

## **MEDIA RELEASE**

Austral Gold Limited

13 October 2016

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### **TECHNICAL REPORT ON THE CASPOSO GOLD-SILVER MINE**

As noted in the Company's announcement to the Australian Securities Exchange ('ASX') on 27 September 2016, attached is the full Technical Report on the Casposo Gold-Silver Mine.

The technical information in this report is summarised in the ASX market announcement titled "Restart of Casposo Gold-Silver Mine Operations" created on 27 September 2016 and the Company is not aware of any new information or data that materially affects the information included in the original market announcement. The Company confirms that form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

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## AUSTRAL GOLD LIMITED

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# TECHNICAL REPORT ON THE CASPOSO GOLD-SILVER MINE, DEPARTMENT OF CALINGASTA, SAN JUAN PROVINCE, ARGENTINA

NI 43-101 Report

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**September 7, 2016**



**Report Control Form**

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Department of Calingasta, San Juan Province, Argentina

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## FORWARD-LOOKING INFORMATION

This report contains forward-looking statements. All statements, other than statements of historical fact regarding Austral Gold Limited or Casposo Mine, are forward-looking statements. The words "believe", "expect", "anticipate", "contemplate", "target", "plan", "intend", "project", "continue", "budget", "estimate", "potential", "may", "will", "can", "could" and similar expressions identify forward-looking statements. In particular, this report contains forward-looking statements with respect to cash flow forecasts, projected capital, operating and exploration expenditure, targeted cost reductions, mine life and production rates, potential mineralization and metal or mineral recoveries, and information pertaining to potential improvements to financial and operating performance and mine life at the Casposo Mine that may result from the improvement projects or other initiatives. All forward-looking statements in this report are necessarily based on opinions and estimates made as of the date such statements are made and are subject to important risk factors and uncertainties, many of which cannot be controlled or predicted. Material assumptions regarding forward-looking statements are discussed in this report, where applicable. In addition to such assumptions, the forward-looking statements are inherently subject to significant business, economic and competitive uncertainties and contingencies. Known and unknown factors could cause actual results to differ materially from those projected in the forward-looking statements. Such factors include, but are not limited to: fluctuations in the spot and forward price of commodities (including gold, copper, silver, diesel fuel, natural gas and electricity); the speculative nature of mineral exploration and development; changes in mineral production performance, exploitation and exploration successes; risks associated with the fact that the Casposo Mine is still in the early stages of evaluation and additional engineering and other analysis is required to fully assess their impact; diminishing quantities or grades of reserves; increased costs, delays, suspensions, and technical challenges associated with the construction of capital projects; operating or technical difficulties in connection with mining or development activities, including disruptions in the maintenance or provision of required infrastructure and information technology systems; damage to Austral Gold Limited's or Casposo's reputation due to the actual or perceived occurrence of any number of events, including negative publicity with respect to the handling of environmental matters or dealings with community groups, whether true or not; risk of loss due to acts of war, terrorism, sabotage and civil disturbances; uncertainty whether the Casposo Mine will meet Austral Gold Limited's capital allocation objectives; the impact of global liquidity and credit availability on the timing of cash flows and the values of assets and liabilities based on projected future cash flows; the impact of inflation; fluctuations in the currency markets; changes in interest rates; changes in national and local government legislation, taxation, controls or regulations and/or changes in the administration of laws, policies and practices, expropriation or nationalization of property and political or economic developments in Argentina; failure to comply with environmental and health and safety laws and regulations; timing of receipt of, or failure to comply with, necessary permits and approvals; litigation; contests over title to properties or over access to water, power and other required infrastructure; increased costs and physical risks including extreme weather events and resource shortages, related to climate change; and availability and increased costs associated with mining inputs and labor. In addition, there are risks and hazards associated with the business of mineral exploration, development and mining, including environmental hazards, industrial accidents, unusual or unexpected formations, pressures, cave-ins, flooding and gold bullion, or gold concentrate losses (and the risk of inadequate insurance, or inability to obtain insurance, to cover these risks).

Many of these uncertainties and contingencies can affect Austral Gold Limited's actual results and could cause actual results to differ materially from those expressed or implied in any forward-looking statements made by, or on behalf of, Austral Gold Limited. All of the forward-looking statements made in this report are qualified by these cautionary statements. Austral Gold Limited and RPA and the Qualified Persons who authored this report undertake no obligation to update publicly or otherwise revise any forward-looking statements whether as a result of new information or future events or otherwise, except as may be required by law.

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# 1 SUMMARY

## EXECUTIVE SUMMARY

Roscoe Postle Associates Inc. (RPA) was retained by Austral Gold Limited (Austral) to prepare an independent Technical Report on the Casposo Gold-Silver Mine (Casposo or the Mine), located in the department of Calingasta, San Juan Province, Argentina. The purpose of this report is to disclose the Mineral Resource and Mineral Reserve estimates and the Life of Mine (LOM) plan based on Austral's plans for improving and re-starting the existing Casposo Mine. This Technical Report conforms to National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101). RPA visited the property from May 10 to 12, 2016.

On March 7, 2016, Austral acquired a 51% interest in Troy Resources Limited's (Troy) Casposo gold and silver mine, located approximately 150 km west of the city of San Juan, Argentina. Pursuant to the Implementation Deed between Austral and Troy, Austral will be entitled to acquire a further 19% interest in the Mine within the first year from the agreement date and the remaining 30% within the next five years. Austral will be Manager of the operation.

Casposo is an underground operation with processing of ore in an agitated leach/Merrill Crowe plant. A Feasibility Study was prepared by AMEC Americas Limited for the previous owner, Intrepid Mines Limited (Intrepid), in 2007 and updated for Troy in 2008. Operations at Casposo commenced in 2010 with open pit mining, followed by underground production in 2013. As the mine was deepening, gold production declined and silver production increased, with record silver production of 3.1 million ounces (Moz) in 2015. In 2015, Troy produced 43,130 ounces of gold and 1.98 Moz of silver.

In 2015, local cost pressures combined with declining metal prices and a deterioration in the silver to gold ratio resulted in a considerable decrease in Casposo's revenue. Troy placed the operation on care and maintenance in February 2016.

Austral plans to achieve profitable operation at Casposo within 12 months via a capital investment plan that includes a re-design of mine operations and optimization of the processing cycle.

Austral has estimated Measured and Indicated Mineral Resources as of June 30, 2016, inclusive of Mineral Reserves, totalling 1,415,000 tonnes at grades of 3.00 g/t Au and 238 g/t Ag, containing 136,500 ounces of gold and 10.8 Moz of silver. Inferred Mineral Resources total 1,090,000 tonnes at grades of 5.0 g/t Au and 140 g/t Ag.

Proven and Probable Mineral Reserves were estimated by Austral as of June 30, 2016, totalling 972,000 tonnes at grades of 2.53 g/t Au and 231 g/t Ag, containing 79,000 ounces of gold and 7.2 Moz of silver.

## CONCLUSIONS

Based on the site visit, discussions with Austral and Casposo personnel, and available information, RPA offers the following conclusions:

### GEOLOGY AND MINERAL RESOURCES

- The geological models employed by Casposo geologists are reasonably well understood, and are well supported by field observations in both outcrop and drill intersections.
- Sampling and assaying are adequately completed and have been carried out using industry standard quality assurance/quality control (QA/QC) practices. These practices include, but are not limited to, sampling, assaying, chain of custody of the samples, sample storage, use of third-party laboratories, standards, blanks, and duplicates.
- The practices and procedures used to generate the Casposo database are acceptable to support Mineral Resource and Mineral Reserve estimation.
- Interpretations of the geology and the three-dimensional (3D) wireframes of the estimation domains appear to be reasonable, although RPA notes that a minimum thickness was not applied. This issue was addressed during estimation of Mineral Reserves. As a result, Mineral Resources include a minor amount of very narrow mineralization.
- With the exception of a mineable minimum thickness, the resource estimates have been prepared using appropriate methodology and assumptions including:
  - Treatment of high assays;
  - Composite length;
  - Search parameters;
  - Bulk density;
  - Interpolation;
  - Cut-off grade;
  - Classification.
- The Mineral Resources are classified and reported in accordance with Canadian Institute of Mining, Metallurgy and Petroleum Definition Standards for Mineral

Resources and Mineral Reserves dated May 10, 2014 (CIM definitions) as incorporated in NI 43-101.

- The Kamila deposit remains open down plunge to the southeast of the Inca 3 zone. The Casposo Norte and Julieta zones are not completely delineated and many smaller targets on the property remain to be fully explored.

#### **MINING AND MINERAL RESERVES**

- Mineral Reserves estimated by Austral are classified and reported in accordance with CIM definitions.
- Dilution is estimated by drawing realistic “mining shapes” which account for overbreak. Over the entire Mineral Reserves, dilution averages 33%, which represents an improvement over historical results. Austral plans to incorporate a number of design changes that were successful in controlling dilution at its narrow-vein operation in Chile, Guanaco Mine:
  - Reduced stope heights from 20 m to 15 m.
  - Smaller drift size (4.5 m by 4.5 m).
  - Installation of cable bolts on the hangingwall.
  - Revised blasting practices.
- Early results indicate better than planned performance (average dilution of 10% over 12 stopes). In RPA’s opinion, the measures proposed by Austral should continue to result in improved results over historical dilution levels.

#### **METALLURGY AND MINERAL PROCESSING**

- The processing facility successfully produced precious metal doré beginning in 2009 and through the time the operation was shut down in February 2016. At the time of the site visit, the plant was being modified to improve performance and reduce costs.
- The plan for operating the Casposo processing facilities after re-starting considers intermittent operations, in order to more closely match the Mine’s ability to deliver ore to the plant. RPA agrees that this is a sensible strategy.

#### **COST ESTIMATES AND ECONOMICS**

- Unit operating costs will be sensitive to variations in the production rate achieved by the Mine.
- Cash flow analysis confirms that the Mineral Reserves are economic using the assumptions stated in this report.

## RECOMMENDATIONS

RPA has the following recommendations:

### ***GEOLOGY AND MINERAL RESOURCES***

- The Mineral Resource estimates should incorporate any necessary dilution to allow appropriate mining dimensions and potentially economic extraction.
- At present, Austral has not completed digital geological models for Casposo. RPA recommends that a geological model be created to facilitate more contextual understanding of vein mineralization and possible geological controls on grade distribution.
- Troy and Austral chose to cap composites as opposed to capping raw drill hole assays. RPA recommends capping the raw drill hole data before compositing the information, as this will ensure that high grades are not averaged into the assay data, where these may have undue influence on adjacent low grade composites.
- Unsourced intervals were not assigned zero or below detection limit values. RPA suggests that unsourced intervals be assigned zero or near-zero values to avoid spreading grade over intervals that were likely not sampled due to a lack of mineralization.
- Additional density samples should be taken specific to individual zones in order to identify local variations and to confirm and support future resource estimates. RPA also recommends developing a standard operating procedure for in-house density determinations and implementing outside checks on the density determinations to support and confirm in-house results.

### ***MINING AND MINERAL RESERVES***

- Austral should continue to review Cavity Monitoring Survey (CMS) data as stopes are mined, and adjust the reserve dilution estimates accordingly.

### ***METALLURGY AND MINERAL PROCESSING***

- Casposo should continue to assess the operation of the processing plant and make additional modifications and improvements to the operation as opportunities are identified. Particular emphasis is needed to optimize and achieve the moisture content of the filtered tailings in order to optimize the dry stack tailings operation in the Tailings Management Facility (TMF).
- Casposo should perform a detailed analysis of all operating data and data from additional metallurgical work that has been completed recently. The objective of the evaluation is to develop a methodology that will improve the recovery estimates for use in budgeting and planning.

## ECONOMIC ANALYSIS

An after-tax Cash Flow Projection has been generated from the LOM production schedule and capital and operating cost estimates, and is summarized in Table 1-1. A summary of the key criteria is provided below.

### REVENUE

- Approximately 800 tonnes per day (tpd) mining from underground (maximum of 300,000 tonnes per year).
- Metallurgical recovery based on operating data averaging 91% for gold, 83% for silver.
- Gold and silver at refinery 99.5% payable.
- Exchange rate US\$1.00 = ARS14.
- Metal prices: US\$19/oz silver and US\$1,329/oz gold, based on consensus of independent forecasts for annual prices.
- Net Smelter Return (NSR) includes doré refining, transport, and insurance costs.
- Revenue is recognized at the time of production.

### COSTS

- Mine life: 4 years.
- Life of Mine production plan prepared by Austral.
- Mine life capital totals \$41.7 million, including reclamation and closure.
- Average operating cost over the mine life is \$99 per tonne milled.
- All-In Sustaining Cost (AISC): Casposo Mine will produce varying proportions of gold and silver depending on the veins mined in a particular time period. Over the Life of Mine, under current price assumptions, neither metal dominates revenue – they are co-products. As such, AISC calculated according to World Gold Council guidance with silver as a byproduct, may not be comparable to other gold operations. Alternatively, converting the silver to gold equivalent may be more comparable to other gold operations. Results for the two methods, on both a gold basis and a silver basis, are:
  - AISC Gold, Silver as byproduct: US\$550 per oz Au
  - AISC Gold Equivalent: US\$1,038 per oz AuEq
  - AISC Silver, Gold as byproduct: US\$9.61 per oz Ag
  - AISC Silver Equivalent: US\$13.09 per oz AgEq

**TABLE 1-1 AFTER-TAX CASH FLOW SUMMARY**  
Austral Gold Limited - Casposo Mine

	INPUTS	UNITS	TOTAL	2016 Year 1	2017 Year 2	2018 Year 3	2019 Year 4	2020 Year 5
<b>MINING</b>								
<b>Underground</b>								
Operating Days	350	days	1,233	183	350	350	350	
Tonnes milled per day		tonnes / day	720	587	856	785	590	
Production		'000 tonnes	888	107	299	275	206	
Au		g/t	2.61	2.88	1.99	2.91	2.96	
Ag		g/t	241	402	308	186	132	
Waste		'000 tonnes	-	-	-	-	-	
Total Moved		'000 tonnes	888	107	299	275	206	
<b>Feed from Stockpile</b>								
Tonnes	-	'000 tonnes	89	43	23	23	23	
Au Grade		g/t	1.68	1.68	1.68	1.68	1.68	
Ag Grade		g/t	123.74	124	124	124	124	
<b>PROCESSING</b>								
<b>Mill Feed</b>								
Au		'000 tonnes	976	150	322	297	206	
Ag		g/t	2.52	2.53	1.97	2.81	2.96	
Contained Au		g/t	230.35	322	295	182	132	
Contained Ag		oz	79,190	12,246	20,398	26,892	19,654	
		oz	7,231,807	1,556,953	3,061,480	1,734,790	878,585	
<b>Recovery</b>								
Au	91.2%	%	91%	91%	91%	91%	91%	
Ag	83.0%	%	83%	83%	83%	83%	83%	
<b>Total Recovered</b>								
Au		oz	72,221	11,168	18,603	24,525	17,924	
Ag		oz	6,002,400	1,292,271	2,541,028	1,439,876	729,225	
AuEq		oz AuEq	147,533	26,377	51,498	42,777	26,881	
<b>REVENUE</b>								
<b>Metal Prices</b>		<b>Input Units</b>						
Au		US\$/oz Au	\$ 1,329	\$ 1,350	\$ 1,325	\$ 1,325	\$ 1,325	
Ag		US\$/oz Ag	\$ 19	\$ 19	\$ 19	\$ 19	\$ 19	
<b>Price Ratio</b>		<b>Au : Ag</b>		\$ 71.05	\$ 69.74	\$ 69.74	\$ 69.74	
Au Payable Percentage	99.5%	US\$ '000	99.5%	99.5%	99.5%	99.5%	99.5%	
Ag Payable Percentage	99.5%	US\$ '000	99.5%	99.5%	99.5%	99.5%	99.5%	
<b>Au Gross Revenue</b>		<b>US\$ '000</b>	\$ 95,492	\$ 15,002	\$ 24,526	\$ 32,334	\$ 23,631	
<b>Ag Gross Revenue</b>		<b>US\$ '000</b>	\$ 113,475	\$ 24,430	\$ 48,038	\$ 27,221	\$ 13,786	
<b>Total Gross Revenue</b>		<b>US\$ '000</b>	\$ 208,967	\$ 39,432	\$ 72,564	\$ 59,555	\$ 37,417	
<b>Transport</b>								
Shipments		No. / yr	111	24	47	27	14	
Mine to Mendoza	7200	US\$ '000	\$ 800	\$ 172	\$ 337	\$ 193	\$ 98	
Mendoza to Refinery	US\$7.05 /kg	US\$ '000	\$ 2,110	\$ 453	\$ 889	\$ 509	\$ 260	
<b>Treatment</b>								
Au	US\$ .25 /oz Au	US\$ '000	\$ 18	\$ 3	\$ 5	\$ 6	\$ 4	
Ag	US\$0.25 /oz Ag	US\$ '000	\$ 1,501	\$ 323	\$ 635	\$ 360	\$ 182	
<b>Refining cost</b>								
Au	US\$0.75 /oz Au	US\$ '000	\$ 54	\$ 8	\$ 14	\$ 18	\$ 13	
Ag	US\$0.00 /oz Ag	US\$ '000	\$ -	\$ -	\$ -	\$ -	\$ -	
<b>Total Charges</b>		<b>US\$ '000</b>	\$ 4,483	\$ 959	\$ 1,880	\$ 1,086	\$ 558	
Provincial Royalty	3%	US\$ '000	\$ 6,269	\$ 1,183	\$ 2,177	\$ 1,787	\$ 1,123	
Fidelmiso	1.5%	US\$ '000	\$ 3,135	\$ 591	\$ 1,088	\$ 893	\$ 561	
Owner's Royalty	US\$5.00 /oz AuEq	US\$ '000	\$ 790	\$ 147	\$ 275	\$ 226	\$ 142	
<b>Net Revenue</b>		<b>US\$ '000</b>	\$ 194,291	\$ 36,552	\$ 67,143	\$ 55,563	\$ 35,033	
<b>Unit NSR</b>		<b>US\$/t milled</b>	\$ 199	\$ 243	\$ 208	\$ 187	\$ 170	
<b>OPERATING COST</b>								
Mining (Underground)		US\$/t milled	\$ 40.07	\$ 34.60	\$ 36.96	\$ 40.07	\$ 48.90	
Processing		US\$/t milled	\$ 37.51	\$ 36.20	\$ 35.06	\$ 36.40	\$ 43.90	
G&A		US\$/t milled	\$ 21.53	\$ 19.97	\$ 18.62	\$ 20.20	\$ 29.10	
<b>Total Unit Operating Cost</b>		<b>US\$/t milled</b>	\$ 99.11	\$ 90.77	\$ 90.65	\$ 96.67	\$ 121.91	
Mining (Underground)		US\$ '000	\$ 39,127	\$ 5,202	\$ 11,920	\$ 11,913	\$ 10,092	
Processing		US\$ '000	\$ 36,631	\$ 5,443	\$ 11,308	\$ 10,820	\$ 9,060	
G&A		US\$ '000	\$ 21,020	\$ 3,003	\$ 6,006	\$ 6,006	\$ 6,006	
<b>Total Operating Cost</b>		<b>US\$ '000</b>	\$ 96,777	\$ 13,648	\$ 29,234	\$ 28,738	\$ 25,157	
Operating Cashflow		US\$ '000	\$ 97,514	\$ 22,904	\$ 37,910	\$ 26,825	\$ 9,876	
<b>CAPITAL COST</b>								
<b>Sustaining Capital</b>								
Mining		US\$ '000	\$ 29,258	\$ 4,932	\$ 12,731	\$ 9,889	\$ 1,705	
Processing		US\$ '000	\$ 6,275	\$ 2,245	\$ 872	\$ 3,158	\$ -	
<b>Total Sustaining Capital</b>		<b>US\$ '000</b>	\$ 35,533	\$ 7,177	\$ 13,603	\$ 13,047	\$ 1,705	
Working Capital		US\$ '000	\$ 2,000	\$ 1,000	\$ 1,000	\$ -	\$ -	
Reclamation and Closure		US\$ '000	\$ 4,185	\$ -	\$ -	\$ -	\$ 3,000	\$ 1,185
<b>Total Capital Cost</b>		<b>US\$ '000</b>	\$ 41,717	\$ 8,177	\$ 14,603	\$ 13,047	\$ 4,705	\$ 1,185
<b>CASH FLOW</b>								
Net Pre-Tax Cashflow		US\$ '000	\$ 55,796	\$ 14,726	\$ 23,306	\$ 13,778	\$ 5,171	\$ (1,185)
Cumulative Pre-Tax Cashflow		US\$ '000	\$ -	\$ 14,726	\$ 38,033	\$ 51,810	\$ 56,981	\$ 55,796
EBITDA		US\$ '000	\$ 97,514	\$ 22,904	\$ 37,910	\$ 26,825	\$ 9,876	\$ -
Taxable Income		US\$ '000	\$ 46,736	\$ 5,275	\$ 23,785	\$ 14,691	\$ 2,985	\$ -
Taxes	35%	US\$ '000	\$ 16,357	\$ 1,846	\$ 8,325	\$ 5,142	\$ 1,045	\$ -
After-Tax Cashflow		US\$ '000	\$ 39,439	\$ 12,880	\$ 14,982	\$ 8,636	\$ 4,126	\$ (1,185)
Cumulative After-Tax Cashflow		US\$ '000	\$ -	\$ 12,880	\$ 27,862	\$ 36,498	\$ 40,624	\$ 39,439
<b>All-In Sustaining Cost</b>								
Gold, Silver as byproduct		US\$/oz Au	\$ 550	\$ 25	\$ 66	\$ 757	\$ 1,030	
Gold Equivalent		US\$/oz AuEq	\$ 1,038	\$ 937	\$ 957	\$ 1,070	\$ 1,200	
Silver, Gold as byproduct		US\$/oz Ag	\$ 9.61	\$ 7.51	\$ 9.73	\$ 9.34	\$ 11.81	
Silver Equivalent		US\$/oz AgEq	\$ 13.09	\$ 11.02	\$ 12.38	\$ 13.56	\$ 14.73	
<b>PROJECT ECONOMICS</b>								
Pre-Tax IRR		%						
Pre-tax NPV at 5% discounting	5.0%	US\$ '000	\$52,843					
Pre-tax NPV at 7.5% discounting	7.5%	US\$ '000	\$51,502					
Pre-tax NPV at 10% discounting	10.0%	US\$ '000	\$50,241					
After-Tax IRR		%						
After-Tax NPV at 5% discounting	5.0%	US\$ '000	\$37,493					
After-Tax NPV at 7.5% discounting	7.5%	US\$ '000	\$36,607					
After-tax NPV at 10% discounting	10.0%	US\$ '000	\$35,774					

## CASH FLOW ANALYSIS

Considering the Mine on a stand-alone basis, the undiscounted pre-tax cash flow totals \$56 million over the mine life.

Annual production during operations varies by year, averaging approximately 21,000 ounces of gold and 1.7 million ounces of silver per year.

After-Tax Net Present Values (NPV) at various discount rates are:

- 5% discount rate is \$37.5 million.
- 7.5% discount rate is \$36.6 million.
- 10% discount rate is \$35.8 million.

## SENSITIVITY ANALYSIS

Risks can be identified in both economic and non-economic terms. Key economic risks were examined by running cash flow sensitivities:

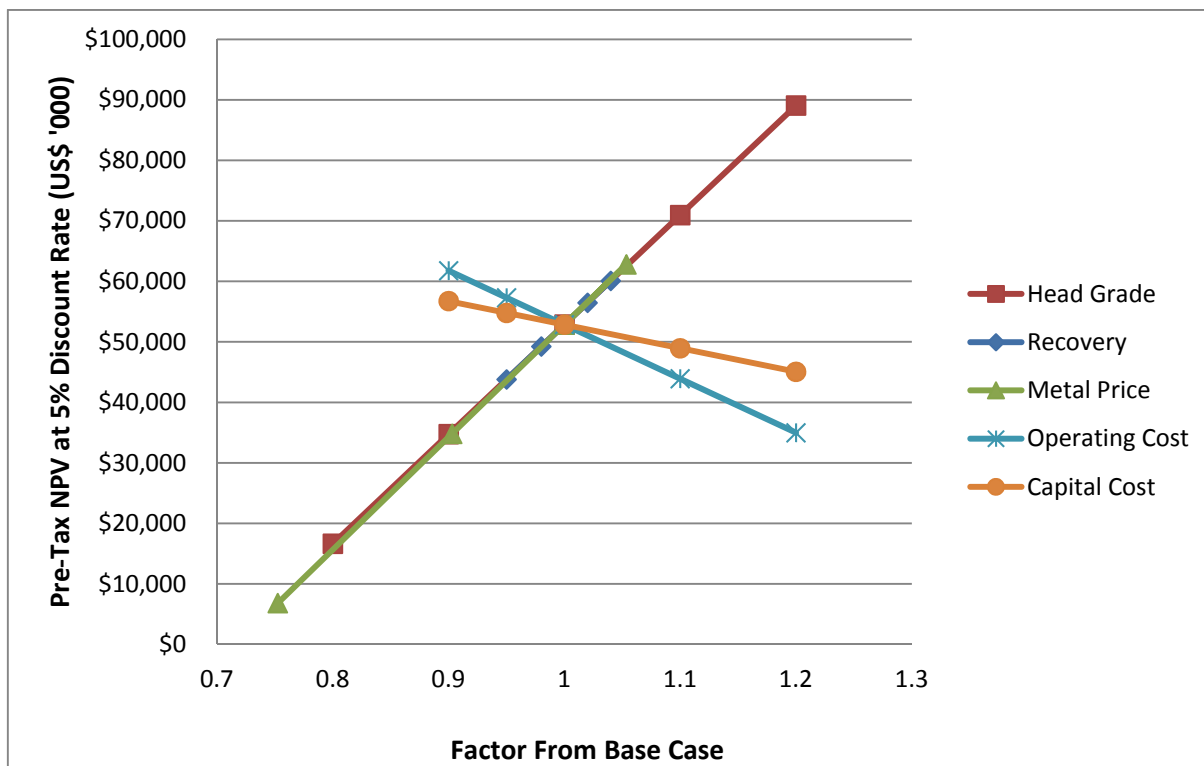
- Metal prices
- Head grade
- Recovery
- Operating costs
- Capital costs

Pre-tax NPV@5% sensitivity over the base case has been calculated for reasonable variations for each input. The sensitivities are shown in Figure 1-1 and Table 1-2.

The cash flow is most sensitive to metal prices and head grades. There is low sensitivity to recoveries (due to the limited range of possibilities) and capital costs (due to the limited capital required from June 30, 2016 forward to the end of the mine life).



**FIGURE 1-1 SENSITIVITY ANALYSIS**



**TABLE 1-2 SENSITIVITY ANALYSES**  
**Austral Gold Limited – Casposo Mine**

<b>Parameter Variables</b>	<b>Units</b>	<b>Lowest</b>	<b>Lower</b>	<b>Base</b>	<b>Higher</b>	<b>Highest</b>
Gold Price	US\$/oz	1,000	1,200	1,329	1,400	-
Recovery	% Au	87%	89%	91%	93%	95%
Head Grade	g/t Au	2.02	2.27	2.52	2.77	3.03
Operating Cost	\$ millions	87	92	97	106	116
Capital Cost	\$ millions	38	40	42	46	50

<b>NPV@5%</b>	<b>Units</b>	<b>Lowest</b>	<b>Lower</b>	<b>Base</b>	<b>Higher</b>	<b>Highest</b>
Gold Price	\$ millions	7	35	53	63	-
Recovery	\$ millions	44	49	53	56	60
Head Grade	\$ millions	17	35	53	71	89
Operating Cost	\$ millions	62	57	53	44	35
Capital Cost	\$ millions	57	55	53	49	45

## TECHNICAL SUMMARY

### PROPERTY DESCRIPTION AND LOCATION

The Mine is situated approximately 150 km northwest of the city of San Juan, in the Department of Calingasta, San Juan Province, Argentina. The property is located at approximate latitude 31°12' S and longitude 69°36' W and centred on coordinates 6,548,000 north, 2,438,000 east.

### LAND TENURE

The Mine comprises three mining leases, eight Manifestaciones de Descubrimiento (Discovery Concessions), eight exploration Cateos (Exploration Concessions), and three Canteras (Quarry Permits), for a total area of 39.35 km<sup>2</sup>.

Troy continues to hold condominium rights, which are sufficient surface rights to safely and effectively operate the Mine. In late 2004, an amended Mining Camp easement plan was submitted to more correctly identify the area of potential operations at Kamila. Other easements granted to Troy are the easement for the Kamila access road, the Julieta mining camp, and the Julieta access road.

The right to take sufficient water for mining and processing activities has been granted at Kamila and for potential future mining at Julieta.

On July 1, 2002, Intrepid signed a “Rental Agreement with Option to Purchase” with the owners of the Kamila mining lease for a 100% interest in the “Kamila Mine Property”. There is a “Production Royalty” of US\$6/oz of gold equivalent (AuEq) to be paid to the vendors, net of any advanced royalties.

All necessary statutory permits have been granted and the requirements have been met. Casposo is in compliance with all environmental and operating permits.

## **EXISTING INFRASTRUCTURE**

At the time of acquisition by Austral, the surface and underground infrastructure at the Mine included the following:

- A crushing plant and a 1,100 tpd mill
- A dry-stack tailings management facility and waste rock dumps
- Low grade ore and run-of-mine stockpiles
- An administrative building and cafeteria
- A laboratory
- Maintenance facilities
- A core processing and sample preparation facility
- A fenced property perimeter and gated security entrance
- Declines and a series of ramp-connected levels

The power line to site has the capacity to transmit 18 MW of power, which is well in excess of the requirements of the operation.

## **HISTORY**

The history of the property ownership and mining activities is detailed in Table 1-3.

**TABLE 1-3 EXPLORATION AND MINING HISTORY  
Austral Gold Limited – Casposo Mine**

<b>Dates</b>	<b>Company</b>	<b>Activities</b>
1998 – 2002	Battle Mountain Gold and Newmont Mining Company	Discovery of gold-silver mineralization at Casposo by regional exploration. Surface sampling, geological mapping, trenching and rock chip channel sampling, geophysics and diamond drilling.
2002 – 2009	Intrepid Minerals Corporation	Regional reconnaissance studies, detailed trench sampling of the vein systems, re-logging of core, bulk sampling for metallurgical studies, diamond drilling. A Mineral Resource estimate, based on open pit and underground mining methods, was prepared in 2003 followed by diamond and reverse circulation (RC) drilling and a preliminary economic assessment (PEA) in 2005. Infill drilling and road construction in 2006 and 2007 followed by a feasibility study in 2008. Updated feasibility study released in 2009.
2009 – 2016	Troy Resources Argentina	Exploration during 2011–2015 designed to generate data through detailed geological mapping, geochemical sampling, structural studies, geophysics, and trenching followed by drilling of ranked targets. Mine development commenced in August 2009 and first gold pour took place in November 2010. Production from 2011 to 2015 totalled 283,000 ounces of gold and 9,576,000 ounces of silver.
2016	Austral Gold Limited	Purchased 51% interest in Troy Resources Argentina and became mine operator.

The Mine began commercial production in 2011 and continued operation until it was placed on a care and maintenance basis in 2015 (Table 1-4).

**TABLE 1-4 PAST PRODUCTION**  
**Austral Gold Limited – Casposo Mine**

<b>Year</b>	<b>Tonnes Processed</b>	<b>Gold Head Grade (g/t Au)</b>	<b>Silver Head Grade (g/t Ag)</b>	<b>Gold Recovery (%)</b>	<b>Silver Recovery (%)</b>	<b>Gold Ounces Produced</b>	<b>Silver Ounces Produced</b>
2011	212,577	8.32	122	85	78	47,300	623,000
2012	371,883	7.12	118	90	79	74,400	1,126,000
2013	498,081	4.30	137	91	80	61,600	1,693,000
2014	516,521	4.09	233	91	79	62,500	3,023,000
2015	468,707	2.73	254	91	82	37,400	3,110,000
<b>Total</b>	<b>2,067,769</b>	<b>4.81</b>	<b>183</b>	<b>90</b>	<b>79</b>	<b>283,200</b>	<b>9,576,000</b>

## **GEOLOGY AND MINERALIZATION**

The deposits and other prospects within the Casposo property are examples of low-sulphidation epithermal deposition of gold and silver.

The Cordillera Principal runs along the Chile-Argentina border for approximately 1,500 km. It is a volcanically and seismically active zone formed by subduction of the Nazca plate beneath the South American continent. The main basement is formed by Permian–Triassic intrusive and volcanic rocks, of calc-alkaline affinity and andesitic to rhyolite composition, regionally known as the Choiyoi Group. These and younger sediments of Jurassic and Cretaceous age have been thickened by compression and thrusting principally since the Late Cretaceous in a thin-skinned fold thrust belt.

The Mine is located on the eastern border of the Cordillera Frontal. In the Mine area, the Cordillera Frontal is underlain by marine metasediments (shales, sandstones, and conglomerates) of La Puerta Formation (Carboniferous-Lower Permian). These sedimentary sequences are overlain by a thick intrusive and volcanic sequence assigned to the Permian-Triassic Choiyoi Group. The Choiyoi Group hosts coeval mineralization, mainly porphyry copper-molybdenum and copper-gold deposits such as San Jorge and El Salado and low-sulphidation gold systems such as Casposo, La Cabeza, and Castaño Nuevo. Tertiary mineralization occurs at Poposa (high-sulphidation gold) and at Paramillos (porphyry copper-molybdenum) prospects.

The main host rocks at the property are basal andesitic volcanic flows, tuffs, and breccias overlain by rhyolite, rhyolite-dacite flows, and dacitic ignimbrite flows.

The Casposo gold–silver mineralization occurs in both the rhyolite and underlying andesite, where it is associated with banded quartz–chalcedony veins, typical of low sulphidation epithermal environments. Adularia in the main veins gives an age date of  $280 \pm 0.8$  Ma (K/Ar), very close to the published age dates for the andesite unit. Post-mineralization dykes of rhyolitic (Kamila), aphanitic-felsic, and trachytic (Mercado) composition often cut the vein systems. These dykes, sometimes reaching up to 30 m thickness, are usually steeply dipping and north–south oriented.

Mineralization at Casposo occurs along a 10 km long west–northwest to east-southeast trending regional structural corridor, with the main Kamila Vein system forming a sigmoidal set 500 m long near the centre. The Mercado Vein system is the northwest continuation of Kamila, and is separated by an east–west fault from the Kamila deposit. The Julieta Zone is located five kilometres along strike to the northwest of the Kamila and Mercado deposits and is situated within the same regional structural corridor. The Casposo Norte deposit is located on a parallel structure approximately two kilometres north of Kamila.

## **MINERAL RESOURCES**

RPA reviewed, and re-estimated as required, the Mineral Resource estimates of the Casposo operations as received from Austral. This report describes the validated models and estimates completed by RPA.

The methodology of estimating Mineral Resources by Casposo staff includes:

- Statistical analysis and variography of gold and silver values in the assay database.
- Geological and mineralized envelope models for the various deposits at Casposo.
- Construction of a block model using Vulcan software.
- Grade interpolation using Ordinary Kriging (OK) or Inverse Distance Squared or Cubed ( $ID^2$  and  $ID^3$ ) methods.

The Mineral Resources for the Casposo Mine are contained in the Kamila (including Aztec, B-Vein, Inca, and Mercado zones), Julieta, and Casposo Norte deposits and are summarized in Table 1-5.

**TABLE 1-5 MINERAL RESOURCES AS OF JUNE 30, 2016**  
**Austral Gold Limited – Casposo Mine**

Classification	Deposit	Tonnes (000)	Grades			Contained Metal Ounces		
			Ag (g/t)	Au (g/t)	AuEq (g/t)	Ag (000)	Au (000)	AuEq (000)
Measured	Kamila	178	255	2.69	5.84	1,460	15.4	33.4
Indicated	Kamila	969	293	2.63	6.25	9,131	81.8	194.5
	Julieta	268	26	4.56	4.88	221	39.3	42.0
Sub-Total Indicated		1,237	235	3.04	5.94	9,352	121.1	236.6
<b>Total Measured + Indicated</b>		<b>1,415</b>	<b>238</b>	<b>3.00</b>	<b>5.94</b>	<b>10,811</b>	<b>136.5</b>	<b>270.0</b>
Inferred	Kamila	780	190	5.6	7.95	4,800	140	199.3
	Casposo Norte	115	25	3.0	3.31	92	11	12.1
	Julieta	190	24	4.0	4.30	146	25	26.8
<b>Total Inferred</b>		<b>1,090</b>	<b>140</b>	<b>5.0</b>	<b>6.73</b>	<b>5,040</b>	<b>176</b>	<b>238.2</b>

Notes:

1. CIM definitions were followed for Mineral Resources.
2. Mineral Resources are estimated using an average long-term silver price of US\$15 per ounce, and a gold price of US\$1,200 per ounce.
3. Mineral Resources are estimated at a cut-off grade of 2 g/t AuEq.
4. Gold equivalents (AuEq) are calculated using a factor of 1 g Au = 81 g Ag, based on metal prices, and metallurgical recoveries (92% for gold, 87% for silver).
5. A minimum wireframe width of 0.5 m was used.
6. Bulk density is 2.6 t/m<sup>3</sup>.
7. Mineral Resources are inclusive of Mineral Reserves.
8. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
9. Numbers may not add due to rounding.

RPA is not aware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other factors that could materially affect the Mineral Resource estimate.

## MINERAL RESERVES

The Casposo Mine Mineral Reserves were estimated based on stope design wireframes applied against the Mineral Resource block models for each of the deposits. Planned and unplanned dilution are included in the stope shapes which have been designed for a longitudinal longhole retreat mining method. Reserves in stockpile are based on site operating data.

Mineral Reserves are summarized in Table 1-6.

**TABLE 1-6 SUMMARY OF MINERAL RESERVES AS OF JUNE 30, 2016**
**Austral Gold Limited – Casposo Mine**

Category	Deposit	Tonnage (000 t)	Grades			Contained Metal Ounces		
			Ag (g/t)	Au (g/t)	AuEq (g/t)	Ag (000)	Au (000)	AuEq (000)
Proven	Kamila	26,930	321	2.01	5.96	278,000	1.7	5.2
	Julieta	-	-	-	-	-	-	-
	Stockpiles	88,548	124	1.68	3.21	352,000	4.8	9.1
Probable	Kamila	706,974	285	2.25	5.78	6,485,000	51.2	131.3
	Julieta	150,355	24	4.39	4.69	118,000	21.2	22.7
	Stockpiles	-	-	-	-	-	-	-
Total Proven		115,000	170	1.76	3.87	630,000	6.5	14.3
Total Probable		857,000	240	2.63	5.59	6,602,000	72.5	154.0
<b>Total Reserves</b>		<b>972,000</b>	<b>231</b>	<b>2.53</b>	<b>5.38</b>	<b>7,232,000</b>	<b>79.0</b>	<b>168.3</b>

**Notes:**

1. CIM definitions were followed for Mineral Reserves.
2. Mineral Reserves are estimated using an average long-term silver price of US\$15 per ounce and gold price of US\$1,200 per ounce.
3. Mineral Reserves are estimated at a cut-off grade of 2.8 g/t AuEq. Development was evaluated at an incremental cut-off grade of 1.3 g/t AuEq.
4. Gold equivalents (AuEq) are calculated using a factor of 1 g Au = 81 g Ag, based on metal prices, and metallurgical recoveries (92% for gold, 87% for silver).
5. A minimum mining width of 2 m was used.
6. Bulk density is 2.6 t/m<sup>3</sup>.
7. Numbers may not add due to rounding.

RPA considers that the Mineral Reserves are classified and reported in accordance with CIM definitions. RPA is not aware of any mining, metallurgical, infrastructure, permitting, or other relevant factors that could materially affect the Mineral Reserve estimate.

Planned and unplanned dilution, minimum mining width, and extraction were included in the resource to reserve conversion at the stope optimization and design stage. The design shapes were drawn to represent final mined out volumes. An extraction factor of 95% is applied to both stopes and drifts. Dilution included in the design averages 33% across all veins (stopes and development).

A break-even cut-off grade of 2.8 g/t AuEq was estimated for Mineral Reserves, using a gold price of US\$1,200/oz, an average gold recovery of 90%, and operating costs estimated by Austral. Stopes were estimated using the break-even cut-off grade.



An incremental cut-off grade of 1.3 g/t AuEq was estimated using variable operating costs only. Ore development was designed based on the incremental cut-off grade and was included in Mineral Reserves.

## **MINING METHODS**

The Casposo Mine consists of a number of narrow steeply dipping orebodies known as Aztec, B-Vein, B-Vein 1, Inca 0, Inca 1, Inca 2A, Inca 2B, Mercado, and Julieta. Open pit mining in Kamila and Mercado pits was completed in 2013, and all mining is currently planned as underground, although there is potential for open pit mining at Julieta. The main production from the underground mine to date has been from Inca 1, Aztec, and Inca 2A.

The mining method used at Casposo is longitudinal longhole retreat. Mine production is made up of a combination of ore development through sill drifts (34%) and stope production (66%).

The veins are accessed by sub-level footwall drives, driven from the main ramp at 15 m intervals. Stopes were designed using a minimum mining width of 2 m and are 10.5 m high, while sill drifts were designed at 4.5 m high and on average 4.0 m to 5.0 m wide. Stope lengths vary depending on the orebody but are limited to a maximum of 15 m due to geotechnical constraints.

Mining progresses in a bottom up fashion. Stopes on each level are accessed in the middle and developed along strike, at both the top and bottom elevations. Once sill development is completed, the stopes are drilled and blasted. Drilling and blasting start at the end of the stoping blocks and mucked in retreating vertical slices.

## **LIFE OF MINE PLAN**

Stope and development design and scheduling were carried out by Austral. The production schedule covers a mine life of four years based on current Mineral Reserves. Development and rehabilitation have been in progress by Austral since April 2016, and production will begin in Q3 2016 at Aztec, Inca 1, Inca 2A, and Inca 2B, which are all accessible with current existing development. The production schedule is summarized in Table 1-7.

**TABLE 1-7 LIFE OF MINE PLAN SUMMARY**

**Austral Gold Limited – Casposo Mine**

	<b>Units</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Total Mill Feed	Tonnes (000)	150	322	297	206
	g/t Au	2.53	1.97	2.81	2.96
	g/t Ag	322	295	182	132
Recovery Au	%	91.2%	91.2%	91.2%	91.2%
Recovery Ag	%	83.0%	83.0%	83.0%	83.0%
Recovered Au	Oz (000)	11	19	25	18
Recovered Ag	Oz (000)	1,292	2,541	1,440	729

**MINERAL PROCESSING**

The Casposo Mine recovers gold and silver doré which is transported to a refining facility in Brampton, Ontario, Canada for further processing into high purity gold and silver. The processing and recovery method is whole ore cyanide leaching for extraction of the precious metal from the ore counter-current decantation (CCD) and filtration for liquid-solid separation, and Merrill-Crowe for recovery of the metal from the leach solution.

The Casposo processing plant has a nameplate throughput of 400,000 tonnes per year (tpa) of ore. At 8,000 working hours per annum, this is equivalent to 50 tonnes per hour. The current underground mine plan delivers only approximately 300,000 tpa of ore, however, Austral plans to operate the plant on an intermittent basis to retain the same plant throughput.

**ENVIRONMENTAL, PERMITTING AND SOCIAL CONSIDERATIONS**

All required studies were completed and the Environmental Impact Assessment (EIA) for Casposo was submitted in 2007. It was reviewed by a multi-disciplinary commission, approved in 2009, and renewed every two years subsequently. The fourth update was presented recently, with approval due in March 2018.

Austral reports that it has all required permits to carry out operations.

Calingasta is a mining town and the town is home to a Mining Technology school. As a result, the mine enjoys better than average local support. The social and community relations are reported to be excellent.

Austral will implement the Mine closure plan that was prepared by Mountain Pass LLC (Mountain Pass) in December 2014.

## CAPITAL AND OPERATING COST ESTIMATES

Austral has been carrying out a program of mine development, process improvements, and operational readiness since April 2016. The estimated capital costs from June 30, 2016 forward are summarized in Table 1-8.

**TABLE 1-8 SUMMARY OF CAPITAL COSTS**  
**Austral Gold Limited – Casposo Mine**

Item	Units	Total	2016	2017	2018	2019	2020
Mine Development	US\$ millions	29.2	4.9	12.7	9.9	1.7	-
Sustaining Capital	US\$ millions	6.3	2.2	0.9	3.2	-	-
Working Capital	US\$ millions	2.0	1.0	1.0	-	-	-
Reclamation & Closure	US\$ millions	4.2	-	-	-	3.0	1.2
<b>Total</b>	<b>US\$ millions</b>	<b>41.7</b>	<b>8.1</b>	<b>14.6</b>	<b>13.0</b>	<b>4.7</b>	<b>1.2</b>

Mine development is based on the LOM plan requirements, and a unit rate of US\$2,200/m, based on actual costs incurred at the mine.

Sustaining capital includes budgeted plant improvements, such as changes to the belt filter and cyanide detoxification circuit to improve efficiency and reduce costs, some mobile equipment purchases, and general site maintenance costs.

Mountain Pass estimated reclamation and closure costs of \$4.2 million.

Operating costs for the LOM plan are shown in Table 1-9. Costs for 2016 represent a half year, starting July 1.

**TABLE 1-9 SUMMARY OF OPERATING COSTS**  
**Austral Gold Limited – Casposo Mine**

<b>Unit Costs</b>	<b>Unit</b>	<b>Total</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Mining (Underground)	US\$/t milled	40.07	34.60	36.96	40.07	48.90
Processing	US\$/t milled	37.51	36.20	35.06	36.40	43.90
G&A	US\$/t milled	21.53	19.97	18.62	20.20	29.10
<b>Total Unit Operating Cost</b>	<b>US\$/t milled</b>	<b>99.11</b>	<b>90.77</b>	<b>90.65</b>	<b>96.67</b>	<b>121.91</b>

<b>Total Costs</b>	<b>Unit</b>	<b>Total</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Mining (Underground)	US\$ '000	39,127	5,202	11,920	11,913	10,092
Processing	US\$ '000	36,631	5,443	11,308	10,820	9,060
G&A	US\$ '000	21,020	3,003	6,006	6,006	6,006
<b>Total Operating Cost</b>	<b>US\$ '000</b>	<b>96,777</b>	<b>13,648</b>	<b>29,234</b>	<b>28,738</b>	<b>25,157</b>

Operating cost estimates include mining, processing, and general and administration (G&A) expenses. Operating costs were budgeted based on costs incurred during previous mining activities and have been compiled by area based on estimated labour requirements, consumables, and other expenditures according to the updated mine plan and process design. An additional haulage cost was included in mining costs for hauling ore from Julieta, which is located approximately six kilometres to the mill.

## 2 INTRODUCTION

Roscoe Postle Associates Inc. (RPA) was retained by Austral Gold Limited (Austral) to prepare an independent Technical Report on the Casposo Gold-Silver Mine (Casposo), located in the department of Calingasta, San Juan Province, Argentina. The purpose of this report is to disclose the Mineral Resource and Mineral Reserve estimates and the Life of Mine (LOM) plan based on Austral's plans for improving and re-starting the existing Casposo Mine. This Technical Report conforms to NI 43-101 Standards of Disclosure for Mineral Projects.

Austral is a precious metals mining and exploration company building a portfolio of assets in South America.

On March 7, 2016, Austral acquired a 51% interest in Troy Resources Limited's (Troy) Casposo gold and silver mine, located approximately 150 km west of the city of San Juan, Argentina. Pursuant to the Implementation Deed between Austral and Troy, Austral will be entitled to acquire a further 19% interest in the mine within the first year from the agreement and the remaining 30% within the next five years. Austral will be Manager of the operation.

Casposo is an underground operation with processing of ore in an agitated leach/Merrill Crowe plant. A Feasibility Study was prepared by AMEC Americas Limited for the previous owner, Intrepid Mines Limited, in 2007 and updated for Troy in 2008. Operations at Casposo commenced in 2010 with open pit mining, followed by underground production in 2013. As the mine was deepening, gold production declined and silver production increased, with record silver production of 3.1 million ounces (Moz) in 2015. In 2015, Troy produced 43,130 ounces of gold and 1.98 Moz of silver.

In 2015, local cost pressures combined with declining metal prices and a deterioration in the silver to gold ratio resulted in a considerable decrease in Casposo's revenue. Troy placed the operation on care and maintenance in February 2016.

Austral plans to achieve profitable operation at Casposo within 12 months via a capital investment plan that includes a re-design of mine operations and optimization of the processing cycle.

Troy completed a Technical Report for Casposo in June 2012. RPA has relied on information from this report for historical information about the mine.

## **SOURCES OF INFORMATION**

Site visits were carried out by Jason Cox, P.Eng., Principal Mining Engineer and Executive Vice President for Mine Engineering, and Chester Moore, P.Eng., Principal Geologist, on May 10 to 12, 2016. Kathleen Altman, Ph.D., P.E., Principal Metallurgist and Director of Metallurgy and Mineral Processing, visited the site on May 11 and 12, 2016.

Discussions were held with personnel from Casposo:

- Mr. Stabro Kasaneva, Executive Director, Austral
- Mr. José Gustavo De Castro, General Manager, Casposo Mine
- Mr. Julian Ortiz, Environmental Manager, Casposo Mine
- Mr. Emiliano Gil, Plant Manager, Casposo Mine
- Mr. Rubén Femenía, Admin and Finance Manager, Casposo Mine
- Mr. Gustavo Sotarello, Chief Geologist, Casposo Mine
- Mr. Leandro Sastre Salim, Senior Geologist, Austral
- Mr. Claudio Campos, Engineering Manager, Austral
- Mr. Leonardo Deymié, Engineering Superintendent, Casposo Mine
- Mr. Emmanuel Fernández, Assay Laboratory Manager, Casposo Mine
- Mr. Jose Bordogna, CFO, Austral
- Mr. Hugo Arturo Bosque, Attorney for Casposo Mine

Mr. Cox is responsible for sections 1 through 5, 15, 16, 18, 19, and 21 through 27. Mr. Moore is responsible for sections 6 through 12 and 14. Dr. Altman is responsible for sections 13, 17, and 20.

The documentation reviewed, and other sources of information, are listed at the end of this report in Section 27 References.

### LIST OF ABBREVIATIONS

Units of measurement used in this report conform to the metric system. All currency in this report is US dollars (US\$) unless otherwise noted.

a	annum	kWh	kilowatt-hour
A	ampere	L	litre
ARS	Argentine peso	lb	pound
bbl	barrels	L/s	litres per second
btu	British thermal units	m	metre
°C	degree Celsius	M	mega (million); molar
C\$	Canadian dollars	m <sup>2</sup>	square metre
cal	calorie	m <sup>3</sup>	cubic metre
cfm	cubic feet per minute	μ	micron
cm	centimetre	MASL	metres above sea level
cm <sup>2</sup>	square centimetre	μg	microgram
d	day	m <sup>3</sup> /h	cubic metres per hour
dia	diameter	mi	mile
dmt	dry metric tonne	min	minute
dwt	dead-weight ton	μm	micrometre
°F	degree Fahrenheit	mm	millimetre
ft	foot	mph	miles per hour
ft <sup>2</sup>	square foot	MVA	megavolt-amperes
ft <sup>3</sup>	cubic foot	MW	megawatt
ft/s	feet per second	MWh	megawatt-hour
g	gram	oz	Troy ounce (31.1035g)
G	giga (billion)	oz/st, opt	ounces per short ton
Gal	Imperial gallon	ppb	parts per billion
g/L	grams per litre	ppm	parts per million
Gpm	Imperial gallons per minute	psia	pounds per square inch absolute
g/t	grams per tonne	psig	pounds per square inch gauge
gr/ft <sup>3</sup>	grains per cubic foot	RL	relative elevation
gr/m <sup>3</sup>	grains per cubic metre	s	second
ha	hectare	st	short ton
hp	horsepower	stpa	short tons per year
hr	hour	stpd	short tons per day
Hz	hertz	t	metric tonne
in.	inch	tpa	metric tonnes per year
in <sup>2</sup>	square inch	tpd	metric tonnes per day
J	joule	US\$	United States dollar
k	kilo (thousand)	USg	United States gallon
kcal	kilocalorie	USgpm	US gallons per minute
kg	kilogram	V	volt
km	kilometre	W	watt
km <sup>2</sup>	square kilometre	wmt	wet metric tonne
km/h	kilometres per hour	wt%	weight percent
kPa	kilopascal	yd <sup>3</sup>	cubic yard
kVA	kilovolt-amperes	yr	year
kW	kilowatt		

### 3 RELIANCE ON OTHER EXPERTS

This report has been prepared by Roscoe Postle Associates Inc. (RPA) for Austral Gold Limited (Austral). The information, conclusions, opinions, and estimates contained herein are based on:

- Information available to RPA at the time of preparation of this report,
- Assumptions, conditions, and qualifications as set forth in this report, and
- Data, reports, and other information supplied by Austral, the Casposo Mine, Mr. Hugo Arturo Bosque, Attorney for the Casposo Mine, and other third party sources.

For the purpose of this report, RPA has relied on ownership information provided by Mr. Hugo Arturo Bosque, attorney for Austral. RPA has not researched property title or mineral rights for the Casposo Mine and expresses no opinion as to the ownership status of the property.

RPA has relied on Austral for guidance on applicable taxes, royalties, and other government levies or interests, applicable to revenue or income from the Casposo Mine.

Except for the purposes legislated under provincial securities laws, any use of this report by any third party is at that party's sole risk.



## 4 PROPERTY DESCRIPTION AND LOCATION

Some of the historical information in this section is taken from a NI 43-101 Technical Report that was completed by Troy in June 2012.

The Casposo Mine is situated about 150 km northwest of the city of San Juan, in the Department of Calingasta, San Juan Province, Argentina (Figure 4-1). The Property is at approximate latitude 31°12' S and longitude 69°36' W and centred on coordinates 6,548,000 north, 2,438,000 east (Gauss Kruger, Datum Campo Inchauspe 1969 Zone 2). Property boundaries were surveyed with differential GPS surveying equipment.

### LAND TENURE

The Casposo Mine comprises three mining leases, eight Manifestaciones de Descubrimiento (M de D) (Discovery Concessions), eight exploration Cateos (Exploration Concessions), and three Canteras (Quarry Permits), covering a total area of 39.35 km<sup>2</sup>. The current land tenure is shown in Figure 4-2 and summarized in Table 4-1.

Owners of all mining tenements must comply with three conditions:

1. Pay an annual fee.
2. Invest a minimum amount of capital.
3. Carry out a reasonable level of exploitation.

Failure to comply with any one of these conditions could lead to forfeiture of the property back to the State.

**TABLE 4-1 PROPERTY RIGHTS**  
**Austral Gold Limited – Casposo Mine**

<b>File No.</b>	<b>Type</b>	<b>Name</b>	<b>Granted</b>	<b>Area (ha)</b>	<b>Notes</b>
520-0438-M-1998	Mine Lease	Kamila	December 19, 2005	3,487.9	Granted
4141348-I-2005	Mine Lease	Julieta	April 26, 2007	2,600.0	Final survey pending
11240189-I-2007	Mine Lease	Alicia 1	April 8, 2009	15.86	Survey pending
11240190-I-2007	M de D	Maria Jose	March 3, 2009	3,985.4	Application
11240191-I-2007	M de D	Vallecito	March 11, 2015	789.0	Recorded
1124-59-T-2011	M de D	Maria Paz	February 23, 2011	400.0	Application
1124-62-T-2011	M de D	Carolina	February 23, 2011	2,251.0	Application
1124-64-T-2011	M de D	Maria Luz	February 23, 2011	2,000.0	Application
1124-225-T-2013	M de D	Paloma	June 10, 2013	2,167.2	Application
1124-226-T-2013	M de D	Julia	June 10, 2013	2,326.1	Application
1124-220-T-2014	M de D	Alina	June 24, 2014	2,488.8	Recorded
425315-C-2002	Exploration	Casposo Noreste	August 11, 2003	1,591.6	Chartered and recorded
425120-C-2003	Exploration	Casposo Este	August 2, 2003	2,211.2	Chartered
414299-I-2004	Exploration	Altos de Manrique	August 27, 2004	1,839.4	Chartered
414375-I-2004	Exploration	Timbirimbas	November 10, 2008	3,498.9	Chartered
414501-I-2004	Exploration	Sara 1	May 12, 2014	1,277.0	Chartered and recorded
414501-I-2004	Exploration	Sara 4	September 22, 2009	3,306.9	Chartered and recorded
414717-I-2004	Exploration	Carmen Alto	October 5, 2011	1,384.7	Chartered
1124-350-I-2007	Exploration	Rosalia	October 6, 2014	1,725.5	Chartered
1124-346-I-2009	Quarry	Retamas 1	April 12, 2012	0.7	Chartered
1124-393-T-2010	Quarry	Guadalupe	August 4, 2010	0.9	Chartered
1124-284-T-2013	Quarry	Beatriz 1	March 21, 2014	4.2	Chartered
<b>Total</b>	<b>22</b>			<b>39,352.3</b>	

## **SURFACE RIGHTS**

Surface rights in Argentina are not associated with title to either a mining lease or a claim and must be negotiated with the landowner(s). In 2004, Intrepid negotiated with a group of property holders who held non-subdivided (condominium) interests for the surface rights over the Mine area. As at December 31, 2004 Intrepid had secured 92% of the condominium rights to the property. Austral continues to hold the condominium rights, which are sufficient surface rights to safely and effectively operate the Mine.

In 2000, a request to establish a camp easement was filed with the San Juan government. This is a standard step in the title process so as to identify the location of operations. The area submitted was preliminary, as economic deposits and infrastructure sites had not been

delineated. In late 2004, an amended Mining Camp easement plan was submitted to more correctly identify the area of potential operations at Kamila (Table 4-2). Other easements granted to Troy included the easement for the Kamila access road, the Julieta mining camp, and the Julieta access road (Figure 4-2).

**TABLE 4-2 SURFACE RIGHTS  
Austral Gold Limited – Casposo Mine**

<b>File No.</b>	<b>Type</b>	<b>Name</b>	<b>Granted</b>	<b>Area/ Length</b>	<b>Notes</b>
520.0538-M-1998	Easement	Camino a Kamila	November 25, 2002	22.0 km	Chartered and recorded
414.1349-V-2005	Easement	Camino a Julieta	November 29, 2010	21.0 km	Chartered and recorded
425.214-B-2000	Easement	Campamento Kamila	September 12, 2008	814.9 ha	Chartered and recorded
1124-362-T-10	Easement	Campamento Julieta	August 9, 2010	601.8 ha	Chartered

## **WATER RIGHTS**

The right to take sufficient water for mining and processing activities has been granted under Water Concession 520-0430-B-99 at Kamila and for potential future mining at Julieta under Water Concession 506-0069-T-10-Folio 108.

## **ROYALTIES**

On July 1, 2002, Intrepid signed a “Rental Agreement with Option to Purchase” (the Agreement) with the three owners of the Kamila mining lease, Eduardo Antonio Machuca, Hugo Arturo Bosque, and Luis Alfonso Vega for a 100% interest in the “Kamila Mine Property” subject to “Option Payments” totalling US\$300,000 over two years (US\$50,000 payable on signing) and to a “Reserve Royalty” of US\$1/oz of gold equivalent, or AuEq (up to a maximum of US\$450,000).

The Agreement was subsequently re-structured so that:

- (i) Beginning in 2006, annual option payments of US\$150,000 were to be paid by Intrepid to the vendors each July, until a total of US\$450,000 was paid, or the property attained commercial production. Intrepid warranted to Troy that these amounts were paid.
- (ii) On production, a “Production Royalty” of US\$6/oz AuEq is to be paid to the vendors, net of any advanced royalties.

The vendor royalty agreement is also subject to a 5 km “Area of Influence” surrounding the Kamila Mining Lease, providing that any new land within this area would be subject to the same terms as those set out in the Agreement. Since 2002, Intrepid, and then Troy, has been applying for exploration permits in respect of the contiguous land areas to cover prospective ground adjacent to the Kamila mining lease which will be subject to the Agreement.

There are no other royalties, back-in rights, payments or other agreements and encumbrances to which the Casposo property is subject.

### **ENVIRONMENTAL AND PERMITS**

All necessary statutory permits have been granted and the requirements have been met. Casposo is in compliance with all environmental and operating permits.

For all exploration drilling, Austral is required to apply for appropriate water use permits as per by local regulations. This is a regular ongoing protocol and is part of planning any drill program.

RPA is not aware of any environmental liabilities on the property. Casposo has all required permits to conduct the proposed work on the property. RPA is not aware of any other significant factors and risks that may affect access, title, or the right or ability to perform the proposed work program on the property.

**Legend:**

- International boundary
- Province (provincia) boundary
- National capital
- Province (provincia) capital
- Expressway
- Road
- Railroad



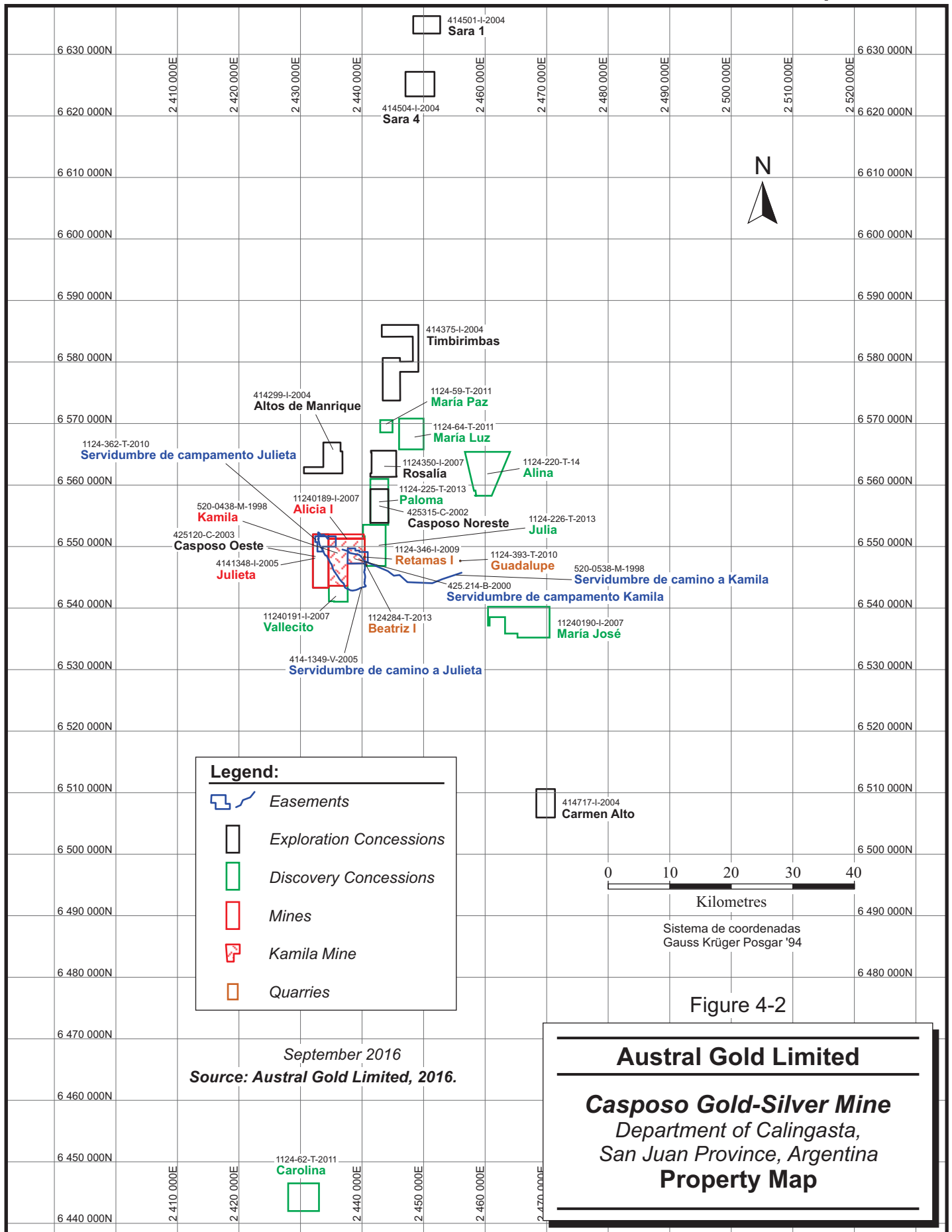
**CASPOSO AU-AG MINE**

**Austral Gold Limited**

**Casposo Gold-Silver Mine**  
 Department of Calingasta,  
 San Juan Province, Argentina  
**Location Map**

Argentina has 23 provinces (provincias) and 1 autonomous city (Ciudad Autonoma de Buenos Aires)

TRANSVERSE MERCATOR PROJECTION; CENTRAL MERIDIAN 65° W



## **5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY**

Much of the information in this section is taken from a NI 43-101 Technical Report that was completed by Troy in June 2012.

### **ACCESSIBILITY**

The property is located in the Department of Calingasta, San Juan Province, Argentina approximately 150 km from, or a two hour drive west from, the city of San Juan, travelling on paved roads. The Mine can also be accessed from the city of Mendoza via a separate southern route.

Access to the Mine north from the international airport in Mendoza follows National Route 40 via the city of San Juan to the town of Talacasto, then along Provincial Routes 436, 414, and 12 to the village of Calingasta (the population centre nearest to the Mine), and finally along Provincial Route 412 to the main site access road.

Alternatively, the site can be reached from Mendoza by two other road combinations: by following National Route 40 to National Route 7 and continuing northwest to the town of Uspallata, then along Provincial Routes 39 and 412 via Calingasta to the main site access road; or from the city of San Juan to the town of Talacasto on National Route 40 then along Provincial Route 436 to Cerro Puntudo and south along Provincial Routes 425 and 412 to the main site access road. The southern route via Uspallata passes through El Leoncito National Park to the town of Barreal.

There is no rail or air access to the Mine. The closest airport is in the city of San Juan, which is serviced by regular jet aircraft.

### **CLIMATE**

The climate is classified “desert dry”, with a median annual rainfall of 75 mm and a temperature range accentuated by the altitude, both seasonally and daily. The median temperature is 14.5°C. Summers are generally warm (highs of 30°C) and winters dry and cold (lows of -2°C).

It is important to note that during the 2011 winter period the region experienced some of the harshest conditions and coldest temperatures in 50 years.

The area is generally arid with a short summer rainy season (January–March). Rains can be very strong and the lack of vegetative cover contributes to localized flash flooding. Net evaporation rates are high, and exceed annual rainfall by a significant margin. Of the total annual rainfall, 80% occurs between October and March. Rainfall in the high mountains is common during other months of the year as well.

During the winter months (June to September), snow falls at the site, occasionally with up to several centimetres accumulating. Even so, snowfall melts almost immediately if exposed to a full day of sun.

The area can be very windy during the whole year. The area is subject to strong, short-lived westerly winds that are locally referred to as “zonda” winds. This phenomenon brings dry winds of over 100 km/h and can cause severe drops in humidity.

The climate is permissive of year-round mining and processing operations.

## **LOCAL RESOURCES**

Sufficient water for operations is available from water bores in the Mine area.

Labour for the operation has been sourced from nearby local communities with the majority of current employees residing in Calingasta and commuting daily to site. Specialist personnel and some professional staff work a rotational roster and commute via San Juan city. Many are resident in San Juan and a few sourced from other parts of Argentina. The workforce is predominantly comprised of National staff.

Adequate sources of grid electricity are available within a practical distance from the operation. There are adequate areas within the tenement holding for the operation of waste dumps, processing facilities, and tailing storage facilities.

Casposo has been an operating mine and the surface rights are sufficient for mining operations, tailings storage areas, waste disposal areas, and a processing plant.



## INFRASTRUCTURE

At the time of acquisition by Austral, the surface and underground infrastructure at the mine included the following:

- A crushing plant and a 1,100 tpd mill
- A dry-stack tailings management facility and waste rock dumps
- Low grade ore and run-of-mine stockpiles
- An administrative building and cafeteria
- A laboratory
- Maintenance facilities
- A core processing and sample preparation facility
- A fenced property perimeter and gated security entrance
- Declines and a series of ramp-connected levels.

The power line to site has the capacity to transmit 18 MW of power, which is well in excess of the requirements of the operation.

Some mining equipment remaining from the previous operation is on site.

## PHYSIOGRAPHY

The Casposo Property lies on the western side of the Calingasta Valley near the western edge of San Juan Province at the base of the Cordillera Frontal. The average elevation is roughly 2,400 MASL. The Mine site is located at the base of rugged terrain, characterized by low mountains with steep slopes, and ravines associated with dry drainage systems.

The dominant plant formation is shrub steppe (>1 m tall) and sub-shrub (<1 m tall) with a dominance of perennial grasses in the herbaceous stratum. There are no vegas or endemic plant species in the Mine Area.

Two faunal surveys have been undertaken on the Mine Area during 2006 by Knight Piésold. Forty animal species were identified during the summer campaign: one reptile, 33 birds, and six mammals. During the winter campaign, 35 species were identified in the study area: two reptiles, 23 birds, and ten mammals. Both the median density and average abundance of species tend to steadily decrease with an increase in altitude.

Within the Mine Area, the only endemic species is the pale basket weaver or *Asthenes steinbachi*, however, mine operations are not expected to have irreversible impacts on this species.

## **SEISMICITY**

The region of San Juan, including the area of the Mine, is in an active tectonic area, having experienced two large-scale earthquakes of magnitude 7.0 or greater, over the last sixty years. In particular, this region had been struck by a magnitude 7.4 earthquake in 1944, causing nearly 10,000 casualties and leaving half the province homeless. Similarly, a magnitude 7.0 earthquake occurred in 1977, resulting in seventy people killed and up to 40,000 left homeless in western Argentina. Records indicate that large-scale earthquakes occur in the region every forty to fifty years. Better building construction techniques and codes accounted for major improvement in death toll statistics. All facilities must now be built to withstand Richter 7 earthquakes to Argentine codes equivalent to UBC4 or better.

Despite the seismic classification of the Province, records indicate the Mine is located in an area of relative low seismic density. Additional site seismic, mass movement, and risk assessment studies were completed by Intrepid.

## 6 HISTORY

Much of the information in this section is taken from a NI 43-101 Technical Report that was completed by Troy in June 2012.

### PRIOR OWNERSHIP

The prior ownership of the property is detailed in Table 6-1.

**TABLE 6-1 PROPERTY OWNERSHIP  
Austral Gold Limited – Casposo Mine**

<b>Dates</b>	<b>Company</b>	<b>Disposition</b>
1998 – 2000	Battle Mountain Gold	Battle Mountain merged with Newmont in 2002
2000 – 2002	Newmont Mining Company	Newmont disposed of property to a private syndicate
2002	Private Syndicate	The Syndicate transferred the property to Intrepid Minerals Corporation
2002 – 2009	Intrepid Minerals Corporation	Intrepid sold the corporation to Troy
2009 – 2016	Troy Resources Argentina	Operator and explorer
2016	Austral Gold Limited	Purchased 51% interest in Troy Resources Argentina and became mine operator

## EXPLORATION AND DEVELOPMENT HISTORY

### BATTLE MOUNTAIN GOLD

There is no recorded exploration on the Casposo Mine area prior to 1998. From 1993 to 1999 Battle Mountain Gold (BMG) conducted regional exploration programs in the San Juan Province, driven by Landsat interpretation and selected ground follow-up. In 1998, this regional program resulted in the discovery of gold-silver mineralization at Casposo. BMG initial exploration effort consisted of a stream sediment sampling program that yielded gold values of 100 ppb and strong anomalies of mercury and rock chip grab sampling of quartz and quartz carbonate veins that returned values between 0.25 g/t gold – 1.25 g/t gold.

In that same year, limited geochemical sampling and diamond drilling (14 holes for 2,000 m) was completed by AMD-Puma Minerals (a subsidiary of Bema Gold) in the Rosarita area located about 600 m southeast of the Kamila Pit.

From 1998 to 2000, BMG undertook a program of surface sampling and geological mapping as well as trenching and rock chip channel sampling. Twenty two trenches with lengths of 1,620 m were completed on the Kamila Zone. In addition 8,626 m of drilling in 46 holes were completed on the Kamila and Mercado Deposits (collectively referred to as the Kamila Zone) during 1998–2000. BMG’s exploration also included an airborne magnetic and a ground Induced Polarization - Resistivity survey across an area measuring 15 km by 25 km. A number of targets were delineated, however, only limited follow-up was carried out over areas outside the Kamila Zone.

### **INTREPID MINES LIMITED**

Exploration by Intrepid commenced in July 2002, with regional reconnaissance studies, detailed trench sampling of the vein systems, re-logging of core, and bulk sampling for metallurgical studies.

Mapping the northwest strike extension of the Casposo structure led to the identification of mineralized structures along the Casposo Corridor over a total strike length of 1.6 km. A 1,678 m diamond drill program (16 holes) was completed in early 2003, comprising twin hole drilling of selected BMG holes, and infill drilling over the Kamila Zone.

A Mineral Resource Estimate, based on open pit and underground mining methods, was prepared in 2003 (Pitman and Puritch, 2003) using data from 50 drill holes, 46 trenches, and four pits.

From October 2003 to April 2004, Intrepid conducted a second phase of diamond drilling and surface exploration at Casposo. This program consisted of 3,158 m (24 holes) of drilling on the Kamila Zone and 1,804 m (13 holes) of drilling on the Mercado Zone and Panzón Target. Intrepid also drilled 2,185 m in 12 holes using reverse circulation (RC) methods. Seven of these holes were drilled on a reconnaissance grid along structural zones in the Casposo epithermal system.

In June 2004, Intrepid commissioned gradient-array Induced Polarization (IP) and Pole-Dipole IP surveys at the Kamila Property. The focus of the survey was the southeast extension of the Kamila Vein system.

The updated 2004 Mineral Resource estimate was used as the basis for a preliminary economic assessment (PEA) in mid-2004. The PEA evaluated heap leach and open pit mining methodologies.

From 2004 to 2006, 17,416 m of diamond drilling in 130 holes were completed. This drilling focused on enhancing geological and grade continuity within the Kamila Zone by increasing drill density within the major vein domains to a nominal 25 m spacing. Drilling also included limited drill tests of a number of nearby brownfields targets such as Mercado, Kamila SEXT, Panzón, and Maya and also the satellite vein systems of the Oveja Negra target. Channel sampling and mapping were also undertaken at the Cerro Norte target one kilometre east of Kamila.

In January 2006, road construction was completed by Intrepid to accommodate drill testing at the Julieta Target. A total of 31 shallow diamond drill holes for 2,635 m, were completed resulting in nominal 25 m drill spacings across the prospect. Fluid inclusion studies were also completed.

A Feasibility Study, commissioned in 2005, was completed in March 2007. The Feasibility Study was updated during 2008, to reflect changes in some areas of the proposed mining plan, and requirements arising from the Environmental Impact Statement (EIS) review.

Subsequent to the completion of the updated Feasibility Study in 2008, Intrepid completed an additional 13,000 m of drilling.

## **TROY RESOURCES ARGENTINA**

No commercial production occurred prior to Troy's purchase of the Mine in May 2009. Troy commenced development in August 2009 and first gold pour took place in November 2010.

Troy commenced exploration drilling in late 2009 with RC drill holes drilled in the area between Kamila and Mercado. Regional drilling was also carried out at the Julieta Prospect.

In 2010, RC drilling continued at Kamila and Mercado but also was targeted at Julieta, Panzón, and Cerro Norte. Troy also updated the Feasibility Study that was last updated by Intrepid in 2008.

Exploration at Casposo during 2011 – 2015 was designed to generate data through detailed geological mapping, geochemical sampling, structural studies, geophysics, and trenching. This data was used to identify and rank vein targets for drilling. In addition, a number of established high priority targets were drilled using either RC or diamond drilling. RC drilling focused on the Casposo Norte target while diamond drilling was completed at the Julieta and Kamila Southeast Extension targets. Detailed mapping, sampling, and diamond drilling focused on a number of

prospects including Mercado, Panzón, Julieta, Kamila Southeast, Kamila Offset, Amanda, Natalia, Oveja Negra, Casposo Norte, Lucia, Sonia, Lauren, and Cerro Norte (Figure 6-1).

## HISTORICAL RESOURCE ESTIMATES

Troy has previously published Mineral Reserve and Mineral Resource estimates as of June 30, 2015 (Table 6-2). These totals are for information purposes only. Austral is not treating the historical estimates as current Mineral Resources or Mineral Reserves. RPA has reviewed and re-estimated these reserves and resources as described in this report.

**TABLE 6-2 PREVIOUS RESERVE AND RESOURCE ESTIMATES - JUNE 30, 2015**  
**Austral Gold Limited – Casposo Mine**

Deposit	Category	Tonnes	Grades (g/t Au)	(g/t Ag)	(g/t AuEq)	AuEq Ounces
<b>Mineral Reserves</b>						
Kamila UG	Probable	468,000	3.40	411	8.30	125,000
Kamila Stocks	Proven	172,000	1.70	80	2.60	14,500
<b>Total</b>		<b>640,000</b>	<b>2.94</b>	<b>322</b>	<b>6.80</b>	<b>140,000</b>
<b>Mineral Resources (Inclusive of Mineral Reserves)</b>						
Kamila	Measured	172,000	1.70	80	2.60	14,500
	Indicated	1,091,000	3.10	321	6.90	241,300
<b>Total Measured + Indicated</b>		<b>1,263,000</b>	<b>2.91</b>	<b>288</b>	<b>6.30</b>	<b>255,800</b>
	Inferred	292,000	5.4	89	6.90	60,800
Julieta	Inferred	437,000	4.0	23	4.3	60,100

Notes:

1. JORC definitions were followed for Mineral Resources and Mineral Reserves.
2. Casposo underground Mineral Reserves are estimated at a cut-off grade of 5.7 g/t AuEq using a gold price of US\$1,172/oz and a silver price of US\$15.74/oz.
3. Casposo Mineral Resources are estimated at a cut-off grade of 2.0 g/t AuEq.
4. The silver to gold ratio of 83.77 was determined by using the metal prices above and processing recoveries of 90% for gold and 80% for silver.

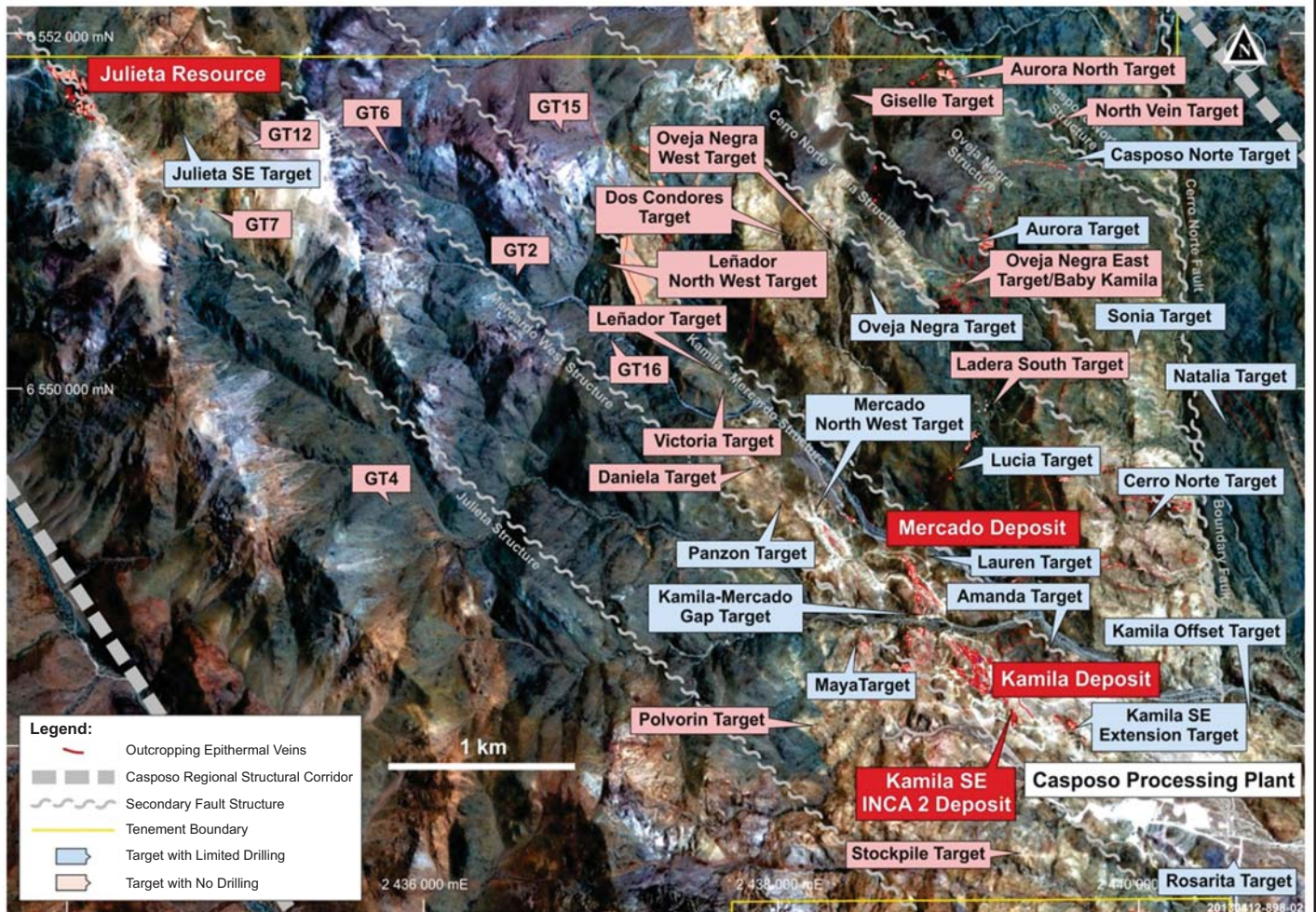


Figure 6-1

**Austral Gold Limited**  
**Casposo Gold-Silver Mine**  
 San Juan Province, Argentina  
**Outcropping Veins and Targets**

## PAST PRODUCTION

The Casposo Mine operated from 2011 to 2015, when it was placed on a care-and-maintenance basis (Table 6-3).

**TABLE 6-3 PAST PRODUCTION**  
**Austral Gold Limited – Casposo Mine**

Year	Tonnes Processed	Gold Head Grade (g/t Au)	Silver Head Grade (g/t Ag)	Gold Recovery (%)	Silver Recovery (%)	Gold Ounces Produced	Silver Ounces Produced
2011	212,577	8.32	122	85	78	47,300	623,000
2012	371,883	7.12	118	90	79	74,400	1,126,000
2013	498,081	4.30	137	91	80	61,600	1,693,000
2014	516,521	4.09	233	91	79	62,500	3,023,000
2015	468,707	2.73	254	91	82	37,400	3,110,000
<b>Total</b>	<b>2,067,769</b>	<b>4.81</b>	<b>183</b>	<b>90</b>	<b>79</b>	<b>283,200</b>	<b>9,576,000</b>



## 7 GEOLOGICAL SETTING AND MINERALIZATION

Much of the information in this section is taken from a NI 43-101 Technical Report that was completed by Troy in June 2012.

### REGIONAL GEOLOGY

San Juan Province straddles three major north–south-trending ranges, the Cordillera Principal, Cordillera Frontal, and Precordillera as well as part of the Pampean range (Sierras Pampeanas range). The Mine is located on the eastern border of the Cordillera Frontal, separated from the Precordillera to the east by the Rodeo-Calingasta–Uspallata Valley.

The Cordillera Principal runs along the Chile-Argentine border for some 1,500 km. It is a volcanically and seismically active zone formed by subduction of the Nazca plate beneath the South American continent. This convergent plate margin has been active since the Cretaceous. The main basement is formed by Permian–Triassic intrusive and volcanic rocks, of calc-alkaline affinity and andesitic to rhyolite composition, regionally known as the Choiyoi Group. These and younger sediments of Jurassic and Cretaceous age have been thickened by compression and thrusting principally since the Late Cretaceous in a thin-skinned fold thrust belt.

The Cordillera Frontal comprises a basement of Carboniferous clastic sediments to the west, intruded and overlain by Permian–Triassic volcanic and intrusive complex to the east. This complex consists of the same rock units as those in the Cordillera Principal, and was also uplifted with the Cordillera Principal. The Choiyoi Group hosts coeval mineralization, mainly porphyry copper - molybdenum and copper - gold deposits such as San Jorge and El Salado and low-sulphidation gold systems such as Casposo, La Cabeza, and Castaño Nuevo. Tertiary mineralization occurs at Poposa (high-sulphidation gold) and at Paramillos (porphyry copper – molybdenum) prospects.

The Precordillera comprises a series of north–south ranges, covering about 1,000 km north–south and 100 km east–west. It is the product of large-scale tectonic compression since the Jurassic and culminating in the Miocene, and is still seismically active. The ranges in San

Juan Province comprise Palaeozoic limestones and clastic sediments separated by plains reminiscent of the “Basin and Range” extensional terrain of the western United States.

East of the Precordillera, the Pampean and Transpampean Ranges (Sierras Pampeanas) are composed of Precambrian and Palaeozoic granitic and metamorphic rocks. Uplift occurred along Tertiary Laramide-style high angle reverse faults. These ranges host minor Precambrian mineralization and, within the Precordillera, some Tertiary-aged deposits, associated with calc-alkaline to alkaline volcanic and sub-volcanic centers of Miocene - Pliocene age (for example Famatina and Gualcamayo).

## LOCAL GEOLOGY

In the Mine area, the Cordillera Frontal is underlain by marine metasediments (shales, sandstones, and conglomerates) of La Puerta Formation (Carboniferous-Lower Permian) type locality is Arroyo de la Puerta. It correlates with the Agua Negra Formation to the north. Due to tectonics, it is impossible to establish a complete section. These sedimentary sequences are overlain by a thick intrusive and volcanic sequence assigned to the Permian-Triassic Choiyoi Group (Figure 7-1).

Basal andesitic volcanic flows, tuffs, and breccias are the main sub-surface unit in the Casposo Property and are overlain by rhyolite, rhyolite-dacite flows, and dacitic ignimbrite flows.

The volcanic units dip gently to the east at 15° to 20° and are cross-cut by north–south, east–west, and northwest–southeast-trending structures. Rhyolite and andesite dykes that trend north–south transect older rock units. Table 7-1 presents a stratigraphic column through the Mine Area.

**TABLE 7-1 PROPERTY STRATIGRAPHIC COLUMN**  
**Austral Gold Limited – Casposo Mine**

Formation	Unit	Age	Estimated Thickness (if known)	Description
Recent Deposits		Qt		Gravel
Las Minitis Fm		Qt		
Cambachas Fm		Tc		
Ao Las Chinchas Fm		Kc - Tc		
<b>Choiyoi Group</b>				

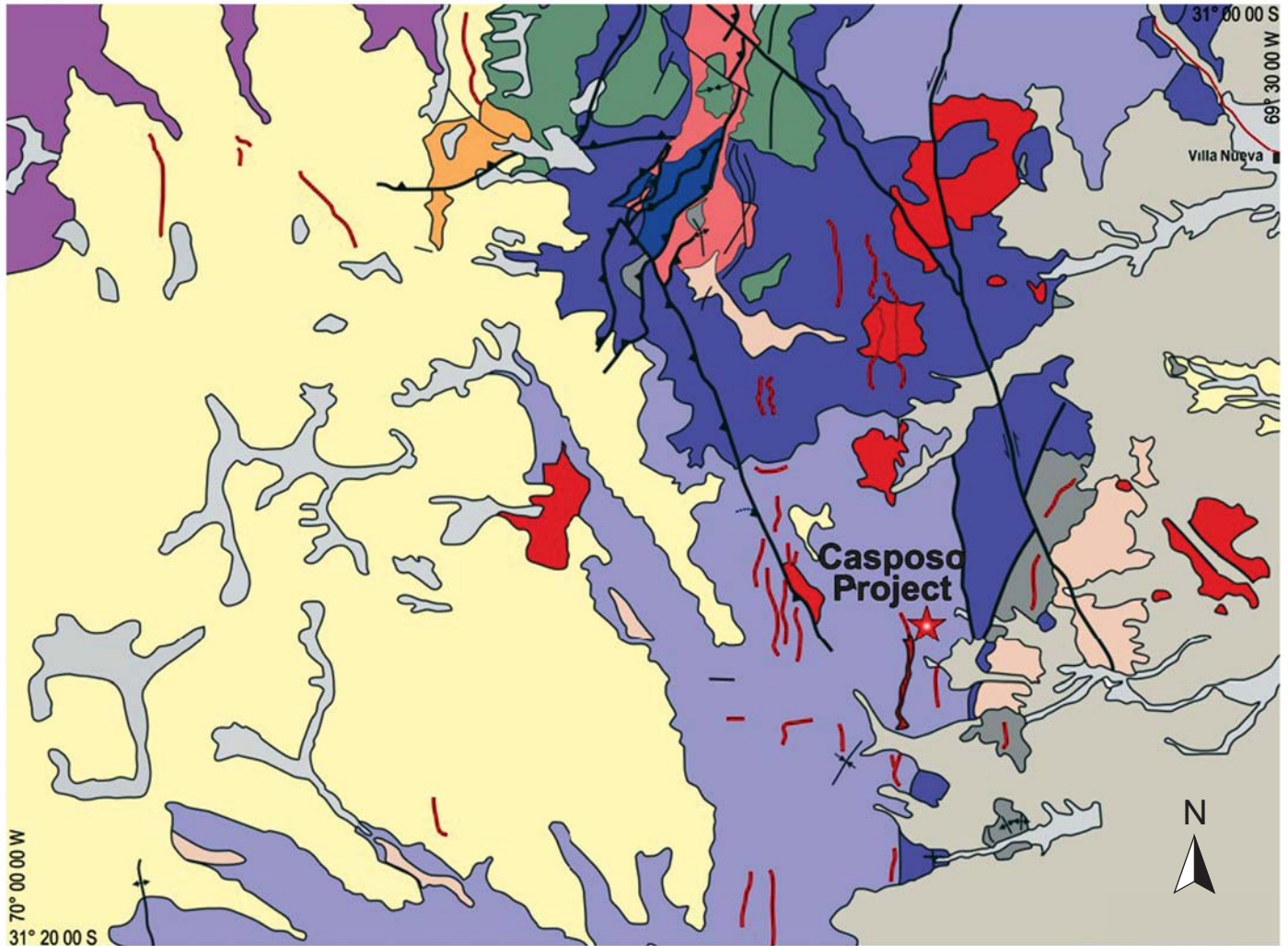
Formation	Unit	Age	Estimated Thickness (if known)	Description
Colanguil Batholith	Andesite-Basalt Dykes	>Tr		
	Granite-Rhyolite Dykes			Includes the Tocata and Fraguita Plutons
	Casposo Granodiorite	250 Ma		Cerro Casposo and Rosarita area
	Vallecito Pluton	264 Ma		
El Paque Fm	Welded Rhyolite		>200 m	Massive, strongly spherulitic devitrified welded Rhyolite unit. Poorly consolidated 1 m base surge deposit at Julieta
	High Andesite Unit		<100 m	Massively bedded Andesite ash-flows and flow breccias with rare cm “basement” clasts. Weak argillic-propylitic alteration.
	Dacite Ash Flow		150 m	Welded crystal Dacite ash flow unit. A similar unit occurs apparently within the Upper andesite unit near Pascual.
Co-Vega de Los Machos Intrusions	Trachyte Dykes			
	Megadyke-Dome			
	Casposo Vein System	280 Ma		
Vega de Los Machos Fm	Oldest Trachyte Dykes			
	Phreatomagmatic Breccia		30 m	Locally stratabound. Fine lapilli sized clasts, some previously silicified in matrix-supported texture destroyed cement. Silica-(alunite)-kaolin altered.
	(Upper) Basaltic Andesite		200 m	Auto-brecciated lavas and minor massive flows. Hyaloclastite zones of silica-calcite cemented replaced lenses and ribs throughout. Interbedded Dacite ash flows and domes to the south.
	Middle Dacite		100m	A) Oveja Negra: basal flame rich dacite and ash flow unit. B) Rosarita: Coarse autobreccias (block and ash flows) dominate
	(Middle) Trachyte Andesite		50 m	Trachyte-Andesite block and ash flow and autobreccia unit. In part replaced by silica-alunite at northwest part of Rosarita Hill but generally propylitic.
	Transition Breccia Unit		20 – 40 m	Massive to faintly banded, weakly flame-bearing ash flow unit in part replaced by silica-alunite but generally propylitic.
			0 – 10 m	Well bedded Lapilli Tuff unit. Propylitic altered.
			1 – 50 m	Heterogeneous volcanic breccia non-stratiform boulder unit to stratiform lapilli sized clasts, often felsic, often phyllic altered.
	Rhyodacite		150 m	Flow-banded Dacite-Rhyolite vitric crystal flow (dome?). No flame or lithics.
	Kamila Rhyolite		0 – 30 m	Flow-laminated Rhyolite usually steeper dipping than adjacent Rhyodacite. Includes shards and has more quartz than main unit.

Formation	Unit	Age	Estimated Thickness (if known)	Description
			70 m	Flow-banded crystal flow (dome?). Occasionally with devitrification spherules and lithophysae.
			10 – 60 m	Main Rhyolite: Heterogeneous devitrified (micropoikilitic-lithophysae, rarely spherulitic with lenses of laminate rhyolite (ash fall?))
		Upper Member	0 – 30 m	Fine breccia locally important southeast of Kamila at base of rhyolite unit.
	Lower Andesite	Lower Member	0 – 10 m	Basal Autobreccia Unit: boulder to cobble sized, often flow laminated clasts in massive welded Rhyolite.
			0.1 – 4 m	Basal laminated welded Rhyolite: very thin.
			5 – 30 m	Flamme bearing Andesite-dacite Ash flow
			>100 m	Massive flow banded/bedded medium to coarse Porphyritic Andesite with rounded basement clasts – probable ash flow.
			Base not seen	
	Early Pz Granitoids?			Blocks of granitoid in Lower Andesite
La Puerta Fm	Basement metasediments	Cb - Pm		Shallow marine sediments – Interbedded Quartzites and Shales

Notes. Qt – Quaternary, Kc – Cretaceous, Tc – Tertiary, Tr – Triassic, Pz – Paleozoic, Cb – Cambrian, Pm – Precambrian

The Casposo gold–silver mineralization occurs in both the rhyolite and underlying andesite, where it is associated with banded quartz–chalcedony veins, typical of low sulphidation epithermal environments. Adularia in the main veins gives an age date of  $280 \pm 0.8$  Ma (K/Ar), very close to the published age dates for the andesite unit. Post-mineralization dykes, of rhyolitic (Kamila), aphanitic-felsic and trachytic (Mercado) composition often cut the vein systems. These dykes, sometimes reaching up to 30 m thickness, are usually steeply dipping and north–south oriented.

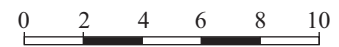
Mineralization at Casposo occurs along a 10 km long west–northwest to east–southeast trending regional structural corridor, with the main Kamila Vein system forming a sigmoidal set 500 m long near the centre. The Mercado Vein system is the northwest continuation of Kamila, and is separated by an east–west fault from the Kamila deposit. A series of east–west striking veins (Cerro Norte and Oveja Negra systems) appear to splay off these major sets to the east and northeast. The Casposo mineralized district identified to date covers an area of approximately 100 km<sup>2</sup>; the known deposits and targets are summarized in Figure 7-2.



**Legend**

- |        |   |   |
|--------|---|---|
| Q      | Fluvio - Alluvial Deposits                    | Andesitic Porphyry  |
|        | Conglomerates (Las Minitas Fm.)               | Intrusion Granite   |
| Tc     | Lacustrine Deposits (Cambachas Fm.)           | Intrusion Granodioite                                     |
| Pm-Tc  | Felsic-Intermediate-Mafic Dykes               | Volcanics/Volcanoclastics (Atutia Fm.)                    |
| Kc-Tc  | Monzonites-Tonalites (Entrecordillera Pluton) | Rhyolite-Trachite-Andesite (El Palque Fm.)                |
| Tr-Jr? | Volcanics/Pyroclastics (Ao Las Chinchas Fm.)  | Basalts-Dacite-Andesite-Rhyolite (Vega de Los Machos Fm.) |
|        | Andesites (Las Vizcachas Fm.)                 | Volcanics/Volcanoclastics (Castaño Fm.)                   |
|        |   | Metasediments (La Puerta Fm.)                             |
|        |   | Fault   |
|        |   | Thrust Fault  |
|        |   | Syncline  |
|        |   | Anticline   |

G. Cholyol



Datum: Campo Inchauspe  
Projection: Gauss Kruger - Zone 2

Figure 7-1

**Austral Gold Limited**

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**Casposo Gold-Silver Mine**  
San Juan Province, Argentina

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**Local Geology - Casposo Area**

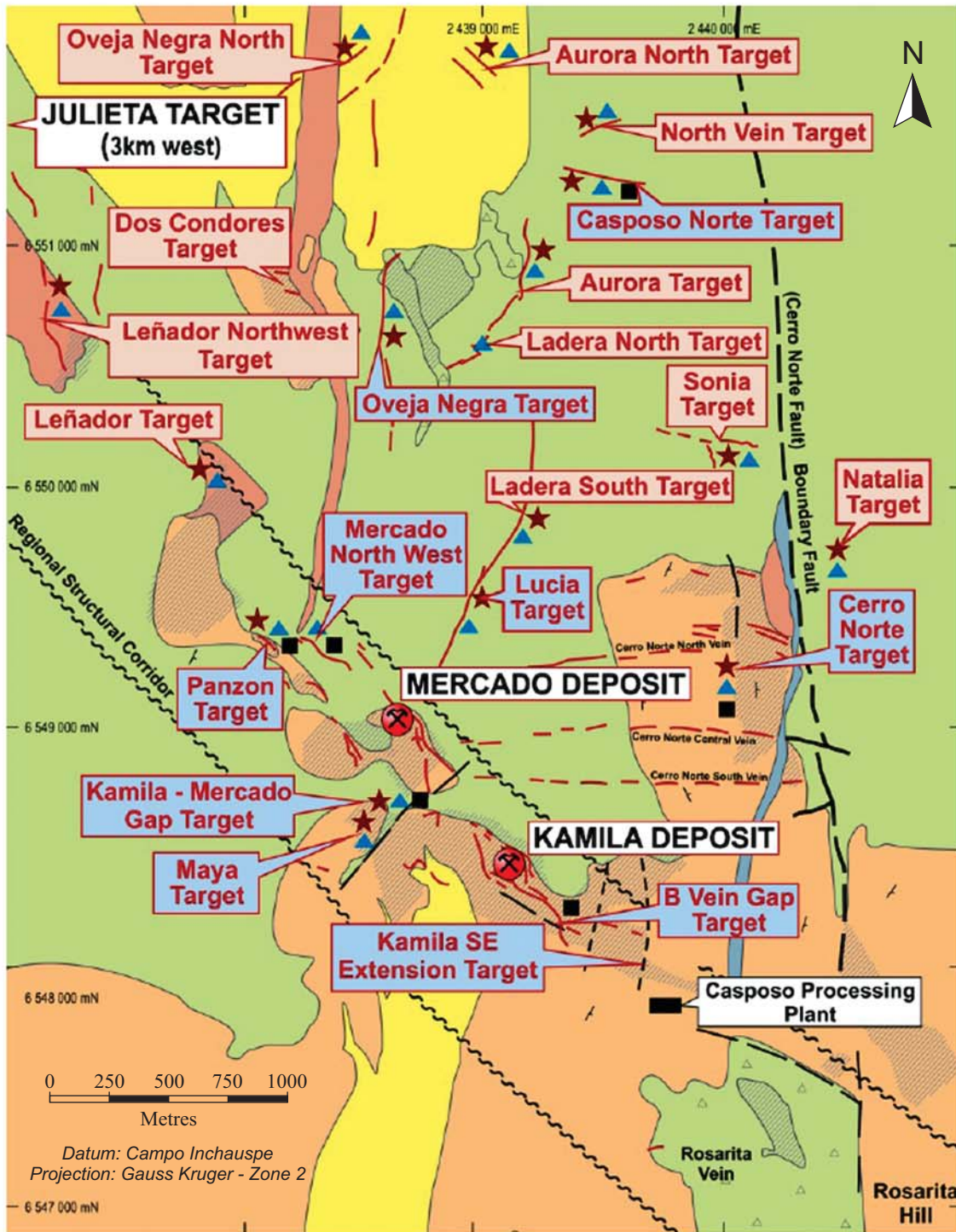


Figure 7-2

**Austral Gold Limited**  
**Casposo Gold-Silver Mine**  
 San Juan Province, Argentina  
**Mineralization and Exploration Target Locations**

## PROPERTY GEOLOGY

### *KAMILA*

The Kamila deposit is developed in a structural corridor of sinistral faults characterized by a pair of west–northwest to east–southeast-trending bounding vein systems, the INCA Vein and B-Vein (Figure 7-3). The corridor encloses a series of “ribs” or dilatational veins, which trend north–south and dip steeply west. The majority of the exploration to date in the Kamila deposit has been directed towards the Aztec, B-Vein and INCA structures, as well as extensions to the southeast that include INCA 1 and INCA 2 and INCA 3 Veins.

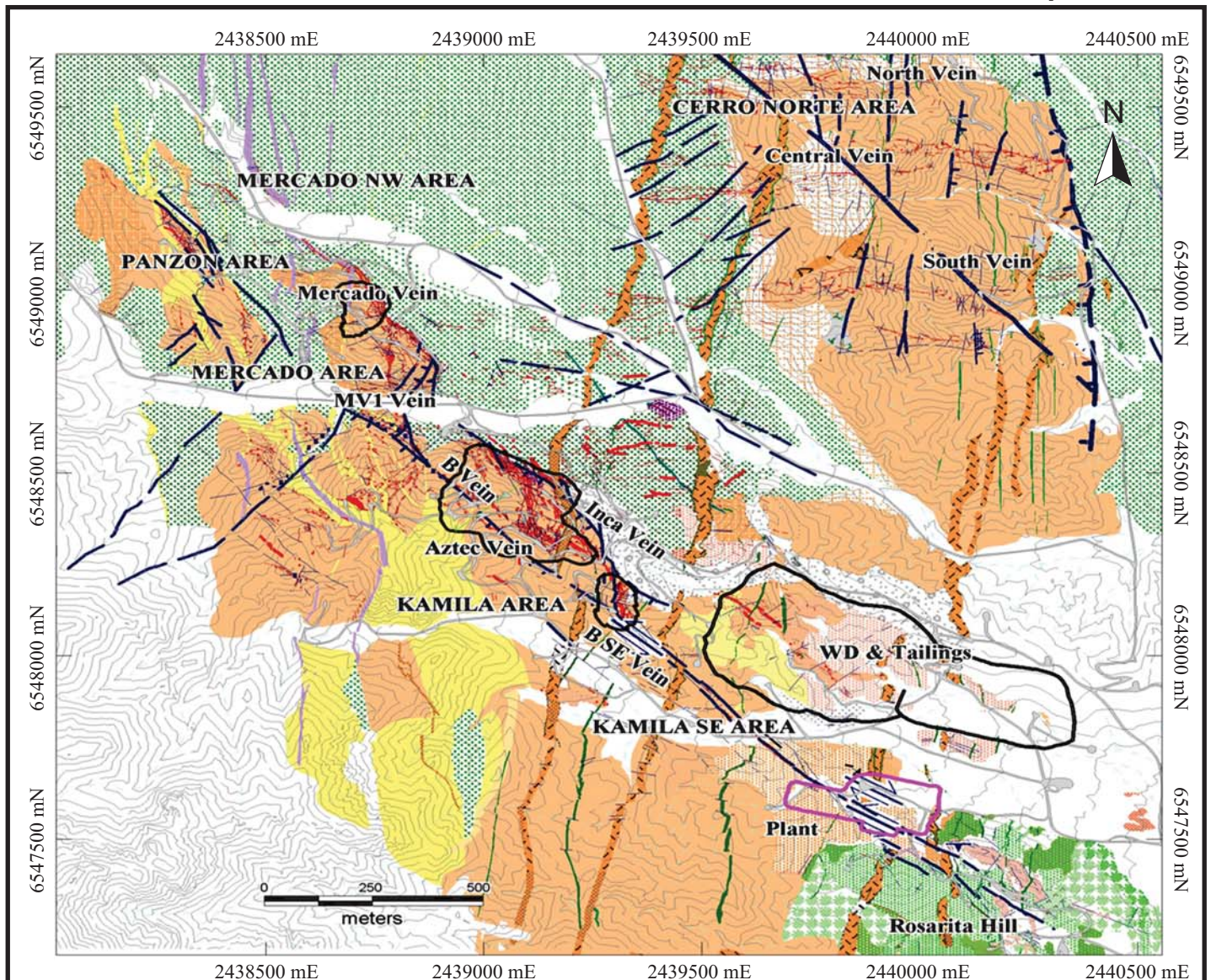
Geological mapping indicated that veins at Kamila–Mercado were oriented along three dominant structural trends: N140°E, north–south, and east–west. Significant precious metal mineralization at Kamila and Mercado appeared to be related to the intersection of N140°E and north–south-trending quartz-bearing structures.

Quartz vein textural mapping from drill core and surface exposures indicate that the Aztec Vein is dominated mainly by brecciated and banded textures, with minor bladed and massive patches. The B Vein is texturally similar to the Aztec Vein, and the INCA veins show a balance between the dominant banded ± brecciated textures along with areas of crustiform and colloform textures.

Interpretations of the drill core show that mineralization is vertically zoned, as follows:

- At 2,400 MASL, crustiform textures are dominant
- Between 2,300 and 2,400 MASL quartz crystalline textures are dominant
- At <2,300 MASL coarse crystalline quartz–carbonate textures dominate

The INCA 2 Vein and INCA 3 Vein area comprises the southeast extension of the INCA Vein. The INCA Vein system is hosted in altered porphyritic andesite. The mineralization is the same style of low sulphidation epithermal vein hosted high grade gold and silver associated with the INCA Vein within the existing underground mine. The quartz–adularia–calcite veins occur as massive, banded, or brecciated quartz veins with classic Ginguro textures and fine grained black sulphides as well as minor amounts of pyrite–chalcopyrite, and native silver. Local minor quartz vein stockworks are common. Alteration is generally propylitic with associated silicification and local brecciation.



**Mineralization**

- Stockwork Zone
- Undifferentiated Veinlets
- Massive Quartz Vein
- Brecciated Quartz Vein
- Brecciated Banded Quartz Vein

**Structures**

- Tectonic Breccia Zone
- Major Normal Fault ?
- Fault / Shear Zone
- Inferred Major Fault

**Lithology**

- Q Alluvial, colluvial deposits
- FG Fluvioglacial? deposit
- F Float
- 5T Trachyte (dike)
- 5QFP Dome & Aplitic felsic dikes
- 5RP Rhyolite Porphyritic (dike)
- 6AP Andesite (dike)
- 4l Flow banded Rhyolite
- 4RP Rhyolite Sequence
- 4RBx Rhyolitic Breccia
- 4RDabx Rhyodacitic breccia
- 4RDa Rhyolite-Dacitic unit
- 4Da Dacitic unit
- 5M Monzonite (dike)
- 6AP Earlier andesite (dike)
- SA unit (Silica-Alunite unit)
- 3AP Andesite sequence
- AAs Ash flow andesitic massive to banded
- AshL Ash flow andesitic plus lapilli
- ALtuff (Andesitic lapillic tuff)
- BxPc Polymictic coarse breccia

Figure 7-3

**Austral Gold Limited**

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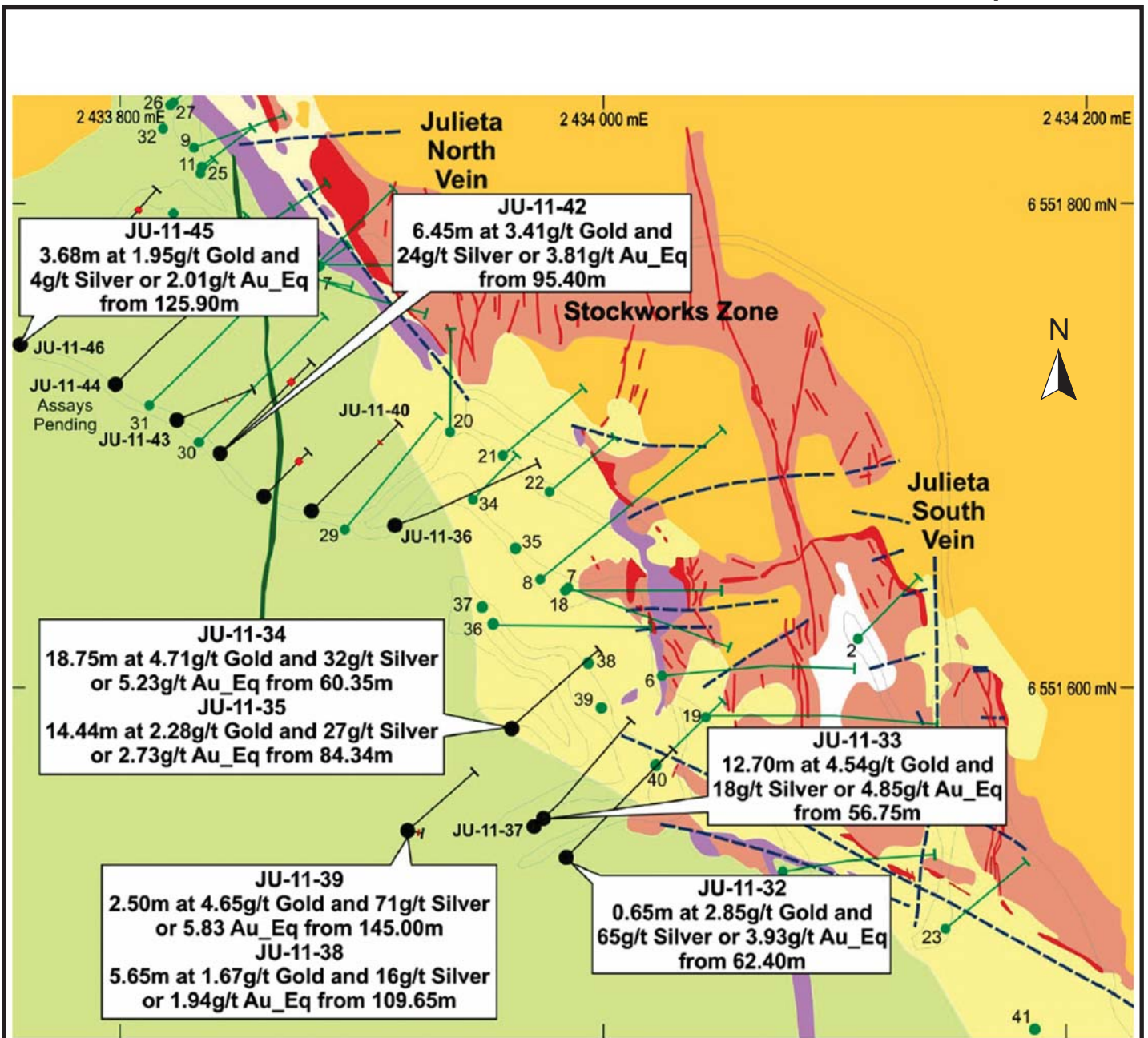
**Casposo Gold-Silver Mine**  
 San Juan Province, Argentina  
**Geology Plan, Kamila Deposit,  
 Mercado Deposit, Kamila Southeast**



### ***JULIETA***

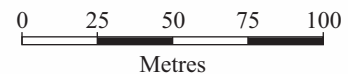
The Julieta deposit is located five kilometres along strike to the northwest of the Kamila and Mercado deposits and is situated within the same regional structural corridor.

The Julieta Main Zone vein system (Figure 7-4) is a structurally controlled low-sulphidation quartz-calcite-adularia vein system within a one kilometre northwest–southeast trending structural corridor. Drilling and mapping confirmed quartz-calcite veins, as well as banded-brecciated quartz veins with sections of well-developed crustiform/colloform textures. Both northwest–southeast and north-south striking veins were recorded. The veins are hosted within a package of rocks that include porphyritic andesite, rhyolitic flows, and minor andesite ashflow tuff. A series of felsic and mafic dykes (late) cut the veins. The host rocks exhibit weak to moderate propylitic–argillic alteration.



**Legend:**

- |                            |   |
|----------------------------|---|
| Andesitic Dyke             | Vein > 0.4m. Both Quartz and Carbonate                          |
| Soil/Colluvium/Talas Cover | "Stockworks" of minor veins, generally sheeted                  |
| Rhyolite                   | Veinlets Quartz and/or Carbonate                                |
| Trachytic-Dacitic Dyke     | Fault   |
| Andesite                   | Earlier Diamond Core "DC" and Reverse Circulation "RC" Drilling |
| Access Track               | 2011 Drill Holes  |



Datum: Campo Inchauspe  
Projection: Gauss Kruger - Zone 2

Figure 7-4

**Austral Gold Limited**

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**Casposo Gold-Silver Mine**  
San Juan Province, Argentina  
**Geology and Drill Collars**  
**Julieta Targets**

## **MINERALIZATION**

### **KAMILA DEPOSIT**

The gold–silver mineralization at the Kamila deposit is structurally controlled and occurs in crustiform-colloform quartz veins and stockworks in both andesite and rhyolite. The vein system extends for over 650 m along strike and over 260 m in depth, with a general dip of -60° to -70° to the southwest. At surface, the individual veins attain 12 m maximum thickness, which decreases with depth to less than 4 m. Arsenopyrite and stibnite occur in the stockworks zones that are developed adjacent to the gold-bearing veins. Vein alteration is characterized by strong to pervasive silicification. Wallrock alteration varies from argillic to propylitic. Banded quartz–calcite veins with lattice bladed textures are common in the andesite.

### **MERCADO DEPOSIT**

The Mercado Vein system is exposed 200 m north of the Kamila deposit and is separated from it by the east–west-trending, south-dipping Mercado Fault. This northwest–southwest-trending hydrothermal quartz vein zone extends for over 500 m along strike, and over 150 m in depth, dipping -45° to -50° to the southwest. The Mercado system is variably composed of a compact vein (Main Mercado Vein or MV-1 Vein) or various thinner parallel veins, from which the north–south-trending MV-1 Vein splits. At surface, the Mercado Veins reach 8.0 m to 10 m in thickness (including over 4.0 m for the MV-1 Vein), but widths generally decrease with depth to less than 4.0 m.

### **JULIETA DEPOSIT**

The vein system is well exposed as two outcropping veins along a ridge line having an average width of about 1.7 m and a maximum width of 5 m. These veins trend northwest, extending for approximately 850 m along strike and 150 m in depth with dips averaging -65° to the southwest.

## **MINERALOGICAL STUDIES**

Mineralogical studies were completed during 2003 to quantify gangue mineralogy, gangue textures, opaque mineral mineralogy and textures, and mineralization textures and mineralogy (Kishar Research Inc., 2003).

Polyphased crustiform banded veins appear to be typical. Quartz grain sizes range from ultra-fine-grained–cryptocrystalline to very fine-grained, to 0.05 mm. Textural variations across individual bands as well as contrasting textural and mineralogical differences between adjacent bands imply different physiochemical parameters controlled precipitation of the various hydrothermal minerals and that the composition of the hydrothermal fluid varied across and between bands.

Adularia is present as very fine anhedral to subhedral grains up to 0.1 mm, and can be a major component of some crustiform bands. Clusters of adularia grains can aggregate along the interpreted base of a band and decrease in abundance away from the inferred basal contact. This mineralogical variation implies either changing fluid composition or rapidly changing physiochemical conditions during ongoing crystallization of a particular band.

Carbonate is present in all textural varieties of quartz. Carbonate is present as ultra-fine-grained matrix carbonate within cryptocrystalline to very fine-grained quartz laminae, as subhedral aggregates within fine-grained quartz, and as interstitial anhedral between equigranular very fine-grained quartz. The latter most probably represent cavity-fill and filling of discontinuous micro-fractures by veinlets that are concordant and discordant to layering.

Sparsely distributed ultra-fine-grained sericite and kaolinite both interstitial to quartz are present in some lamina and based on the textural relation to quartz and carbonate; these phyllosilicate are inferred to be primary.

Opaque minerals could be subdivided into three assemblages:

- An early sulphide assemblage, represented by base metal sulphides including low iron sphalerite + chalcopyrite + galena. The sulphides form clotted aggregates that are distributed along and near the base of very fine-grained quartz-rich bands.
- A middle assemblage dominated by sulphosalts with native metal alloys and minor base metal sulphides and selenide. The silver and gold bearing alloys include electrum and native silver. The silver-bearing minerals include tetrahedrite-tennantite, argentotennantite, antimonpearcite, pyrargyrite, acanthite, naumannite, and the accompanying sulphides and selenides include chalcopyrite, galena, and clausthalite. Pyrite was not identified with this assemblage. This sulphosalt episode partially to completely mantles minerals belonging to the early base metal sulphide stage.
- A final stage, consisting of poorly represented late stage that comprises sulphosalts, silver selenide, and silver sulphide + native silver assemblage that is hosted in micro-veinlets within either of the previous two assemblages. Acanthite ( $\text{Ag}_2\text{S}$ ) is the only high silver-bearing mineral and the presence of this mineral marks the most significant

mineralogical difference between this stage and the preceding sulphosalts-rich episode.

Native metal alloys of gold and silver are present as minute zoned grains that vary up to 100 µm in the longest dimension. These grains are enclosed by gauge minerals, along the contact with sulphosalts and as inclusions in sulphosalts. The native metal alloys are typically zoned with gold-rich (gold + silver) cores and mantled by more silver-rich margins.

## 8 DEPOSIT TYPES

Much of the information in this section is taken from a NI 43-101 Technical Report that was completed by Troy in June 2012.

The mineralization identified at the Kamila - Mercado Deposits, the Julieta target and other prospects within the Casposo Property are examples of low-sulphidation epithermal deposition of gold and silver.

### DEPOSIT MODEL

The type description for low-sulphidation epithermal deposits below is abstracted from Panteleyev (1996).

Low-sulphidation epithermal deposits are high-level hydrothermal systems, which vary in crustal depths from depths of about one kilometre to surficial hot spring settings. Host rocks are extremely variable, ranging from volcanic rocks to sediments. Calc-alkaline andesitic compositions predominate as volcanic rock hosts, but deposits can also occur in areas with bimodal volcanism and extensive subaerial ash flow deposits. A third, less common association is with alkalic intrusive rocks and shoshonitic volcanics. Clastic and epiclastic sediments in intra-volcanic basins and structural depressions are the primary non-volcanic host rocks.

Mineralization in the near surface environment takes place in hot spring systems, or the slightly deeper underlying hydrothermal conduits. At greater crustal depth, mineralization can occur above, or peripheral to, porphyry (and possibly skarn) mineralization. Normal faults, margins of grabens, coarse clastic caldera moat-fill units, radial, and ring dyke fracture sets, and hydrothermal and tectonic breccias can act as mineralized-fluid channelling structures. Through-going, branching, bifurcating, anastomosing, and intersecting fracture systems are commonly mineralized. Mineralization forms where dilatational openings and sigmoid loops develop, typically where the strike or dip of veins change. Hangingwall fractures in mineralized structures are particularly favourable for high-grade mineralization.

Deposits are typically zoned vertically over about 250 m to 350 m intervals, from a base metal poor, gold-silver-rich top to a relatively silver-rich base metal zone and an underlying base metal rich zone grading at depth into a sparse base metal, pyritic zone. From surface to depth, metal zones grade from gold–silver–arsenic–antimony–mercury-rich zones to gold-silver-lead-zinc-copper-rich zones, to basal silver–lead–zinc-rich zones.

Silicification is the most common alteration type with multiple generations of quartz and chalcedony, which are typically accompanied by adularia and calcite. Pervasive silicification in vein envelopes is flanked by sericite–illite–kaolinite assemblages.

Kaolinite illite–montmorillonite ± smectite (intermediate argillic alteration) can form adjacent to veins; kaolinite–alunite (advanced argillic alteration) may form along the tops of mineralized zones. Propylitic alteration dominates at depth and along the deposit margins. Mineralization characteristically comprises pyrite, electrum, gold, silver, and argentite. Other minerals can include chalcopyrite, sphalerite, galena, tetrahedrite, and silver sulphosalt and/or selenide minerals. In alkalic host rocks, tellurides, roscoelite, and fluorite may be abundant, with lesser molybdenite as an accessory mineral.

Following the summary by Panteleyev, a number of workers have revisited the epithermal deposit classifications. Corbett (2001) introduced subcategories of arc-related low-sulphidation and rift-related low sulphidation to the traditional epithermal classifications in an attempt to better categorize features of epithermal deposits in the Chile–Argentina area. In 2000, Hedenquist et al. identified transitional features in a number of the South American epithermal deposits, and termed the transitional members “intermediate sulphidation” deposits.

## 9 EXPLORATION

Austral purchased its interest in Casposo in 2016 and is concentrating in re-starting the operation which is currently on a care-and-maintenance basis. No exploration activities are currently planned.

### EXPLORATION POTENTIAL

The Kamila deposit remains open down plunge to the southeast of the Inca 3 zone. The Casposo Norte and Julieta zones are not completely delineated and many smaller targets on the property remain to be fully explored.



## 10 DRILLING

BMG and Intrepid conducted exploration activities on the Casposo Property beginning in 1998. Core drilling (NQ and HQ diameter) and a small amount of RC drilling were completed on several zones and prospects during the period 1998 to 2008. This drilling comprised 288 core holes (47,085 m) and 12 RC holes (2,185 m) for a combined RC and core drilled total of 300 holes for 49,270 m. A total of 46 of these holes (8,626 m) were drilled by BMG, and 254 holes (40,644 m), including the RC drilling, by Intrepid.

After acquiring the Mine, Troy drilled 69 RC holes for 9,549.5 m and 852 diamond drill holes for 184,786.07 m. A drilling summary by year is included as Table 10-1.

**TABLE 10-1 CASPOSO DRILLING SUMMARY BY YEAR**  
**Austral Gold Limited – Casposo Mine**

Year	Company	Type	Deposit	No. of Holes	Metres
1999	BMG	Core	Kamila, Mercado	26	4,337.17
2000	BMG	Core	Kamila, Mercado, Cerro Norte	20	4,288.97
2003	Intrepid	Core	Kamila, Mercado	33	4,104.33
2004	Intrepid	Core	Kamila	37	4,820.55
2004	Intrepid	RC	Kamila, SEXT, B Vein, Rosarita Sur	12	2,185.00
2005	Intrepid	Core	Kamila, Mercado, Panzón, Oveja Negra	29	5,850.40
2006	Intrepid	Core	Kamila, Mercado, Kamila SEXT, Mercado SE, Julieta	54	7,305.75
2007	Intrepid	Core	INCA Ext, Kamila SEXT, Kamila, Aztec and B Veins, technical and condemnation drilling	28	3,315.65
2008	Intrepid	Core	Kamila and Mercado	61	13,062.45
2009	Troy	RC	INCA Ext, Kamila SEXT	5	499.00
2010	Troy	RC	Kamila, Mercado, Kamila – Mercado Gap, Mercado NW, Julieta, Panzón, Cerro Norte	33	5,456.50
2011	Troy	RC	Casposo Norte	19	1,409.00
2011	Troy	Core	Kamila Southeast INCA 2, Julieta, Lucia, Casposo Norte, Cerro Norte	158	43,149.60
2012	Troy	Core	Kamila Southeast INCA 2, B Vein, Kamila Offset INCA, B Vein, Mercado, Amanda, Lucia, Oveja Negra, Aurora, Panzón, Cerro Norte, Natalia, Kamila Offset	241	66,791.95

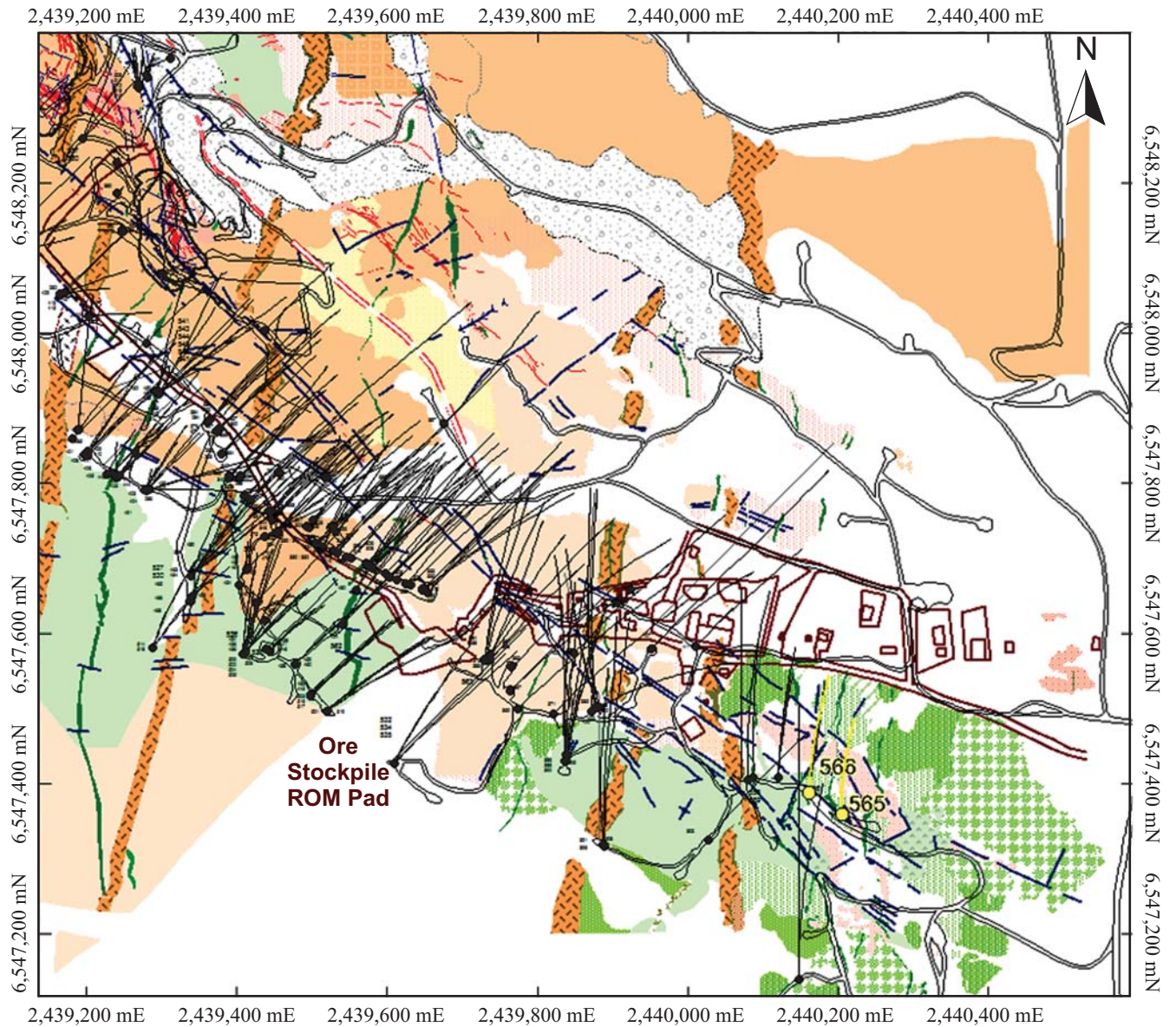
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Year	Company	Type	Deposit	No. of Holes	Metres
2013	Troy	Core	Kamila Southeast INCA, Kamila Offset, Sonia, Julieta	74	22,317.55
2014	Troy	Core	Underground: INCA, Aztec	66	8,758.30
2015	Troy	Core	Underground: INCA, Aztec, B Vein	49	7,170.80
<b>Total</b>				<b>945</b>	<b>204,822.97</b>

---

A drill hole location plan for the Kamila-Mercado area is shown in Figure 10-1.

A drill hole location for the Julieta Zone is shown in Figure 10-2.



**Lithology:**

- Aluvial, coluvial deposits
- Andesite dike
- Rhyolite dike
- Dome and aphanitic felsic dikes

- Rhyolite sequence
- Rhyodacite sequence
- Andesite sequence
- Silica-alunite

- Ash flow andesitic massive to banded
- Ash flow andesitic plus lapilli
- Andesitic lapillic tuff
- Polymitic coarse breccia

**Structures:**

- Tectonic breccia zone
- Major normal fault ?
- Fault / Shear zone
- Inferred major fault
- DDH 2011-2013
- DDH July 2013

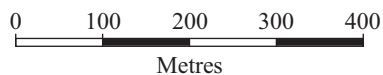


Figure 10-1

**Austral Gold Limited**

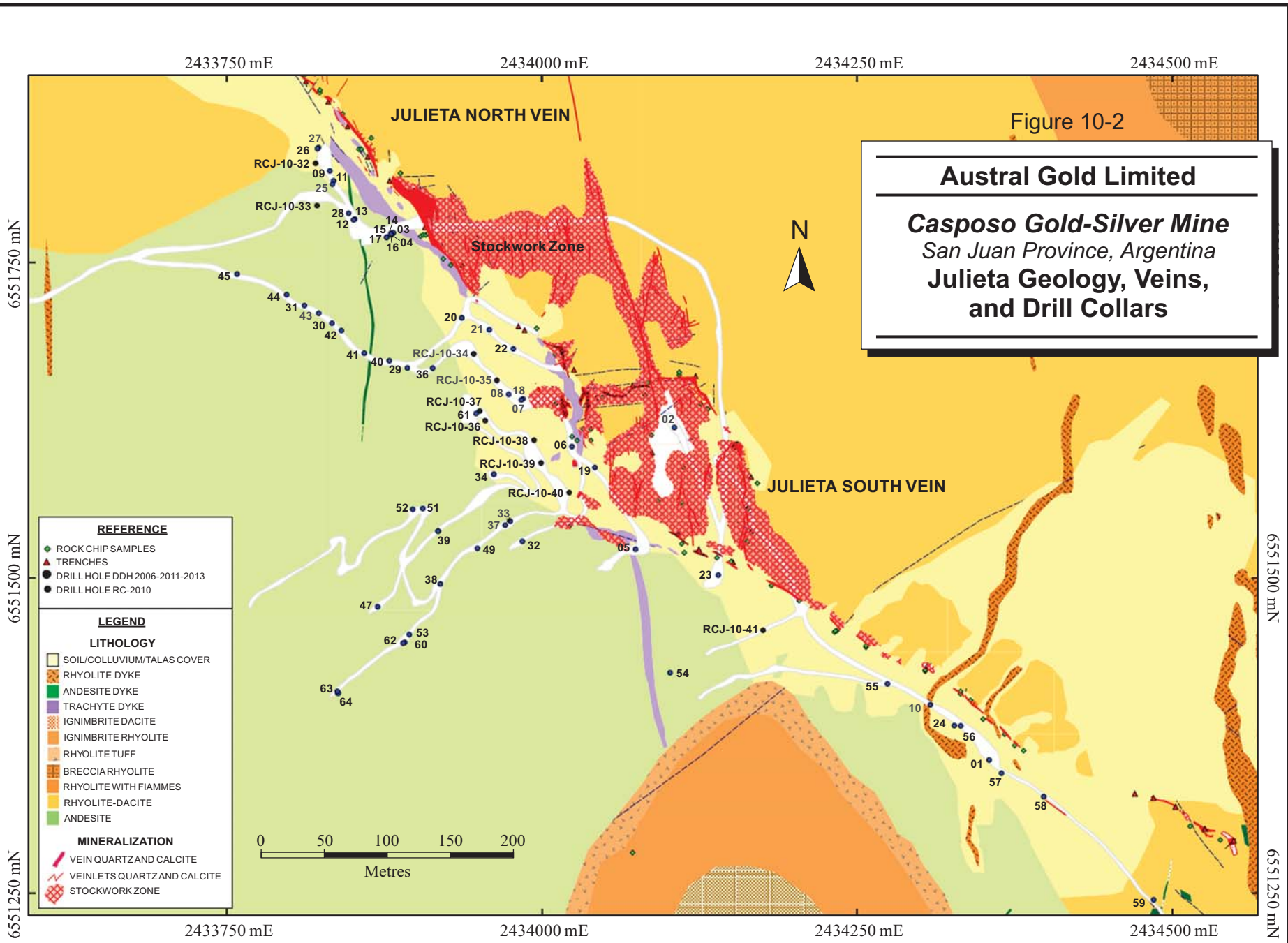
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**Casposo Gold-Silver Mine**  
San Juan Province, Argentina  
**Kamila Geology, Veins,  
and Drill Collars**

Figure 10-2

**Austral Gold Limited**

**Casposo Gold-Silver Mine**  
 San Juan Province, Argentina  
**Julieta Geology, Veins, and Drill Collars**



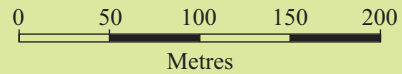
REFERENCE	
	ROCK CHIP SAMPLES
	TRENCHES
	DRILL HOLE DDH 2006-2011-2013
	DRILL HOLE RC-2010

LEGEND	
LITHOLOGY	
	SOIL/COLLUVIUM/TALAS COVER
	RHYOLITE DYKE
	ANDESITE DYKE
	TRACHYTE DYKE
	IGNIMBRITE DACITE
	IGNIMBRITE RHYOLITE
	RHYOLITE TUFF
	BRECCIARHYOLITE
	RHYOLITE WITH FIAMMES
	RHYOLITE-DACITE
	ANDESITE

MINERALIZATION	
	VEIN QUARTZ AND CALCITE
	VEINLETS QUARTZ AND CALCITE
	STOCKWORK ZONE



## REVERSE CIRCULATION DRILLING

Intrepid used a sole contractor, Major Drilling (Major), for RC drilling. Holes were oriented to 45°, 90°, 135°, 300°, 310°, 350° and had inclinations from -50° to -60°.

The RC hole depths ranged from 123 m to 207 m, averaging 182 m. All RC holes were drilled with a 139.7 mm (5.5") diameter drill bit.

Troy used Boart Longyear for RC drilling from December 2009 to February 2010. Holes were drilled at azimuths from 060° to 090° at dips from -55° to -75°. Maximum RC drilling depth was 300 m. All RC holes were drilled with a 139 mm (5.5") diameter face sampling drill bit. Holes were downhole surveyed with a single shot camera with two to four surveys per hole. Troy used its company owned Atlas Copco Explorac 50 for RC drilling from November 2010 to April 2011 to complete a shallow drill program at Casposo Norte. Holes were drilled at azimuths from 355° to 000° at dips from -55° to -75°. Maximum hole depth was 111 m. All RC holes were drilled with a 139.7 mm (5.5") diameter face sampling drill bit. Holes were downhole surveyed with a single shot camera with two to four surveys per hole.

## DIAMOND DRILLING

### BATTLE MOUNTAIN GOLD

Between 1998 and 2000, BMG completed 8,626 m of core drilling in 46 holes, to approximate a 50 m by 50 m drilling grid (Puritch, 2004). Drill hole depths ranged from 75.3 m to 437.4 m, averaging 187.5 m. Drilling was completed primarily on the Kamila and Mercado Deposits, but two holes tested the Cerro Norte Prospect.

BMG used two contractors, Major and Connors Drilling (Connors), which completed 11 holes (1,732 m) and 35 holes (6,894 m), respectively. Most holes were east or northeast-oriented, generally normal to the strike of the silicified units, although four holes were also oriented to the north. All drill holes had 45° to 80° inclinations. The drill hole diameter was primarily NQ (47.6 mm nominal core diameter), although some holes were collared with HQ (63.5 mm nominal core diameter), and reduced to NQ for the deeper sections. Drill collars were surveyed using a GPS instrument. Acid tests (27 holes) and the Tropari system (19 holes) were used to measure the downhole deviations.

## **INTREPID MINES**

Between the acquisition date of the property in 2002 and October 2008, Intrepid completed 38,549 m of core drilling in 242 drill holes (up to drill hole CA-08-280). Drill contractors included Connors, Bolland, and Major Drilling (2008 campaign).

Most core drill holes were oriented to the east (ranging from northeast to southeast), generally normal to the strike of the silicified units, although 22 holes were also oriented to the west and one hole to the north. The majority of holes used in the resource estimate have 45° to 90° inclinations (mostly sub-vertical holes from Phase IX drilling). Core drill hole depths ranged from 20 m to 409.8 m, averaging 158.9 m.

The diamond drill hole diameter was primarily HQ (NQ diameter was used in three holes only, CA-03-48, CA-05-133 and CA-05-134). All Intrepid core has been drilled with the HQ-3 triple tube method to ensure minimum core rotation and maximum sample recovery, with the exception of two holes, at Panzón, in 2005, which were drilled with NQ-diameter tools.

In May 2008, Intrepid commenced a step-out exploration core drill hole program, designed to test for additional mineralization that had the potential to be converted to mineral resources. Drilling focused on easterly strike and plunge extensions to the INCA Vein structure and intercepted the INCA Vein at distances ranging from 50 m to 150 m away from existing mineralization that has been incorporated in mineral resource estimation. This campaign also aimed to test the Kamila Southeast Extension, returning anomalous gold intercepts. Drill spacing at Kamila SEXT remains at a wider spacing than the other drilled areas.

Initially drill collars were surveyed using a GPS instrument. All drill hole collars were resurveyed using a total station instrument.

The Tropari system was used to measure the downhole deviations in 13 drill holes, the Sperry Sun method for drill holes to hole CA-07-219, and a Reflex instrument for the remainder of the holes.

## **TROY DRILLING 2010 – 2015**

Since acquiring the Mine in May 2009, Troy completed both RC and diamond drilling. Drill Contractors included Boart-Longyear Argentina, Energold Argentina SA, and Eco-Minera

Mining Services Argentina. In addition, Troy used its company owned Atlas Copco Explorac 50 for RC drilling from November 2010 to April 2011 to complete a shallow drill program at Casposo Norte.

RC drilling was focussed on B-Vein Southeast target, Kamila Mercado Gap target, Mercado NW – Panzón targets, Cerro Norte Target, Julieta target, and Casposo Norte target.

Between January 6<sup>th</sup>, 2011 and April 30<sup>th</sup>, 2015, diamond drilling was completed at Kamila Southeast – INCA 2 Vein, Julieta, Lucia target, Casposo Norte, Cerro Norte, Kamila Offset, Mercado Gap and Deeps, Amanda target, Natalia target, Sonia target, Oveja Negra target, and Lauren target.

#### **TROY COLLAR SURVEYS**

Initially drill collars were surveyed using a GPS instrument. All drill hole collars were resurveyed using a total station instrument. All survey data is digitally imported into the Mine database.

#### **TROY DOWNHOLE SURVEYS**

Down hole surveys are conducted every 30 m down the length of the hole and at the end of the hole with a Reflex EZ-Trac multi-shot instrument as the hole is drilled. Data is recorded electronically by a probe containing magnetic and gravimetric sensors, this data is then transferred to a handheld device once the probe has been retrieved. The downhole survey data is exported to ASCII format that is imported to the master database.

## **LOGGING AND SAMPLING**

### **CORE LOGGING PROCEDURES - BMG**

- Core was placed in well-identified, 1.0 m long, labelled wooden core boxes, with the start and finish of each drill run labelled with a meterage marker.
- Core was transported to the camp in the village of Calingasta either by the company geologists, company technicians or alternatively by the drill contractors and placed in the core logging area of the company-owned fenced compound where the sample intervals were rechecked, recoveries were noted and core was photographed. Sampling took place in the compound using a diamond saw.
- Geological data recorded included lithology, alteration, veining, mineralization, structures, and references to the oxide/sulphide boundary, all numerically or alphanumerically coded.

- Recovery and rock quality designation (RQD) were documented for all BMG holes from CA-00-30 forward.
- Information from the drill logs was hand-entered into BorSurv, a special logging program, using a single-entry procedure.
- Drill hole geological data from BMG are available on site as descriptive logs recorded on paper. All core is stored in Calingasta at Troy's El Remanso Exploration office.

## **CORE LOGGING PROCEDURES – INTREPID AND TROY**

- Core was placed in well identified, 1.0 m long, wooden core boxes, with the start and finish of each drill run labelled with a meterage marker.
- Core boxes were regularly transported to core logging facility, and laid out in order of increasing drill hole depth.
- Core box labels and meterage were checked for accuracy and core was photographed in digital format by a company geologist.
- Specially designed forms were used for logging. These included general header data, such as location, date drilled, core diameter, down hole deviation, etc.
- Geological data recorded included lithology, structures, alteration, and mineralization. A set of alphanumeric codes synthesize the geological data.
- Geotechnical data recorded included RQD and recovery, as well as coded hardness, weathering and various fracture data.
- Information from paper drill logs was hand-entered into Excel files using a single-entry procedure. Handheld computer logging is currently standard practice and the data are downloaded automatically into the central database.
- Drill hole geological data is available on site as descriptive logs recorded on paper sheets or as electronic data in the central database.
- Prepared samples are placed in plastic sample bags with a sample tag and then combined in numerical sequence in rice bags; the number of samples can vary, depending on weight, but ten samples is average. The total sample weight is approximately 25 kg.
- Once core is logged and sampled, it is stacked by drill hole in an enclosed warehouse or is stored, covered by tarpaulins, outside of the warehouse.
- A sample submission form accompanies each shipment, which is transported to the assay laboratory in trucks operated by laboratory employees or contractors.



## **SAMPLING METHOD AND APPROACH**

Sampling programs at the Casposo Mine have included diamond drill core samples, RC samples, and various geochemical samples including surface rock chip, soil and stream sediment (surface sampling), trench, and pit samples (channel sampling). The surface sampling programs are not used as supporting data for the Mineral Resource estimates and, therefore, the sampling methods for these programs are not discussed in detail in this report.

Intrepid established detailed logging, sample collection, and sample preparation protocols for core and RC sampling, and implemented procedures for the collection of geotechnical data. Troy has continued to employ the same protocols.

### ***SURFACE SAMPLING PROCEDURES***

Soil and stream sediment samples were dried and screened with an 80 mesh sieve, after which a 100 g sub-sample was split, bagged, and sent to the laboratory. The rock chip samples were collected with hammer and chisel, and consisted of approximately one centimetre diameter fragments, taken from an area of influence of about two metres in diameter. The average weight was three kilograms.

### ***TRENCH SAMPLING PROCEDURES***

Continuous channel sampling was conducted in the trenches with chisel and hammer, usually at the bottom of the excavations. The average length was 2.38 m, but about 85% of the channel samples were one metre to four metres long, and nearly 12% exceeded five metres, sometimes reaching ten metres in some of the BMG trenches. The average channel sample weight was three kilograms to five kilograms.

### ***PIT SAMPLING PROCEDURES***

Pit samples were also collected using channel sampling methods. Samples were composited to approximate 20 kg weights.

### ***RC SAMPLING PROCEDURES***

RC samples were collected from the cyclone every one metre, then homogenized and split twice, to obtain a three kilogram to five kilogram sample. Another split of the sample was stored as backup. The remaining reject was discarded.

**CORE SAMPLING PROCEDURES**

Core was split in half with a mechanical splitter (BMG) or diamond saw (Intrepid and Troy). One half of the core was sent for analysis and the remaining half returned to the core box in its original orientation as a permanent record. Normally, the entire hole was sampled. The sample interval was usually one metre to two metres for BMG, and 0.5 m to two metres for Intrepid and Troy (maximum 1.5 m in mineralized zones). Highly-fragmented core was bound with adhesive tape before splitting. Sampling mineralized zones was generally on one metre intervals however mineralized contacts were also considered.

A separate worker checks the samples against the sample book, inserting standards and blanks as the samples are bagged. Samples are then collected in burlap bags, labeled by company name and zone, and sent to the lab with a requisition document. Once core is logged and sampled, it is stacked by drill hole in an enclosed warehouse or is stored, covered by tarpaulins, outside of the warehouse. All boxes are stored with lids.

Core recovery was generally very good and would not impact sample integrity.

For underground drill core, whole core samples are put in plastic bags, identified with samples numbers from tags as above. Groups of samples are placed in burlap bags. Underground waste core is discarded and the boxes are re-used.

Samples collected are considered representative of the mineralization. Drilling was targeted at quartz vein and quartz stockworks/breccia mineralization. Sample lengths were generally on one metre or two metre intervals except where mineralization boundaries were encountered. Higher grade quartz-hosted mineralization was sampled separately from lower grade material.

**UNDERGROUND CHANNEL SAMPLING**

Underground channel samples are collected from level development headings at an approximate three metre spacing, across each face for each development round. The minimum sample length is 0.1 m and the maximum length is 1.6 m, with an average of 0.92 m across all samples.

## **RPA OPINION**

RPA is of the opinion that the core handling, logging, splitting and sampling procedures are of sufficient quality to support Mineral Resource and Mineral Reserve estimates.

# 11 SAMPLE PREPARATION, ANALYSES AND SECURITY

## SAMPLE PREPARATION BY LABORATORIES

BMG used ALS Geolab in Mendoza as the primary laboratory. Intrepid initially used ALS Chemex (ISO 9001 accreditation) in La Serena, Chile and Mendoza, Argentina as primary laboratory, and Alex Stewart (in Mendoza, Argentina) (ISO 9001) as the secondary laboratory, however, starting from drill hole 148 (February 2005), Intrepid switched to Alex Stewart (Mendoza) as the primary laboratory. Troy has continued to use Alex Stewart (Mendoza) as the primary laboratory.

Sample preparation by ALS Chemex occurred in its Mendoza facilities. Samples were then shipped by ALS Chemex from Mendoza to La Serena.

There were no other detailed references in the BMG data to sample preparation procedures.

The preparation protocol at the ALS Chemex, Mendoza preparation facility consisted of:

- Drying
- Crushing to 85% passing 10 mesh
- Splitting and pulverization of 1,000 g to 85% passing 200 mesh (74  $\mu$ m)
- Separation of two bags of pulp with approximately 200 g each

Pulps were forwarded directly by ALS Chemex to their main laboratory in Chile.

The sample preparation protocol at Alex Stewart was similar to the protocol used by ALS Chemex.

The preparation protocol at the mine laboratory preparation facility consists of:

- Sample submission and entry to a LIMS database system.
- Insertion of a white quartz sample in the drying oven sample trays every 15 samples to assess cross-contamination by airborne particulate when drying at  $105 \pm 5^\circ\text{C}$
- First-stage sample crushers are cleaned with compressed air in between every sample.

- Coarse rejects are quartered and one quarter of the reject is stored in a plastic bag for record keeping.
- Second-stage crushing is done in a jaw crusher to 10 mesh according to a written procedure.
- Samples are screened and checked every 10 samples to where 98% of the sample must pass 140 mesh.
- Third and final stage pulverization in an oscillating pulverizer for 4-6 minutes, with a few drops of alcohol to remove any remaining moisture from the sample. The puck and all other parts of the pulverizer are cleaned with compressed air after each sample is pulverized.
  - 100 gram samples are extracted from the pulverizer.
  - Pulp samples are homogenized and split with a rotary splitter, one quarter of the pulp is then sent for assay and the rest stored.

## **SAMPLE ANALYSES AND ANALYTICAL PROCEDURES**

The BMG samples submitted to ALS Geolab in Mendoza were assayed for:

- Gold by fire assay (FA) using method PM209
- Silver, lead, zinc, molybdenum, copper, arsenic, antimony by atomic absorption spectrometry (AAS) using method G105 and occasionally for mercury using method G008.

The Intrepid samples submitted to ALS Chemex were assayed as follows:

- Gold by FA with either a gravimetric or AAS finish, using method AA Au-AA24 or method Au-GRA22 for samples with Au > 10 g/t
- Silver in samples expected to have high values by either four acid digestion and AAS, or FA and gravimetric finish, using method Ag-AA63 or method Ag-GRA22 for samples with Ag > 100 g/t
- Silver, aluminum, arsenic, barium, beryllium, bismuth, calcium, cadmium, cobalt, chromium, copper, iron, potassium, magnesium, manganese, molybdenum, sodium, nickel, phosphorus, lead, sulphur, antimony, strontium, titanium, vanadium, tungsten, zinc by four acid digestion and inductively coupled plasma with atomic emission spectroscopy (ICP-AES), using method ME-ICP61
- Mercury by cold vapour/AAS, using method Hg-CV41

Intrepid and later Troy samples submitted to Alex Stewart were assayed using the following:

- Gold by FA and either a gravimetric or AAS finish, using method Au4-50 or Au4A-50 for samples with Au > 10 g/t

- Silver by three techniques: four-acid digestion followed by AAS reading for check samples up to February 2006, aqua regia digestion followed by inductively coupled plasma with optical emission spectroscopy (ICP-OES) reading for ordinary samples after February 2006, and FA and gravimetric finish for samples with Ag > 200 g/t up to February 2006 and for all samples in mineralized intersections after February 2006. Method numbers were GMA, ICP-AR-39, and Ag4A-50.

### **CASPOSO MINE LABORATORY**

The Casposo Mine laboratory was ISO 9001-2008 certified in 2015. The laboratory maintains its own internal QC sample system. Detailed written procedures are in place for all aspects of the laboratory work, including reporting and remediation of irregularities.

- Gold and silver assays are measured via fire assay with pulverized sample and reagent flux using method Au4-40 AAS for gold and Ag4A-50 Gravimetric for silver.
- Samples are melted at  $1050\pm 5^{\circ}\text{C}$  for  $50\pm 3$  minutes. The oven floor is prepared with a 3 cm layer of ground crucible material.
- Samples are cooled for 20 minutes and hammered to separate slag from metal buttons.
- Sample pots are arranged into fixed arrays on sample trays and cleaned with compressed air between uses.
- Samples are weighed on a stable surface at room temperature and cupellation cups are checked for contamination before being used. Sample scales are calibrated at the beginning of each batch using certified weights.
- Lab data are kept on a LIMS server which makes two backups per day. Off-site backups of the LIMS database are maintained.

## **BULK DENSITY MEASUREMENTS**

Intrepid conducted a limited bulk density sampling program on the Casposo Mine, during 2005 to 2007, which produced 94 samples from 36 holes. The bulk density samples consisted of half core pieces, 10 cm to 15 cm long, which were taken from quartz veins and silicified breccias (47), andesite (28) and rhyolite (19). The bulk density statistics for Casposo are presented in Table 11-1.

**TABLE 11-1 BULK DENSITY STATISTICS**  
**Austral Gold Limited – Casposo Mine**

Parameter	Quartz Veins (t/m <sup>3</sup> )	Andesite (t/m <sup>3</sup> )	Rhyolite (t/m <sup>3</sup> )
Count	47	28	19
Median	2.58	2.69	2.57
Mode	2.53	2.69	2.58
Maximum	2.72	2.79	2.73
Minimum	2.28	2.58	2.48
Standard Deviation	0.08	0.05	0.08
Coefficient of Variation	3.2	1.7	3.1

Drill hole bulk density samples were sent to ALS Chemex facilities in Mendoza. The standard water displacement method is used, by covering the samples with a paraffin-wax coat and measuring the sample mass in air (Ma) and submerged in water (Mw).

Bulk density of quartz veins ranges within a relatively narrow dispersion interval, from 2.28 t/m<sup>3</sup> to 2.72 t/m<sup>3</sup>, and similar trends can be observed for andesite and rhyolite. The depth of the quartz vein bulk density samples ranged from 14.5 m to 228.5 m, but no significant variation with depth was observed.

In addition, Intrepid carried out 183 direct measurements on core samples on site using the water displacement method. Trained Intrepid personnel conducted bulk density determinations on the most representative lithological units. The determination procedure consisted of drying the sample and weighing it in air and under water. Some samples, evidently considered porous, were covered with a thin plastic film. The samples ranged between eight centimetres and 73 cm in length, and had an average length of 17.1 cm.

The statistics of Intrepid's direct measurements are shown in Table 11-2. The bulk density values for veins range within a wide interval from 1.86 t/m<sup>3</sup> to 2.96 t/m<sup>3</sup>.

**TABLE 11-2 BULK DENSITY STATISTICS – IN-HOUSE INTREPID MEASUREMENTS**  
**Austral Gold Limited – Casposo Mine**

Parameter	Quartz Veins (t/m <sup>3</sup> )	Andesite (t/m <sup>3</sup> )	Rhyolite (t/m <sup>3</sup> )
Count	111	18	54
Average	2.45	2.64	2.41
Maximum	2.96	2.86	2.72
Minimum	1.86	2.39	2.14
Standard Deviation	0.14	0.14	0.12
Coefficient of Variation	5.85	5.20	4.62

In 2012, ALS performed an in-situ specific gravity analysis at Casposo which produced nine samples as follows in table 11-3.

**TABLE 11-3 IN-SITU SPECIFIC GRAVITY MEASUREMENTS**  
**Austral Gold Limited – Casposo Mine**

Hole #	Grade	From (m)	To (m)	Dry WT (g)	Waxed WT (g)	Immersed WT (g)	In-situ SG (t/m <sup>3</sup> )
CA-12-474	High grade	153.51	153.62	871.7	891.6	532.3	2.60
CA-12-474	Low grade	148.38	148.49	515.6	530.4	316.9	2.63
CA-12-474	Waste	154.14	154.27	501.1	518.8	310.6	2.67
CA-12-477	High grade	174.1	174.23	876.8	900.8	539.6	2.63
CA-12-477	Low grade	177.3	177.4	666.5	683.9	407.4	2.60
CA-12-477	Waste	181.86	181.96	570.3	581.4	354.5	2.67
CA-12-475	High grade	216.9	217.06	1054.3	1076.6	645.8	2.61
CA-12-475	Low grade	214.6	214.8	1212.1	1242.2	742.6	2.61
CA-12-475	Waste	217.75	217.86	718.7	731.4	444.1	2.64

## QUALITY ASSURANCE AND QUALITY CONTROL

Quality assurance (QA) consists of procedures used to ensure that an adequate level of quality is maintained in the process of collecting, preparing, and assaying of samples. Quality control (QC) consists of evidence to demonstrate that the assay data has precision and accuracy within generally accepted limits for the sampling and analytical method(s) used in order to have confidence in a resource estimate. In general, QA/QC programs are designed to prevent or detect contamination and allow assaying (analytical), precision (repeatability), and accuracy to



be quantified. In addition, a QA/QC program can disclose the overall sampling-assaying variability of the sampling method itself.

### **BMG QA/QC PROGRAM**

BMG had a very limited QA/QC program in place during their drill program, consisting of the insertion of 16 standards over the duration of the sampling campaign. BMG did not insert twin samples, coarse duplicates, or blanks in the sample batches. Occasionally, some pulp duplicates appear to have been assayed but the results are not identified in the database.

### **INTREPID QA/QC PROGRAM**

The QA/QC program implemented by Intrepid for the Casposo Mine from 2003 to 2008 included the insertion of control samples to monitor assay accuracy (standards) and contamination (coarse blanks). Sampling, sub-sampling, and assay precisions were not assessed, since the QA/QC program lacked the insertion of twin samples, coarse duplicates, and pulp duplicates.

### **TROY 2009 – 2016 QA/QC PROGRAMS**

The QA/QC program implemented by Troy for the Casposo Mine from 2009 to 2012 on samples sent to Alex Stewart Laboratories included the insertion of control samples (standards) at intervals of approximately every 37 samples to monitor assay accuracy and coarse blank samples within or after mineralized intervals to check for prep contamination between samples. Assay precision was checked by pulp duplicates of approximately five percent of the total samples which were sent to an independent commercial laboratory (i.e., ACME Laboratories (Chile) SA. ISO 17025)

These control samples were monitored in real time through the use of GBIS from 2009 to 2012, and Datasheet module QAQCReporter since 2012, thus ensuring sample collection, sample preparation, or laboratory errors were identified and resolved in the quickest possible time.

The QA/QC program implemented by Alex Stewart Laboratories involves the insertion in each batch of 50 samples one internal standard and one blank and the repeat assay of three samples.

**MAXWELL GEOSERVICES JULY 2010 REVIEW**

Troy implemented a specific limited QA/QC program in addition to general QA/QC procedures for the 2009-2010 RC drilling campaign. In total the 85 control samples accounted for approximately 6.0% of all samples collected and assayed. Prior to completion of the program, Maxwell GeoServices was contracted to determine potential reasons for a negative bias in results for company standards. Field sample duplicates were sent to umpire laboratory ACME and re-splits of the original samples were sent to Genalysis Laboratories (ISO 17025). Included in these samples were a total of 24 company standards.

After discussions between Troy and Alex Stewart Laboratories, it was determined that insufficient silver had been added to the flux resulting in the negative bias.

Umpire labs results from Genalysis Laboratory and ACME Analytical Laboratories were used to check the results of the original assay results. When ACME assays were compared with Genalysis assays a slight overall positive bias observed (Genalysis result slightly higher than ACME value). There were two out of 74 values greater than 10% difference between the Alex Stewart original and ACME values. These values generally show no bias and would suggest that the process is acceptable.

**TROY DECEMBER 2011 REVIEW**

Troy implemented a limited QA/QC program for the 2011 drilling campaign. This program consisted of the insertion of CRMs and coarse blanks. Additional control samples (pulp duplicates and check samples submitted to an umpire laboratory) were assayed after the drilling campaign was completed. In total the 370 control samples accounted for approximately 8.1% of all samples collected and assayed.

The Alex Stewart Laboratory was used as the primary laboratory, whereas the ACME Analytical laboratory was used as the umpire laboratory. Control samples were inserted approximately every 37 samples. Coarse blanks were inserted in the sample flux after a sample containing mineralized material.

The analysis of 111 CRM samples, representing 2.2% of the samples, resulted in batches requiring re-assaying. Both elements showed low individual and overall biases but were generally weakly negative for gold and weakly positive silver. On the basis of these results, it

is concluded that the gold and silver accuracies at Alex Stewart during 2011 campaign were within acceptable ranges.

A total of 172 coarse blanks for gold and silver were reviewed, corresponding to 3.5% of the total samples. There was one event of gold contamination and one event of silver contamination. It was concluded that non-significant cross-contamination occurred during sample preparation at Alex Stewart.

In total, 130 pulp duplicate samples representing 2.84% of the total samples were sent for external control to ACME for gold and silver assays. It was concluded that the accuracy at Alex Stewart for gold and silver was satisfactory as compared to ACME.

#### **MAXWELL GEOSERVICES 2012 REVIEW**

Maxwell GeoServices conducted a QA/QC review of quality control data for the Casposo Gold Mine in March 2012 using the data in the DATASHED SQL database compiled from the original GBIS SQL database. Assays analysed between 01/01/2009 and 29/02/2012 were reviewed.

All analyses of field samples (including drill and surface samples) and CRMs, field duplicates, and laboratory checks was undertaken by Alex Stewart. Troy inserted blanks, six gold standards covering a range of grades from 0.62 g/t gold to 50 g/t gold, and two silver standards of 9 g/t silver and 21.5 g/t silver.

During the period reviewed, a total of 121 batches of samples containing 5,768 samples and 1,605 quality control samples were submitted for analysis. There were 24 field duplicates (1:240) and 1,581 pulp checks (1:4). Eleven different standards were used totaling 359 submissions for a 1:16 insertion ratio.

Alex Stewart Laboratory also conducted routine internal laboratory checks as an additional measure of lab accuracy. Quality control samples (the CRMs and blanks) were assumed to be submitted “blind” to the analyzing laboratory.

For purposes of this QA/QC audit, any standard sample that varied by more than two standard deviations from the certified concentration was flagged for attention. Similarly any anomalous blank values were flagged for possible contamination. Laboratory standards have not been loaded into the database and therefore were not part of the review.

The results of the review are summarised below.

### **Gold Blanks**

There was a single result lying well above expected, and was likely a mislabelled blank, assuming this is a gold blank only.

### **Gold Standards**

A strong negative bias was observed for CRM OxE74, with all results are below expected for both Fire Assay Atomic Absorption Spectrometry (FA AAS) and Fire Assay Gravimetric (FA Grav).

A strong negative bias was observed for CRM OxK69, with all results are below expected for both FA AAS and FA Grav with three possibly mislabelled CRMs. A strong upward trend over time is observed, with results tending to approach closer to the expected value from mid-2010 then declining again in 2011.

Although the calculated mean is close to the expected value (3.50 ppm Au calculated vs. 3.53 ppm Au expected) for CRM OxK79, there is a large degree of scatter observed, and many results lie outside the expected two standard deviations (SD) from the mean.

A strong negative bias is again observed for CRM OxK94, with one possible mislabelled standard present. There was a strong upward trend over time, with results dramatically improved in the latter stage (early 2012).

The calculated mean (49.46 ppm gold) for CRM OxQ75 is close to expected (50.03 ppm gold) with the majority of results within acceptable ranges. It is unlikely that the outliers (three out of 34 submissions) are mislabelled as they are still significantly high results compared to all other standards used.

### **Silver Blanks**

All results are all well above the expected nominal value of 0 ppm Ag – this is unlikely to be the true expected value. One apparent outlier is from Batch M112437 (Sample 18258).

### **Silver Standards**

The calculated mean is close to the expected value for CRM OxK79 with only one outlier.

All analyses for CRM OxK94 plotted within the two SD limit.

Overall, the expected and calculated means are close for CRM OxQ75, although several samples (14 out of 50 submissions) lie outside the nominal two SD limits for silver for this standard.

### **Field Duplicates**

A strong positive bias is observed, with eight of the 22 field duplicates having differences from the original result greater than 10%. Aside from a couple of points, results compare well for field duplicates for gold, noting that all results are below a 0.5 ppm gold (limited grade range for review).

### **Laboratory Pulp Checks**

A slight positive bias is observed at very high grades, but overall results compared extremely well. This was repeated across all major elements (Ag, As, Cu, Ni, Pb, and Zn).

### **Recommended Actions**

Maxwell recommended that field QC protocols for standards and blanks needed review and staff should be retrained if necessary, and to perform more regular monitoring of laboratory performance. Maxwell also recommended that Troy set aside a minimum of five percent field duplicate samples selected across all grade ranges.

### ***2013 BLASTHOLE SAMPLING REVIEW***

Although this Mineral Resource estimate does not use blasthole samples, RPA notes that QC sampling was performed on blasthole sampling during open pit production from at least 2013 onward, which demonstrates a commitment to QA/QC on the part of the operation.

### ***TROY 2012 TO 2016***

RPA notes that the Casposo mine laboratory produced a set of comprehensive written procedures in 2015. The mine laboratory received ISO9001:2008 certification in late 2015.

Troy Resources Argentina Ltd Laboratory also participated in several rounds of proficiency testing for Au in Reference Materials of Gold Ore, held by Institut Tecnologia August Kekulé from May to December of 2015. The lab showed satisfactory performance as of October and December 2015. RPA did not receive reports from participation prior to October.

## Standards

RPA analyzed CRMs for gold and silver at both the Casposo and Alex Stewart laboratories. In addition to blanks, the Mine used CRMs produced by OREAS and RockLabs outlined in Table 11-4. RPA only produced control charts for CRMs covering 2012 to 2016, since previous audits and studies covered prior results.

**TABLE 11-4 CERTIFIED REFERENCE MATERIALS USED AT CASPOSO  
Austral Gold Limited – Casposo Mine**

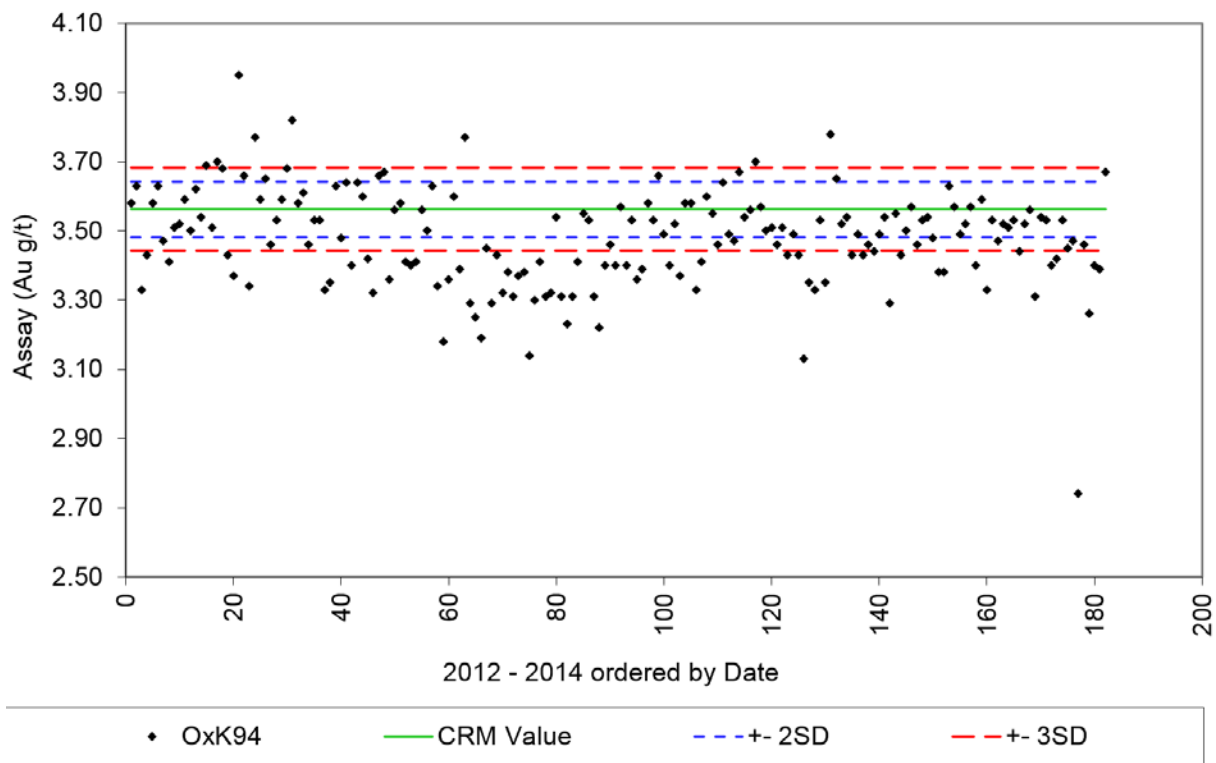
CRM	Value (g/t)	Standard Deviation	Metal
Blank	0		Ag
Blank	0		Au
OREAS 17Pb	2.56	0.08	Au
OREAS 61Pb	9.00	0.30	Ag
OREAS 61Pb	4.75	0.08	Au
OREAS 62Pb	21.5	0.54	Ag
OREAS 62Pb	11.3	0.17	Au
OREAS 7Pb	2.77	0.02	Au
OxE74	0.615	0.01	Au
OxK69	3.58	0.03	Au
OxK79	3.53	0.02	Au
OxK94	3.56	0.04	Au
OxQ75	153.9	2.90	Ag
OxQ75	50.0	1.91	Au

RPA used the round-robin means and standard deviations provided in the certificate for each CRM. RockLabs cautions users to look at long term means and standard deviations for the control samples. Practical standard deviations may be slightly larger than the round-robin values provided on the CRM certificate.

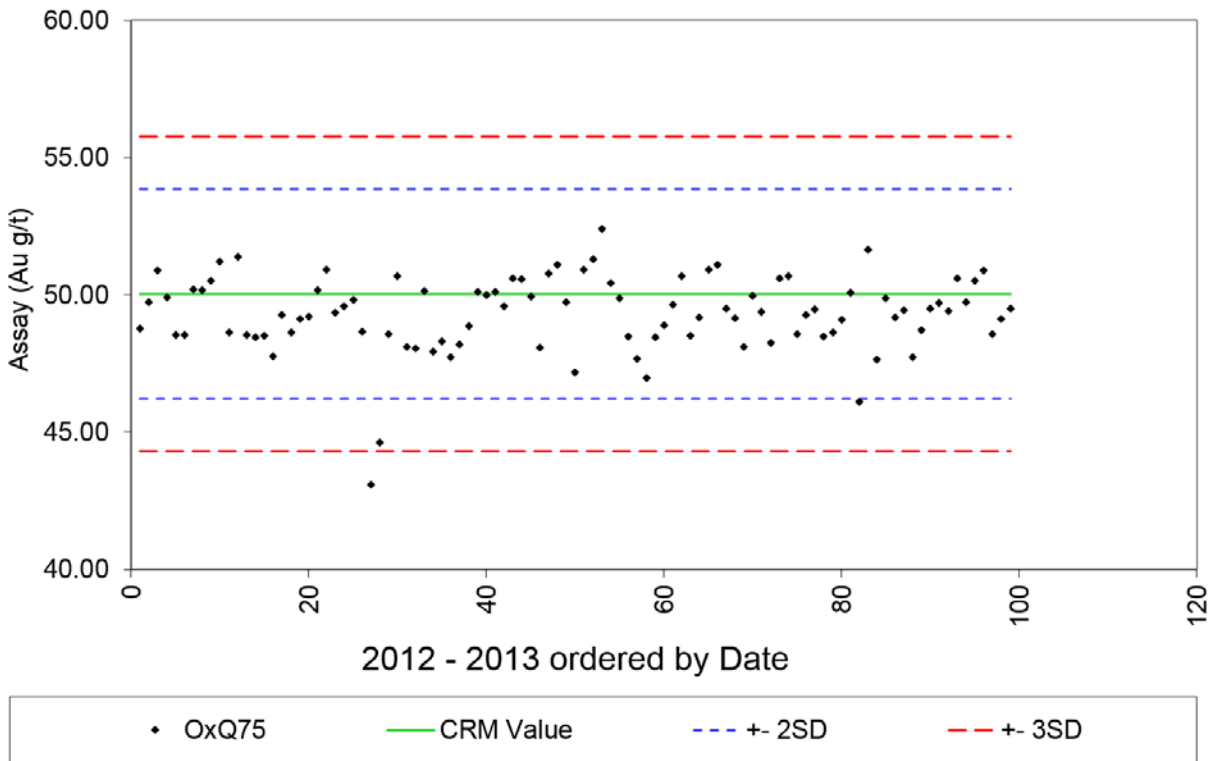
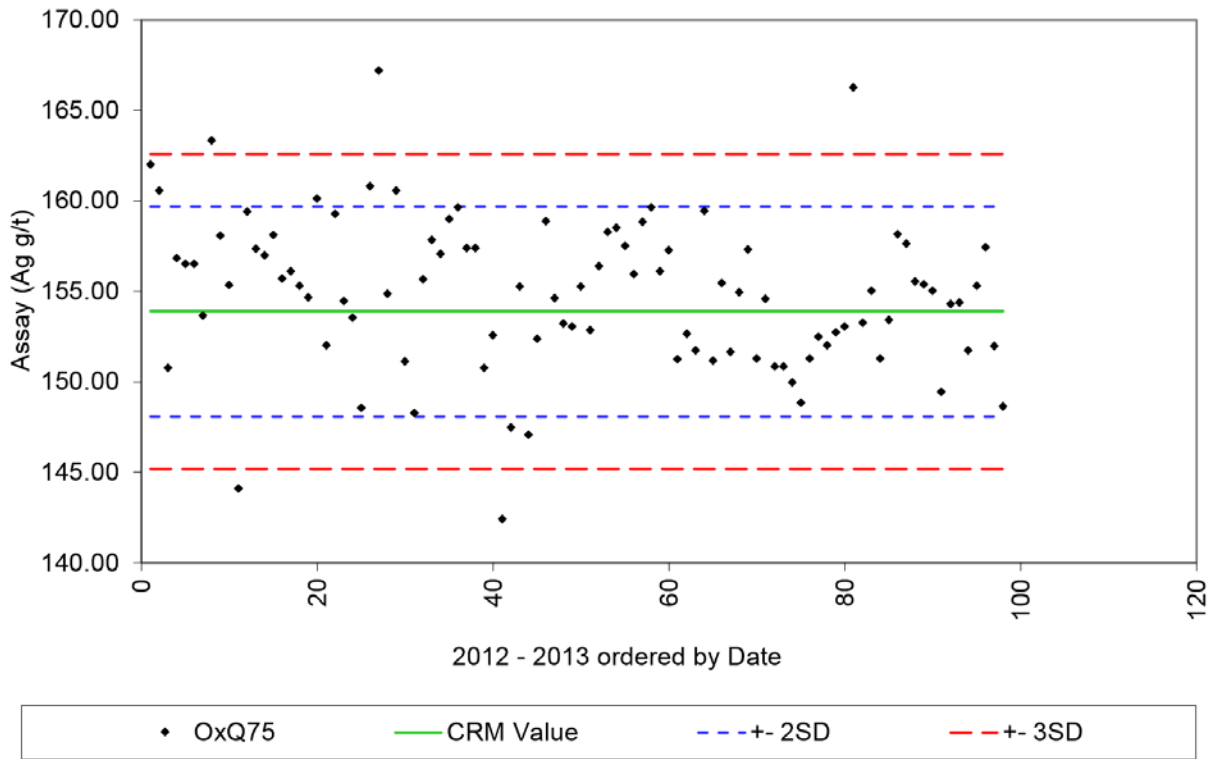
Control charts produced generally show satisfactory performance, staying within two standard deviations from the mean value. The Au CRM Oxk94 in Figure 11-1 seems to show a slight negative bias for gold. Figure 11-2 also seems to show a slight negative bias for gold. Taken together, the results seem to indicate that reported gold assays would be slightly higher in reality, and that resource grades are based on assay values that are slightly conservative if any meaningful bias were to influence the resource model.

Silver CRM OXQ75 results shown in Figure 11-2 generally fall within two standard deviations of the certificate mean, and do not appear to show bias.

FIGURE 11-1 GOLD STANDARD OXK94



**FIGURE 11-2 SILVER AND GOLD STANDARD OXQ75**





**Blanks**

RPA analysis of blank data showed only a few isolated examples where either the blank was contaminated or the sample number switched. Overall the blank assays show that sample contamination is well-controlled.

**Field Duplicate Samples**

There were only 31 field duplicate samples with matching assays in the database. These samples were only taken in 2009 and 2010. Austral does not perform any check assays on core samples or coarse rejects.

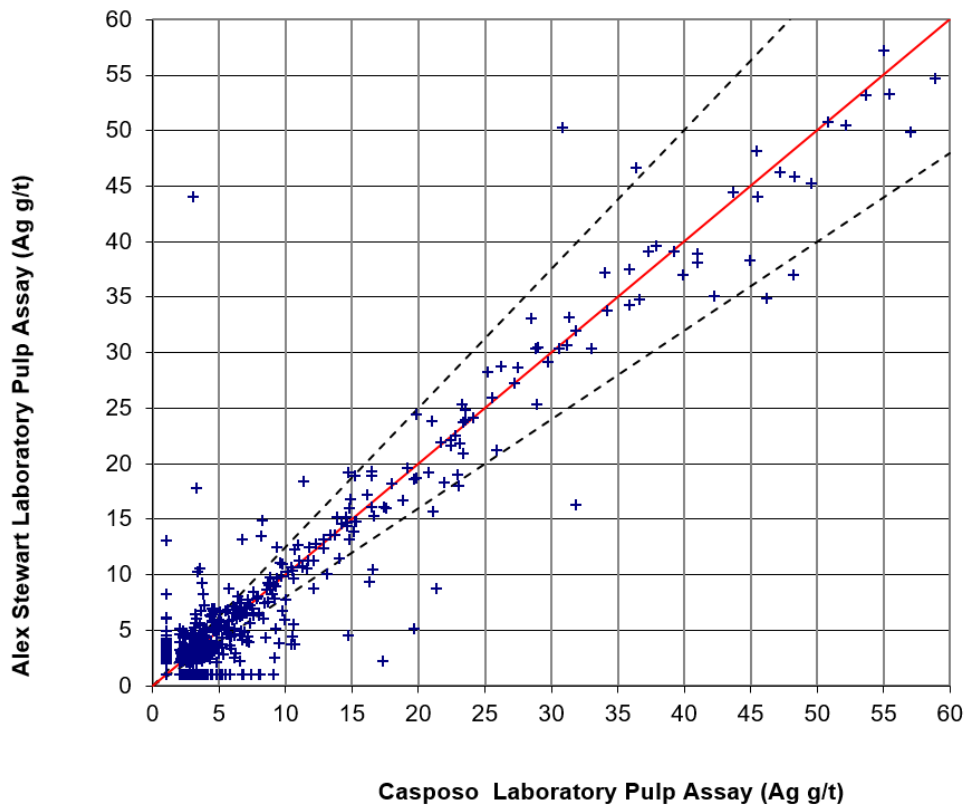
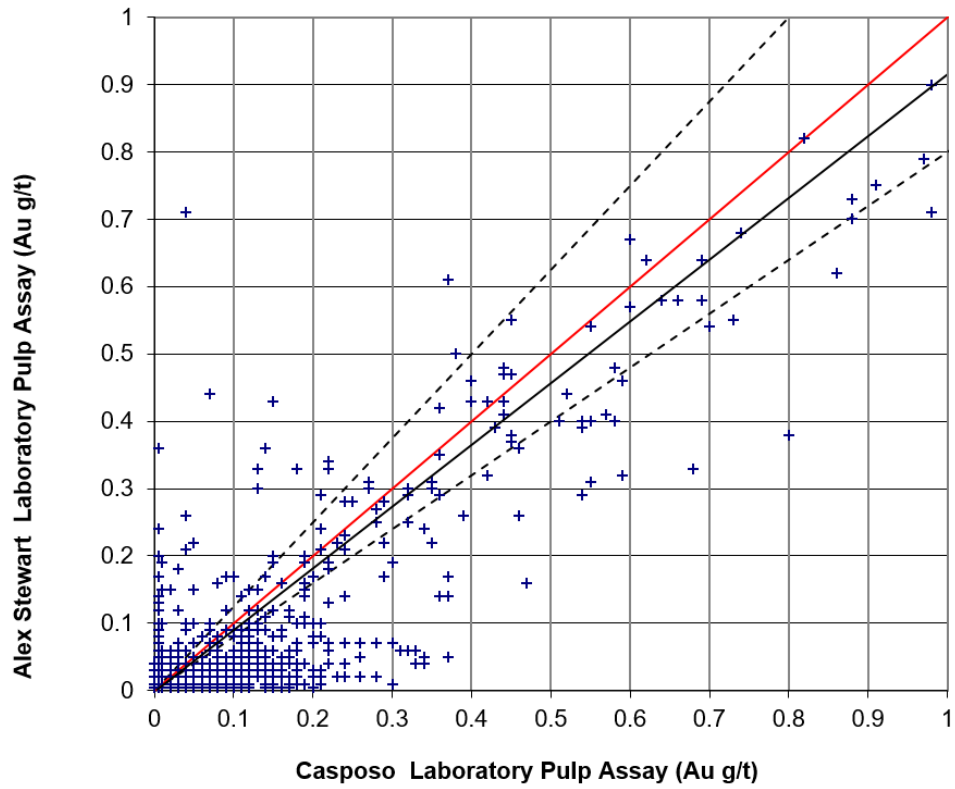
**Secondary Pulp Checks**

RPA analyzed secondary laboratory checks by comparing directly from the assay certificates sent to each lab. There were 958 silver and gold assay checks between the two labs.

Gold values showed very good correlation between the Casposo and Alex Stewart laboratories above 0.5 g/t Au. Samples below 0.5 g/t Au (Figure 11-3) appear to have a slight negative bias (gray trend line) at the Casposo laboratory relative to Alex Stewart. Only two samples above 1 g/t Au were outside of confidence limits.

Silver grades appear to have better correlation between laboratories above 10 g/t Ag (Figure 11-3). A trend line (grey) fitted to the data is very close to 1:1.

**FIGURE 11-3 LABORATORY PULP CHECK SAMPLES**



## **SAMPLE SECURITY**

Sample security relied upon the fact that the samples were always attended or stored in designated sampling areas. Sample collection, preparation, and transportation have always been undertaken by BMG, Intrepid, and Troy or laboratory personnel using corporate vehicles. Chain of custody procedures consisted of filling out sample submittal forms that are sent to the laboratory with sample shipments to make certain that all samples were received by the laboratory.

## **RPA OPINION**

In RPA's opinion, the sample preparation, analysis, QA/QC program, and security procedures at Casposo are adequate for use in the estimation of Mineral Resources.

## 12 DATA VERIFICATION

### DATA VERIFICATION BY CASPOSO

Data generated on the Casposo Mine is currently stored within a DataSheet SQL database that contains data for drill holes, trenches, and pits, and covers all exploration targets and gold. The data was transitioned early in 2012 from storage within a GBIS SQL database using the services of Maxwell GeoServices in Fremantle, Western Australia. Surveyed drill collars are recorded and entered into an Excel spreadsheet file by the surveyor and then despatched to the database manager, who imports the collars into the database. Historically, downhole surveys were manually entered into the database from the downhole camera shots. Since January 2011, the downhole survey data are received from the REFLEX survey instrument as raw REFLEX data exported to a REFLEX file and converted to a .csv file for importation into the database. Historically lithological intervals and description were manually written onto paper log sheets, the recorded information coded and subsequently entered into the database. Under the GBIS database system, lithological intervals and descriptions were manually entered on portable computers using the software program OCRIS and subsequently downloaded to the database. With the change to Datasheet, the data were entered onto portable computers using LogChief software and downloaded to the Datasheet database. Assays are imported from digital files received from the laboratory and linked to the database by the sample number.

Austral continues to maintain its Datasheet SQL database. Gemcom and MapInfo software programs were used by Troy. Austral now performs geological and resource modelling in Maptek Vulcan software.

### DATABASE REVIEWS, QA/QC REVIEWS AND PROCEDURES

Over the life of the Mine, database and QA/QC reviews have been carried out by Intrepid (March 2007, September 2007, June 2008, February 2009) and Maxwell Geoservices (2012) under Troy. These reviews have been disclosed under previous NI 43-101 technical reports. RPA's QA/QC review of the 2012 – 2015 data can be found in Section 11 of this report.

Maxwell's database audit in 2012 concluded that highlighted issues were relatively minor. Maxwell noted that Troy was in the process of database remediation to resolve the issues, and

that processes in place and being managed on an ongoing basis by Troy staff would ensure that no invalid or incomplete data would be loaded into the database.

## **DATA VERIFICATION BY RPA**

RPA reviewed the methods and practices used by Austral to generate the resource database (including drilling, sampling, analysis, and data entry) and found the work to be appropriate for the geology and style of mineralization. RPA checked a select number of drill holes to verify the described methods and application of practices. The following checks were performed by RPA:

- Reviewed the drill hole traces in 3D, level plans, and vertical sections. Unreasonable drill trace geometries were flagged and sent to Austral for review and updates.
- Queried the database for missing or repeated data, unique header, duplicate holes, and gaps or overlapping intervals. Overlapping intervals were discovered and corrected by Austral personnel.
- Checked the total depth recorded in in the collar table against the lithology table.
- Visited core handling facility.
- Reviewed core logs and core for holes CA-00-44 (Aztec), CA-05-118 (Aztec), CA-06-189 (Mercado), Ca-11-301 (INCA 2B), CA-11-358 (INCA 2A), CA-12-390 (INCA 2E), CA-13-540 (INCA 2A), CA-13-548 (INCA 3), and JU-11-34 (Julieta).

RPA compared the gold and silver samples of assay certificates to the Vulcan database used to generate the Mineral Resource estimate. A total of 1,433 grade differences between gold certificates and Vulcan database were found but mostly at the lower detection limit of each commodity (0.05 g/t Au and 1 g/t Ag). Many of the differences near detection limits may be attributable to how samples are assigned negligible grades below the detection limit, or to differences in decimal places assigned on data entry.

Austral is currently in the process of auditing and correcting all of the remaining minor issues in the Casposo database. RPA does not believe that any remaining minor errors would significantly impact Mineral Resource and Mineral Reserve estimation. RPA is of the opinion that the practices and procedures used to generate the Casposo database comply with industry standards and are acceptable to support Mineral Resource and Mineral Reserve estimation.

# 13 MINERAL PROCESSING AND METALLURGICAL TESTING

## HISTORICAL TESTING

A number of metallurgical laboratories conducted metallurgical testwork using samples from Casposo beginning in 2002. Initial work was conducted at the direction of Intrepid. Troy, then, conducted additional testwork to support their Feasibility Study after acquisition of Casposo in 2009. Much of the work was completed by Institute Investigaciones Mineras (IIM) which is part of the San Juan Faculty of Engineering at the University of San Juan. Their work was verified by metallurgical laboratories that are recognized by international lenders, including Kappes, Cassiday & Associates, Resource Development, Inc., and SGS Mineral Services at both Lakefield, Ontario and Santiago, Chile. Details of the historical testing have been reported previously by Doyle and Whitehouse (2012) and AMEC (2009).

The various phases of testwork considered gravity concentration and intensive cyanide leaching, whole ore cyanide leaching, heap leaching, and flotation. Investigations provided data to support trade-off studies to determine the optimum processing methods and detailed design of the selected processes. These tests included:

- Comminution
- Gravity concentration
- Cyanide leaching
- Settling tests
- Filtration tests
- Zinc precipitation tests
- Cyanide destruction tests
- Mineralogical studies

AMEC International (Chile) S.A. supervised a portion of the metallurgical testing that was used to evaluate four process flowsheet options and three options for tailings storage. Based on the results of the trade-off studies, the selected processes included:

- Whole ore cyanide leaching
- Merrill-Crowe precious metal recovery using a hybrid counter-current decantation (CCD) plus filtration liquid-solid separation circuit

- Filtered dry stack tailings storage

In 2009, Mineral Engineering Technical Services (METS) of Perth, Western Australia was selected by Troy to complete the plant design for Casposo. SGS Mineral Services, Chile was selected to conduct the final round of metallurgical testing that was completed to support the METS detailed plant design.

Using the historical test data, estimates for both gold and silver recovery were developed. They are shown in Table 13-1.

**TABLE 13-1 METALLURGICAL TESTWORK RECOVERY ESTIMATES**  
**Austral Gold Limited – Casposo Mine**

<b>Metal</b>	<b>Head Grade (g/t)</b>	<b>Tail Grade (g/t)</b>	<b>Extraction (%)</b>	<b>Solution Loss (%)</b>	<b>Miscellaneous Loss (%)</b>	<b>Overall Recovery (%)</b>
Gold	4.68	0.27	94.4	0.5	0.2	93.7
Silver	114	21	82.1	0.5	1.0	80.6

These recoveries remain the basis of the overall metallurgical recovery. Doyle and Whitehouse (2012) reported that the recoveries were dependent upon mill feed grades but specific relationships were not reported. During the site visit, Casposo personnel reported that the estimated recovery was 92.3% for gold and 87.0% for silver, although RPA notes that the financial analysis that was received during the site visit uses 85% recovery of gold equivalent.

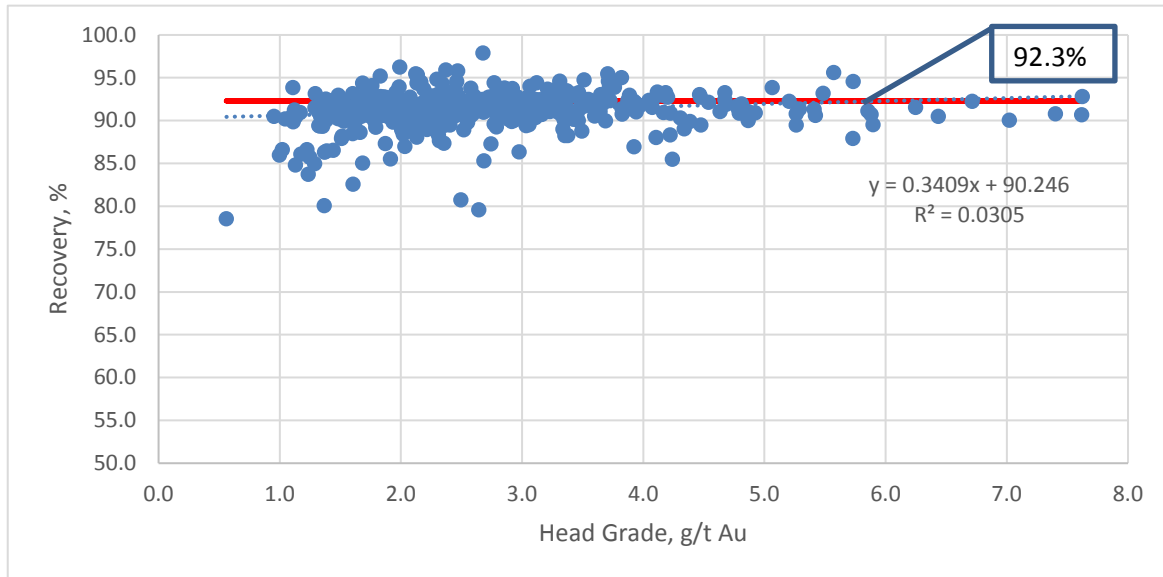
In 2010, testwork was conducted to evaluate the metallurgical properties of the INCA, B Vein, and Aztec veins. Currently, IIM is conducting testwork to determine if further optimization of the process is possible although RPA has not evaluated the data.

## **CASPOSO PLANT OPERATING DATA**

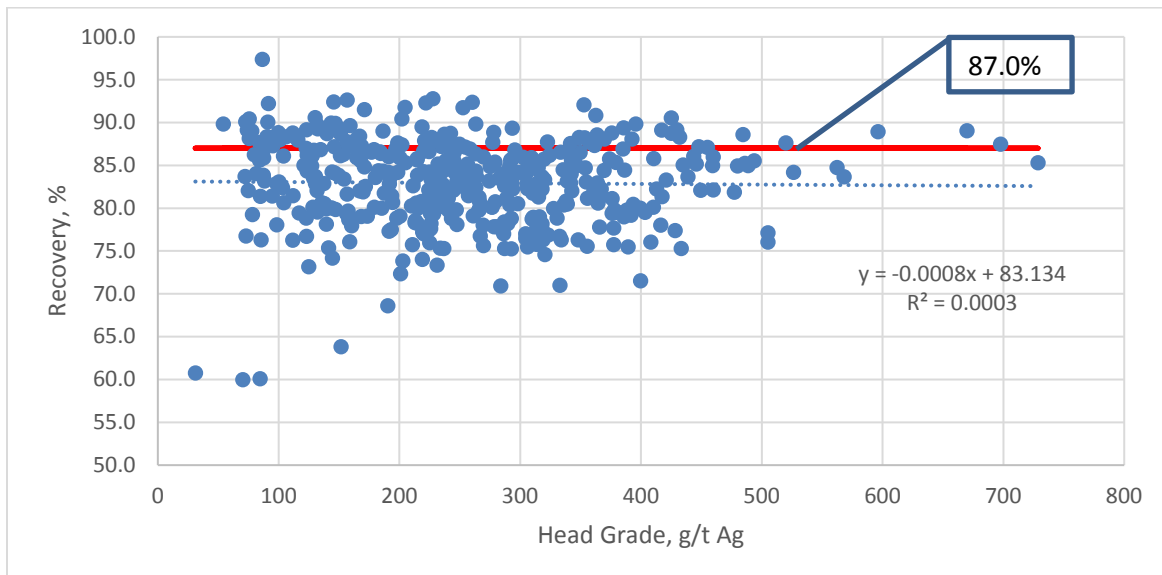
Following initial construction the Casposo processing plant started commissioning with the first gold/silver bars produced in November 2010. RPA considers evaluation of recent operating data to be more indicative of future processing results than historical data since the material that was processed is entirely representative and not subject to any bias that may be present when metallurgical samples are selected.

RPA was provided with daily operating data beginning on December 1, 2014 and ending February 10, 2016. Figure 13-1 shows a plot of the recovery versus head grade for gold and Figure 13-2 shows a similar plot for silver.

**FIGURE 13-1 GOLD RECOVERY AS A FUNCTION OF GOLD HEAD GRADE**



**FIGURE 13-2 SILVER RECOVERY AS A FUNCTION OF SILVER HEAD GRADE**



These graphs demonstrate that there does not appear to be a direct correlation between gold or silver head grade and recovery and the recovery estimates have generally been higher than the actual gold and silver recoveries. This is particularly true for silver. Table 13-2 provides



the relevant statistical data for gold and silver over the December 2014 through February 10, 2016 time period.

**TABLE 13-2 SUMMARY OF METALLURGICAL OPERATING DATA -  
DECEMBER 2014 TO FEBRUARY 2016  
Austral Gold Limited – Casposo Mine**

	<b>Au</b>	<b>Ag</b>
Head Grade, g/t		
Mean	2.74	255
Median	2.48	243
Standard Deviation	2.26	114
Minimum	0.56	31.0
Maximum	7.62	729
Recovery, %		
Mean	91.2	82.9
Median	91.4	83.5
Standard Deviation	2.26	5.00
Minimum	78.5	59.9
Maximum	97.9	97.3

The data suggests that a more reasonable estimate for recoveries would be 91% for gold and 83% for silver. The economic analysis in this report is based on these recent operating average numbers.

The data presented is based upon estimates from the daily production sheets. In actuality, using standard industry practices, Casposo reconciles the gold production at each month end by taking circuit inventories and adjusting the mill feed grades and the metal recoveries based on the amount of gold and silver poured in the refinery and the change in quantities in the inventories. RPA evaluated the actual versus estimated grades and recoveries for November 2015 through February 2016 and found that the weighted average estimated head grade was 2.59 g/t Au, and the reconciled head grade was 2.64 g/t Au. For silver, the estimated head grade from the daily production sheets was 192 g/t Ag and the reconciled weighted average grade was 197 g/t Ag. The differences are so small that the data shown in Table 13-2 is expected to be reliable.

RPA recommends that Casposo complete detailed analysis of all available data in order to determine a more reliable methodology for estimating metal recoveries using historical operating data in future life-of-mine plans and budgets. An accurate estimating methodology becomes more critical as the gold to silver ratio changes.

# 14 MINERAL RESOURCE ESTIMATE

## SUMMARY

For this report, RPA has reviewed and validated the Mineral Reserve and Mineral Resource estimates of the Casposo operations as received from Austral. Section 14 describes the validated models and estimates as found acceptable by RPA. RPA reviewed updated Mineral Resource estimates for Kamila (including Aztec, B Vein, Inca, and Mercado zones), Casposo Norte, and Julieta deposits.

In general, RPA found that values and compilations of gold grades were accurately recorded and calculated. Interpretation of the geology and three dimensional wireframes of the estimation domains are generally reasonable. RPA, however, notes that a minimum thickness was not applied to mineralized structures in the estimation of Mineral Resources – this issue was addressed in the mine designs used for estimating Mineral Reserves. As a result, Mineral Resources include a minor amount of very narrow mineralization, which is generally not converted to Mineral Reserves.

The Mineral Resource estimation methodology included:

- Statistical and variographical analysis of gold and silver values in the assay database.
- Modelling of geological and mineralized envelopes using Vulcan software.
- Construction of several block models using Vulcan software.
- Grade interpolation using Ordinary Kriging (OK) or Inverse Distance Squared or Cubed (ID<sup>2</sup> and ID<sup>3</sup>) methods.

A summary of the Mineral Resources for Casposo as of June 30, 2016, is shown in Table 14-1.

RPA is of the opinion that the Mineral Resource estimate is appropriate for the style of mineralization and that the resource model is reasonable and acceptable to support the Mineral Resource estimate.

RPA confirms that the Mineral Resources summarized in Table 14-1 comply with all disclosure requirements for Mineral Resources set out in NI 43-101. RPA is not aware of any

environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other factors that could materially affect the Mineral Resource estimate.

**TABLE 14-1 MINERAL RESOURCES AS OF JUNE 30, 2016**  
**Austral Gold Limited – Casposo Mine**

Classification	Deposit	Tonnes (000)	Grades			Contained Metal Ounces		
			Ag (g/t)	Au (g/t)	AuEq (g/t)	Ag (000)	Au (000)	AuEq (000)
Measured	Kamila	178	255	2.69	5.84	1,460	15.4	33.4
Indicated	Kamila	969	293	2.63	6.25	9,131	81.8	194.5
	Julieta	268	26	4.56	4.88	221	39.3	42.0
Sub-Total Indicated		1,237	235	3.04	5.94	9,352	121.1	236.6
<b>Total Measured + Indicated</b>		<b>1,415</b>	<b>238</b>	<b>3.00</b>	<b>5.94</b>	<b>10,811</b>	<b>136.5</b>	<b>270.0</b>
Inferred	Kamila	780	190	5.6	7.95	4,800	140	199.3
	Casposo Norte	115	25	3.0	3.31	92	11	12.1
	Julieta	190	24	4.0	4.30	146	25	26.8
<b>Total Inferred</b>		<b>1,090</b>	<b>140</b>	<b>5.0</b>	<b>6.73</b>	<b>5,040</b>	<b>176</b>	<b>238.2</b>

Notes:

1. CIM definitions were followed for Mineral Resources.
2. Mineral Resources are estimated using an average long-term silver price of US\$15 per ounce, and a gold price of US\$1,200 per ounce.
3. Mineral Resources are estimated at a cut-off grade of 2 g/t AuEq.
4. Gold equivalents (AuEq) are calculated using a factor of 1 g Au = 81 g Ag, based on metal prices, and metallurgical recoveries (92% for gold, 87% for silver).
5. A minimum wireframe width of 0.5 m was used.
6. Bulk density is 2.6 t/m<sup>3</sup>.
7. Mineral Resources are inclusive of Mineral Reserves.
8. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
9. Numbers may not add due to rounding.

Details of the Mineral Resource estimation for each area are described in the sections below.

## RESOURCE DATABASE

The Casposo Mine resource database used for developing the geological and mineralized envelope models was frozen on May 31, 2016, and contains 10,539 drill holes and channels totalling 9,297.85 m. Drill hole spacing on the mine generally ranges from 12.5 m by 12.5 m at Inca 1 and Inca 2 to 40 m by 40 m at Julieta. The resource databases were compiled by Austral and Troy from Datasheet drill and channel data at Aztec, B-vein, Casposo, Casposo

Norte, Inca, Julieta, and Mercado zones. Valid drill holes and channels relevant to the resource work were compiled to desurveyed Vulcan drill hole databases and then composited for Mineral Resource estimation.

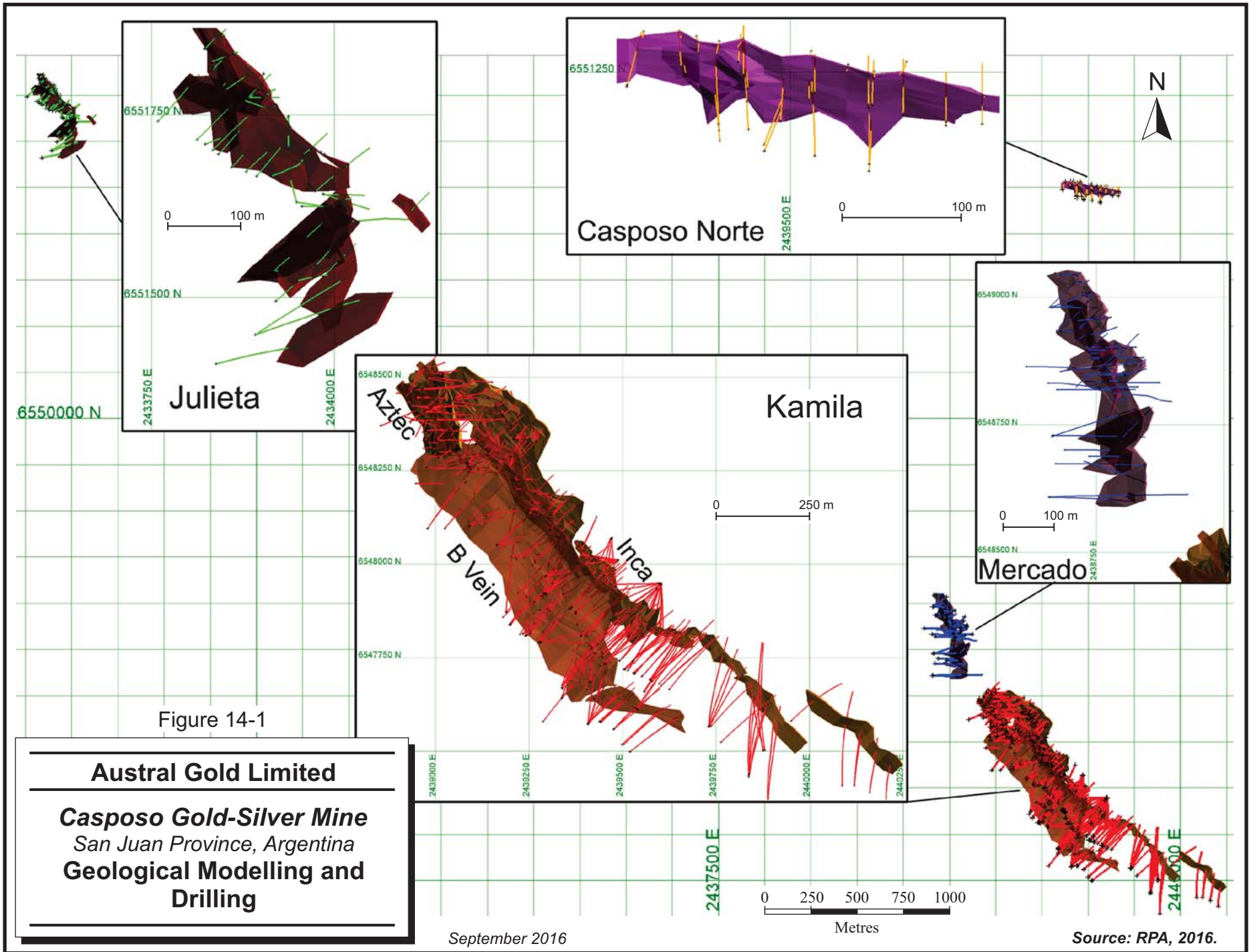
RPA compiled the Vulcan databases provided by Austral and performed validation routines within Maptek's Vulcan software. The drill hole traces were visually inspected and few bends or sudden direction changes were identified. Drill hole collars and assay samples were compared by RPA between the Datashed export and Vulcan databases. In RPA's opinion, the Vulcan resource databases are suitable for Mineral Resource estimation.

## **GEOLOGICAL MODELLING**

At present, Austral has not completed digital geological models for Casposo. RPA recommends that a geological model be created to facilitate more contextual understanding of vein mineralization and possible geological controls on grade distribution.

## **MINERALIZATION INTERPRETATION**

A total of 29 mineralization wireframes were constructed. Wireframes representing Aztec, B-vein, Casposo, Casposo Norte, Inca, Julieta, and Mercado were defined based on lithological, mineralogical, and alteration features logged in drill core. Isometric views of the mineralized bodies at Casposo are shown in Figure 14-1.



## DESCRIPTIVE STATISTICS

The descriptive statistics for assays inside Casposo mineralized domains are listed in Tables 14-2 and 14-3 for gold and silver, respectively.

**TABLE 14-2 GOLD ASSAY DESCRIPTIVE STATISTICS**  
**Austral Gold Limited – Casposo Mine**

Domain	Count	Minimum (g/t Au)	Maximum (g/t Au)	Mean (g/t Au)	SD	CV
Aztec	847	0.005	290.00	3.62	16.08	4.45
B-vein	195	0.000	55.10	4.99	8.52	1.71
B-vein 1	920	0.000	55.10	1.70	4.58	2.70
B-vein 2	21	0.056	9.44	1.75	2.81	1.61
B-vein 3	105	0.010	60.20	4.12	8.60	2.09
B-vein 4	33	0.070	11.00	2.64	2.96	1.12
B-vein 5	65	0.005	4.91	0.35	0.75	2.17
Casposo Norte	135	0.000	35.68	2.71	3.52	1.30
Inca 0	316	0.005	96.20	1.83	6.74	3.68
Inca 1	3,639	0.005	536.90	6.87	20.82	3.03
Inca 2a	977	0.000	63.10	3.33	7.14	2.14
Inca 2b	155	0.005	102.90	6.04	11.45	1.90
Inca 2c	39	0.005	38.39	5.58	9.35	1.68
Inca 2d	35	0.030	102.80	6.91	20.45	2.96
Inca 2e	47	0.010	26.16	1.30	3.65	2.82
Inca 3	17	0.490	146.00	24.91	47.12	1.89
Julieta	281	0.000	31.05	4.30	4.62	1.08
Mercado	391	0.000	36.90	1.97	4.24	2.16
	8,218	0.00	536.88	4.65	15.42	3.31

Note. B-Vein 4 was not included in the Mineral Resource estimate due to the low grade of this vein.

**TABLE 14-3 SILVER ASSAY DESCRIPTIVE STATISTICS**  
**Austral Gold Limited – Casposo Mine**

Domain	Count	Minimum (g/t Au)	Maximum (g/t Au)	Mean (g/t Au)	SD	CV
Aztec	847	0.60	6,526.00	266.40	649.70	2.44
B-vein	195	0.00	1,933.00	158.20	249.50	1.58
B-vein 1	920	0.00	5,223.00	108.60	336.20	3.09
B-vein 2	21	3.20	124.00	31.44	29.12	0.93
B-vein 3	105	0.40	1,700.00	63.33	193.40	3.05
B-vein 4	33	1.00	77.00	23.27	23.76	1.02
B-vein 5	65	1.00	2,433.00	112.10	325.90	2.91
Casposo Norte	135	0.00	190.00	24.14	34.78	1.44
Inca 0	316	0.70	3,267.00	212.40	364.20	1.72
Inca 1	3,639	0.01	33,842.00	696.10	1,500.00	2.15
Inca 2a	977	0.00	12,094.00	729.50	1,463.00	2.00
Inca 2b	155	1.00	34,360.00	1,112.00	3,633.00	3.27
Inca 2c	39	1.00	5,541.00	389.60	992.30	2.55
Inca 2d	35	1.00	328.00	31.34	71.40	2.28
Inca 2e	47	1.00	263.10	12.28	30.14	2.46
Inca 3	17	6.77	1,587.00	283.70	532.90	1.88
Julieta	281	0.00	204.00	22.89	27.27	1.19
Mercado	391	0.00	2,787.00	116.40	256.10	2.20
	8,218	0.00	34,360.00	456.20	1,247.00	2.73

Note. B-Vein 4 was not included in the Mineral Resource estimate due to the low grade of this vein.

## GRADE CAPPING

Troy and Austral chose to cap composites as opposed to capping raw drill hole assays. RPA recommends capping the raw drill hole data before compositing the information, as this will ensure that high grades are not averaged into the assay data, where these may have undue influence on adjacent low grade composites. Summaries of descriptive statistics for capped gold and silver composites are outlined in Tables 14-4 and 14-5, respectively.

**TABLE 14-4 GOLD COMPOSITE CAPPING**  
**Austral Gold Limited – Casposo Mine**

<b>Zone</b>	<b>Estimation Run</b>	<b>Upper Cut Value (g/t Au)</b>
Aztec	auok1, auok2	24.6
Aztec	auok3	13.4
B-vein	all	37
B-vein 1-5 (Troy)	all	40
Casposo Norte	all	16.4
Inca 0	all	8.8
Inca 2a	all	17
Inca 2b	all	48
Inca 3	1auid1, 2auid1	73.4
Inca 3	1auid2, 2auid2	16
Julieta	all	26
Mercado	all	22.5

**TABLE 14-5 SILVER COMPOSITE CAPPING**  
**Austral Gold Limited – Casposo Mine**

<b>Zone</b>	<b>Estimation Run</b>	<b>Upper Cut Value (g/t Ag)</b>
Aztec	agok1, agok2	2620
Aztec	agok3	1428
B-vein	all	1200
B-vein 1-5 (Troy)	all	700
Casposo Norte	all	160
Inca 1	all	4900
Inca 2a	all	2570
Inca 2b	all	6300
Inca 3	1agid1, 2agid1	350
Inca 3	1agid2, 2agid2	200
Julieta	all	160
Mercado	all	1087

## COMPOSITES

Run-length composites at one-metre intervals across the width of the domains were generated inside the vein domain wireframes, flagged by mineralization domain, producing twelve composite files from two Vulcan assay databases. Summary statistics for gold and silver composites are presented in Tables 14-6 and 14-7, respectively. Unsampled intervals were not assigned zero or below detection limit values. RPA suggests that unsampled intervals be assigned zero or near-zero values to avoid spreading grade over intervals that were likely not sampled due to a lack of mineralization.



**TABLE 14-6 CAPPED GOLD COMPOSITE DESCRIPTIVE STATISTICS**  
**Austral Gold Limited – Casposo Mine**

Domain	Count	Min	Max	Capped Max	Mean	Capped Mean	SD	Capped SD	CV	Capped CV	N0. Capped
Aztec	823	0.005	205.89	24.60	3.65	2.51	13.39	4.57	3.67	1.82	16
B-vein	1878	0.001	152.99	37.00	5.89	5.56	10.02	7.50	1.70	1.35	23
B-vein 1	909	0.001	55.10	40.00	1.43	1.42	4.04	3.88	2.82	2.74	2
B-vein 2	27	0.044	2.86	2.86	1.00	1.00	0.85	0.85	0.85	0.85	0
B-vein 3	123	0.001	60.20	40.00	3.63	3.44	7.31	5.98	2.02	1.74	1
B-vein 4	35	0.114	10.60	10.60	2.76	2.76	2.84	2.84	1.03	1.03	0
B-vein 5	76	0.001	3.15	3.15	0.20	0.21	0.51	0.51	2.49	2.46	0
Casposo Norte	108	0.001	17.99	16.40	2.71	2.69	2.75	2.66	1.02	0.99	1
Inca 0	303	0.001	67.36	8.80	1.94	1.45	6.03	1.91	3.11	1.32	5
Inca 1	4293	0.001	473.35	57.40	5.52	4.59	18.77	9.78	3.40	2.13	58
Inca 2a	931	0.001	63.10	17.00	3.01	2.58	6.22	4.17	2.06	1.61	37
Inca 2b	144	0.005	53.77	48.00	5.59	5.51	9.41	9.02	1.68	1.64	2
Inca 2c	38	0.001	24.10	3.49	4.75	1.61	7.47	1.43	1.57	0.89	12
Inca 2d	33	0.006	85.50	3.49	6.23	1.50	16.31	1.47	2.62	0.98	10
Inca 2e	52	0.001	17.59	3.49	2.02	1.11	3.68	1.20	1.82	1.09	9
Inca 3	15	0.820	146.02	73.40	23.39	20.52	34.39	25.20	1.47	1.23	2
Julieta	287	0.005	29.20	26.00	4.22	4.21	4.23	4.15	1.00	0.99	3
Mercado	464	0.001	36.90	22.50	2.07	1.99	4.15	3.65	2.01	1.83	5
	<b>10,539</b>	<b>0.001</b>	<b>473.35</b>	<b>73.40</b>	<b>4.47</b>	<b>3.85</b>	<b>13.80</b>	<b>7.71</b>	<b>3.09</b>	<b>2.00</b>	<b>186</b>

Note. B-Vein 4 was not included in the Mineral Resource estimate due to the low grade of this vein.

**TABLE 14-7 CAPPED SILVER COMPOSITE DESCRIPTIVE STATISTICS**  
**Austral Gold Limited – Casposo Mine**

Domain	Count	Min	Max	Capped Max	Mean	Capped Mean	SD	Capped SD	CV	Capped CV	No. Capped
Aztec	823	0.607	6511.78	2,620.00	266.19	243.20	601.30	438.60	2.26	1.80	10
B-vein	1,878	0.001	1,919.18	1,200.00	137.16	135.60	200.45	189.80	1.46	1.40	11
B-vein 1	909	0.001	5,222.82	700.00	88.58	72.09	265.73	139.00	3.00	1.93	19
B-vein 2	27	1.283	47.02	47.02	21.00	21.00	12.65	12.65	0.60	0.60	0
B-vein 3	123	0.001	1,700.00	700.00	59.56	50.24	173.78	93.06	2.92	1.85	1
B-vein 4	35	1.000	77.00	77.00	24.63	24.63	21.84	21.84	0.89	0.89	0
B-vein 5	76	0.001	1,556.36	700.00	64.33	51.31	215.24	135.50	3.35	2.64	2
Casposo Norte	108	0.001	188.49	160.00	24.31	24.00	31.47	29.92	1.29	1.25	1
Inca 0	303	0.001	2,060.00	1,950.00	227.51	227.00	343.36	340.70	1.51	1.50	2
Inca 1	4,293	0.001	33,841.99	4,900.00	532.72	489.20	1,224.76	866.60	2.30	1.77	57
Inca 2a	931	0.001	10,390.86	2,570.00	657.63	526.10	1,280.04	710.40	1.95	1.35	47
Inca 2b	144	1.000	34,360.26	6,300.00	1,020.88	780.70	3,117.32	1,285.00	3.05	1.65	4
Inca 2c	38	0.001	4,380.69	444.00	331.81	104.90	827.45	167.40	2.49	1.60	6
Inca 2d	33	1.000	277.73	277.70	28.50	28.50	55.10	55.10	1.93	1.93	0
Inca 2e	52	0.001	192.85	192.90	15.61	15.61	34.01	34.01	2.18	2.18	0
Inca 3	15	6.770	1,586.57	350.00	262.20	144.60	381.44	157.00	1.45	1.09	5
Julieta	287	0.500	204.00	160.00	22.57	22.42	25.84	24.71	1.14	1.10	3
Mercado	464	0.001	2,787.00	1,087.00	121.99	117.40	239.90	207.20	1.97	1.77	4
	<b>10,539</b>	<b>0.001</b>	<b>34,360.26</b>	<b>6,300.00</b>	<b>356.00</b>	<b>319.00</b>	<b>990.73</b>	<b>662.20</b>	<b>2.78</b>	<b>2.08</b>	<b>172</b>

Note. B-Vein 4 was not included in the Mineral Resource estimate due to the low grade of this vein.

Composite length distribution is shown in Figure 14-2. The average composite length is 0.88 m. Generally, the intercepts are larger than 0.75 m. RPA identified 23 gold composites and 25 silver composites shorter than 0.1 m having a higher grade than the average grade of all the composites. Industry accepted practice is to remove composites with very short lengths, especially when the average grade of those composites is different from the composite average grade. However, the overall impact on the resource estimates is minimal.

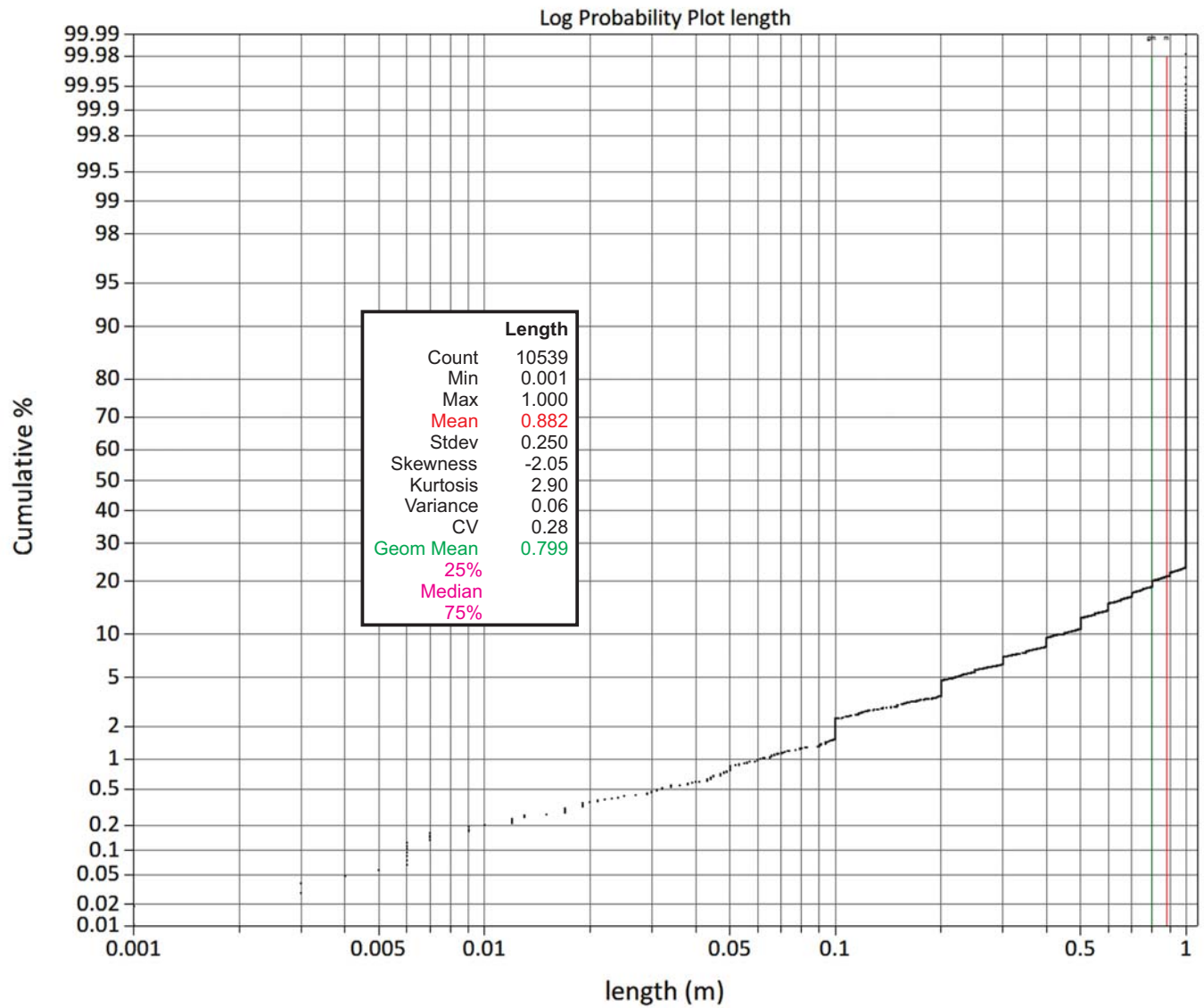


Figure 14-2

**Austral Gold Limited**

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**Casposo Gold-Silver Mine**  
 San Juan Province, Argentina  
**Composite Length**

## DENSITY

A density of 2.6 g/cm<sup>3</sup> was assigned for all block models, as supported by the evidence presented in Section 11. RPA is of the opinion that the density is acceptable for use in Mineral Resource estimation, as the assigned average is comparable to other similar deposits. RPA recommends taking additional density samples specific to individual zones in order to identify local variations and to confirm and support future resource estimates. RPA also recommends developing a standard operating procedure for in-house density determinations and implementing some outside checks on the density determinations to support and confirm in-house results.

## VARIOGRAPHY

Variogram parameters for OK at Aztec, Inca 0, Inca 1, Inca 2a, and Mercado are presented in Table 14-8.

**TABLE 14-8 VARIOGRAM PARAMETERS**  
**Austral Gold Limited – Casposo Mine**

Zone	Elem	Nugget	Num Structure	Model Type	Sill Differential	Bearing (°)	Plunge (°)	Dip (°)	Major (m)	Semi-Major (m)	Minor (m)
Aztec	Au	0.494	1	SPHERICAL	0.5	335	-47	11	15	4.04	2.8
Inca 1	Au	0.688	1	SPHERICAL	0.342	196	-4	-48	113	108	31.7
Inca 2a	Au	0.6	1	SPHERICAL	0.4	68	0	0	41.7	25	25
Inca 0	Au	0.6	1	SPHERICAL	0.4	100	-51	76	59.57	41.73	25.98
Inca 0	Au	0.1	2	SPHERICAL	0.4	100	-51	76	59.57	41.73	25.98
Inca 0	Au	0.1	3	SPHERICAL	0.4	100	-51	76	59.57	41.73	25.98
Mercado	Au	0.13	1	SPHERICAL	0.87	150	0	0	61.24	21.6	21.6
Aztec	Ag	0.274	1	SPHERICAL	0.711	265	-10	-45	30	22	6
Inca 1	Ag	0.6	1	SPHERICAL	0.4	103	-64	41	176.6	91.02	29.01
Inca 2a	Ag	0.4	1	SPHERICAL	0.6	74	0	0	54	19.7	19.7
Inca 0	Ag	0.75	1	SPHERICAL	0.25	169	-44	35	69	27.3	21.7
Inca 0	Ag	0.1	2	SPHERICAL	0.25	169	-44	35	69	27.3	21.7
Inca 0	Ag	0.1	3	SPHERICAL	0.25	169	-44	35	69	27.3	21.7
Mercado	Ag	0.617	1	SPHERICAL	0.383	111	0	0	239	13.5	13.5

## BLOCK MODEL PARAMETERS

A summary of the block models constructed for the updated Mineral Resource estimates is shown in Table 14-9. Block model origins, rotations, and dimensions are outlined in Table 14-10.

**TABLE 14-9 BLOCK MODEL PARAMETERS**  
Austral Gold Limited – Casposo Mine

Zone	Block Model	Last Model By	Method for Gold	Method for Silver
Aztec	Aztec_CP_sub.bmf	Austral	OK	OK
B Vein	B-Vein_160427_SUB.bmf	Austral	ID <sup>2</sup>	ID <sup>2</sup>
B-Vein 1	Casposo_28042015.bmf	Troy	ID <sup>2</sup>	ID <sup>2</sup>
B-Vein 2	Casposo_28042015.bmf	Troy	ID <sup>2</sup>	ID <sup>2</sup>
B-Vein 3	Casposo_28042015.bmf	Troy	ID <sup>2</sup>	ID <sup>2</sup>
B-Vein 5	Casposo_28042015.bmf	Troy	ID <sup>2</sup>	ID <sup>2</sup>
Casposo Norte	CaspNorte_13052016.bmf	Austral	ID <sup>2</sup>	ID <sup>2</sup>
Inca 0	Inca0_06072016_SUB.bmf	Austral	OK	OK
Inca 1	Inca1_04072016_sub.bmf	Austral	OK	OK
Inca 2a	Inca2a_14062016_sub.bmf	Austral	OK	OK
Inca 2b	Inca2b_15062016_sub.bmf	Austral	ID <sup>2</sup>	ID <sup>2</sup>
Inca 2c	Casposo_28042015.bmf	Troy	ID <sup>3</sup>	ID <sup>3</sup>
Inca 2d	Casposo_28042015.bmf	Troy	ID <sup>3</sup>	ID <sup>3</sup>
Inca 2e	Casposo_28042015.bmf	Troy	ID <sup>3</sup>	ID <sup>3</sup>
Inca 3	Inca3_06072016_SUB.bmf	Austral	ID <sup>2</sup>	ID <sup>2</sup>
Julieta	Julieta_12052016.bmf	Austral	ID <sup>2</sup>	ID <sup>2</sup>
Mercado	Mercado_14052016.bmf	Austral	OK	OK

**TABLE 14-10 BLOCK MODEL PARAMETERS**  
Austral Gold Limited – Casposo Mine

	Origin (m)			Rotation (°)			Model Dimensions			Parent (m)	SubBlock (m)
	x	y	z	x about z	x about y	y about z	x	y	z	XxYxZ	XxYxZ
Aztec	2438850	6548500	2250	160	0	0	300	250	220	2x2x2	0.5x0.5x0.5
B-vein	2438900	6548300	2290	140	0	0	250	250	220	2x2x2	0.5x0.5x0.5
Casposo Norte	2439350	6551150	2380	90	0	0	350	150	210	5x5x5	1x1x1
Inca 0	2438850	6548500	2200	130	0	0	300	200	220	2x2x2	0.5x0.5x0.5
Julieta	2433900	6551300	3000	50	0	0	400	550	500	5x5x5	1x1x1
Mercado	2438500	6548500	2160	90	0	0	500	600	370	5x5x5	1x1x1
Casposo (Troy)*	2438740	6547240	1500	90	0	0	1600	1400	1100	10x10x10	1x1x1

\* Blocks used from Inca 2c, Inca 2d, Inca 2e, and B-vein 1 through 5.

## GRADE ESTIMATION

Gold and silver grades were estimated for each of the Austral-generated block models using the search parameters shown in Table 14-11. All searches used a maximum of 12 samples per estimate. Initial search passes often limited block grade estimation to a maximum of three samples per drill hole or channel. Parameters for Troy-generated blocks (B-Vein 1-5, Inca 2c, 2d, and 2e) are not shown. RPA reviewed the Troy grade estimation search parameters and found them reasonable.

**TABLE 14-11 GRADE ESTIMATION SEARCH PARAMETERS**  
**Austral Gold Limited – Casposo Mine**

Zone	Estimation Run	Min No. Samples	Max Samples Per Hole	Bearing (z)	Plunge (y)	Dip (x)	Major Search (m)	Semi - Major Search (m)	Minor Search (m)
Aztec	agok1	4	3	155	70	-55E	25.0	12.0	6.0
Aztec	agok2	4	3	155	70	-55E	50.0	25.0	12.5
Aztec	agok3	2		155	70	-55E	100.0	50.0	25.0
Aztec	auok1	4	3	155	70	-55E	25.0	12.0	6.0
Aztec	auok2	4	3	155	70	-55E	50.0	25.0	12.5
Aztec	auok3	2		155	70	-55E	100.0	50.0	25.0
B-vein	ag1	4	3	140	0	-60E	25.0	12.5	6.3
B-vein	ag2	4	3	140	0	-60E	50.0	25.0	12.5
B-vein	ag3	2		140	0	-60E	50.0	25.0	12.5
B-vein	au1	4	3	140	0	-60E	25.0	12.5	6.3
B-vein	au2	4	3	140	0	-60E	50.0	25.0	12.5
B-vein	au3	2		140	0	-60E	50.0	25.0	12.5
Casposo Norte	ag1	4	3	100	0	-65E	50.0	25.0	12.5
Casposo Norte	ag2	4	3	100	0	-65E	75.0	37.5	15.0
Casposo Norte	ag3	2		100	0	-65E	100.0	50.0	20.0
Casposo Norte	au1	4	3	100	0	-65E	50.0	25.0	12.5
Casposo Norte	au2	4	3	100	0	-65E	75.0	37.5	15.0
Casposo Norte	au3	2		100	0	-65E	100.0	50.0	20.0
Inca 0	1agok1	4	3	145	0	-60W	25.0	12.0	6.0
Inca 0	1agok2	4		145	0	-60W	50.0	25.0	12.0
Inca 0	1agok3	2		145	0	-60W	100.0	50.0	16.0
Inca 0	1auok1	4	3	145	0	-60W	25.0	12.0	6.0
Inca 0	1auok2	4		145	0	-60W	50.0	25.0	12.0
Inca 0	1auok3	2		145	0	-60W	100.0	50.0	15.0
Inca 0	2agok1	4		145	0	-60W	25.0	12.0	6.0
Inca 0	2agok2	4		145	0	-60W	50.0	25.0	12.0
Inca 0	2agok3	2		145	0	-60W	100.0	50.0	16.0
Inca 0	2auok1	4		145	0	-60W	25.0	12.0	6.0
Inca 0	2auok2	4		145	0	-60W	50.0	25.0	12.0

Zone	Estimation Run	Min No. Samples	Max Samples Per Hole	Bearing (z)	Plunge (y)	Dip (x)	Major Search (m)	Semi - Major Search (m)	Minor Search (m)
Inca 0	2auok3	2		145	0	-60W	100.0	50.0	15.0
Inca 0	3agok1	4	3	145	0	-60W	25.0	12.0	6.0
Inca 0	3agok2	4		145	0	-60W	50.0	25.0	12.0
Inca 0	3agok3	2		145	0	-60W	100.0	50.0	16.0
Inca 0	3auok1	4	3	145	0	-60W	25.0	12.0	6.0
Inca 0	3auok2	4		145	0	-60W	50.0	25.0	12.0
Inca 0	3auok3	2		145	0	-60W	100.0	50.0	15.0
Inca 1	agok1	4	3	145	0	-62E	50.0	50.0	12.0
Inca 1	agok2	4		145	0	-62E	75.0	75.0	12.0
Inca 1	agok3	2		145	0	-62E	100.0	100.0	15.0
Inca 1	auok1	4	3	145	0	-62E	50.0	50.0	12.0
Inca 1	auok2	4		145	0	-62E	75.0	75.0	12.0
Inca 1	auok3	2		145	0	-62E	100.0	100.0	15.0
Inca 2a	agok1	4	3	140	0	-65E	25.0	12.5	7.3
Inca 2a	agok2	4	3	140	0	-65E	50.0	25.0	12.5
Inca 2a	agok3	2		140	0	-65E	100.0	60.0	30.0
Inca 2a	auok1	4	3	140	0	-65E	25.0	12.5	7.3
Inca 2a	auok2	4	3	140	0	-65E	50.0	25.0	12.5
Inca 2a	auok3	2		140	0	-65E	100.0	60.0	30.0
Inca 2b	agid1	4	3	105	0	-80W	25.0	12.5	6.3
Inca 2b	agid2	4	3	105	0	-80W	50.0	25.0	12.5
Inca 2b	agid3	2		105	0	-80W	100.0	50.0	25.0
Inca 2b	auid1	4	3	105	0	-80W	25.0	12.5	6.3
Inca 2b	auid2	4	3	105	0	-80W	50.0	25.0	12.5
Inca 2b	auid3	2		105	0	-80W	100.0	50.0	25.0
Inca 3	1agid1	2		130	0	-70W	50.0	50.0	15.0
Inca 3	1agid2	1		130	0	-70W	100.0	100.0	25.0
Inca 3	1auid1	2		130	0	-70W	50.0	50.0	15.0
Inca 3	1auid2	1		130	0	-70W	100.0	100.0	25.0
Inca 3	2agid1	2		130	0	-70W	50.0	50.0	15.0
Inca 3	2agid2	1		130	0	-70W	100.0	100.0	25.0
Inca 3	2auid1	2		130	0	-70W	50.0	50.0	15.0
Inca 3	2auid2	1		130	0	-70W	100.0	100.0	25.0
Julieta	ag1_1	4	3	140	0	-65E	50.0	25.0	12.5
Julieta	ag1_2	4	3	180	0	-60E	50.0	25.0	12.5
Julieta	ag2_1	4	3	140	0	-65E	75.0	37.5	15.0
Julieta	ag2_2	4	3	180	0	-60E	75.0	37.5	15.0
Julieta	ag3_1	2	3	140	0	-65E	100.0	50.0	20.0
Julieta	ag3_2	2		180	0	-60E	100.0	50.0	20.0
Julieta	au1_1	4	3	140	0	-65E	50.0	25.0	12.5
Julieta	au1_2	4	3	180	0	-60E	50.0	25.0	12.5
Julieta	au2_1	4	3	140	0	-65E	75.0	37.5	15.0
Julieta	au2_2	4	3	180	0	-60E	75.0	37.5	15.0
Julieta	au2_3	2		180	0	-60E	100.0	50.0	20.0

Zone	Estimation Run	Min No. Samples	Max Samples Per Hole	Bearing (z)	Plunge (y)	Dip (x)	Major Search (m)	Semi - Major Search (m)	Minor Search (m)
Julieta	au3_1	2		140	0	-65E	100.0	50.0	20.0
Mercado	agok1	4	3	150	0	-50E	50.0	50.0	10.0
Mercado	agok2	4	3	150	0	-50E	75.0	75.0	12.5
Mercado	agok3	2		150	0	-50E	100.0	100.0	15.0
Mercado	auok1	4	3	150	0	-50E	50.0	50.0	10.0
Mercado	auok2	4	3	150	0	-50E	75.0	75.0	12.5
Mercado	auok3	2		150	0	-50E	100.0	100.0	15.0

## RESOURCE CLASSIFICATION

Definitions for resource categories used in this report are consistent with those defined by CIM (2014) and adopted by NI 43-101. In the CIM classification, a Mineral Resource is defined as “a concentration or occurrence of solid material of economic interest in or on the Earth’s crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction”. Mineral Resources are classified into Measured, Indicated, and Inferred categories. Casposo Mineral Resource classification complies with CIM (2014) definitions and standards.

In general, Mineral Resource classification was based on the number of drill holes, number of samples, and the search distance used to estimate a block. This data was assigned to blocks in separate grade estimation passes corresponding to the search parameters shown in Table 14-11. Numerical estimation passes for classification were then visually assessed in the planes of the vein structures. Classification boundaries were modified based on proximities of pierce points in the plane of each vein in conjunction with the block classification estimates. Casposo’s mineralized zones tended to have core areas with sufficient data density to classify blocks as Measured Resource. Outboard “rinds” of material were then classified as Indicated Resource and Inferred Resource in order of decreasing certainty. Blocks in the model which fell outside the outer Inferred Resource material were not classified and have not been reported.

Austral’s Mineral Resource classification was primarily established via a Vulcan block calculation script which stipulated that Measured Resource blocks were based on a minimum of four sample composites with an average estimation distance of less than 15 m, and must include channel samples in the block estimate. Indicated Resource also required four sample composites, however, the average estimation distance was increased to less than 30 m.



Inferred Resources were based on grades inside manually constructed grade shells inside the vein solids.

For the Troy-generated Kamila model, the Mineral Resource classification was based on the number of composites used in the grade estimation. A minimum of three composites was used for block estimation, with a maximum of five composites allowed from each drill hole. If the estimation used less than six composites, then the block was assigned to Inferred Resource. Indicated Resources required block grade estimates derived from at least six composites, from at least two drill holes. RPA reviewed the Troy classification and adjusted Indicated Resource material based on the same criteria as the Austral models.

## **CUT-OFF GRADE**

Cut-off grade value used for underground resource reporting was 2.0 g/t AuEq. This value was chosen based on the grade distribution in the deposit.

## **BLOCK MODEL VALIDATION**

RPA performed drift analysis along northing, easting, and elevation directions for each set of composite and block model data. An example swath plot is shown for Aztec in Figure 14-3. RPA notes that the block model estimate is concordant with the composite data.

RPA also visually examined estimated block grades against composites and original drill data by stepping through plan and section views. RPA observed that the compared values were in general agreement. An example slice is shown for Aztec in Figure 14-4.

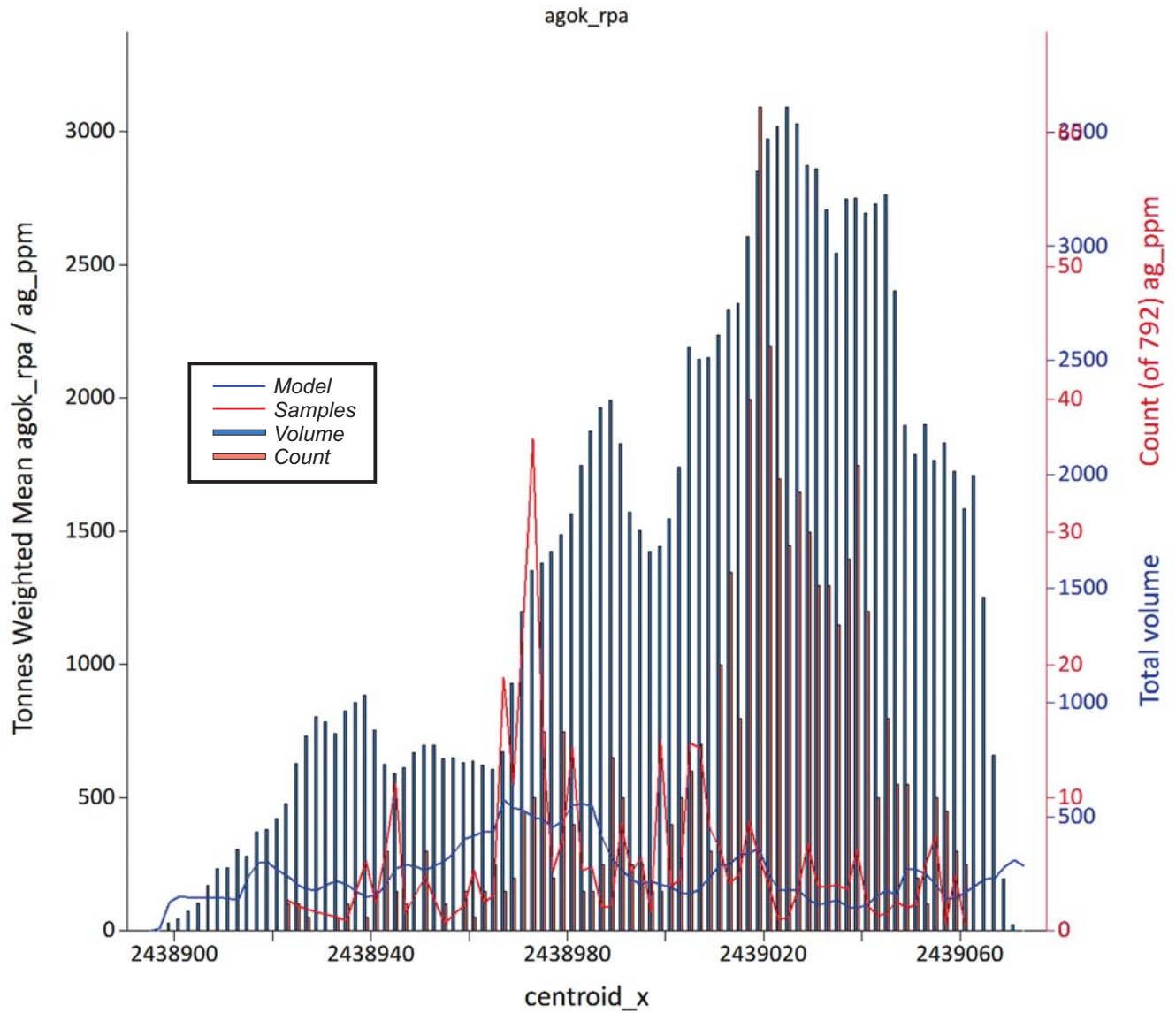


Figure 14-3

**Austral Gold Limited**  
**Casposo Gold-Silver Mine**  
 San Juan Province, Argentina  
**Swath Plot in X Direction**  
**Block vs Composite Grades**  
**(Aztec)**

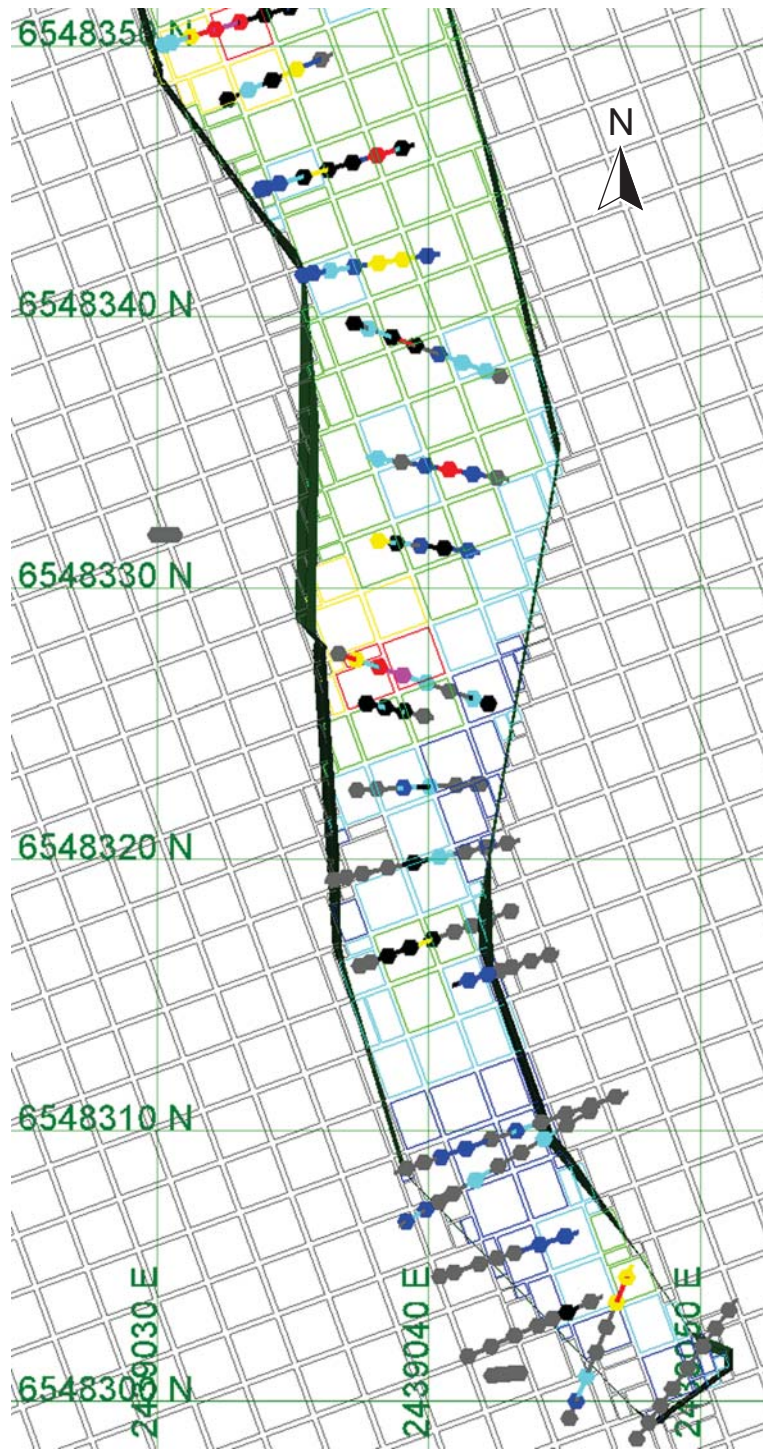
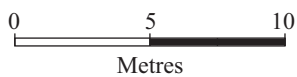


Figure 14-4



**Austral Gold Limited**  
**Casposo Gold-Silver Mine**  
 San Juan Province, Argentina  
**Drill Assays Compared to**  
**Composites and Block Grades**  
**(Aztec)**

## MINERAL RESOURCE REPORTING

Table 14-12 shows the classified Mineral Resources by vein.

**TABLE 14-12 MINERAL RESOURCES AS OF JUNE 30, 2016**  
**Austral Gold Limited – Casposo Mine**

Deposit	Zone	Tonnes (000)	Grades			Contained Metal Ounces		
			Ag (g/t)	Au (g/t)	AuEq (g/t)	Ag (000)	Au (000)	AuEq (000)
<b>Measured</b>								
Kamila	Aztec	26.7	300	2.58	6.28	261	2.2	5.4
	B-Vein	9.8	78	2.61	3.57	25	0.8	1.1
	Inca 0	4.6	209	1.60	4.18	31	0.2	0.6
	Inca 1	37.0	498	5.22	11.37	593	6.2	13.5
	Inca 2A	10.9	565	3.21	10.19	199	1.1	3.6
	Stockpiles	88.5	124	1.68	3.21	352	4.8	9.1
Sub-total Measured		178.0	255	2.69	5.84	1,460	15.4	33.4
<b>Indicated</b>								
Kamila	Aztec	82.8	285	2.29	5.81	758	6.1	15.5
	B Vein	11.7	90	1.45	2.56	34	0.5	0.9
	B-Vein 1	348.9	196	2.73	5.15	2,200	30.7	57.9
	B-Vein 3	21.6	39	3.96	4.44	27	2.8	3.1
	B-Vein 5	9.1	231	0.87	3.72	67	0.3	1.1
	Inca 0	50.5	309	1.30	5.11	502	2.1	8.3
	Inca 1	109.7	251	2.55	5.65	885	9.0	19.9
	Inca 2A	81.3	477	1.83	7.72	1,248	4.8	20.2
	Inca 2B	71.8	1,041	4.70	17.55	2,402	10.8	40.5
	Inca 2D	12.0	44	10.6	11.14	17	4.1	4.3
	Inca 2E	26.1	32	3.79	4.19	26	3.2	3.5
	Mercado	143.9	208	1.61	4.18	963	7.5	19.4
Sub-total Kamila		969.0	293	2.63	6.25	9,131	81.8	194.5
Julieta	-	268.1	26	39.3	39.62	221	39.3	42.0
Sub-total Indicated		1,237	235	3.04	5.94	9,352	121.1	236.6
<b>Measured + Indicated</b>		<b>1,415</b>	<b>238</b>	<b>3.00</b>	<b>5.94</b>	<b>10,811</b>	<b>136.5</b>	<b>270.0</b>
<b>Inferred</b>								
Kamila	Aztec	67	280	1.7	5.16	610	3.7	11.2
	B Vein	26	250	2.3	5.39	200	1.9	4.4
	B-Vein 1	67	140	1.7	3.43	300	3.6	7.3
	B-Vein 3	9.2	20	2.9	3.15	10	0.9	1.0
	B-Vein 5	24	210	0.7	3.29	160	0.5	2.5
	Inca 0	30	260	1.3	4.51	260	1.3	4.5
	Inca 1	15	540	6.4	13.07	260	3.1	6.3
	Inca 2A	17	230	1.1	3.94	130	0.6	2.2
	Inca 2B	48	470	7.0	12.80	720	11	19.9
	Inca 2C	49	130	3.6	5.20	210	5.7	8.3

Deposit	Zone	Tonnes (000)	Grades			Contained Metal Ounces		
			Ag (g/t)	Au (g/t)	AuEq (g/t)	Ag (000)	Au (000)	AuEq (000)
	Inca 2D	35	30	6.8	7.17	33	7.7	8.1
	Inca 2E	45	26	3.1	3.42	38	4.5	5.0
	Inca 3	110	150	18	19.85	540	65	71.7
	Mercado	240	170	4.1	6.20	1,340	31	47.5
	Sub-total Kamila	780	190	5.6	7.95	4,800	140	199.3
Casposo Norte	-	120	25	11	11.31	92	11	12.1
Julieta	-	190	24	25	25.30	146	25	26.8
	<b>Inferred</b>	<b>1,090</b>	<b>140</b>	<b>5.0</b>	<b>6.73</b>	<b>5,040</b>	<b>176</b>	<b>238.2</b>

Notes:

1. CIM definitions were followed for Mineral Resources.
2. Mineral Resources are estimated using an average long-term silver price of US\$15 per ounce, and a gold price of US\$1,200 per ounce.
3. Mineral Resources are estimated at a cut-off grade of 2 g/t AuEq.
4. Gold equivalents (AuEq) are calculated using a factor of 1 g Au = 81 g Ag, based on metal prices, and metallurgical recoveries (92% for gold, 87% for silver).
5. A minimum wireframe width of 0.5 m was used.
6. Bulk density is 2.6 t/m<sup>3</sup>.
7. Mineral Resources are inclusive of Mineral Reserves.
8. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
9. Numbers may not add due to rounding.

RPA is not aware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant issues that would materially affect the Mineral Resource estimate.

## 15 MINERAL RESERVE ESTIMATE

The Casposo Mine Mineral Reserves as of June 30, 2016 are summarized in Table 15-1. The Mineral Reserves were estimated based on stope design wireframes applied against the Mineral Resource block models for each of the deposits. Planned and unplanned dilution are included in the stope shapes which have been designed for a longitudinal longhole retreat mining method. Reserves in stockpile are based on site operating data.

**TABLE 15-1 SUMMARY OF MINERAL RESERVES AS OF JUNE 30, 2016**  
**Austral Gold Limited – Casposo Mine**

Category	Deposit	Tonnage (000 t)	Grades			Contained Metal Ounces		
			Ag (g/t)	Au (g/t)	AuEq (g/t)	Ag (000)	Au (000)	AuEq (000)
<b>Kamila</b>								
Proven	Aztec	7,472	366	2.65	7.17	88	0.6	1.7
Probable	Aztec	64,289	218	1.73	4.43	451	3.6	9.1
<b>Total</b>	<b>Aztec</b>	<b>71,761</b>	<b>234</b>	<b>1.83</b>	<b>4.71</b>	<b>539</b>	<b>4.2</b>	<b>10.9</b>
Proven	B Vein	-	-	-	-	-	-	-
Probable	B Vein	3,318	67	1.04	1.86	7	0.1	0.2
<b>Total</b>	<b>B Vein</b>	<b>3,318</b>	<b>67</b>	<b>1.04</b>	<b>1.86</b>	<b>7</b>	<b>0.1</b>	<b>0.2</b>
Proven	B Vein 1	-	-	-	-	-	-	-
Probable	B Vein 1	316,615	158	2.21	4.16	1,608	22.5	42.3
<b>Total</b>	<b>B Vein 1</b>	<b>316,615</b>	<b>158</b>	<b>2.21</b>	<b>4.16</b>	<b>1,608</b>	<b>22.5</b>	<b>42.3</b>
Proven	Inca 2A	9,046	409	2.41	7.47	119	0.7	2.2
Probable	Inca 2A	84,561	354	1.27	5.65	963	3.5	15.3
<b>Total</b>	<b>Inca 2A</b>	<b>93,607</b>	<b>360</b>	<b>1.38</b>	<b>5.82</b>	<b>1,082</b>	<b>4.2</b>	<b>17.5</b>
Proven	Inca 2B	-	-	-	-	-	-	-
Probable	Inca 2B	103,274	723	4.73	13.66	2,402	15.7	45.4
<b>Total</b>	<b>Inca 2B</b>	<b>103,274</b>	<b>723</b>	<b>4.73</b>	<b>13.66</b>	<b>2,402</b>	<b>15.7</b>	<b>45.4</b>
Proven	Inca 1	4,344	169	1.09	3.17	24	0.2	0.4
Probable	Inca 1	42,922	238	2.02	4.96	329	2.8	6.8

Category	Deposit	Tonnage (000 t)	Grades			Contained Metal Ounces		
			Ag (g/t)	Au (g/t)	AuEq (g/t)	Ag (000)	Au (000)	AuEq (000)
<b>Total</b>	<b>Inca 1</b>	<b>47,266</b>	<b>232</b>	<b>1.94</b>	<b>4.80</b>	<b>352</b>	<b>2.9</b>	<b>7.3</b>
Proven	Inca 0	6,069	242	1.26	4.24	47	0.2	0.8
Probable	Inca 0	18,141	272	0.88	4.24	159	0.5	2.5
<b>Total</b>	<b>Inca 0</b>	<b>24,210</b>	<b>265</b>	<b>0.98</b>	<b>4.24</b>	<b>206</b>	<b>0.8</b>	<b>3.3</b>
Proven	Mercado	-	-	-	-	-	-	-
Probable	Mercado	73,853	238	1.10	4.05	566	2.6	9.6
<b>Total</b>	<b>Mercado</b>	<b>73,853</b>	<b>238</b>	<b>1.10</b>	<b>4.05</b>	<b>566</b>	<b>2.6</b>	<b>9.6</b>
Total Proven	Kamila	26,930	321	2.01	5.96	278	1.7	5.2
Total Probable	Kamila	706,974	285	2.25	5.78	6,485	51.2	131.3
<b>Total Kamila</b>	<b>Kamila</b>	<b>733,904</b>	<b>287</b>	<b>2.25</b>	<b>5.78</b>	<b>6,762</b>	<b>53.0</b>	<b>136.5</b>
<b>Julieta</b>								
Proven	Julieta	-	-	-	-	-	-	-
Probable	Julieta	150,355	24	4.39	4.69	118	21.2	22.7
<b>Total</b>	<b>Julieta</b>	<b>150,355</b>	<b>24</b>	<b>4.39</b>	<b>4.69</b>	<b>118</b>	<b>21.2</b>	<b>22.7</b>
<b>Stockpiles</b>								
Proven	Stockpiles	88,548	124	1.68	3.21	352	4.8	9.1
Probable	Stockpiles	-	-	-	-	-	-	-
<b>Total</b>	<b>Stockpiles</b>	<b>88,548</b>	<b>124</b>	<b>1.68</b>	<b>3.21</b>	<b>352</b>	<b>4.8</b>	<b>9.1</b>
Proven	All	115,000	170	1.76	3.87	630	6.5	14.0
Probable	All	857,000	240	2.63	5.59	6,602	72.5	154.0
<b>Total Reserves</b>	<b>All</b>	<b>972,000</b>	<b>231</b>	<b>2.53</b>	<b>5.38</b>	<b>7,232</b>	<b>79.0</b>	<b>168.3</b>

Notes:

1. CIM definitions were followed for Mineral Reserves.
2. Mineral Reserves are estimated using an average long-term silver price of US\$15 per ounce and gold price of US\$1,200 per ounce.
3. Mineral Reserves are estimated at a cut-off grade of 2.8 g/t AuEq. Development was evaluated at an incremental cut-off grade of 1.3 g/t AuEq.
4. Gold equivalents (AuEq) are calculated using a factor of 1 g Au = 81 g Ag, based on metal prices, and metallurgical recoveries (92% for gold, 87% for silver).
5. A minimum mining width of 2 m was used.
6. Bulk density is 2.6 t/m<sup>3</sup>.
7. Numbers may not add due to rounding.

RPA considers that the Mineral Reserves are classified and reported in accordance with CIM definitions. RPA is not aware of any known mining, metallurgical, infrastructure, permitting, or other relevant factors that could materially affect the Mineral Reserve estimate.

## DILUTION AND EXTRACTION

Planned and unplanned dilution, minimum mining width, and extraction were included in the resource to reserve conversion at the stope optimization and design stage. The design shapes were drawn to represent final mined out volumes. An extraction factor of 95% is applied to both stopes and drifts. Table 15-2 summarizes dilution included in the design shapes by zone:

**TABLE 15-2 RESERVE DILUTION**  
**Austral Gold Limited – Casposo Mine**

<b>Deposit</b>	<b>Average Stope Dilution (%)</b>	<b>Average Drift Dilution (%)</b>	<b>Total Average Dilution (%)</b>
Aztec	24	42	26
B-Vein	35	25	32
Inca-2A	36	43	37
Inca-2B	28	52	37
Inca 1	60	64	61
Inca 0	30	30	34
Mercado	21	20	21
Julieta	22	17	21
<b>Weighted Average</b>	<b>31</b>	<b>42</b>	<b>33</b>

RPA reviewed data from cavity monitor surveys (CMS) of stopes mined in 2015 by Troy in Aztec, Inca 1, and Inca 2 deposits, summarized in Table 15-3. Overall the overbreak (dilution) averaged 74%, 50%, and 141% for Aztec, Inca 1, and Inca 2 respectively, while underbreak indicates on average 90% extraction.



**TABLE 15-3 STOPE SURVEY RESULTS**

**Austral Gold Limited – Casposo Mine**

<b>Deposit</b>	<b>Material Category</b>	<b>Tonnes</b>	<b>Average (%)</b>	<b>Comments</b>
Aztec	Design Shapes	2,377		
	Overbreak	1,556	74	Dilution
	Underbreak	294	13	Extraction
	As Built	3,708		
Inca 1	Design Shapes	1,204		
	Overbreak	528	50	Dilution
	Underbreak	114	11	Extraction
	As Built	1,618		
Inca 2	Design Shapes	1,575		
	Overbreak	1,685	141	Dilution
	Underbreak	269	10	Extraction
	As Built	2,986		
	Underbreak	294	13	Extraction
	As Built	3,708		

While the data shows that historical unplanned dilution was high, Austral plans on a number of design changes that were successful in controlling dilution at their narrow-vein operation in Chile, the Guanaco Mine.

- Reduced stope heights from 20 m to 15 m.
- Smaller drift size (4.5 m by 4.5 m).
- Installation of cable bolts on the hangingwall.
- Revised blasting practices.

Initial results are better than plan, with Austral CMS results indicating an average dilution of 9.6% and extraction of 98.4% over 12 stopes mined in June and July.

In RPA's opinion, the measures proposed by Austral should continue to result in improved results over historical dilution levels. RPA recommends that Austral continue to review CMS data as stopes are mined, and adjust the reserve dilution estimates accordingly.

**CUT-OFF GRADE**

A break-even cut-off grade of 2.8 g/t AuEq was estimated for Mineral Reserves, using a gold price of US\$1,200/oz, an average gold recovery of 90%, and operating costs estimated by Austral.

An incremental cut-off grade of 1.3 g/t AuEq was estimated using variable operating costs only. Ore development was designed based on the incremental cut-off grade and was included in Mineral Reserves. Table 15-4 shows the factors used in calculating cut-off grades.

**TABLE 15-4 CUT-OFF GRADE CALCULATION**  
**Austral Gold Limited – Casposo Mine**

<b>Item</b>	<b>Units</b>	<b>Break-even cut-off</b>	<b>Incremental cut-off</b>
Gold Price	US\$/oz	1,200	1,200
Recovery	%	90	90
Mining Cost	US\$/t milled	37.30	23.99
Processing Cost	US\$/t milled	29.20	20.50
G&A	US\$/t milled	31.09	-
Cut-off Grade	g/t AuEq	2.8	1.3

## 16 MINING METHODS

### UNDERGROUND MINE DESIGN

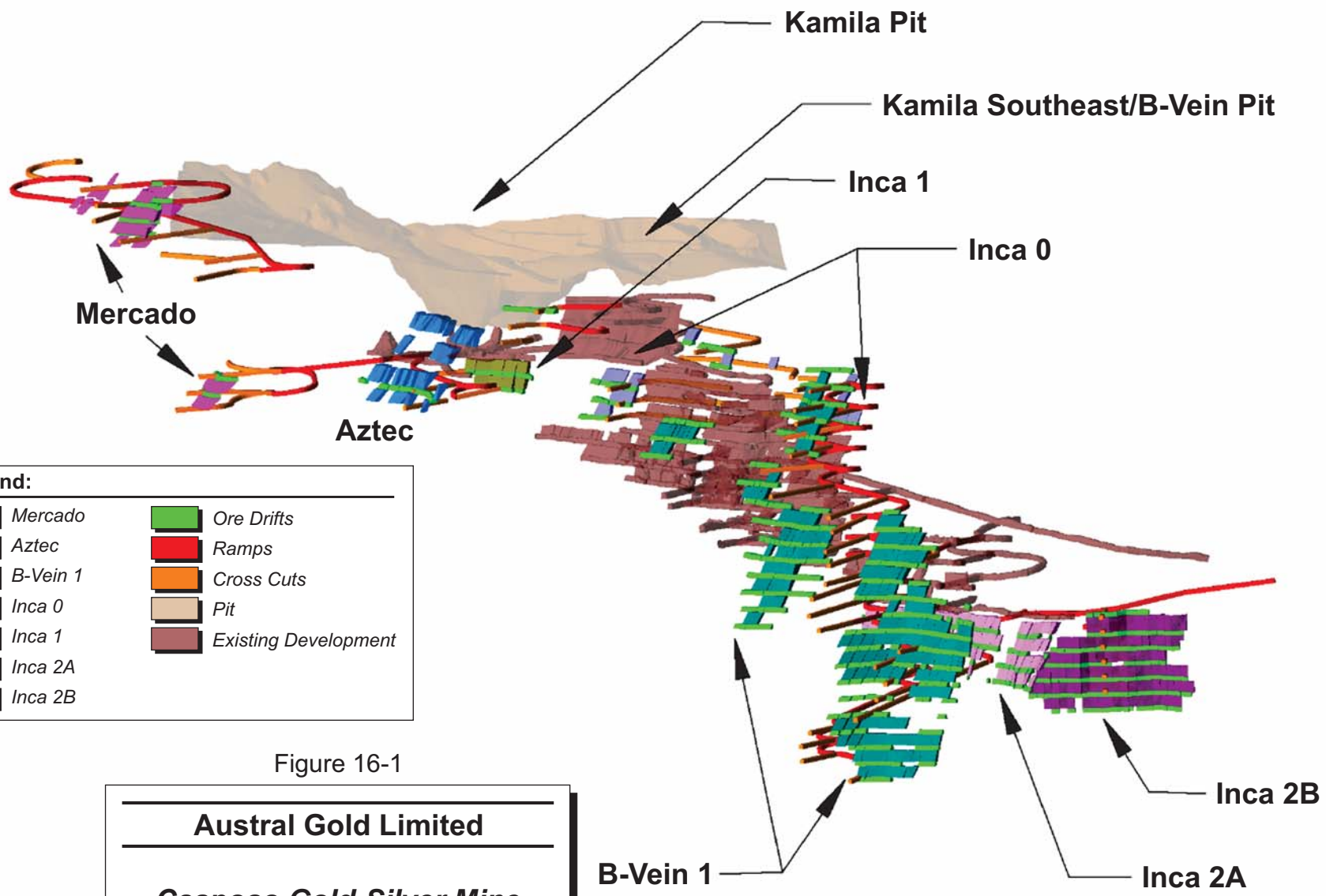
The Casposo Mine consists of a number of narrow steeply dipping orebodies known as Aztec, B-Vein, B-Vein 1, Inca 0, Inca 1, Inca 2A, Inca 2B, Mercado, and Julieta (Figures 16-1 to 16-3). Open pit mining in Kamila and Mercado pits was completed in 2013, and all mining is currently planned as underground, although there is potential for open pit mining at Julieta. The main production from the underground mine to date has been from Inca 1, Aztec, and Inca 2A.

The primary portal for the underground mine sits inside the mined out B-Vein pit. Aztec and B-Vein, located directly below the Kamila pit are accessed via a ramp from the B-Vein pit and driven at -13% grade. B-Vein 1, Inca 0, Inca 1, Inca 2A, and Inca 2B are accessed by a ramp driven from B-Vein, while Mercado is accessed from Aztec. Julieta is located approximately six kilometres north of the Kamila pit, and will be accessed via a separate portal.

The mining method used at the Casposo Mine is longitudinal longhole retreat. Mine production is made up of a combination of ore development through sill drifts (34%) and stope production (66%).

The veins are accessed by sub-level footwall drives, driven from the main ramp at 15 m intervals. Stopes were designed using a minimum mining width of 2 m and are 10.5 m high, while sill drifts were designed at 4.5 m high and on average 4.0 m to 5.0 m wide. Stope lengths vary depending on the orebody but are limited to a maximum of 15 m due to geotechnical constraints.

Mining progresses in a bottom up fashion. Stopes on each level are accessed in the middle and developed along strike, at both the top and bottom elevations. Once sill development is completed, the stopes are drilled and blasted. Drilling and blasting start at the end of the stoping blocks and mucked in retreating vertical slices.



**Legend:**

	Mercado		Ore Drifts
	Aztec		Ramps
	B-Vein 1		Cross Cuts
	Inca 0		Pit
	Inca 1		Existing Development
	Inca 2A		
	Inca 2B		

Figure 16-1

**Austral Gold Limited**

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**Casposo Gold-Silver Mine**  
San Juan Province, Argentina  
**Kamila Zone - Isometric View**

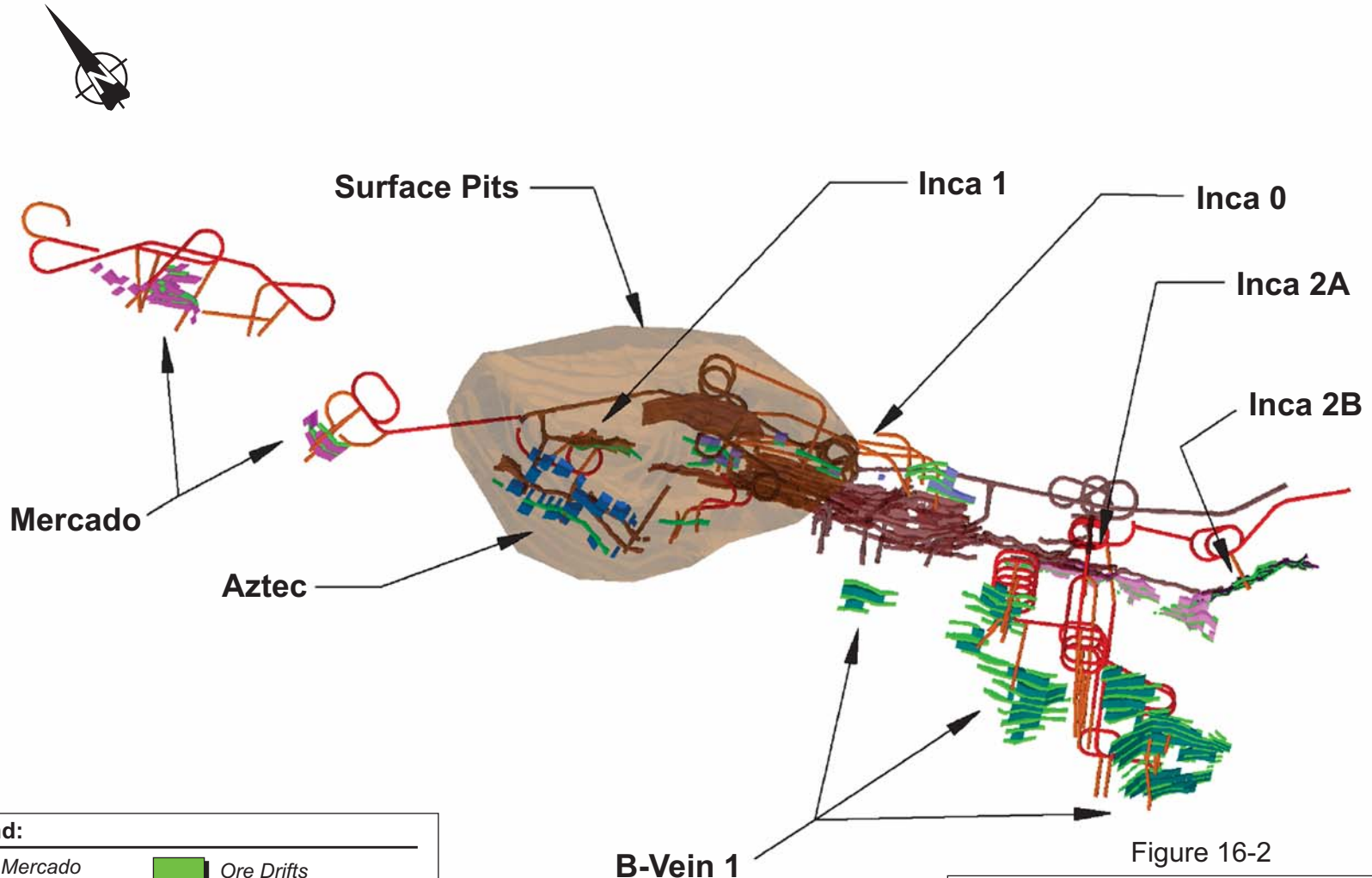














Figure 16-2

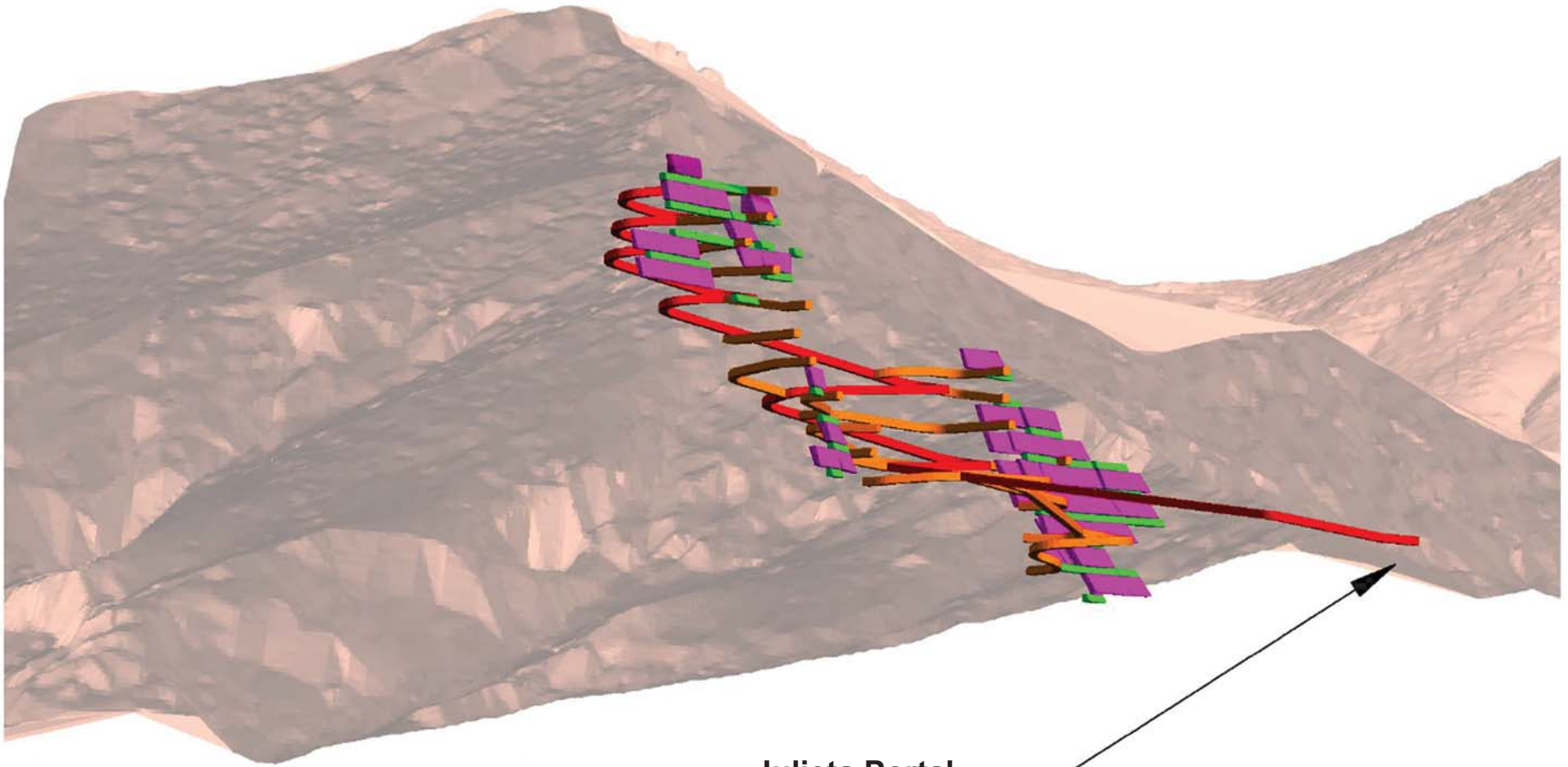
**Legend:**

	Mercado		Ore Drifts
	Aztec		Ramps
	B-Vein 1		Cross Cuts
	Inca 0		Pits
	Inca 1		Existing Development
	Inca 2A		
	Inca 2B		

**Austral Gold Limited**

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**Casposo Gold-Silver Mine**  
 San Juan Province, Argentina  
 Kamila Zone - Plan View




Julieta Portal

Figure 16-3

**Austral Gold Limited**

**Casposo Gold-Silver Mine**  
San Juan Province, Argentina  
**Julieta Zone - Isometric View**

**Legend:**

-  Julieta Stopes
-  Ore Drifts
-  Ramps
-  Cross Cuts

September 2016

Source: RPA, 2016.

## **GEOMECHANICS**

In January 2015, a Department of Geomechanics was created with the aim of producing a Ground Control Management Plan (GCMP). The immediate objectives were to determine the geomechanical and stability parameters of rockmass. In 2015, a series of pull test and extensometers monitoring was conducted in different parts of the underground with a higher concentration of tests on the ramp to Inca 1, which experienced fall of ground events in 2013.

The GCMP, dated January 25, 2016, has re-evaluated the stability parameters of stopes based on rock mass and hydraulic radius. The document recommends using additional support in areas with a rockmass classification (Q) of less than 0.5, such as shotcrete, belt straps, and cable bolts.

The stability of stopes was evaluated using the stability graph method (Potvin 1988) in order to obtain recommendations of stope size based on rockmass and hydraulic radius parameters. The results suggested using 20 m to 25 m stope lengths and a sub-level spacing of 15 m in Inca 1.

In RPA's opinion, the stope parameters are reasonable for the ground conditions, with flexibility to apply additional stability measures where required.

## **HYDROLOGY**

The 2012 Technical Report documents a hydrogeological analysis conducted by Knight Piésold (KP), indicating that water inflows to the mine will be minimal and dewatering requirements will not be significant. The majority of the pumping requirements will be to remove process water introduced into the mine for drilling, wash down of headings for geological mapping, and spraying of muck piles and roadways for dust control.

The mine is equipped with a permanent collection sump and pump station at the bottom of the mine and a pair of submersible pumps (one as a spare).

## **LIFE OF MINE PLAN**

Stope and development design and scheduling were carried out by Austral. The production schedule covers a mine life of four years based on current Mineral Reserves. Development and rehabilitation have been in progress by Austral since April 2016, and production will begin in Q3 2016 at Aztec, Inca 1, Inca 2A, and Inca 2B, which are all accessible with current existing development. A breakdown of the production schedule by deposit is summarized in Table 16-1.



**TABLE 16-1 LIFE OF MINE PLAN**  
**Austral Gold Limited – Casposo Mine**

<b>Deposit</b>	<b>Units</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Aztec	Tonnes (000)	41	32		
	g/t Au	1.87	1.80		
	g/t Ag	240	218		
B-Vein	Tonnes (000)		3		
	g/t Au		1.04		
	g/t Ag		67		
B-Vein 1	Tonnes (000)		97	89	131
	g/t Au		1.84	2.19	2.49
	g/t Ag		148	155	167
Inca 0	Tonnes (000)		24		
	g/t Au		0.98		
	g/t Ag		265		
Inca 1	Tonnes (000)	4	43		
	g/t Au	2.81	1.85		
	g/t Ag	314	223		
Inca 2A	Tonnes (000)	23	59	12	
	g/t Au	1.39	1.32	1.68	
	g/t Ag	365	353	383	
Inca 2B	Tonnes (000)	40	42	22	
	g/t Au	4.76	4.22	5.67	
	g/t Ag	597	816	774	
Mercado	Tonnes (000)			61	13
	g/t Au			1.22	0.58
	g/t Ag			229	281
Julieta	Tonnes (000)			92	62
	g/t Au			4.23	4.48
	g/t Ag			23	26
Stockpiles	Tonnes (000)	43	23	23	
	g/t Au	1.68	1.68	1.68	
	g/t Ag	124	124	124	
<b>Total Mill Feed</b>	<b>Tonnes (000)</b>	<b>150</b>	<b>322</b>	<b>297</b>	<b>206</b>
	<b>g/t Au</b>	<b>2.53</b>	<b>1.97</b>	<b>2.81</b>	<b>2.96</b>
	<b>g/t Ag</b>	<b>322</b>	<b>295</b>	<b>182</b>	<b>132</b>
Recovery Au	%	91.2%	91.2%	91.2%	91.2%
Recovery Ag	%	83.0%	83.0%	83.0%	83.0%
Recovered Au	Oz (000)	11	19	25	18
Recovered Ag	Oz (000)	1,292	2,541	1,440	729

## MINE VENTILATION

The underground mine is split into three separate circuits for ventilation purposes. The northern section (original Kamila Underground) of the underground mine uses the portal located within the Kamila Main Pit as the primary intake and an exhaust shaft also located in the pit. The central section (original Kamila Underground) uses the main portal/access ramp as the primary intake and an exhaust shaft located adjacent to the Kamila Main Pit. The southern section (Kamila Southeast - Inca 2 Vein Zone) uses two shafts, one for intake and one for exhaust.

Main access ramps for intake air were driven at a nominal 5.0 m by 5.5 m. Air circulates through the levels and stopes and exits the mine through a series of ventilation raises and the three primary ventilation shafts. Each ventilation shaft was raise bored at a diameter of 3.1 m and is equipped with an electric primary fan to force the air circulation. Each primary fan will be capable of supplying up to 70 m<sup>3</sup>/s. The total mine calculated air requirement based on equipment air requirements is 120 m<sup>3</sup>/s.

For each of the working faces (two stopes and four drifts) forced fresh air from the main access is directed to the faces with auxiliary fans and ducts. Internal ventilation raises are mined by drilling 2.6 m by 2.6 m longhole raises.

## 17 RECOVERY METHODS

The Casposo Mine recovers gold and silver doré which is transported to a refining facility in Brampton, Ontario, Canada for further processing into high purity gold and silver. The processing and recovery method is well known and widespread throughout the gold and silver mining industry. It is whole ore cyanide leaching for extraction of the precious metal from the ore, counter-current decantation (CCD) and filtration for liquid-solid separation, and Merrill-Crowe for recovery of the metal from the leach solution.

The front end of the processing plant was constructed using second-hand equipment from the former McKinnons Gold Project in New South Wales, Australia. Second hand plant equipment was used wherever possible in the remainder of the plant.

Mineral Engineering Technical Services Pty Ltd (METS) of Perth, Western Australia designed the processing facilities for the Casposo Mine. A simplified process flowsheet is illustrated in Figure 17-1. Improvements and optimization of the operation has been ongoing since construction was completed in 2010.

The Casposo processing plant has a nameplate throughput of 400,000 tpa of ore. At 8,000 working hours per annum, this is equivalent to 50 tph. The current underground mine plan only delivers approximately 300,000 tpa of ore, however, Austral plans to operate the plant on an intermittent basis to retain the same plant throughput.

### CRUSHING CIRCUIT

The crushing plant is designed to operate at a feed rate of up to 110 tph in order to account for lower plant utilization and availability, which is standard for crushing circuits. Mine truck operators dump run-of-mine (ROM) ore on the ROM pad. The ore is then dumped into the ROM feed bin using a front-end loader.

The ore is drawn from the ROM bin by a variable speed apron feeder and fed into a single toggle jaw crusher. Crushed ore, along with any fines that pass through the apron feeder, drop on to the crusher discharge conveyor. This conveyor is 900 mm wide and 20 m long. The material is transferred to the stockpile conveyor and stacked in an open stockpile which has a live capacity of approximately 3,300 t and total capacity of up to 8,500 t.

The crushed ore is drawn from the stockpile via the stockpile reclaim feeder conveyor and transported by the mill feed conveyor to the semi-autogenous grinding (SAG) mill.

Quicklime is drawn from a 75 t capacity lime bin by a variable speed lime screw feeder and discharged onto the mill feed conveyor. The lime dosage rate is determined by the operator after reading the slurry pH measurements taken at the head of the leach circuit.

## GRINDING CIRCUIT

The SAG mill is a 4.9 m diameter by 7.0 m long Allis grate discharge mill, driven by a 1,870 kW motor. The mill speed range is varies between 12.8 rpm and 15.5 rpm using a variable speed drive (VSD). The mill generally runs at 76% of the critical speed. The nominal throughput of the SAG mill is 50 dry t/h.

The SAG mill operates with a ball charge up to 16% by volume. The ball charge is replenished using a ball charging hoist to lift the ball charging kibble which in turn feeds balls to the SAG mill via the impingement box and SAG mill feed chutes.

Mill pebbles discharge through the SAG mill discharge trommel screen into the scats discharge hopper. A vibratory feeder is used to deliver the pebbles via conveyor to the diverter chute. The diverter chute directs the pebbles through the pebble crusher or to a bypass chute in the event the pebble crusher is down for maintenance or the metal detector is activated.

Slurry discharges from the SAG mill through a trommel screen. The undersize from the screen flows by gravity to the SAG mill discharge sump. From the sump, the slurry is pumped to a cluster of hydrocyclones. The current circuit also includes a ball mill but the ball mill is being decommissioned for the future operation.

The design pulp density for the cyclone overflow is 45% solids by weight and the design particle size distribution is 80% passing ( $P_{80}$ ) of 106  $\mu\text{m}$ . The majority of the mill cyclone underflow returns to the SAG mill feed for further grinding. A split stream from the cyclone underflow, feeds the gravity circuit screen. Grinding circuit water is added to this stream to maintain a target slurry density.

The gravity circuit screen oversize is combined with the gravity concentrator tailings and returned to the SAG mill feed chute.

A Falcon centrifugal gravity concentrator treats the undersize from the screen to produce gravity concentrate. Tailings from the gravity concentrator are returned to the SAG mill via the feed chute for further grinding. When the gravity concentrate is sufficiently enriched, it is transferred to the Intensive Leach Reactor (ILR) for leaching under intensive conditions. The pregnant solution from the ILR is then transferred to the clarifier filter feed tank in the clarification and Merrill-Crowe area of the processing facility.

The ILR is a specialized precious metals leach unit that uses a caustic-cyanide solution to leach gold and silver from the high-grade gravity concentrates in batches. The concentrates are collected in the concentrate feed tank. When sufficient concentrate has been collected, the batch is transferred to a horizontal rotating drum together with barren solution and hydrogen peroxide. Cyanide solution, caustic solution, and lead nitrate solution are added to the reactor via a solution tank and recirculated using the discharge hopper pump until the leaching reactions are completed. The pregnant solution is then pumped to the refinery for recovery of the gold and silver. The tailings from the ILR circuit are pumped to the SAG mill discharge hopper.

The cyclone overflow is thickened to approximately 55% solids by weight in the grinding thickener. The thickening process is assisted by the addition of premixed flocculent solution which is added to the thickener feed-well. The flocculent is prepared using an auto jet-wet type unit located in the containment area adjacent to the thickener. The thickener overflow is collected in the thickener overflow tank for reuse in the grinding circuit. Barren solution is also added to this tank when required to maintain a sufficient process water supply.

## **LEACHING CIRCUIT**

Cyanide leach solution is prepared using process water, caustic soda, and solid sodium cyanide pellets. The mixed solution is pumped to the grinding thickener underflow hopper or to the ILR as required.

The leaching area contains nine agitated leach tanks. The first tank has a working volume of 600 m<sup>3</sup>. The next six tanks have a working volume of 300 m<sup>3</sup> each. The final two tanks have

a working volume of 1,000 m<sup>3</sup> each. The total volume of the tanks is designed to provide up to 66 hours of leach residence time depending on the slurry density.

Due to the slow leaching kinetics of silver, an elevated cyanide concentration is maintained in each of the leach tanks. Cyanide solution is added to Leach Tank 1. It can also be added to tanks 2, 3, 4, 5, and 8 as required.

Dissolved oxygen is important to provide optimum leaching conditions. Low pressure compressed air is sparged into all tanks in order to maintain the required dissolved oxygen concentration.

## **COUNTER CURRENT DECANTATION AND FILTRATION**

The CCD and filtration section is a series of washing steps that use a combination of CCD thickeners and belt filters to separate the pregnant solution from the leach residue. The circuit is designed to reduce the precious metal and cyanide concentrations in the tailings. During operations this circuit suffered from numerous operational problems. At the time of the site visit, Casposo was in the process of making modifications to the circuit that are designed to improve the efficiency of the operations and to reduce costs and the cyanide concentration of the tailings.

Leached slurry feeds the first CCD thickener where it is mixed with flocculent and recycle streams. The solids settle to the thickener underflow. From the underflow of the first CCD thickener the slurry is pumped to the feed of the second CCD thickener. Overflow from the second CCD thickener is then pumped to the feed of the first CCD thickener as wash water. Overflow from the first CCD thickener is the pregnant solution from the plant. The underflow from the second CCD thickener is filtered using two belt filters that are operated in parallel. Filtrate from the belt filters is added to the feed well of the second CCD thickener for washing the solids. The belt filters produce a wet filter cake that is designed to contain less than 20% moisture for tailings storage.

To improve the settling rate of the solids, pre-mixed flocculent is added to the thickeners.

Pregnant solution from the thickening and filtration circuit is fed to the clarification and Merrill-Crowe section.

## CLARIFICATION AND MERRILL-CROWE

The purpose of this area is to recover the gold and silver from the pregnant solution using the Merrill-Crowe zinc cementation process. Efficient operation of the Merrill-Crowe process depends upon low concentrations of particulates and oxygen in the pregnant solution.

Pregnant solution is pumped to the clarification filters for removal of particulates. The clarified pregnant solution is pumped to the pregnant solution storage tank. Barren solution from the barren solution transfer hopper can be recycled back to this tank for further treatment if required. The clarification filters are also pre-coated using a slurry of diatomaceous earth. The de-aeration tower is used to remove dissolved oxygen from the pregnant solution by applying a vacuum. Following de-aeration, the oxygen-free pregnant solution is mixed with zinc dust and lead nitrate in a zinc cone hopper, to recover the gold and silver by the cementation process which is commonly called zinc precipitation.

The gold and silver precipitate is removed from the slurry by pumping through the precipitate filter press. The precipitate is collected in the chambers between the filter plates as a filter cake. In the filter press, the precipitate is also washed with process water and dried with compressed air before being emptied into the precipitate bin for further processing in the refinery area.

## REFINING

The precipitate from the Merrill-Crowe process contains a mixture of gold, silver, un-reacted zinc, and minor quantities of mercury. The wet precipitate is transferred to the refinery in batches using trays from the Merrill-Crowe precipitate bin using the tray stacker. The trays are placed into the mercury retort to remove mercury and to dry the precipitate. The retort initially removes surplus water and ultimately brings the target temperature up to a point where any mercury in the precipitate is volatilised. For personnel safety and prevention of mercury emissions, the retort is maintained under negative pressure by the vacuum pump. The mercury is recovered by drawing the mercury vapour-laden exhaust through the mercury condenser.

After the mercury has been captured and the retort has cooled, the trays are removed from the retort using the tray stacker and placed on cooling racks until they are cooled. The

precipitate is then mixed with fluxes and added to the smelting furnace. The furnace uses liquefied petroleum gas (LPG) as the fuel source.

The silver – gold doré is cast into ingots in graphite moulds prior to being cooled, weighed, and stored in the refinery vault prior to shipment off site for further processing.

## **CYANIDE DESTRUCTION**

The cyanide destruction process is used to reduce the cyanide concentration in the treated solution. The sulphur dioxide-air detoxification process used at Casposo uses sodium metabisulphite (SMBS) to detox the free and weak acid dissociable (WAD) cyanide. Small quantities of copper sulphate are required to catalyze the reaction. Cyanide destruction was previously used for the excess barren solution from the Merrill-Crowe process. The circuit was being changed to remove cyanide from a portion of the wash water from the belt filters that will subsequently be re-used for washing of the tailings on the belt filters.



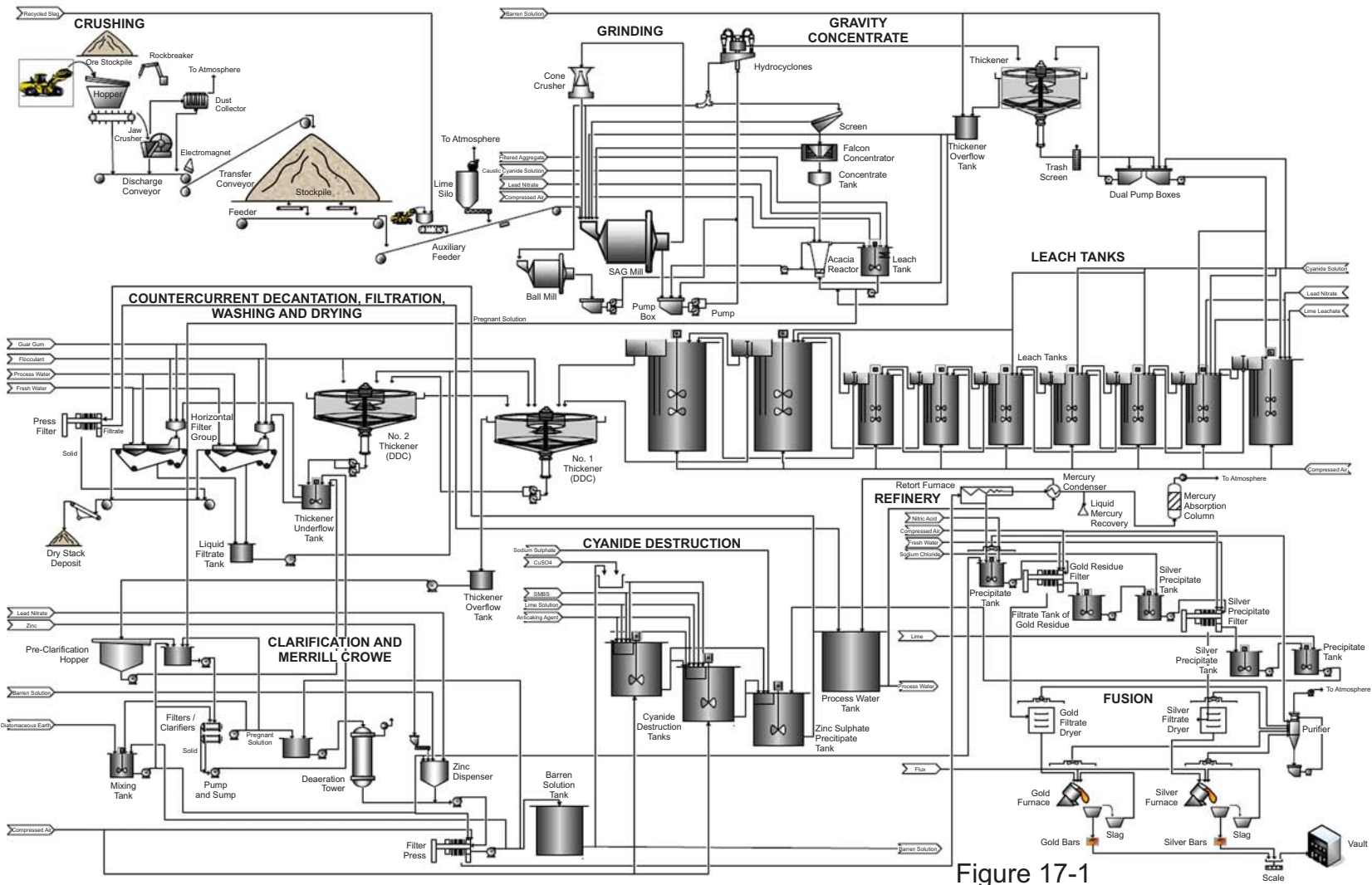


Figure 17-1

**Austral Gold Limited**  
**Casposo Gold-Silver Mine**  
 San Juan Province, Argentina  
**Process Flow Sheet**

17-7

## 18 PROJECT INFRASTRUCTURE

Figure 18-1 shows the site plan and Project infrastructure.

### MINE SERVICES

The services required for maintenance and infrastructure for mining are minimal due to the simple and compact nature of the mine. There are two permanent maintenance facilities; one to service the surface open pit mining equipment and another facility to service the underground operations.

The power requirements for the underground mine consist of ventilation fans, production and development drill rigs, pumps, compressors, and lighting. The total power demand for the surface facilities is approximately 2.6 MW, and the underground demand is approximately 2.9 MW. Until December 2011 the project power was self-generated using 10 X 900 kW diesel generators which at the time provided approximately 120% redundancy in the system. With the completion of the power line connecting site to the National Grid, four generator sets were retained on site as back-up power for the processing plant. A contract for supply of electric energy was entered into covering up to 5.5 MW of supply.

The power line to site has the capacity to transmit 18 MW of power so has adequate reserve capacity.

### WASTE ROCK DUMP

The Waste Rock Dump (WRD) was designed to contain 8 Mt of waste, however, it has been extended. The height of each bench of the waste dump is 20 m with a face angle of 33.5° and a berm width of 15 m. The final slope angle is 25°. Most of the waste was produced from the open pits with a small portion coming from underground mine development. Remaining capacity is sufficient for the waste to be generated in the LOM plan.

## **TAILINGS MANAGEMENT**

The Tailings Management Facility (TMF) was designed as a facility to contain comingled filtered tailings and waste rock. The available capacity is sufficient to contain all filtered tailings that will be generated according to the LOM plan. The capacity of the TMF can be increased if needed. The TMF abuts the southeast end of the WRD and extends to the southeast. The TMF is planned to be progressively closed as it is operated, using non-reactive, suitable waste rock to construct a cover resistant to erosion by wind, direct precipitation and water run-off.

A geomembrane liner was placed over the prepared foundation surface of the TMF. The liner extended on the eastern side of the WRD to ensure that a barrier to any downward seepage infiltration to the native foundation soils is maintained beneath the entire tailings deposit.

The filtered tailings are transported by haul truck to the dry-stack TMF where they are spread and packed by dozers. Additional compaction, as required, is provided by a compactor, to reduce wind-borne erosion and to improve the ability of truck and machinery to drive on areas that are not planned to be covered with waste rock sheeting.

Early testwork indicated that sulphur concentrations in the waste rock greater than 0.5% by mass, could be an indicator for acid rock drainage (ARD) potential. This potential was identified in approximately 12% of the rhyolite and approximately 8% of the andesite in the Kamila Zone. To date, no ARD has been identified so the waste rock does not need to be contained within the TMF facility.

## **MATERIAL HANDLING**

Good all weather road access allows for doré transport by secure road transport supplied by local contract armoured car to the airport in Mendoza where the doré is then shipped by air freight to Santiago and transferred to an onward flight to Toronto International Airport in Mississauga Ontario, Canada. The refinery operators then collect the cargo and transport by secure road transport (armoured car) to their refinery in Brampton Ontario for processing.

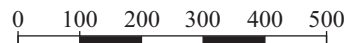


- Legend:**
- 1 Power Generator
  - 2 Parking
  - 3 Sewage Plant
  - 4 Administration Building
  - 5 Human Resources
  - 6 Cafeteria/Infirmary
  - 7 Physical Laboratory
  - 8 Chemical Lab
  - 9 Waste Pad
  - 10 Warehouse Storage Area
  - 11 Rainwater Collection Pond
  - 12 Cyanide & Other Storage Area
  - 13 Dry Tailings
  - 14 Warehouse
  - 15 Thickeners and Band Filters
  - 16 Refinery
  - 17 Grinding & Leaching
  - 18 Crusher
  - 19 Ore Stockpile
  - 20 Underground Water Pond
  - 21 Process Water Pond
  - 22 Re-usable Items Storage Area
  - 23 Underground Mine Equipment
  - 24 Fuel Depot 1
  - 25 Fuel Depot 2
  - 26 Mine Workshop
  - 27 Powder Magazine OP
  - 28 Powder Magazine UG
  - 29 Waste Dump

Figure 18-1

**Austral Gold Limited**

**Casposo Gold-Silver Mine**  
 San Juan Province, Argentina  
**Site Plan and Infrastructure**



September 2016

Source: RPA, 2016.

## **19 MARKET STUDIES AND CONTRACTS**

### **MARKETS**

Silver and gold are the principal commodities produced at the Casposo Mine. They are freely traded, at prices that are widely known, so that prospects for sale of any production are virtually assured. A silver price of \$15 per ounce and a gold price of \$1,200 per ounce were used for estimation of Mineral Reserves.

Precious metals produced at Casposo are currently shipped to and refined into bullion at Asahi Refining Ltd.'s refinery in Brampton, Ontario Canada. From there the bullion is then sold and delivered to counterparties on the world market at market prices.

### **CONTRACTS**

RPA reviewed recent costs for transportation, security, insurance, and sales of doré, and considers them to be within industry norms.

## **20 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT**

### **ENVIRONMENTAL STUDIES**

All required studies were completed and the Environmental Impact Assessment (EIA) for Casposo was submitted in 2007. The EIA, was reviewed by a multi-disciplinary commission and approved in 2009, with renewal required every two years. The third renewal was submitted on January 10, 2014 and approved on March 2, 2016 and the fourth update was presented, with approval anticipated in March 2018. The renewal process requires the proponent to inform the government of changes, however, reiteration of a full project description is not required.

Casposo received the ISO 14001 certification for their Environmental Management Plan in 2012.

The United Nations completed an audit of the operation through their special projects group (UNOPS) at the request of the government of San Juan. Their report was due on June 30, 2016.

### **REGULATORY REQUIREMENTS**

The regulatory requirements for discharge from the site (water quality, air quality, noise, etc.) are as follows:

- The only discharge from site is the water from the cleaning, sanitary services, and water from the catering services. This water is treated in the biodigester, filtered through a bed of rocks, and released to the environment. The Regulatory Decree 2107/06 set out by the Ministry of Water in the San Juan Province establishes the parameters for the water being released into the environment.
- The noise and vibration impact is governed by the regulations IRAM 4602.
- The air quality is measured against Table 8 of “Guide to Air Quality Levels – Appendix VI Law 24585”
- For gaseous emissions, the regulation of Province of Buenos Aires, Decree No. 3395/96 Law No. 5965 Gaseous Emissions is used as a reference.

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## ENVIRONMENTAL MANAGEMENT/MONITORING

Austral has a general water balance and daily measurements are taken of the water usage in the operation. There are no direct water discharges from the site. Any type of leak or percolation of water would be detected in the water's hydrochemistry.

There are no geomembranes installed beneath the WRD. Only acid generating waste material will be placed on top of a geomembrane. Monitoring of groundwater quality beneath the WRD has shown that the pH has remained in line with the baseline measurements.

The acid mine drainage (AMD) studies carried out to date have determined a low to null potential for generation of AMD. Austral is in the process of carrying out a detailed survey of the waste dumps in order to determine a more precise characterization of the mineralogy found at the mine.

The full cyanide management/destruction has not been implemented since this process recently began on June 30, 2016. The Project has not been certified by the International Cyanide Management Code (ICMC).

Water quality exceedances for the critical parameters have not occurred throughout the monitoring process which began at the end of 2015. Software is being implemented for the processing, monitoring, and control of the environmental information which will allow for the precise control of each variable in each of the sites.

Austral is currently working on the anticipated annual budget for environmental compliance efforts, however, this has not yet been approved. Regardless, the company will invest approximately US\$650,000 for monitoring and control of the environmental impact of the operation.

## TAILINGS AND WASTE STORAGE

Tailings and mine waste rock that had been generated prior to the site visit were commingled in a TMF. There had been issues with excess water in the tailings that contained excessive levels of cyanide. The plant was not operating during the site visit and number of modifications

were being completed. A primary focus of many of the modifications to the plant was to mitigate the moisture and cyanide concentration in the filtered tailings.

## **PROJECT PERMITTING**

Austral has all the required permits as listed in Table 20-1. The permits and authorizations include all of the legal requirements for the Project.



**TABLE 20-1 PERMITS AND AUTHORIZATIONS**  
Austral Gold Limited - Casposo Mine

SUBJECT	PERMIT / AUTHORIZATION	AUTHORIZATION	RESPONSIBILITY	RESPONSIBLE SECTOR	DATE	EXPIRATION DATE
LEGAL REQUIREMENTS	Operating License	Nuclear Regulatory Authority	Office: San Juan/Enzo Robles	Refinery	Ongoing	26-Nov-20
	Certification of Fire Department for Fuel Plant (Planta)	Fire Department	Office: San Juan/Thomas Julin	Warehouse	Ongoing	10-Jun-16
	Fuel Plant (UG 038-14)	Fire Department	Office: San Juan/Thomas Julin	Warehouse	Ongoing	10-Jun-16
	Cyanide Storage (262-10)	Fire Department	Office: San Juan/Thomas Julin	Warehouse	Ongoing	09-Feb-17
	Authorization waste storage (320-09)	Fire Department	Office: San Juan/Julian Ortiz	Environmental	Ongoing	09-Feb-17
	Authorization (Area 400 092-14)	Fire Department	Office: San Juan/F Rodriguez	Plant	Ongoing	09-Feb-17
	Authorization Galpón Refinery (04-11)	Fire Department	Office: San Juan/Enzo Robles	Refinery	Ongoing	10-Jun-16
	Receiving Area (300 260-15)	Fire Department	Office: San Juan/Emiliano Gil	Plant	Ongoing	09-Feb-17
	Power Plant (98-11)	Fire Department	Office: San Juan/Cezar Sires	Maintenance	Ongoing	09-Feb-17
	Authorization Offices, Warehouse, First Aid, Dining, L	Fire Department	Office: San Juan/Ediberto de Brito	Laboratory	Ongoing	11-Aug-16
	Authorizatin-installation of Communication Stations	National Communications Commission	Office: San Juan/Rubén Femenia	Administration San Juan	Ongoing	-
	Water Concession- Villa Corral	DH (Hydraulics Department)	Office: San Juan/Soledad Castillo	Administration Site	Ongoing	13-Apr-25
	Water Concession- CASPOSO	DH (Hydraulics Department)	Office: San Juan/E Machuca	General	Ongoing	18-May-20
	Effluent Treatment Plant -Villa Corral	DH (Hydraulics Department)	Office: San Juan/Soledad Castillo	Administration Site	Ongoing	30-Mar-14
	Effluent Treatment Plant - CASPOSO	DH (Hydraulics Department)	Office: San Juan/Soledad Castillo	Administration Site	Ongoing	16-Apr-14
	Feasibility for use of Land.	DPDU (Management - Urban Development & Planning)	Office: San Juan/E Machuca	General	Ongoing	23-Dec-16
	Feasibility for use of Land. - (Camp Juan Jufre)	DPDU (Management - Urban Development & Planning)	Office: San Juan/E Machuca	Administration Site	Ongoing	23-Dec-15
	Final Work-Refinery	DPDU (Management - Urban Development & Planning)	Office: San Juan/Enzo Robles	Refinery	Ongoing	Ongoing
	Final Work-Laboratory Physical & Chemical	DPDU (Management - Urban Development & Planning)	Office: San Juan/Ediberto de Brito	Laboratory	Ongoing	Ongoing
	Provisional Authorization - Refinery	DPDU (Management - Urban Development & Planning)	Office: San Juan/Enzo Robles	Refinery	Ongoing	21/10/2015
	Provisional Authorization - Plant Fuel	DPDU (Management - Urban Development & Planning)	Office: San Juan/Thomas Julin	Warehouse	Ongoing	22/10/2015
	Provisional Authorization - Fuel Platform	DPDU (Management - Urban Development & Planning)	Office: San Juan/Thomas Julin	Warehouse	Ongoing	21/10/2015
	Feasibility for Use of Land- Mina Kamila	DPDU (Management - Urban Development & Planning)	Eduardo Machuca	Mine Management	Ongoing	21/04/2018
	Final Work for Usage License- Camp/Offices/Infirmary	DPDU (Management - Urban Development & Planning)	Office: San Juan/Soledad Castillo	Administration Site	Ongoing	Continuo
	Final Work - Tinglado Area 400	DPDU (Management - Urban Development & Planning)	Office: San Juan/Francisco Rodriguez	Plant	Ongoing	Continuo
	Environmental Impact Report (Kamila Explotación)	Ministry of Mining de San Juan	Office: San Juan/Irma Belvideri	General	Ongoing	02-Mar-18
	Environmental Impact Report (Kamila Exploración)	Ministry of Mining de San Juan	Office: San Juan/E Machuca	Exploration	Ongoing	18-May-17
	Certificate for production of dangerous wastes.	Ministry of Mining de San Juan	Julian Ortiz	Environmental	Ongoing	02-Jun-15
	Determinants of the DIA (see Matrix of follow up of DIA determinants)	Ministry of Mining de San Juan	Office: San Juan/A. Sanchez	General	Ongoing	Ongoing
	Certificate Mining Producer - (Mina Guadalupe y Kamila)	Ministry of Mining de San Juan	Office: San Juan/Rubén Femenia	Administration: San Juan	Ongoing	31-Mar-17
	Authorization C (Casposo ppal y UG y Villa Corral)	Ministry of Public Health	Office: San Juan/Soledad Castillo	Administration Site	Ongoing	20-Oct-16
	Authorization Infirmary	Ministry of Public Health	Office: San Juan/Jorge Alaniz	Health	Ongoing	29-Jan-21
	Authorization Offices -Social	Municipality of Calingasta	Office: San Juan/Eduardo Buso	Social	Ongoing	-
	Authorization Mina Casposo	Municipality of Calingasta	Office: San Juan/Soledad Castillo	Administration Site	Ongoing	-
	Authorization Offices (El Remanso)	Municipality of Calingasta	Office: San Juan/Irma Belvideri	Exploration	Ongoing	-
	Authorization Administration Office- San Juan	Municipality of the City of San Juan	Office: San Juan/Rubén Femenia	Administration San Juan	Ongoing	-
	Environmental Security	Prudencia Seguros	Office: San Juan/Rubén Femenia	Administration San Juan	Ongoing	01/11/2016
	Permission for Expatriate Contractors	RENAPRE	Office: San Juan/D.Villena	Administration San Juan	Ongoing	20-Oct-18
	Authorization for BTZ for Blasting Services	RENAR	Office: San Juan/Diniz Pimenta	Mine	Ongoing	01-Mar-16
	Authorization for ING ACOSTA Blasting Services	RENAR	Office: San Juan/Javier Cristiani	OP/UG	Ongoing	31-Dec-15
	Authorization for ADL Blasting Services	RENAR	Office: San Juan/Javier Cristiani	OP/UG	Ongoing	26-Mar-16
	Authorization for Magazines Troy UG	RENAR	Office: San Juan/Javier Cristiani	Mine	Ongoing	18-Aug-20
	Authorization Magazine Troy ExOP	RENAR	Office: San Juan/Javier Cristiani	Mine	Ongoing	17-Dec-18
	Authorization for Troy as Explosives Operator	RENAR	Office: San Juan/Javier Cristiani	Mine	Ongoing	13-Nov-16
	Fuel Storage- SULLAIR	SE (Fuel Secretariate)	Office: San Juan/Thomas Julin	Warehouse	Plant out of service	
Fuel Storage CASPOSO (Estación de Expendio)	SE (Fuel Secretariate)	Office: San Juan/Thomas Julin	Warehouse	Ongoing	19-Dec-16	
Fuel Tanks . Certificate R 785	SE (Fuel Secretariate)	Office: San Juan/Thomas Julin	Warehouse			
Report on Work Completed (Realized)	Secretaria Mining Nation	Eduardo Machuca	Administration San Juan	Ongoing	14-May-15	
Certificate of Registration in the Nacional Register o	SEDRONAR	Office: San Juan/Thomas Julin	Warehouse	Ongoing	30-Jun-16	
Certification of Norms ISO 14001	SGS	Office: San Juan/Julian Ortiz	Environmental	Ongoing	18-Sep-16	

Note.  
RPA understands that the authorizations are in process for the expired permits.

## **SOCIAL OR COMMUNITY REQUIREMENTS**

Calingasta is a mining town and the town is home to a Mining Technology school. As a result, the mine enjoys better than average local support. The social and community relations are reported to be excellent.

## **MINE REHABILITATION AND CLOSURE**

### **MOUNTAIN PASS LLC 2014 MINE REHABILITATION AND CLOSURE STUDY**

Mountain Pass LLC (Mountain Pass) carried out a mine closure and rehabilitation study in December 2014 for Troy with a closure cost estimated at approximately US\$4.2 million.

The following is taken from Mountain Pass' report (Mountain Pass, 2014).

The closure plan meets the requirement by the Provincial government to provide with a closure and rehabilitation plan as requested by the project's EIA (*Spanish* DIA). The objective of Casposo's Final Reclamation Plan is designed to support post-mining land uses, including mineral exploration, livestock grazing, public recreation, and public safety.

There are no provincial or national guidelines for the preparation of a closure plan, therefore this plan follows internationally recognized practices and uses common definitions such as those of the International Finance Corporation (IFC) Environmental, Health and Safety Guidelines for Mining and the International Council of Mining and Metals (ICMM). The plan has been prepared keeping in mind the same objectives presented by the DIA for closure and post-closure.

The closure plan describes the closure activities needed to rehabilitate the disturbances made to date. It only deals with the current disturbances on the ground and incorporates a three-year post closure care and monitoring plan. Concurrent reclamation, along with mining operations, is ongoing throughout the facility and continues to be a vital part of Casposo's reclamation practices. Thus the plan should be considered as a dynamic document and it is expected to be updated regularly to reflect changes in operations, and updated life of mine forecasts. The ongoing closure activities include the establishment of a greenhouse to provide growth of native species for use in re-vegetation efforts.

The plan in its entirety was developed taking into consideration all legal, regulatory, governmental, and community requirements and compromises. Thus the plan incorporates a number of assumptions used to estimate closure and post-closure objectives.

The reclamation plan and associated costs presented only consider current disturbances (as of September 2014) and a limited number of known reclamation obligations such as the demolition of main infrastructure. The closure scenario considers the demolition of all infrastructure. While at the end of the mine life some structures may be donated, sold, or reused, currently there is no confirmation of future use for these structures and their exclusion from the closure plan would be highly speculative. Consequently, this current estimate should be considered very conservative.

Typically, a first draft of a closure plan has a +/- 25% range in costs. Once the structure of the closure plan is established and the closure plan is agreed upon by stakeholders (owners, operators, government, and neighbours), the assumptions are finalized and the final closure and post-closure vision is adopted and associated costs estimated. For the development of this first draft, however, the uncertainty has been estimated in the range of +/- 15% due to the fact that most costs are well known. The closure cost estimate has been developed considering the use of Casposo's own operators and equipment.

A three year post-closure period is considered to guarantee that permanent structures, such as drainages and re-vegetated areas, are well established and will perform as intended. The cost estimate will be finalized with a better than 90% certainty two years prior to final closure. Other financial adjustments to the cost estimate, such as inflation, will be introduced using official government values. The current (un-inflated, un-escalated costs) are estimated at US\$4,185,005 (Mountain Pass, 2014).

## **IMPLEMENTATION OF CLOSURE PLAN**

Austral will implement the closure plan as discussed above using a progressive approach for site rehabilitation including access roads, slope contouring, scarifying, placement of ground cover where required. Contouring of the surface will be completed as near to the original topography as possible in order to minimize erosion. The planned cover will follow the closure plan details including 30 cm for some major areas and 15 cm for secondary roads and areas with minimal risk of erosion. Where necessary, drainage will be established to complement the

existing drainage of similar dimensions and gradients. Accesses to the underground mine will be properly sealed.

All hazardous products and equipment will be removed from the site. All buildings on site will be demolished as planned and all concrete works will be reduced and properly buried on site. Any soils contaminated with hydrocarbons will be recovered and placed in bio-remediation cells, which will be sampled periodically during the closure period to ensure the soils are returned to the standards required.

The mine camp including kitchen, offices, showers, dormitories, infirmary, and recreation areas is planned for demolition in the closure cost, however, there may be an opportunity to leave this intact for the community or local government. The power line will be maintained on site for the post-closure period.

For the dry tailings area, the plan is to provide a vegetation cover to minimize erosion from wind and water. The results to date from the pilot test for revegetation are reported to be not satisfactory, hence further testing will be required to provide a valid solution. The tailings area to rehabilitate is estimated at approximately 10 ha.

Monitoring of the site post-closure has been estimated for a period of three years, with costs allocated for personnel and equipment required during that period of time. An external consultant will be retained to evaluate the progress during the post-closure phase.

## 21 CAPITAL AND OPERATING COSTS

### CAPITAL COSTS

Austral has been carrying out a program of mine development, process improvements, and operational readiness since April 2016. The estimated capital costs (expressed in US dollars) from June 30, 2016 forward are summarized in Table 21-1.

**TABLE 21-1 SUMMARY OF CAPITAL COSTS**  
**Austral Gold Limited – Casposo Mine**

Item	Units	Total	2016	2017	2018	2019	2020
Mine Development	US\$ millions	29.2	4.9	12.7	9.9	1.7	-
Sustaining Capital	US\$ millions	6.3	2.2	0.9	3.2	-	-
Working Capital	US\$ millions	2.0	1.0	1.0	-	-	-
Reclamation & Closure	US\$ millions	4.2	-	-	-	3.0	1.2
<b>Total</b>	<b>US\$ millions</b>	<b>41.7</b>	<b>8.1</b>	<b>14.6</b>	<b>13.0</b>	<b>4.7</b>	<b>1.2</b>

Mine development is based on the LOM plan requirements, and a unit rate of \$2,200/m, based on actual costs incurred at the mine.

Plant capital includes budgeted improvements, such as changes to the belt filter and cyanide detoxification circuit to improve efficiency and reduce costs, some mobile equipment purchases, and general site maintenance costs.

Mountain Pass estimated reclamation and closure costs of \$4.2 million, including ongoing remediation of the commingled waste rock/tailings facility.

### OPERATING COSTS

Operating costs for the LOM plan are shown in Table 21-2. Costs for 2016 represent a half year, starting July 1.

**TABLE 21-2 SUMMARY OF OPERATING COSTS**  
**Austral Gold Limited – Casposo Mine**

<b>Unit Costs</b>	<b>Unit</b>	<b>Total</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Mining (Underground)	US\$/t milled	40.07	34.60	36.96	40.07	48.90
Processing	US\$/t milled	37.51	36.20	35.06	36.40	43.90
G&A	US\$/t milled	21.53	19.97	18.62	20.20	29.10
<b>Total Unit Operating Cost</b>	<b>US\$/t milled</b>	<b>99.11</b>	<b>90.77</b>	<b>90.65</b>	<b>96.67</b>	<b>121.91</b>

<b>Total Costs</b>	<b>Unit</b>	<b>Total</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Mining (Underground)	US\$ '000	39,127	5,202	11,920	11,913	10,092
Processing	US\$ '000	36,631	5,443	11,308	10,820	9,060
G&A	US\$ '000	21,020	3,003	6,006	6,006	6,006
<b>Total Operating Cost</b>	<b>US\$ '000</b>	<b>96,777</b>	<b>13,648</b>	<b>29,234</b>	<b>28,738</b>	<b>25,157</b>

Operating cost estimates include mining, processing, and general and administration (G&A) expenses. Operating costs were budgeted based on costs incurred during previous mining activities and have been compiled by area based on estimated labour requirements, consumables, and other expenditures according to the updated mine plan and process design. An additional haulage cost was included in mining costs for hauling ore from Julieta, which is located approximately 6 km to the mill.

## 22 ECONOMIC ANALYSIS

An after-tax Cash Flow Projection has been generated from the LOM production schedule and capital and operating cost estimates, and is summarized in Table 22-1. A summary of the key criteria is provided below.

### REVENUE

- Approximately 800 tonnes per day (tpd) mining from underground (maximum of 300,000 tonnes per year).
- Metallurgical recovery based on operating data averaging 91% for gold, 83% for silver.
- Gold and silver at refinery 99.5% payable.
- Exchange rate US\$1.00 = ARS14.
- Metal prices: US\$19/oz silver and US\$1,329/oz gold, based on consensus of independent forecasts for annual prices.
- Net Smelter Return includes doré refining, transport, and insurance costs.
- Revenue is recognized at the time of production.

### COSTS

- Mine life: 4 years.
- Life of Mine production plan prepared by Austral.
- Mine life capital totals \$41.7 million, including reclamation and closure.
- Average operating cost over the mine life is \$99 per tonne milled.
- All-In Sustaining Cost (AISC): Casposo Mine will produce varying proportions of gold and silver depending on the veins mined in a particular time period. Over the Life of Mine, under current price assumptions, neither metal dominates revenue – they are co-products. As such, AISC calculated according to World Gold Council guidance with silver as a byproduct, may not be comparable to other gold operations. Alternatively, converting the silver to gold equivalent may be more comparable to other gold operations. Results for the two methods, on both a gold basis and a silver basis, are:
  - AISC Gold, Silver as byproduct: US\$550 per oz Au
  - AISC Gold Equivalent: US\$1,038 per oz AuEq
  - AISC Silver, Gold as byproduct: US\$9.61 per oz Ag
  - AISC Silver Equivalent: US\$13.09 per oz AgEq

**TABLE 22-1 AFTER-TAX CASH FLOW SUMMARY**  
Austral Gold Limited - Casposo Mine

	INPUTS	UNITS	TOTAL	2016 Year 1	2017 Year 2	2018 Year 3	2019 Year 4	2020 Year 5
<b>MINING</b>								
Underground								
Operating Days	350	days	1,233	183	350	350	350	
Tonnes milled per day		tonnes / day	720	587	856	785	590	
Production		'000 tonnes	888	107	299	275	206	
Au		g/t	2.61	2.88	1.99	2.91	2.96	
Ag		g/t	241	402	308	186	132	
Waste		'000 tonnes	888	107	299	275	206	
Total Moved		'000 tonnes	888	107	299	275	206	
<b>Feed from Stockpile</b>		'000 tonnes	89	43	23	23		
Tonnes	-	'000 tonnes	89	43	23	23		
Au Grade		g/t	1.68	1.68	1.68	1.68		
Ag Grade		g/t	123.74	124	124	124		
<b>PROCESSING</b>								
Mill Feed		'000 tonnes	976	150	322	297	206	
Au		g/t	2.52	2.53	1.97	2.81	2.96	
Ag		g/t	230.35	322	295	182	132	
Contained Au		oz	79,190	12,246	20,398	26,892	19,654	
Contained Ag		oz	7,231,807	1,556,953	3,061,480	1,734,790	878,585	
Recovery		%						
Au	91.2%	%	91%	91%	91%	91%	91%	
Ag	83.0%	%	83%	83%	83%	83%	83%	
<b>Total Recovered</b>								
Au		oz	72,221	11,168	18,603	24,525	17,924	
Ag		oz	6,002,400	1,292,271	2,541,028	1,439,876	729,225	
AuEq		oz AuEq	147,533	26,377	51,498	42,777	26,881	
<b>REVENUE</b>								
<b>Metal Prices</b>		<b>Input Units</b>						
Au		US\$/oz Au	\$ 1,329	\$ 1,350	\$ 1,325	\$ 1,325	\$ 1,325	
Ag		US\$/oz Ag	\$ 19	\$ 19	\$ 19	\$ 19	\$ 19	
<b>Price Ratio</b>		Au : Ag	\$	\$ 71.05	\$ 69.74	\$ 69.74	\$ 69.74	
Au Payable Percentage	99.5%	US\$ '000	99.5%	99.5%	99.5%	99.5%	99.5%	
Ag Payable Percentage	99.5%	US\$ '000	99.5%	99.5%	99.5%	99.5%	99.5%	
Au Gross Revenue		US\$ '000	\$ 95,492	\$ 15,002	\$ 24,526	\$ 32,334	\$ 23,631	
Ag Gross Revenue		US\$ '000	\$ 113,475	\$ 24,430	\$ 48,038	\$ 27,221	\$ 13,786	
<b>Total Gross Revenue</b>		<b>US\$ '000</b>	<b>\$ 208,967</b>	<b>\$ 39,432</b>	<b>\$ 72,564</b>	<b>\$ 59,555</b>	<b>\$ 37,417</b>	
<b>Transport</b>								
Shipments		No. / yr	111	24	47	27	14	
Mine to Mendoza	7200	US\$ '000	\$ 800	\$ 172	\$ 337	\$ 193	\$ 98	
Mendoza to Refinery	US\$7.05 /kg	US\$ '000	\$ 2,110	\$ 453	\$ 889	\$ 509	\$ 260	
<b>Treatment</b>								
Au	US\$ .25 /oz Au	US\$ '000	\$ 18	\$ 3	\$ 5	\$ 6	\$ 4	
Ag	US\$0.25 /oz Ag	US\$ '000	\$ 1,501	\$ 323	\$ 635	\$ 360	\$ 182	
<b>Refining cost</b>								
Au	US\$0.75 /oz Au	US\$ '000	\$ 54	\$ 8	\$ 14	\$ 18	\$ 13	
Ag	US\$0.00 /oz Ag	US\$ '000	\$ -	\$ -	\$ -	\$ -	\$ -	
<b>Total Charges</b>		<b>US\$ '000</b>	<b>\$ 4,483</b>	<b>\$ 959</b>	<b>\$ 1,880</b>	<b>\$ 1,086</b>	<b>\$ 558</b>	
Provincial Royalty	3%	US\$ '000	\$ 6,269	\$ 1,183	\$ 2,177	\$ 1,787	\$ 1,123	
Fiducian Royalty	1.5%	US\$ '000	\$ 3,135	\$ 591	\$ 1,088	\$ 893	\$ 561	
Owner's Royalty	US\$5.00 /oz AuEq	US\$ '000	\$ 790	\$ 147	\$ 275	\$ 226	\$ 142	
<b>Net Revenue</b>		<b>US\$ '000</b>	<b>\$ 194,291</b>	<b>\$ 36,552</b>	<b>\$ 67,143</b>	<b>\$ 55,663</b>	<b>\$ 35,033</b>	
Unit NSR		US\$/t milled	\$ 199	\$ 243	\$ 208	\$ 187	\$ 170	
<b>OPERATING COST</b>								
Mining (Underground)		US\$/t milled	\$ 40.07	\$ 34.60	\$ 36.96	\$ 40.07	\$ 48.90	
Processing		US\$/t milled	\$ 37.51	\$ 36.20	\$ 35.06	\$ 36.40	\$ 43.90	
G&A		US\$/t milled	\$ 21.53	\$ 19.97	\$ 18.62	\$ 20.20	\$ 29.10	
<b>Total Unit Operating Cost</b>		<b>US\$/t milled</b>	<b>\$ 99.11</b>	<b>\$ 90.77</b>	<b>\$ 90.65</b>	<b>\$ 96.67</b>	<b>\$ 121.91</b>	
Mining (Underground)		US\$ '000	\$ 39,127	\$ 5,202	\$ 11,920	\$ 11,913	\$ 10,092	
Processing		US\$ '000	\$ 36,631	\$ 5,443	\$ 11,308	\$ 10,820	\$ 9,060	
G&A		US\$ '000	\$ 21,020	\$ 3,003	\$ 6,006	\$ 6,006	\$ 6,006	
<b>Total Operating Cost</b>		<b>US\$ '000</b>	<b>\$ 96,777</b>	<b>\$ 13,648</b>	<b>\$ 29,234</b>	<b>\$ 28,738</b>	<b>\$ 25,157</b>	
Operating Cashflow		US\$ '000	\$ 97,514	\$ 22,904	\$ 37,910	\$ 26,825	\$ 9,876	
<b>CAPITAL COST</b>								
<b>Sustaining Capital</b>								
Mining		US\$ '000	\$ 29,258	\$ 4,932	\$ 12,731	\$ 9,889	\$ 1,705	
Processing		US\$ '000	\$ 6,275	\$ 2,245	\$ 872	\$ 3,158	\$ -	
<b>Total Sustaining Capital</b>		<b>US\$ '000</b>	<b>\$ 35,533</b>	<b>\$ 7,177</b>	<b>\$ 13,603</b>	<b>\$ 13,047</b>	<b>\$ 1,705</b>	
<b>Working Capital</b>		<b>US\$ '000</b>	<b>\$ 2,000</b>	<b>\$ 1,000</b>	<b>\$ 1,000</b>	<b>\$ -</b>	<b>\$ 3,000</b>	<b>\$ 1,185</b>
Reclamation and Closure		US\$ '000	\$ 4,185	\$ -	\$ -	\$ -	\$ -	\$ 1,185
<b>Total Capital Cost</b>		<b>US\$ '000</b>	<b>\$ 41,717</b>	<b>\$ 8,177</b>	<b>\$ 14,603</b>	<b>\$ 13,047</b>	<b>\$ 4,705</b>	<b>\$ 1,185</b>
<b>CASH FLOW</b>								
Net Pre-Tax Cashflow		US\$ '000	\$ 55,796	\$ 14,726	\$ 23,306	\$ 13,778	\$ 5,171	\$ (1,185)
Cumulative Pre-Tax Cashflow		US\$ '000	\$ -	\$ 14,726	\$ 38,033	\$ 51,810	\$ 56,981	\$ 55,796
EBITDA		US\$ '000	\$ 97,514	\$ 22,904	\$ 37,910	\$ 26,825	\$ 9,876	\$ -
Taxable Income		US\$ '000	\$ 46,736	\$ 5,275	\$ 23,785	\$ 14,691	\$ 2,985	\$ -
Taxes	35%	US\$ '000	\$ 16,357	\$ 1,846	\$ 8,325	\$ 5,142	\$ 1,045	\$ -
After-Tax Cashflow		US\$ '000	\$ 39,439	\$ 12,880	\$ 14,982	\$ 8,636	\$ 4,126	\$ (1,185)
Cumulative After-Tax Cashflow		US\$ '000	\$ -	\$ 12,880	\$ 27,862	\$ 36,498	\$ 40,624	\$ 39,439
<b>All-In Sustaining Cost</b>								
Gold, Silver as byproduct		US\$/oz Au	\$ 550	\$ 25	\$ 66	\$ 757	\$ 1,030	
Gold Equivalent		US\$/oz AuEq	\$ 1,038	\$ 937	\$ 957	\$ 1,070	\$ 1,200	
Silver, Gold as byproduct		US\$/oz Ag	\$ 9.61	\$ 7.51	\$ 9.73	\$ 9.34	\$ 11.81	
Silver Equivalent		US\$/oz AgEq	\$ 13.09	\$ 11.02	\$ 12.38	\$ 13.56	\$ 14.73	
<b>PROJECT ECONOMICS</b>								
Pre-Tax IRR		%						
Pre-tax NPV at 5% discounting	5.0%	US\$ '000	\$52,843					
Pre-tax NPV at 7.5% discounting	7.5%	US\$ '000	\$51,502					
Pre-tax NPV at 10% discounting	10.0%	US\$ '000	\$50,241					
After-Tax IRR		%						
After-Tax NPV at 5% discounting	5.0%	US\$ '000	\$37,493					
After-Tax NPV at 7.5% discounting	7.5%	US\$ '000	\$36,607					
After-tax NPV at 10% discounting	10.0%	US\$ '000	\$35,774					



## CASH FLOW ANALYSIS

Considering the Mine on a stand-alone basis, the undiscounted pre-tax cash flow totals \$56 million over the mine life.

Annual production during operations varies by year, averaging approximately 21,000 ounces of gold and 1.7 million ounces of silver per year.

After-Tax Net Present Values (NPV) at various discount rates are:

- 5% discount rate is \$37.5 million.
- 7.5% discount rate is \$36.6 million.
- 10% discount rate is \$35.8 million.

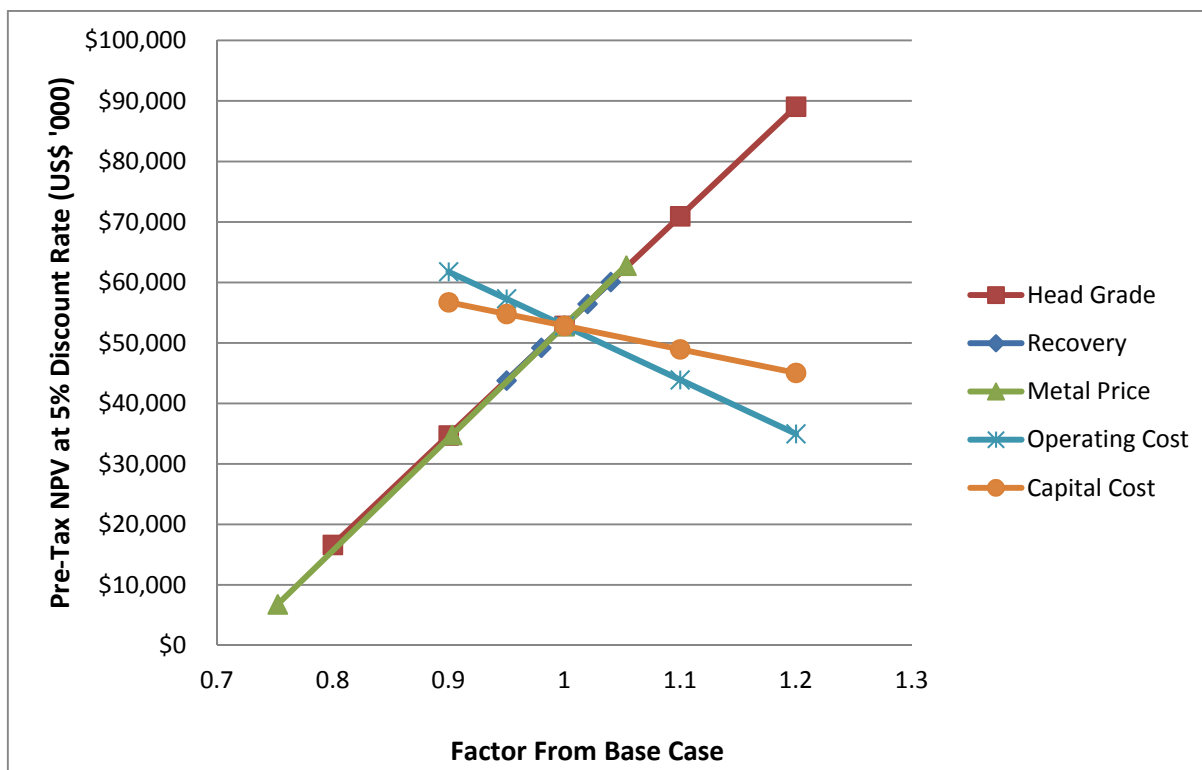
## SENSITIVITY ANALYSIS

Risks can be identified in both economic and non-economic terms. Key economic risks were examined by running cash flow sensitivities:

- Metal prices
- Head grade
- Recovery
- Operating costs
- Capital costs

Pre-tax NPV@5% sensitivity over the base case has been calculated for reasonable variations for each input. The sensitivities are shown in Figure 22-1 and Table 22-2.

The cash flow is most sensitive to metal prices and head grades. There is low sensitivity to recoveries (due to the limited range of possibilities) and capital costs (due to the limited capital required from June 30, 2016 forward to the end of the mine life).

**FIGURE 22-1 SENSITIVITY ANALYSIS**

**TABLE 22-2 SENSITIVITY ANALYSES**  
**Austral Gold Limited – Casposo Mine**

Parameter Variables	Units	Lowest	Lower	Base	Higher	Highest
Gold Price	US\$/oz	1,000	1,200	1,329	1,400	-
Recovery	% Au	87%	89%	91%	93%	95%
Head Grade	g/t Au	2.02	2.27	2.52	2.77	3.03
Operating Cost	\$ millions	87	92	97	106	116
Capital Cost	\$ millions	38	40	42	46	50
<b>NPV@5%</b>	<b>Units</b>	<b>Lowest</b>	<b>Lower</b>	<b>Base</b>	<b>Higher</b>	<b>Highest</b>
Gold Price	\$ millions	7	35	53	63	-
Recovery	\$ millions	44	49	53	56	60
Head Grade	\$ millions	17	35	53	71	89
Operating Cost	\$ millions	62	57	53	44	35
Capital Cost	\$ millions	57	55	53	49	45

## 23 ADJACENT PROPERTIES

There are no significant adjacent properties.

## **24 OTHER RELEVANT DATA AND INFORMATION**

No additional information or explanation is necessary to make this Technical Report understandable and not misleading.

## 25 INTERPRETATION AND CONCLUSIONS

Based on the site visit, discussions with Austral and Casposo personnel, and available information, RPA offers the following conclusions:

### **GEOLOGY AND MINERAL RESOURCES**

- The geological models employed by Casposo geologists are reasonably well understood, and are well supported by field observations in both outcrop and drill intersections.
- Sampling and assaying are adequately completed and have been carried out using industry standard QA/QC practices. These practices include, but are not limited to, sampling, assaying, chain of custody of the samples, sample storage, use of third-party laboratories, standards, blanks, and duplicates.
- The practices and procedures used to generate the Casposo database are acceptable to support Mineral Resource and Mineral Reserve estimation.
- Interpretations of the geology and the 3D wireframes of the estimation domains appear to be reasonable, although RPA notes that a minimum thickness was not applied – this issue was addressed during estimation of Mineral Reserves. As a result, Mineral Resources include a minor amount of very narrow mineralization.
- With the exception of a mineable minimum thickness, the resource estimates have been prepared using appropriate methodology and assumptions including:
  - Treatment of high assays;
  - Composite length;
  - Search parameters;
  - Bulk density;
  - Interpolation;
  - Cut-off grade;
  - Classification.
- The Mineral Resources are classified and reported in accordance with CIM definitions as incorporated by NI 43-101.
- The Kamila deposit remains open down plunge to the southeast of the Inca 3 zone. The Casposo Norte and Julieta zones are not completely delineated and many smaller targets on the property remain to be fully explored.

### **MINING AND MINERAL RESERVES**

- Mineral Reserves estimated by Austral are classified and reported in accordance with CIM definitions.
- Dilution is estimated by drawing realistic “mining shapes” which account for overbreak. Over the entire Mineral Reserves, dilution averages 33%, which represents an

improvement over historical results. Austral plans to incorporate a number of design changes that were successful in controlling dilution at their narrow-vein operation in Chile, the Guanaco Mine:

- Reduced stope heights from 20 m to 15 m.
- Smaller drift size (4.5 m by 4.5 m).
- Installation of cable bolts on the hangingwall.
- Revised blasting practices.
- Early results indicate better than planned performance (average dilution of 10% over 12 stopes). In RPA's opinion, the measures proposed by Austral should continue to result in improved results over historical dilution levels.

#### ***METALLURGY AND MINERAL PROCESSING***

- The processing facility successfully produced precious metal doré beginning in 2009 and through the time the operation was shut down in February 2016. At the time of the site visit, the plant was being modified to improve performance and reduce costs.
- The plan for operating the Casposo processing facilities after re-starting considers intermittent operations, in order to more closely match the mine's ability to deliver ore to the plant. RPA agrees that this is a sensible strategy.

#### ***COST ESTIMATES AND ECONOMICS***

- Unit operating costs will be sensitive to variations in the production rate achieved by the Mine.
- Cash flow analysis confirms that the Mineral Reserves are economic using the assumptions stated in this report.

## 26 RECOMMENDATIONS

RPA has the following recommendations:

### ***GEOLOGY AND MINERAL RESOURCES***

- The Mineral Resource estimates should incorporate any necessary dilution to allow appropriate mining dimensions and potentially economic extraction.
- At present, Austral has not completed digital geological models for Casposo. RPA recommends that a geological model be created to facilitate more contextual understanding of vein mineralization and possible geological controls on grade distribution.
- Troy and Austral chose to cap composites as opposed to capping raw drill hole assays. RPA recommends capping the raw drill hole data before compositing the information, as this will ensure that high grades are not averaged into the assay data, where these may have undue influence on adjacent low grade composites.
- Unsourced intervals were not assigned zero or below detection limit values. RPA suggests that unsourced intervals be assigned zero or near-zero values to avoid spreading grade over intervals that were likely not sampled due to a lack of mineralization.
- Additional density samples should be taken, specific to individual zones in order to identify local variations and to confirm and support future resource estimates. RPA also recommends developing a standard operating procedure for in-house density determinations and implementing some outside checks on the density determinations to support and confirm in-house results.

### ***MINING AND MINERAL RESERVES***

- Austral should continue to review CMS data as stopes are mined, and adjust the reserve dilution estimates accordingly.

### ***METALLURGY AND MINERAL PROCESSING***

- RPA recommends that Casposo continue to assess the operation of the processing plant and make additional modifications and improvements to the operation as opportunities are identified. Particular emphasis is needed to optimize and achieve the moisture content of the filtered tailings in order to optimize the dry stack tailings operation in the TMF.
- RPA recommends that Casposo perform a detailed analysis of all operating data and data from additional metallurgical work that has been completed recently. The objective of the evaluation is to develop a methodology that will improve the recovery estimates for use in budgeting and planning.

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## 28 DATE AND SIGNATURE PAGE

This report titled “Technical Report on the Casposo Gold-Silver Mine, Department of Calingasta, San Juan Province, Argentina” and dated September 7, 2016 was prepared and signed by the following authors:

**(Signed & Sealed) “*Kathleen Ann Altman*”**

Dated at Denver, CO  
September 7, 2016

Kathleen Ann Altman, P.E., Ph.D.  
Principal Metallurgist

**(Signed & Sealed) “*Jason J. Cox*”**

Dated at Toronto, ON  
September 7, 2016

Jason J. Cox, P.Eng.  
Principal Mining Engineer

**(Signed & Sealed) “*Chester M. Moore*”**

Dated at Toronto, ON  
September 7, 2016

Chester M Moore, P.Eng.  
Principal Geologist

## 29 CERTIFICATE OF QUALIFIED PERSON

### KATHLEEN ANN ALTMAN

I Kathleen Ann Altman, P.E., as an author of this report entitled "Technical Report on the Casposo Gold-Silver Mine, Department of Calingasta, San Juan Province, Argentina" prepared for Austral Gold Limited and dated September 7, 2016, do hereby certify that:

1. I am Principal Metallurgist and Director, Mineral Processing and Metallurgy with RPA (USA) Ltd. of Suite 505, 143 Union Boulevard, Lakewood, Co., USA 80228.
2. I am a graduate of the Colorado School of Mines in 1980 with a B.S. in Metallurgical Engineering. I am a graduate of the University of Nevada, Reno Mackay School of Mines with an M.S. in Metallurgical Engineering in 1994 and a Ph.D. in Metallurgical Engineering in 1999.
3. I am registered as a Professional Engineer in the State of Colorado (Reg. #37556) and a Qualified Professional Member of the Mining and Metallurgical Society of America (Member #01321QP). I have worked as a metallurgical engineer for a total of 34 years since my graduation. My relevant experience for the purpose of the Technical Report is:
  - Review and report as a metallurgical consultant on numerous mining operations and projects around the world for due diligence and regulatory requirements.
  - I have worked for operating companies, including the Climax Molybdenum Company, Barrick Goldstrike, and FMC Gold in a series of positions of increasing responsibility.
  - I have worked as a consulting engineer on mining projects for approximately 15 years in roles such a process engineer, process manager, project engineer, area manager, study manager, and project manager. Projects have included scoping, prefeasibility and feasibility studies, basic engineering, detailed engineering and start-up and commissioning of new projects.
  - I was the Newmont Professor for Extractive Mineral Process Engineering in the Mining Engineering Department of the Mackay School of Earth Sciences and Engineering at the University of Nevada, Reno from 2005 to 2009.
4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
5. I visited the Casposo Mine on May 11 and 12, 2016.
6. I am responsible for Sections 13, 17, and 20 and contributed to Sections 1, 2, 25, 26, and 27 of the Technical Report.
7. I am independent of the Issuer applying the test set out in Section 1.5 of NI 43-101.
8. I have had no prior involvement with the property that is the subject of the Technical Report.
9. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

10. At the effective date of the Technical Report, to the best of my knowledge, information, and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 7<sup>th</sup> day of September, 2016

**(Signed & Sealed) “Kathleen Ann Altman”**

Kathleen Ann Altman, P.E.

**JASON J. COX**

I, Jason J. Cox, P.Eng., as an author of this report entitled "Technical Report on the Casposo Gold-Silver Mine, Department of Calingasta, San Juan Province, Argentina" prepared for Austral Gold Limited and dated September 7, 2016, do hereby certify that:

1. I am a Principal Mining Engineer and Executive Vice President, Mine Engineering, with Roscoe Postle Associates Inc. of Suite 501, 55 University Ave Toronto, ON, M5J 2H7.
2. I am a graduate of the Queen's University, Kingston, Ontario, Canada, in 1996 with a Bachelor of Science degree in Mining Engineering.
3. I am registered as a Professional Engineer in the Province of Ontario (Reg. #90487158). I have worked as a Mining Engineer for a total of 20 years since my graduation. My relevant experience for the purpose of the Technical Report is:
  - Review and report as a consultant on many mining operations and projects around the world for due diligence and regulatory requirements
  - Feasibility Study project work on several mining projects, including five North American mines
  - Operational experience as Planning Engineer and Senior Mine Engineer at three North American mines
  - Contract Co-ordinator for underground construction at an American mine
4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
5. I visited the Casposo Mine on May 10 to 12, 2016.
6. I am responsible for Sections 1 through 5, 15, 16, 18, 19, and 21 through 27 of the Technical Report.
7. I am independent of the Issuer applying the test set out in Section 1.5 of NI 43-101.
8. I have had no prior involvement with the property that is the subject of the Technical Report.
9. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.
10. At the effective date of the Technical Report, to the best of my knowledge, information, and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 7<sup>th</sup> day of September, 2016

**(Signed & Sealed) "Jason J. Cox"**

Jason J. Cox, P.Eng.

**CHESTER M. MOORE**

I, Chester M. Moore, P.Eng., as an author of this report entitled "Technical Report on the Casposo Gold-Silver Mine, Department of Calingasta, San Juan Province, Argentina" prepared for Austral Gold Limited and dated September 7, 2016, do hereby certify that:

1. I am Principal Geologist with Roscoe Postle Associates Inc. of Suite 501, 55 University Ave Toronto, ON, M5J 2H7.
2. I am a graduate of the University of Toronto, Toronto, Ontario, Canada in 1972 with a Bachelor of Applied Science degree in Geological Engineering.
3. I am registered as a Professional Engineer in the Province of Ontario (Reg. #32455016). I have worked as a geologist for over 40 years since my graduation. My relevant experience for the purpose of the Technical Report is:
  - Mineral Resource and Mineral Reserve estimation, feasibility studies, due diligence, corporate review and audit on exploration projects and mining operations world wide
  - Various advanced exploration and mine geology positions at base metal and gold mining operations in Ontario, Manitoba and Saskatchewan
  - Director, Mineral Reserve Estimation and Reporting at the corporate offices of a major Canadian base metal producer
4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
5. I visited the Casposo operations on May 10 to 12, 2016.
6. I am responsible for Sections 6 to 12, and 14 and contributed to Sections 1 to 6 and 23 to 27 of the Technical Report.
7. I am independent of the Issuer applying the test set out in Section 1.5 of NI 43-101.
8. I have had no prior involvement with the property that is the subject of the Technical Report.
9. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.
10. At the effective date of the Technical Report, to the best of my knowledge, information, and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 7<sup>th</sup> day of September, 2016

**(Signed & Sealed) "Chester M. Moore"**

Chester M. Moore, P.Eng.