold had been leached from the tailings and was in solution, or had been deposited in the clay beneath the tailings. The clay horizon below the Warrego tailings in the NE portion of the dam carries a significant gold content.

The clay was cored to refusal, which was from usually 0.1 - 0.5 metres into the Dam floors. The average grade of the designated clay samples was 0.12 g/t Au, 538 ppm Cu, 65 ppm Bi, 140 ppm Co, 179 ppm As and 340 ppm CuCn.

During sampling of the clay it was impossible to get the equipment completely clean of tailings so some contamination of the clay sample was inevitable. A secondary reason for sampling the clay was to determine the extent to which leakage from the dam was occurring and a study of the drill hole clay data and re-assay of the samples held in store by the Research Metallurgist would be possible. However, unlike the Warrego tailings, there was no evidence of any potential mineralised resource in the clay base below the Peko tailings.

5.4 Copper and Cyanide Soluble Copper Distribution

The distribution of total copper (Cu) and cyanide soluble copper (CuCN) in the Peko tailings resource varies between dams, (Table 10) probably reflecting the different sources of the ore and the improvements in recovery from 1950's to the 1970's.

Dam	Cu	CuCN
Number	(ppm)	(ppm)
1.00	8,573	3,191
2.00	4,686	1,755
3.00	2,650	1,251
4.00	1,808	839
Average	2,548	1,098
Warrego		
Tailings	1,700	900

TABLE 10 : Cu and CuCN Distribution

It can be seen that Dam 4 the largest dam at Peko has a Cu and CuCN grade comparable to that of the Warrego tailings currently being treated.

Within each dam the Cu and CuCN grades varied with depth (Table 11) and for the larger dams position relative to the discharge points along the margins of the dam.

Aua

1997

	DAM 1			Dam 2			Dam 3			Dam4		
Hole	Cu	CuCN	CuCN/	Cu	CuCN	CuCN/	Cu	CuCN	CuCN/	Cu	CuCN	CuCN/
Depth (m)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	Cu	(ppm)	(ppm)	Cu	(ppm)	(ppm)	Cu
0-1	6,096	4,112	67.45%	2,932	1,969	67.16%	989	535	54.10%	1,349	797	59.08%
1-2	11,174	4,954	44.34%	3,718	1,414	38.03%	2,800	1,515	54.11%	2,512	1,640	65.29%
2-3	11,806	1,846	15.64%	3,491	1,196	34.26%	2,225	1,115	50.11%	1,723	666	38.65%
3-4	6,578	1,675	25.46%	4,397	1,641	37.32%	3,015	1,257	41.69%	1,532	637	41.58%
4-5	6,045	1,582	26.17%	5,665	2,357	41.61%	3,037	2,086	68.69%	1,544	599	38.80%
5-6	7,807	2,848	36.48%	4,974	2,111	42.44%	3,740	1,204	32.19%	1,724	682	39.56%
6-7	14,868	6,470	43.52%	4,690	2,004	42.73%	4,001	1,420	35.49%	1,952	692	35.45%
7-8	8,948	6,075	67.89%	4,907	1,626	33.14%	3,154	1,571	49.81%	1,945	727	37.38%
8-9				6,957	1,911	27.47%	2,353	797	33.87%	2,214	897	40.51%
9-10				5,363	1,541	28.73%				2,105	872	41.43%
10-11				4,593	1,240	27.00%				2,366	1,066	45.05%
11-12				6,191	1,531	24.73%						
12-13				6,060	1,682	27.76%						
13-14				4,721	1,631	34.55%						
14-15				3,915	1,500	38.31%						

TABLE 11: Cu and CuCN Depth Distribution within Peko Tailings

The depths in Table 11 are depths from the top of each drill hole not RL's or levels within the dams.

The mineralogical data available indicates the copper mineralisation in the tailings dam was predominantly chalcopyrite and minor covellite, but oxidation particularly of the surface 0-1 metres in Dams 3 and 4 has produced low copper grades, and in all dams 0-2 metres elevated cyanide soluble copper levels (Table 11) and water soluble copper. Copper sulphate and various magnesium and calcium carbonates and sulphates are now visible at the surface and on the slopes of the dams.

5.5 Gold and Bismuth Distribution

Unlike the Warrego tailings, where there is considerable vertical variation in the gold grades, the Peko dams are remarkably uniform in their gold grade distributions given the multiple sources of ore and the period over which the tailings were deposited (Table 12).

TABLE 12: Peko Tailings Au and Bi Depth Distribution	ı
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	DAM 1		Dam 2		Dam 3		Dam4	
Hole	Au	Bi	Au	Bi	Au	Bi	Au	Bi
Depth (m)	(ppm)							
0-1	2.55	1,470	1.56	824	1.16	420	1.10	522
1-2	2.19	1,089	1.74	760	1.31	629	1.12	448
2-3	2.43	1,114	1.45	700	1.40	558	1.26	491
3-4	2.36	870	1.53	657	1.27	629	0.83	398
4-5	2.11	826	1.58	695	1.22	597	0.75	387
5-6	2.12	735	1.59	760	1.39	653	0.84	416
6-7	2.99	936	1.67	942	1.37	710	0.92	380
7-8	1.28	485	2.14	1,220	1.46	633	0.86	425
8-9			1.66	777	1.04	504	1.05	463
9-10			1.80	1,030			0.95	472
10-11			1.38	1,062			1.28	518
11-12			1.62	945				
12-13			1.69	872				

Aug

13-14		1.37	635		
14-15		1.16	566		

In the horizontal plane there is variation in gold grades reflecting the discharge of the tailings on the perimeter.

Six holes (39,40, 46,47, 54 and 55) in the center of the Dam 4 have average grades ranging from 0.64-0.89 g/t Au and as a group they average 0.77 g/t Au. The Six holes (51, 52, 58, 63, 67 and 70) on the east perimeter of Dam 4 have average grades ranging from 0.93-1.79 g/t Au and as a group average 1.52 g/t Au. The seven holes (26, 28, 31, 35, 36, 42, and 43) from the west perimeter have average grades ranging from 0.87-1.18 g/t Au and as a group average 1.05 g/t Au.

There is a layer within the central portion of Dam 4, which is low grade (refer Table 13) and could be mined as a discrete block of waste if necessary.

Hole Number	From (m)	To (m)	Au (g/t)	Cu (ppm)	Co (ppm)
39	2	5	0.59	1,473	906
40	2	5	0.51	1,560	625
46	2	5	0.59	1,125	863
47	4	6	0.51	947	792
54	3	6	0.61	1,315	1,006
55	4	6	0.57	1,280	870

TABLE 13 : Drill Results from the centre of Dam 4

The data from the three smaller dams does not show any significant horizontal variation in grade.

5.6 Cobalt and Arsenic Distribution

Cobalt is reportedly present as cobaltite (CoAsS), Cattierite (CoS_2) and Co in pyrite and possibly arsenopyrite. Table 14 shows a consistent pattern in the relationship between Co and As within each of the tailings dams.

Cobalt is depleted at the surface in all dams, but most particularly in Dams 3 and 4, which also have trends for increasing Co assays with depth.

TABLE 14 :	Peko Tailings	Co and As Depth	Distribution
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	DAM 1			Dam 2			Dam 3			Dam 4		
Hole	Со	As	Co/As	Co	As	Co/As	Co	As	Co/As	Со	As	Co/As
Depth	(ppm)	(ppm)		(ppm)	(ppm)		(ppm)	(ppm)		(ppm)	(ppm)	
0-1	1,827	5,096	35.85%	737	1,537	47.95%	245	372	65.86%	226	585	38.63%
1-2	3,758	4,925	76.30%	1,617	1,555	103.99%	718	725	99.03%	632	834	75.78%
2-3	4,080	4,711	86.61%	1,481	1,618	91.53%	924	1,122	82.35%	848	1,284	66.04%
3-4	3,521	3,828	91.98%	2,092	2,388	87.60%	1,166	1,383	84.31%	808	1,182	68.36%
4-5	3,178	3,714	85.57%	2,638	3,374	78.19%	1,132	1,640	69.02%	852	1,223	69.66%
5-6	2,837	3,408	83.25%	1,897	2,806	67.61%	1,283	1,879	68.28%	951	1,186	80.19%
6-7	4,091	5,611	72.91%	1,991	2,700	73.74%	1,311	1,799	72.87%	1,014	1,295	78.30%
7-8	2,261	3,207	70.50%	1,712	2,403	71.24%	1,068	1,482	72.06%	1,110	1,655	67.07%
8-9				2,558	3,533	72.40%	724	863	83.89%	1,115	1,467	76.01%
9-10				1,911	2,373	80.53%				1,001	1,204	83.14%
10-11				1,554	1,960	79.29%				1,236	1,520	81.32%
11-12				2,344	3,094	75.76%						
12-13				2,541	3,268	77.75%						

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13-14		1,954	2,489	78.51%			
14-15		1,897	2,405	78.88%			

The oxidation and surface depletion of cobalt within the Peko tailings has been more intense than for copper suggesting the cobalt minerals may be more susceptible to hydro-metallurgy than copper.

5.7 Other Elements

Laurie Smith and Associates (1989) carried out some indicative spectrographic analyses of composites from the dams and these are summarised in Table 15. The samples were water washed prior to assay so soluble elements would be removed.

Element	Unit	Dam 1	Dam 2U	Dam 2L	Dam 3	Dam 4
Nat pH		1.60	3.98	4.38	5.96	7.16
Au	ppm	2.30	1.60	1.66	1.55	1.06
Ag	ppm	12.00	5.00	6.00	4.00	3.00
Cu	ppm	8450.00	4320.00	6600.00	3320.00	1460.00
Со	ppm	3160.00	1580.00	1660.00	815.00	710.00
Ni	ppm	30.00	10.00	10.00	15.00	10.00
Zn	ppm	155.00	110.00	125.00	145.00	130.00
Fe	%	36.40	40.20	40.90	37.40	37.50
Mn	ppm	390.00	465.00	375.00	455.00	400.00
S	%	8.97	7.40	7.78	4.80	4.35
Cr	ppm	25.00	20.00	10.00	15.00	15.00
Na	ppm	385.00	885.00	790.00	1280.00	1320.00
к	ppm	745.00	560.00	640.00	1100.00	1460.00
Ca	ppm	4060.00	2640.00	2140.00	3480.00	4200.00
Mg	ppm	4740.00	10800.00	3400.00	18500.00	16000.00
As	ppm	5500.00	2940.00	3140.00	1600.00	1440.00
Pb	ppm	950.00	600.00	675.00	445.00	720.00
Sb	ppm	65.00	50.00	70.00	35.00	35.00
W	ppm	85.00	90.00	100.00	95.00	95.00
Se	ppm	10.00	24.00	18.00	28.00	34.00
Те	ppm	4.00	4.00	4.00	4.00	4.00
Cd	ppm	1.00	1.00	1.00	1.00	1.00
Bi	ppm	910.00	670.00	850.00	605.00	430.00
Мо	ppm	115.00	90.00	86.00	92.00	115.00

TABLE 15 : Spectrographic Analysis of Peko Tailings

6.0 PEKO TAILINGS RESOURCE STATEMENT

The Peko tailings dams resource comprises four separate models for each of the tailings dams. All resource figures are as at August 1997 and are shown in Table 16.

TABLE 16 Peko Tailings - Tailings Measured Resource

Peko Tailings Measured Mineral Resource

Aug

1997

	August 1997									
DAM Number	Tonnes	Grade Au (g/t)	Grade Cu (ppm)	Grade CuCN (ppm)	Grade Co (ppm)	Grade As (ppm)	Grade Bi (ppm)			
DAM 1	72,201	2.16	8,573	3,191	3,138	4,170	897			
DAM 2	645,283	1.61	4,686	1,755	1,919	2,502	833			
DAM 3	516,629	1.28	2,650	1,251	939	1,243	578			
DAM 4	2,519,235	0.97	1,808	839	795	1,119	429			
TOTAL	3,753,348	1.14	2,548	1,098	1,053	1,432	527			

7.0 METAL VALUES

The relative value of the various metals contained within a tailings deposit of this nature is difficult to determine given the different rates of recovery, varying market price, marketability, capital and operating cost of recovery etc. However, given those factors Figure 28 shows the relative "in ground" value of the Au, Cu and Co content of the Peko Tailings.

In Tennant Creek there are other resources containing Cobalt most particularly Northern Star, Amonaly 1 at Gecko and various deposits at Rover most notably Rover 1 and Ex 142.

8.0 CONCLUSION

The survey has shown there is some lateral variation in Au grades particularly in Dam 4, but this does not represent an opportunity to significantly increase the average Au grade by selective mining. There is significant surface depletion of Cu and Co values.

The value of the cobalt content of the Peko tailings substantially exceeds that of the other metal components, but the metallurgical recovery and marketing of this commodity will determine the future viability of cobalt production.

9.0 REFERENCES

L.A. Newcombe & Assoc., 1993. Treatment of Peko Tails 13 Jan. 1992. Laurie Smith and Assoc. (1989) Peko Tailings Joint Venture May 1989.

Aua

1997