**MT. TODD GOLD PROJECT** Updated Preliminary Economic Assessment Report Northern Territory, Australia

Prepared for VISTA GOLD CORP.



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# 1.0 SUMMARY

Tetra Tech, Inc. ("Tt") was commissioned by Vista Gold Corp. ("Vista") in March 2009 to prepare an update to the December 29, 2006 Canadian National Instrument 43-101 ("NI43-101") compliant Preliminary Economic Assessment Report ("PEA") on the Mt Todd Gold Project (the "Project") located in Northern Territory ("NT"), Australia. On March 1, 2006, Vista purchased the Mt Todd property, and the acquisition was completed on June 16, 2006, when the mineral leases transferred to Vista and funds were released from escrow. An initial NI43-101 Technical Report was completed on June 26, 2006. A Preliminary Economic Assessment report was completed on December 29, 2006, An update to the resource report was completed in May 2008 and February 2009 based on additional exploration drilling completed by Vista during 2007 and 2008. The Mt Todd property contains a number of known occurrences of gold, which have been explored and/or exploited to various degrees. The largest and best-known deposits are the Batman and Quigleys Deposits. Both of these have had historic mining, with Batman having the most production and exploration completed. Currently, only the Batman Deposit has CIM compliant reported resources.

## Location

The Mt Todd Project is located 56 kilometers (km) by road northwest of Katherine, and approximately 250 km southeast of Darwin in NT, Australia (FIGURE 1-1). Access to the property is via high quality, two-lane paved roads from the Stuart Highway, the main arterial within the territory.

## History

The Mt Todd Gold Project has a long, well-documented history as presented in TABLE 1-1. In addition, it has a well-preserved and meticulously maintained database and supporting file system. The care and quality of these data speak well to the trust and integrity of the resultant studies that have been completed since the deposit was discovered.

While the property operated and closed due to bankruptcy, the failure of the project was not a result of a failure of the deposit and/or the resource estimate. The failure of the project was primarily a result of improper crushing and grinding, accompanied by poor recovery which resulted in higher than expected operating costs, and low gold prices. Had proper bulk sampling and testing been completed, a different processing plant would have been built which would have been more appropriate for the deposit conditions.

The Batman resource estimate reconciled very well on a "global" basis, but had difficulties on a local basis. This was primarily due to improper modeling techniques that "over-smoothed" the grades and poor sampling techniques of the blast holes. The improper modeling of the resource was rectified in Vista's original Technical Report (dated June 26, 2006) when the entire deposit was remodeled. Vista has continued to use modelling procedures that ensure the continued integrity of the resource estimates. Prior to closure in 2000, it appears that all of the sampling problems, as specified by the various consultants and reports, had been addressed and corrected. The improper processing techniques are also currently being reviewed and revised. A brief write up of this work is presented in Section 16.0 of this report. It is Tt's opinion that this information is very important when examining the Mt Todd Gold Project as envisaged by Vista.

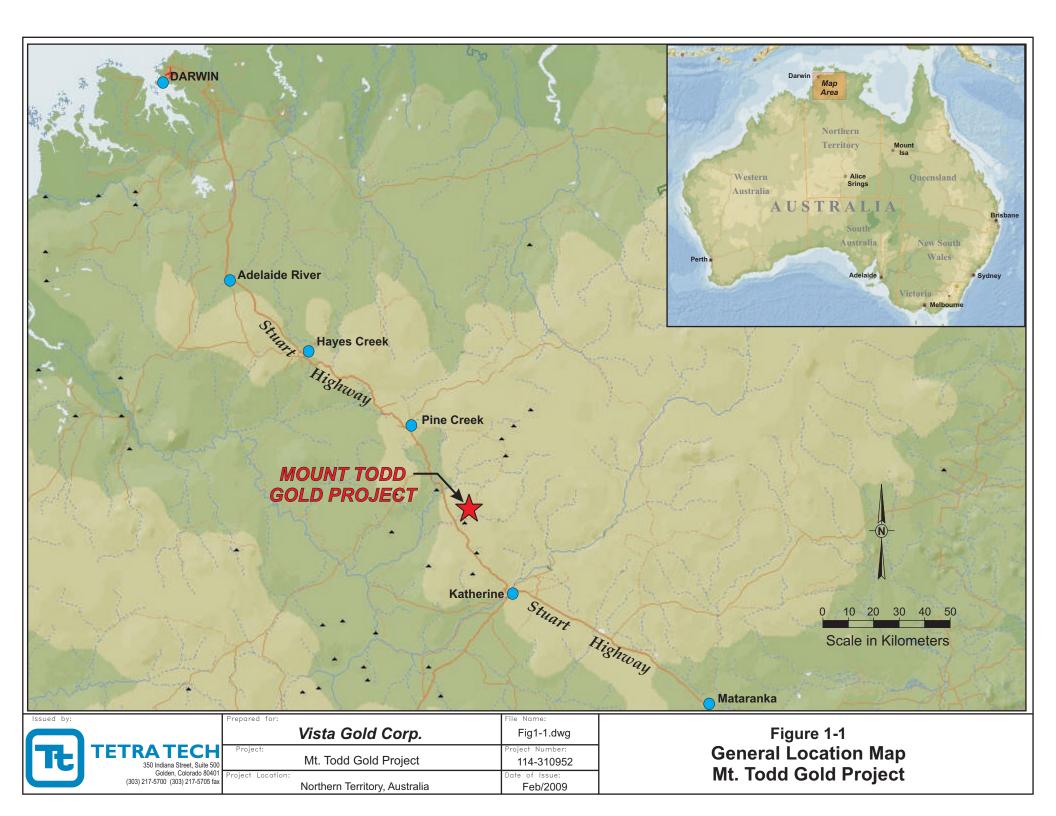


TABLE 1-1: PROPERTY HISTORY VISTA GOLD CORP. – MT TODD GOLD PROJECT					
May 2009					
<u>1986</u> October 1986 – January 1987:	Conceptual Studies, Australia Gold PTY LTD (Billiton); Regional Screening; (Higgins), Ground Acquisition by Zapopan N.L.				
<u>1987</u> February: June-July: October:	Joint Venture finalized between Zapopan and Billiton. Geological Reconnaissance, Regional BCL, stream sediment sampling. Follow-up BCL stream sediment sampling, rock chip sampling and geological mapping (Geonorth)				
<u>1988</u> Feb-March: March-April: May: May-June: July:	Data reassessment (Truelove) Gridding, BCL grid soil sampling, grid based rock chip sampling and geological mapping (Truelove) Percussion drilling Batman (Truelove) - (BP1-17, 1475m percussion) Follow-up BCL soil and rock chip sampling (Ruxton, Mackay) Percussion drilling Robin (Truelove, Mackay) - RP1-14, (1584m percussion)				
July-Dec:	Batman diamond, percussion and RC drilling (Kenny, Wegmann, Fuccenecco) - BP18-70, (6263m percussion); BD1-71, (8562m Diamond); BP71-100, (3065m R.C.)				
<u>1989</u> Feb-June:	Batman diamond and RC drilling:BD72-85 (5060m diamond); BP101-208, (8072m RC). Penguin, Regatta, Golf, Tollis Reef Exploration Drilling : PP1-8, PD1, RGP132, GP1-8, BP108, TP1-7 (202m diamond, 3090m RC); TR1-159 (501m RAB).				
June:	Mining lease application (MLA's 1070, 1071) lodged.				
July-Dec:	Resource Estimates; mining-related studies; Batman EM-drilling: BD12, BD8690 (1375m diamond); RC pre-collars and H/W drilling, BP209-220 (1320m RC); Exploration EM and exploration drilling: Tollis, Quigleys, TP9, TD1, QP1-3, QD1-4 (1141 diamond, 278m RC); Negative Exploration Tailings Dam: E1-16 (318m RC); DR1-144 (701. RAB) (Kenny, Wegmann, Fuccenecco, Gibbs).				
<u>1990</u> Jan-March:	Pre-feasibility related studies; Batman Inclined Infill RC drilling: BP222-239 (2370m RC); Tollis RC drilling, TP10-25 (1080m RC). (Kenny, Wegmann, Fuccenecco, Gibbs)				
<u>1993 - 1997</u> Pegasus Gold Australia Pty Ltd.	Pegasus Gold Australia Pty Ltd reported investing more than US\$200 million in the development of the Mt Todd mine and operated it from 1993 to 1997, when the project closed as a result of technical difficulties and low gold prices. The deed administrators were appointed in 1997 and sold the mine in March 1999 to a joint venture comprised of Multiplex Resources Pty Ltd and General Gold Resources Ltd.				
<u>1999 - 2000</u> March - June	Operated by a joint venture comprised of Multiplex Resources Pty Ltd and General Gold Resources Ltd. Operations ceased in July 2000, Pegasus, through the Deed Administrators, regained possession of various parts of the mine assets in order to recoup the balance of purchase price owed it. Most of the equipment was sold in June 2001 and removed from the mine. The tailings facility and raw water facilities still remain at the site.				
<u>2000 – 2006</u>	Ferrier Hodgson (the Deed Administrators), Pegasus Gold Australia Pty Ltd; the government of the NT; and the Jawoyn Association Aboriginal Corporation (JAAC) held the property.				
2006 March	Vista Gold Corp. acquires concession rights from the Deed Administrators.				

# Ownership

The mineral leases ("ML") consist of three individual tenements, MLN 1070, MLN 1071, and MLN 1127 comprising some 5,365 hectares. In addition, Vista controls exploration leases ("EL") EL25668, EL25669, EL25576, and EL 25670 comprising some 160,884 hectares. FIGURE 1-2 illustrates the general location of the tenements and the relative position of the two primary mineral deposits: Batman and Quigleys.

The agreement with the Territory is for an initial term of five years commencing January 1, 2006, with an extension of five years at Vista's option and three additional years possible at the option of the Territory. During the first five-year term, Vista must undertake a comprehensive technical and environmental review of the project to evaluate current site environmental conditions to develop a program to stabilize the environmental conditions and minimize offsite contamination. Vista must also review the water management plan and make recommendations and produce a technical report for the re-starting of the operations. During the term of the agreement, Vista must examine all technical, economic, and environmental issues, estimate the cost to rehabilitate the site, explore and evaluate the potential of the project, and prepare a technical and economic feasibility study for the potential development of the entire Mt Todd Project site.

As part of the agreement, the Territory has acknowledged its commitment to rehabilitate the site and that Vista has no obligations for pre-existing conditions until it submits and receives approval of a Mine Management Plan for resumption of mining operations.

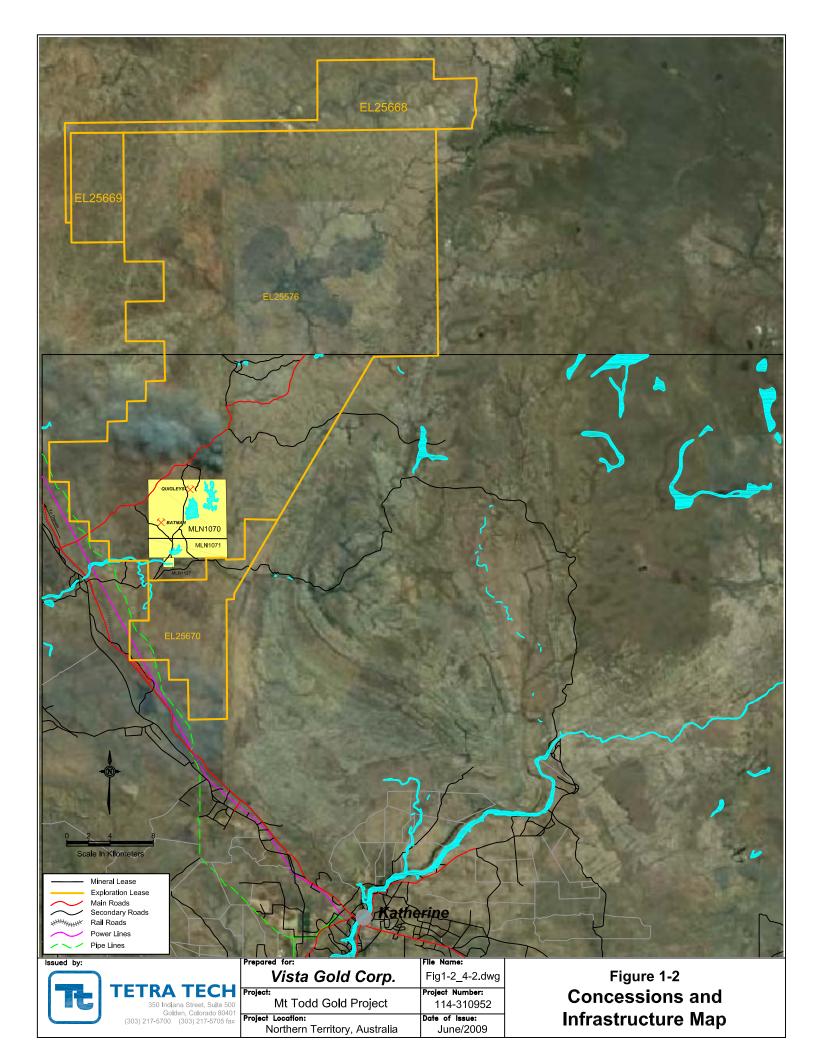
# Geology

The Mt Todd Project is situated within the southeastern portion of the Early Proterozoic Pine Creek Geosyncline. Meta-sediments, granitoids, basic intrusives, acid and intermediate volcanic rocks occur within this geological province.

The geology of the Batman Deposit consists of a sequence of hornfelsed interbedded greywackes, and shales with minor thin beds of felsic tuff. Bedding is striking consistently at  $325^{\circ}$ , dipping at  $40^{\circ}$  to  $60^{\circ}$  to the southwest. Minor lamprophyre dykes trending north-south pinch and swell, crosscutting the bedding.

The deposits are similar to other gold deposits of the Pine Creek Geosyncline ("PCG") and are classified as orogenic gold deposits in the subdivision of thermal aureole gold style. The Batman Deposit shares some characteristics with intrusion-related gold systems, especially in terms of the association of gold with bismuth and reduced ore mineralogies. This makes the deposit unique in the PCG. The mineralization within the Batman Deposit is directly related to the intensity of the north south trending quartz sulfide veining. The lithological units impact on the orientation and intensity of mineralization.

Sulfide minerals associated with the gold mineralization are pyrite, pyrrhotite and lesser amounts of chalcopyrite, bismuthinite and arsenopyrite. Galena and sphalerite are also present but appear to be post-gold mineralization and are related to calcite veining, bedding and the east-west trending faults and joints.



## Estimated Resources

At the present time, resources have only been estimated for the Batman Deposit. Tt created three-dimensional computerized geologic and grade models of the Batman Deposit. While the global model area also contains the Golf-Tollis and Quigleys Deposits, no geologic resource estimate has been made for these deposits at the present time.

Tt used the geologic model that has evolved over the last few years, as adjusted by each exploration program, to guide the statistical and geostatistical analysis of the gold assay data. This model is a combination of lithologic and alteration data. The rock model was assigned a tonnage factor based on the oxidation state (i.e. oxidized, transition, primary). The tonnage factors are based on a number of tests from the core and, in Tt's opinion, are representative of the various rock units, and are acceptable for estimation of the in-place geologic resources.

Estimation has been completed by using whole-block kriging techniques. This is the same estimation procedure as the previous Tt resource models, adjusted according to each successive drilling program. The estimation is completed as a "two-pass" process. That is, the first pass is for the resources within the main core complex only using data from this zone. The second pass is for the material outside of the main core complex only using assays from outside the core complex. The estimated gold resources were classified into measured, indicated, and inferred categories. The classification was accomplished by a combination of kriging variance, number of points used in the estimate, and number of sectors used. TABLE 1-2 details the results of the classification.

TABLE 1-2: BATMAN RESOURCE CLASSIFICATION CRITERIA VISTA GOLD CORP. – MT TODD GOLD PROJECT May 2008 and February 2009				
Category	Kriging Variance	No. of Sectors	No. of Points/Sector	
Measured	Core Complex< 0.30	4	4-16	
Indicated	Core Complex >= 0.30 and <0.55	4	4-16	
Inferred	Outside Core Complex <0.45	3	2-8	

TABLE 1-3 details the estimated in-place resources by classification and by cutoff grade for the Batman Deposit. All of the resources quoted are contained on Vista's mineral leases. The Base Case cutoff for the resource reporting is 0.4 g Au/t and is bolded in the table. This cutoff value was determined according to a three-year average gold price of US\$750, a three-year average exchange rate of A\$1.35 = US\$1.00, and accompanying parameters as presented in TABLE 1-4 of this report. It is important to note that the change in the cutoff grade has resulted in the reporting of significantly more contained gold ounces; however, the gold grade model is unchanged from the February 27, 2009 Technical Report.

VISTA GOLD CORP. – MT TODD GOLD PROJECT May 2009					
Cutoff Grade g Au/tonne	Tonnes (x1000)	Average Grade g Au/tonne	Total Au Ounces (x1000)		
MEASURED					
2.00	1,977	2.38	151		
1.75	3,676	2.14	253		
1.50	6,469	1.91	398		
1.25	10,163	1.71	560		
1.00	16,119	1.49	774		
0.90	19,764	1.39	885		
0.80	24,262	1.29	1,007		
0.70	29,616	1.19	1,136		
0.60	36,700	1.09	1,284		
0.50	44,645	0.99	1,424		
0.40	52,919	0.91	1,543		
·		INDICATED			
2.00	3,238	2.49	259		
1.75	5,773	2.21	410		
1.50	10,140	1.95	637		
1.25	17,532	1.70	961		
1.00	30,873	1.45	1,437		
0.90	39,308	1.34	1,694		
0.80	50,410	1.23	1,996		
0.70	64,371	1.13	2,332		
0.60	82,412	1.02	2,707		
0.50	105,936	0.92	3,121		
0.40	138,020	0.81	3,581		
	MEASUF	RED + INDICATED (1)			
2.00	5,215	2.45	410		
1.75	9,449	2.18	663		
1.50	16,609	1.94	1,035		
1.25	27,695	1.71	1,521		
1.00	46,992	1.46	2,210		
0.90	59,072	1.36	2,578		
0.80	74,672	1.25	3,003		
0.70	93,987	1.15	3,468		
0.60	119,112	1.04	3,991		
0.50	150,581	0.94	4,545		
0.40	190,939	0.84	5,125		

NOTE (1): The sum of measured and indicated resources as reported under NI 43-101 is equivalent to mineralized material under SEC Industry Guide 7.

INFERRED RESOURCES					
Cutoff Grade g Au/tonne	Tonnes (x1000	Average Grade g Au/tonne	Total Au Ounces (x1000)		
2.00	2,058	2.76	183		
1.75	3,056	2.47	242		
1.50	4,808	2.16	333		
1.25	7,936	1.84	470		
1.00	14,280	1.52	696		
0.90	18,878	1.38	836		
0.80	25,593	1.24	1,018		
0.70	35,885	1.10	1,266		
0.60	48,503	0.98	1,529		
0.50	66,725	0.86	1,849		
0.40	94,008	0.74	2,244		

The results of the 2008 Vista exploration program continued to provide strong support that the current geologic model and resource estimates are indicative of the mineralization present at Mt. Todd. In addition, the 2008 exploration program has identified an additional "sympathetic" structure and mineralization east of the main Batman mineralized zone. This new resource area will have significant impact on the waste to ore ratios because it represents previously undefined mineralization as opposed to mineralization that changes from waste to ore due to changing gold prices. The 2008 exploration program was designed to complete four main objectives for the Batman deposit:

- 1) Confirmation of the existing geologic and grade model at depth;
- 2) Confirmation of the previous assaying programs and grades in the assay database;
- 3) Development of additional definition in the short-range portion of the variogram; and
- 4) Development of additional measured and indicated mineral resources.

All of these objectives were met and/or exceeded. The results of the 2008 exploration program added approximately 197,000 ounces of gold to the measured resource class and approximately 2,032,000 ounces to the indicated resource class at a 0.4 g Au/t cutoff grade. Measured and indicated resources now account for approximately 70% of the known resources at the Batman deposit. Approximately 713,000 ounces of gold were added to the inferred resource class as compared to the March 2008 inferred resource estimate.

### Exploration Potential

The following discussion details by deposit some of the more important areas that have been identified by Tt that are likely to result in increases in either the confidence of the resource estimate and/or the amount of the resource estimate for the individual deposits located on the Mt Todd mineral leases.

### Batman Deposit

One of the results of the statistical and geostatistical analysis of the blasthole gold data and resulting creation of independent gold, copper, silver, lead, zinc, iron, and sulfur grade models was the identification of areas within the existing defined deposit that continue to be "under drilled" with regard to classification of the estimated resources. In general, as the depth of the

main mineralized host and structure increases, the density of drilling decreases, although the 2008 exploration program did improve the deep drilling. This has resulted in a number of areas that contain no estimated resources, but in all likelihood, based on the geology and surrounding drillhole data, are mineralized and would contain resources if additional drilling were completed. In addition to these areas, the Batman deposit continues to be open in both the north and south directions. The last fence on the north and south sides of the deposit are mineralized and suggest that more "stepout" drilling is still needed.

Another feature that came to light from the 2007 and 2008 exploration-drilling program is the potential existence of a new "parallel and/or sub-parallel" structures and mineralization to the east of the main core complex at the Batman deposit. Both of these parallel and/or sub-parallel structures warrant additional exploration drilling to better define these zones.

### Quigleys and Golf-Tollis Deposits

The Quigleys and Gold-Tollis deposits appear to be more structurally controlled than Batman with the mineralization occurring in narrower bands. Because of this, additional work will need to be undertaken in order to develop an accurate resource estimate. Tt proposes that the following items be considered when preparing the work plan:

- Surface mapping and subsequent re-interpretation of the footwall contact relationship to the shear zone mineralization is recommended. Any additional structural complexity that results should, where appropriate, be used to refine the mineralized envelope upon which modeling updates are based;
- Optimization of the resource provides a focus to define areas requiring further investigation or infill drilling. Due to the high degree of variability in the deposit, infill drilling is best targeted at key areas of geological complexity;
- A model should be developed for the area outside the shear zone. This will require separation of areas of mineralization from unmineralized areas using a suitable constraining envelope; and
- 4) The cause of the apparent bias between some of the old and new RC drilling should be confirmed to validate the inclusion of all samples in the resource calculation.

### Other Mineralized Occurrences

Several other known mineral occurrences occur on the concession. These are the Golf-Tollis, and Horseshoe deposits. There are some indications of prior exploration work, based on maps and minor references that have involved geologic, geochemical, geophysical, and drilling work. While a lower priority than Batman and Quigleys, efforts should be undertaken that:

- 5) Locate all available data and confirm, if possible, the validity;
- 6) Re-assess the data to determine if additional exploration work is warranted; and
- 7) Develop appropriate programs that systematically attempt to define the size and tenor of the mineralization present.

### Base Case Mine Plan and Potentially Mineable Resources

Potentially mineable pit shapes were evaluated using a Lerchs-Grossman ("LG") analyses performed with the GEMS® Whittle pit optimization software and the Mt Todd mineral resource model. The primary purpose of this was to determine ultimate pit limits and the best extraction sequence for open pit mine design. For this PEA, measured, indicated, and inferred resources

were considered potential ore. The parameters assumed for the LG analyses are summarized in Table 1-4 (all prices and costs are reported in first quarter 2009 US dollars).

TABLE 1-4: BASE CASE PARAMETERS FOR LERCHS-GROSSMAN ANALYSES VISTA GOLD CORP. – MT TODD GOLD PROJECT May 2009			
Average Pit Slopes	All 50 degrees		
Gold Price (1)	US\$600.00 per oz Au		
Gold Recovery	82 percent		
Mining Cost	US\$1.74 per tonne mined		
Processing Cost	US\$5.75 per tonne processed		
General and Administrative Cost	US\$0.44 per tonne processed		
Tailings-related Costs	US\$0.36 per tonne processed		
Environmental/Regulatory Cost	US\$0.05 per tonne processed		

**Note 1:** A three-year weighted average gold price of US\$750 was computed and used for this analysis.

The Base Case LG shell is defined by the economic factors listed in Table 1-4. A total of 15 LG runs, including the base case, were run to determine sensitivities to gold price and pit slopes. Gold price sensitivity was analyzed in \$50.00 per ounce increments from \$400 to \$800 per ounce Au. The \$400 per ounce Au LG shell was used as an initial phase in mine production schedule.

Using the Base Case, the ultimate pit was designed for 18-m<sup>3</sup> hydraulic front shovels and 141tonne haul trucks. The design includes smoothed pit walls, haulage ramps, benches, and pit access. After the ultimate pit was designed, two intermediate phases were created for production scheduling and enhancing the economics of the project. Inter-ramp slopes were estimated to average 50 degrees, with the bench heights and haul road widths designed to accommodate the planned equipment fleet for Mt Todd.

Table 1-5 summarizes mineable resources resulting from the base case ultimate pit.

TABLE 1-5: CLASSIFICATION OF BASE CASE MINEABLE RESOURCES VISTA GOLD CORP. – MT TODD GOLD PROJECT May 2009								
Class	Ore Tonnes (x 1000)	Average Gold Grade (gm/t))	Contained Gold (oz)	Waste Tonnes (x 1000)	Total Tonnes (x 1000)	Stripping Ratio (W:O)		
Measured	46,528	0.95	1,421,110	-NA-	-NA-	-NA-		
Indicated	101,041	0.87	2,826,530	-NA-	-NA-	-NA-		
Measured +	147,569	0.93	4,247,640	-NA-	-NA	-NA-		
Indicated	44.040	0.70	004.400					
Inferred	14,249	0.73	334,420	-NA-	-NA-	-NA-		
Waste	-NA-	-NA-	-NA-	300,000	461,818	1.9:1		

(NOTE: Ounces do not total due to rounding)

The Base Case production schedule for this PEA assumes a 30,000-tonne-per-day (10.65-million-tonne-per-year) ore production rate, resulting in a 15.2-year operating life, as shown in TABLE 1-6.

	TABLE 1-6: BASE CASE PRODUCTION SCHEDULE VISTA GOLD CORP. – MT TODD GOLD PROJECT May 2009					
Year	"Ore" Tonnes (x 1000)	Avg. Grade (g Au/tonne)	Waste Tonnes (x 1000)	Stripping Ratio (W:O)		
PP2	0	0	0			
PP1	0	0	0			
1	10,650	1.11	7,000	0.7		
2	10,650	1.11	7,000	0.7		
3	10,650	0.95	10,000	0.9		
4	10,650	0.83	15,000	1.4		
5	10,650	0.83	20,000	1.9		
6	10,650	0.83	24,000	2.3		
7	10,650	0.83	24,000	2.3		
8	10,650	0.83	24,000	2.3		
9	10,650	0.83	24,000	2.3		
10	10,650	0.83	24,000	2.3		
11	10,650	0.83	24,000	2.3		
12	10,650	0.83	24,000	2.3		
13	10,650	0.83	24,000	2.3		
14	10,650	0.83	24,000	2.3		
15	10,650	0.83	21,000	2.0		
16	2,068	0.83	3,946	1.9		
	161,818	0.87	299,946	1.9		

### Processing and Process Flowsheet

Resource Development Inc., ("RDi") was contracted by Vista to undertake a metallurgical testing study to confirm the conceptual process flowsheet developed earlier and presented in the Preliminary Economic Assessment report published December 29, 2006 and available for reviewing on the SEDAR website. In addition, it was envisioned that this testwork, outlined in NI 43-101 Technical Report dated May 15, 2008, will develop a metallurgical balance for the process circuit and generate data for future economic studies.

The metallurgical test work is currently on-going at RDi. Preliminary results so far indicate no changes from previous work with regard to anticipated gold recoveries. Gold extractions of more than 80 percent are expected to be achieved at a relatively coarse grind with reasonable cyanide consumption. This phase of the test work is anticipated to be completed in the next two to three months and a report will be issued at that time. However, the proposed flowsheet has been modified/simplified and consists of coarse grinding followed by whole ore leaching

A significant change from prior studies involves the use of dry-stacked tailings rather than conventional tailings disposal in a tailings dam. This change has resulted in significantly lower initial capital costs, the ability to reclaim a portion of the dry-stack facility as mining progresses, and a reduction of the final reclamation costs.

# **Existing Environmental Conditions**

The Draft Environmental Impact Statement for the Mt Todd mine (Zapopan, 1992) gave the following as the specific environmental issues to be considered for the project: conservation of the Gouldian Finch in the Yinberrie Hills; control of acid drainage; heap leach solution

containment; tailings containment; water management; rehabilitation planning; impacts of noise, dust and blasting; impacts on vegetation and fauna; impacts on Aboriginal sites of cultural significance; impacts on historical and Aboriginal archaeological sites; impacts on regional urban and social infrastructure; and general site management issues, such as weeds, mosquitoborne diseases, wildlife, and workforce behavior.

The major environmental considerations for the Mt Todd site currently and going forward could be regarded as site water management and, potentially, the conservation of the Gouldian Finch. The Gouldian Finch was classified as "Endangered" in 2001 by the NT Parks and Wildlife Commission (NT PWC, 2001). There are currently believed to be no specific conservation practices enforced at Mt Todd for the finch. The primary environmental challenge for Mt Todd is water management. The site contains several sources of acidic water high in dissolved metals. These include the Batman Pit and the waste rock dump. Acidic waters are currently collected and/or stored in the Batman Pit, waste rock dump repository ("RP1"), heap leach pad ("HLP") moat and low-grade ore dump pond ("RP2"). This water is managed through a combination of evaporation, pumping for containment, and controlled discharge to streams during major flow events. These conditions are the result of the abandonment of the site without any closure or reclamation activities. A proper closure plan will be developed to ensure that these issues are addressed and remediated as part of the closure of a new Mt Todd mine operation.

A database has been constructed for the collation of Mt Todd hydro-chemical data, and potentially for other data types (e.g. groundwater levels and pumping rates) in the future. The "guidelines" referenced in the following discussion of Mt Todd waters chemistry are the ANZECC and ANZMARC (2000) guidelines for aquatic ecosystem protection (at the 95% species protection level) and for recreation.

In all the water retention ponds (excluding the raw water dam) and in the Batman Pit, the median concentrations of all metals measured (except arsenic) exceed the guideline levels, usually by a considerable margin. Copper and zinc have the highest levels relative to guidelines, requiring dilution factors of approximately 9000 and 5000 respectively to meet the guidelines. This demonstrates why the compliance focus for Mt Todd is on copper concentrations. Metal levels in all the ponds and pits (except the rock waste dump) are generally within the same order of magnitude. The pH of the waters ranges from approximately 3 to 4.5.

The ephemeral streams on site (Stow, Horseshoe, and Batman) exhibit metal concentration records (particularly copper and zinc) indicative of periodic flushing of contaminants from site into the streams.

The impact of the Mt Todd site on the perennial Edith River is apparent in the monitoring results from sites along the river. Sulphate concentrations progress from very low upstream of site (less than 1 mg/L) to approximately 10 mg/L downstream of site during the wet season, with occasional excursions above 100 mg/L. This seasonality is not observed upstream of site and likely represents flushing of mine waters to the river with wet season rainfall. There are similar indications for copper. A license criteria for the site is that the copper concentration at downstream monitoring site SW10 be no more than 10 ug/L higher than at background site SW2. This criteria was breached numerous times in each of the previous four wet seasons. In the 2005/06 wet season it is understood that this was due in part to delays in installation of the water management infrastructure. With Vista operating the site, the number of breaches reduced significantly and were limited to four events during the 2006/07 wet season. The increased precipitation received in the 2007/08 wet season resulted in an increase in the number of breaches with 16 individual samples exceeding the limit. A 182 mm storm event on December 24, 2008 significantly decreased the storage capacity of RP-1 much earlier than normal and resulted in an increase in the number of breaches for the 2008/09 wet season. The

results also suggest significant intermittent contributions of zinc to the Edith River from the Mt Todd site, and lesser contributions of aluminum, cadmium, and cobalt. The upstream water quality occasionally transgresses the aquatic guideline value for copper.

The hydro-chemical monitoring data displays no clear indication of seepage from the facilities. Surface seeps are visible around the tailings dam, the heap leach pond, and RP1 and may reflect seepage from another source rather than these facilities. Further work, including installation of new monitoring bores, is required to characterize the occurrence of seepage with more confidence.

### Water Management

The site contains several ponds with acidic water high in dissolved metals which include Batman Pit ("RP3"), the waste rock dump repository ("RP1"), the tailings dam ("RP7"), the heap leach pad moat ("HLP"), and the low grade ore dump pond ("RP2"). This water is managed through a combination of evaporation, pumping for containment, and controlled discharge to streams during major flow events.

The license conditions for the site have been breached several times during each wet season while the site has been under care and maintenance. These breaches have taken the form of uncontrolled discharges of wastewater from several ponds, and occasional exceedences of the downstream copper concentration limit. They have occurred despite significant effort and resources applied to water management on the site by Vista and the NT government, demonstrating the water management challenges for Mt Todd.

The overflows were caused largely by lack of pumping capability from the heap leach facility and RP5, inadequate pumping capability from RP1 and RP2, and undersizing of the RP1 pond.

During 2006 the NT government installed pumps at the heap leach facility and RP5, which has reduced overflows from these ponds. A new pumping system was installed at RP1 in 2006 as part of a strategy to pump excess water from RP1 to RP3, rather than to RP7 as previous. At the time of writing, this pumping system is operating at a rate of 380m<sup>3</sup>/hr, as measured with a sonic flow meter, which is lower than the 540m<sup>3</sup>/hr design pumping rate.

A new water balance model for Mt Todd was constructed by MWH in 2006 using the GoldSim platform. The key findings of scenarios run with the model were:

- The current water management strategy has a probable lifetime of two to four years (until RP3 fills). During this time the management strategy should decrease, but not eliminate, the occurrence of overflows and ARD releases from the site;
- The water balance excess (defined as pumped water, excluding controlled discharges, plus overflowed water) for the site ranges from 1.5 to 2.1 million cubic meters per year;
- The breakdown in excess water contribution from the ponds is approximately: RP1 -80%, RP2 - 11%, RP5 - 8%, heap leach facility - 1%;
- The controlled discharge to Edith River from RP1 is a relatively small proportion of the balance, being around 60,000 to 100,000 m<sup>3</sup>/year, or 5% of the water balance excess;
- Catchment inflow to RP7 and RP3 is potentially significant. Diversion of catchment flow around RP7 could make the tailings dam a net sink for approximately 1 million m<sup>3</sup>/year. However, uncertainty in the catchment flow parameters needs to be resolved;

- The Raw Water Dam overflows an average volume of approximately 8,700,000 m<sup>3</sup>/year of good quality water. This represents a potential dilutant source; and
- A water treatment plant designed to treat the excess water from site (without mitigation measures) with a peak design rate of 10,000 m<sup>3</sup>/d and an average through flow of 6,800 m<sup>3</sup>/day should be considered.

During the 2008/09 wet season, approximately 266,000 m<sup>3</sup> were discharged as an uncontrolled event. A total of approximately 695,000 m<sup>3</sup> were discharged in a controlled discharge from siphons and approximately 910,000 m<sup>3</sup> were pumped from RP-1 to the Batman pit.

The major uncertainties in the model were:

- Water levels in RP3, RP2, RP5 and the heap leach pond, none of which are currently recorded (water levels in all ponds have been maintained since January 1, 2007 by Vista), and
- Catchment runoff contributions (particularly for RP3 and RP7).

The plan codifies the current water management practices by the NT government.

Beyond the 2008/2009 wet season, some form of treat and release practice will be required. Vista has evaluated the use of enhanced evaporation systems and concluded that the technology is cost prohibitive and not a viable long-term solution. Vista has acquired the equipment for a water treatment facility that will utilize lime. This facility is in construction and should be commissioned in June 2009. In the immediate future, the treated water will be stored in the tailings impoundment facility, but it is expected that permits will be granted authorizing the discharge of the treated water to Horseshoe Creek.

### Reclamation and Closure

Vista commissioned MWH to prepare the conceptual closure plan ("CCP") to support a preliminary feasibility study of the restart of mining operations. The CCP evaluates the closure liabilities that will transfer to Vista should a decision be made to restart mining operations at Mt Todd and is supported by separate reports prepared by MWH on the environmental status and water management at the site. This report incorporates the use of a dry-stacked tailings facility rather than the existing and a proposed new traditional wet tailings facilities. For this reason, Tt has removed the costs associated with the traditional wet tailings facilities from the MWH proposed liabilities cost table.

There are five primary facilities that currently exist that will be carried forward as part of the new mine plan, as well as ancillary facilities and disturbed ground. These are included in this CCP, as listed below:

- Batman Pit and pit lake ("RP3");
- Waste Rock Dump ("WRD"), waste rock dump pond, and runoff containment pond ("RP1");
- Plant Area (not including stockpiles);
- Miscellaneous facilities (e.g., pipelines); and
- Disturbed ground (e.g., stockpile footprints).

This study will utilize a dry-stacked tailings facility that has a significantly smaller footprint, allows for concurrent reclamation, and lower final closure costs. This change has been accounted for separately in the economic analysis presented in this report.

The closure costs were estimated based on the proposed design (areas and volumes) of each of the closure facilities and MWH's experience with similar projects. Using MWH's experience on similar projects, including current reclamation programs, unit rates were developed for each element of the closure strategy, which were then applied to the area or volume of each feature. The majority of the unit rates is per unit volume or area and has been applied to conditions where mine labor is used to conduct the reclamation. Based on this, the conceptual estimated costs for implementing this CCP are US**\$23,900,000** including ten years of post-closure care and maintenance but before contingency, as summarized in TABLE 1-4

TABLE 1-7 summarizes the MWH estimated closure costs for the Mt Todd site as adjusted by Tt for the change in tailings facilities discussed above.

TABLE 1-7: MWH CONCEPTUAL CLOSURE COST ESTIMATE SUMMARY VISTA GOLD CORP. – MT TODD GOLD PROJECT As of December 29, 2006, adjusted by Tt June 2009						
Area	Cost (US\$)					
Batman Pit	\$200,000					
Waste Rock Dump	\$9,200,000					
Heap Leach Pad	\$6,900,000					
Sulfide Tailings Facility Lined – New (option 1)	\$1,300,000					
Plant Area	\$500,000					
Disturbed Ground	\$600,000					
Water Management	\$300,000					
Subtotal	\$19,000,000					
Engineering & Construction Management	\$1,800,000					
Total Capital Cost for Closure	\$20,800,000					
Operations & Maintenance	\$3,100,000					
Total Cost	\$23,900,000					

Notes: (1) Cost rounded to nearest \$100,000 in current US\$.

It was necessary to make various assumptions in developing the CCP. Some of the key assumptions, which must be better understood as the closure process proceeds include the following:

- The heap leach pad will not be used in any way by the restart of mining operations. Reclamation of this facility is included in the Base Case cash flow analysis at US\$6,900,000.
- Sufficient water resources will be available to flood Batman Pit in a reasonable time period (e.g., 6 years or less);
- The Batman Pit lake limnology and watershed hydrology will allow for the establishment of a long-term stable closure condition without long-term water treatment;
- The inert waste rock that will be placed under the cover for the waste rock dump will be suitable to support the soil cover as plant growth media both chemically and in terms of water holding capacity (i.e. it will provide enough water storage to effectively eliminate infiltration);
- The heap leach pile will not have to be rinsed or otherwise treated prior to closure;

- The proposed water treatment plant that will be part of the proposed mining facility will be available for closure and early post-closure water treatment; and
- Potential impacts to groundwater are assumed to be minimal and therefore no closure activities associated with groundwater are included in this CCP.

Several studies to gather information to confirm these assumptions and to provide the other necessary input parameters to model and finalize the design for the various mine facilities will be required prior to construction and closure.

## Base Case Capital and Operating Costs

The estimated capital expenditures for the life of the mine are summarized on Table 1-8. Startup Capital is estimated to total about US\$323 million.

Operating costs for the cash flow are summarized below:

Mining	\$1.34 per tonne material mined
Milling	\$5.75 per tonne ore processed
Tailings	\$0.36 per tonne ore processed
G&A	\$0.44 per tonne ore processed
Environmental	\$0.05 per tonne ore processed

### Economic Evaluation

A cash flow analysis and sensitivity studies were completed for the Base Case, which consists of mining the measured, indicated and inferred resources and assumes a gold price of \$750 per ounce. Gold recovery is estimated to be 82 percent. TABLE 1-9 summarizes results from the pre-tax, 100 percent equity, constant 2009 US dollar, cash flow analysis. TABLES 1-10 and 1-11 summarize the sensitivity of the Net Present Value of the cash flows at a discount rate of 8 percent. Sensitivities were run at plus and minus 10 and 20 percent for gold price, operating and capital costs. The Base Case has an approximate Discounted Cash Flow Rate of Return (DCFROR) of 21.6 percent.

Two additional mine development cases were considered in this report. The first mine development case, referred to as Case 2 (based on \$550 gold price), provides for a shorter mine life with higher grade mill feed. The second alternative mine development case, referred to as Case 3 (based on \$750 gold price), maximizes the gold resource of the project at double the production rate (60,000 tpd) from the Base Case. The economic results for the two alternative cases are provided in Section 24 of this Technical Report.

### Conclusions

Vista's exploration and development work on the Mt Todd Gold Project and specifically, the Batman deposit, continues to provide strong justification for additional expenditures and efforts to develop a new mine at this site. The positive results of this updated study clearly demonstrate the potential robustness of several different development scenarios.

# Quigleys and Golf Tollis Deposits

While the Quigleys and the Golf Tollis deposits have had limited drilling and some surface production, they have not been explored using the lessons learned at Batman. The exploration to date has concentrated on near-surface oxide gold mineralization with few, if any, deep drill

holes existing. In addition, the Batman structural interpretation has not been applied to these deposits either. Since these deposits are known to contain gold mineralization, a more systematic exploration program is warranted.

## Exploration Leases

A significant portion of the exploration leases is yet to be systematically explored and evaluated. The broad structural and geologic trends that host the Batman, Quigleys, and Golf Tollis deposits may well host other deposits. Much of what Vista has learned form more detailed exploration of the Batman deposit has yet to be applied to these other areas and therefore, these areas remain highly prospective.

## **Potential Limitations**

Tt is not aware of any potential limitations to the project that would materially change any of the data, resource estimates, environmental considerations, socio-economic factors, or conclusions presented within this report that are outside of the normal factors may impact mining projects, such as, price variability, exchange rates, permitting time, etc. With respect to the Mt Todd Gold Project, the land tenure is secured by agreement with all of the potentially affected parties, the existing environmental liabilities are well documented and have been adequately addressed, potential new environmental issues are part of this and future studies and are not anticipated to materially impact the path forward, the site has good existing infrastructure, power and water, exploration and development drilling will continue, and metallurgical testing and analyses continues to occur.

	TABLE 1-8: BASE CASE CAPITAL COST SUMMARY (US\$1,000) VISTA GOLD CORP. – MT TODD GOLD PROJECT June 2009									
Year	Access & Site Prep	Plant & Facilities	Infrastructure	Tailings Disposal	Process Plant	Mine Development	Mine Equipment	Permitting & Closure	Contingency & Working Capital	TOTAL
PP2	300	950	1,150	10,000	120,000	5,550		1,000	30,659	169,609
PP1	150	1,000	500	5,470	74,350	2,400	24,347	500	18,874	127,591
1					1,000				24,941	25,941
2				10,000	2,000		6,652			18,652
3				5,000	1,000		1,884			7,884
4					2,000		5,064			7,064
5					1,000		72			1,072
6					2,000		710			2,710
7					1,000					1,000
8					2,000		1,411			3,411
9					1,000					1,000
10					5,000		21,488			26,488
11					1,000					1,000
12					2,000		7,652			9,652
13					1,000		1,884			2,884
14					1,000		1,000			2,000
15					500			2,000		2,500
16								5,000	-24,941	-19,941
17								27,270		27,270
TOTAL	450	1,950	1,650	30,470	217,850	7,950	72,164	35,770	49,533	417,787

#### Table 1-9 - Base Case - Before Tax Cash Flow Summary (US \$) VISTA GOLD CORP. - MT TODD PROJECT

ase: 30,000 TPD	Gold Price (\$/oz)	\$750						VIS1/		ORP MI	TODD PRO	JECI												
			PP 2	PP 1	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13	Yr 14	Yr 15	Yr 16	Yr 17	Yr 18	Yr 19	Yr 20
PRODUCTION SCHEDULE						=			•															
Mineralized	Tonnes (1000)		0	0	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	2,068	0	0	0	0
	Au g/tonne				1.11	1.11	0.95	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83				
	Au oz/tonne				0.036	0.036	0.031	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027				
Waste	Tonnes (1000)		0	0	7,000	7,000	10,000	15,000	20,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	21,000	3,946				
	Total Tonnes (1000)		0	0	17,650	17,650	20,650	25,650	30,650	34,650	34,650	34,650	34,650	34,650	34,650	34,650	34,650	34,650	31,650	6,014	0	0	0	0
	Strip Ratio				0.7	0.7	0.9	1.4	1.9	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.0	1.9				
DCESS SCHEDULE																								
Mill Feed	Tonnes (1000)		0	0	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	2,068				
	Au Recovery	82			82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82				
YABLES SCHEDULE																								
Rec Au from Mill	Rec Mill Au oz		0	0	311,657	311,657	266,734	233,041	233,041	233,041	233,041	233,041	233,041	233,041	233,041	233,041	233,041	233,041	233,041	45,252				
Pay Au: 99.9%	Pay Ref Au oz		0	0	311,346	311,346	266,467	232,808	232,808	232,808	232,808	232,808	232,808	232,808	232,808	232,808	232,808	232,808	232,808	45,206				
NE REVENUE (\$1000) - Less Refi	inery Ded: \$4/oz	\$750	0	0	232.264	232.264	198.784	173,675	173.675	173.675	173.675	173,675	173.675	173,675	173,675	173.675	173.675	173,675	173.675	33.724				
	inery Dea. 04/02	<i><b></b><i></i></i>	Ŭ	Ŭ		- 1 -		,		- /	- /	,		,		-		,	- /	/				
ERATING COSTS (\$1000)	Mining \$/t mined by yr				1.67	1.67	1.60	1.43	1.35	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.35	2.00				
Mining	\$/t process	3.84	0	0	29,476	29,476	33,040	36,680	41,378	44,006	44,006	44,006	44,006	44,006	44,006	44,006	44,006	44,006	42,728	12,028				
Milling	\$/t process	5.75	0	0	61,238	61,238	61,238	61,238	61,238	61,238	61,238	61,238	61,238	61,238	61,238	61,238	61,238	61,238	61,238	11,891				
Environmental	\$/t process	0.05	0	0	533	533	533	533	533	533	533	533	533	533	533	533	533	533	533	103				
Dry filter stacking	\$/t process	0.23	0	0	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	476				
Tailings Dewater	\$/t process	0.13	0	0	1,385	1,385	1,385	1,385	1,385	1,385	1,385	1,385	1,385	1,385	1,385	1,385	1,385	1,385	1,385	269				
G&A	\$/t process TOTAL \$/t process	0.44	<b>1.0 0</b>	0	4,686 99,766	4,686 99,766	4,686 103,330	4,686 106,970	4,686 111,668	4,686 114,296	4,686 113,018	910 25,677	0	0	0	0								
	D		0	0					0	0					0								0	0
YALTY	Denehurst GSR% JAAC NSR%	0.00 1.00	0	0	0 2.323	0 2.323	0 1.988	0 1.737	0	0 1.737	0 337	0	0	0	0									
	TOTAL	1.00	0	0	2,323	2,323	1,988	1,737	1,737	1,737	1,737	1,737	1,737	1,737	1,737	1,737	1,737	1,737	1,737	337	0	0	0	0
	TUTAL		0	0	2,323	2,323	1,900	1,737	1,737	1,737	1,737	1,737	1,737	1,737	1,737	1,737	1,737	1,737	1,737	331				
OPERATING REVENUE (\$1000	0)		0	0	130,176	130,176	93,466	64,968	60,270	57,642	57,642	57,642	57,642	57,642	57,642	57,642	57,642	57,642	58,920	7,710	0	0	0	0
PITAL COST SUMMARY (\$1000)	)																							
Access and Site Prep			300	150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Surface Plant and Facilities			950	1,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Site Infrastructure			1,150	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Process Facilities			120,000	74,350	1,000	2,000	1,000	2,000	1,000	2,000	1,000	2,000	1,000	5,000	1,000	2,000	1,000	1,000	500	0				
Tailings Disposal			10,000	5,470		10,000	5,000			0														
Mine Development			5,550	2,400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Mine Equipment			14,347	10,000	0	6,652	1,884	5,064	72	710	0	1,411	0	21,488	0	7,652	1,884	1,000	0	0				
Working Capital			0	0	24,941															(24,941)				
Permitting			1,000	500																				
Reclamation and Closure			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,000	5,000	27,270			
Contingency (20%)	TOTAL	1.0	30,659 183,956	18,874 <b>113,244</b>	0 25.941	0 18,652	0 7.884	0 7,064	0 1,072	0 2,710	0	0 3,411	0	0 26.488	0	0 9.652	0 2,884	0 2,000	0 2,500	0 (19,941)	27,270			0
		1.0	100,000	110,244	20,041	10,002	1,004	1,004	1,012	2,710	1,000	0,411	1,000	20,400	1,000	0,002	2,004	2,000	2,000	(10,041)	21,210			J
F PRETAX CASH FLOW (\$1000)			(183.956)	(113.244)	104.234	111.524	85.582	57.904	59.198	54.932	56.642	54.231	56.642	31.154	56.642	47.990	54.758	55.642	56.420	27.651	(27,270)			0

Economic Summa	ry (US \$1000)	Gold Price (US \$/oz)	\$750
Startup Capital	323,142		
NPV	(US \$1000)	Internal Rate of Return	21.6%
0%	646,682	Payback Period (Yrs)	3.0
5%	345,090	From start of Production	
8%	232,894		
10%	176.142		

TABLE 1-10: BASE CASE CASH FLOW NET PRESENT VALUE SENSITIVITY ANALYSIS VISTA GOLD COPR. – MT TODD PROJECT June 2009							
	NPV @ 8%	(US \$ Millio	n)				
Gold Price (US \$/oz)	600	675	750	825	900		
	-20%	-10%	Base	+10%	+20%		
Gold Price	(43.7)	94.6	232.9	371.2	509.5		
Capital Cost	299.6	266.3	232.9	199.5	166.1		
Operating Cost	397.4	315.1	232.9	150.6	68.4		

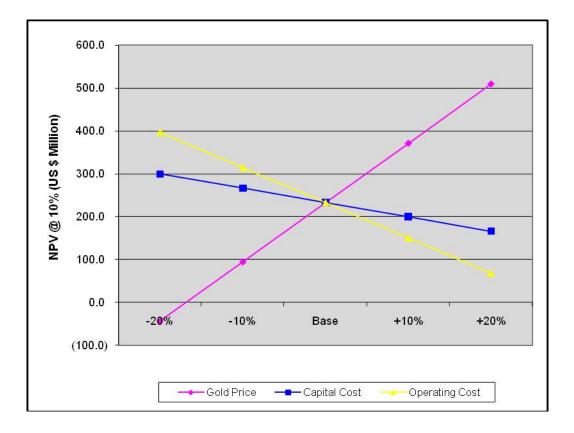


TABLE 1-11: BEFORE TAX CASH FLOW BASE CASE SENSITIVITY TO GOLD PRICE         VISTA GOLD COPR. – MT TODD PROJECT         June 2009								
Gold Price (US \$/oz)         650         750         850         950         1,050								
NPV @ 8% (US \$M)	48.5	232.9	417.3	601.7	786.1			
IRR (%)	11.3	21.6	30.1	37.7	44.7			

### Recommendations

Based on Tt's review of the database, previous studies and work products, and as an outgrowth of the recent mineral resource modeling and PEA update, Tt provides the following list of recommendations for Vista's consideration.

### Batman Deposit

While not yet totally defined by drilling, the Batman deposit continues to warrant both exploration and development work. Additional exploration work is justified in locating the extents of the deposit as it is currently open on all sides. In addition, more development drilling is warranted to increase the measured and indicated resource base as the project moves toward a feasibility study. In support of the feasibility study, the following work items form the next logical progression in the development scenario:

- 1. A prefeasibility study is in progress and should be completed as all requisite data are now available;
- 2. Additional exploration drilling, as the deposit is still open to the north, south, and at depth.
- 3. The 2007 and 2008 exploration drillhole programs have identified what appear to be parallel and/or sub-parallel structures to the east of the main core complex. Additional exploration and definition of these structures is warranted.
- 4. Completion of additional geologic and geotechnical mapping to increase the understanding of the larger system.
- 5. Additional metallurgical sampling and testing. Additional metallurgical samples are needed to ensure that all of the potential deposit variability is accounted for and considered in the process design phase.
- 6. Additional testwork on the HPGR component of the process design is needed to reach feasibility-level results. Initial testwork has proven that this is highly likely to work at Mt Todd and results in significant energy and capital savings.
- 7. Additional geotechnical logging and drilling to confirm the pit slope recommendations of this report.
- 8. Additional waste characterization analyses. Initial waste characterization tests have provided a basis for the environmental considerations of this report; however, additional tests will be required for the feasibility study.
- 9. The potential cost savings, reduced disturbance, and ability to concurrently reclaim the dry-stacked tailings alternative prove it worthy of more detailed studies Additional testwork on the dewatered tailings in order to confirm with a feasibility-level of accuracy the ability to cost-effectively dewater the tailings, stack and compact the dewatered tailings, and protect the stacked tailings from erosional and other forces is recommended.

# Quigleys and Golf-Tollis Deposits

The Quigleys and Golf-Tollis Deposits appear to be more structurally controlled than Batman with the mineralization occurring in narrower bands. Because of this, additional work will need to be undertaken in order to develop an accurate resource estimate. Tt proposes that the following items be considered when preparing the work plan:

- 1. Surface mapping and subsequent re-interpretation of the footwall contact to the shear zone mineralization are recommended. Any additional structural complexity that results should, where appropriate, be used to refine the mineralized envelope upon which modeling updates are based.
- 2. Optimization of the resource provides a focus to define areas requiring further investigation or infill drilling. Due to the high degree of variability in the deposit, infill drilling is best targeted at key areas of geological complexity.
- 3. A model should be developed for the area outside the shear zone. This will require separation of areas of mineralization from unmineralized areas using suitable envelope constraints.
- 4. The cause of the apparent bias between some of the old and new RC drilling should be confirmed to validate the inclusion of all samples in resource calculations.

## Other Mineralized Occurrences

Several other known mineral occurrences occur on the concession; these are Golf, Tollis, and Horseshoe deposits. There are some indications of prior exploration work, based on maps and minor references that has involved geologic, geochemical, geophysical, and drilling. While a lower priority than Batman and Quigleys, efforts should be undertaken that:

- 1) Locate all available data and confirm, if possible, the validity;
- 2) Re-assess the data to determine if additional exploration work is warranted; and
- 3) Develop appropriate programs that systematically attempt to define the size and tenor of the mineralization present.
- 4) Mine Planning Recommendations
- 5) The current mine plan only considers an owner-operated truck-shovel arrangement. Tt suggests that future studies consider the economic and technical trade-off of owner mining vs contract mining. In addition to the owner mining case, Tt recommends that future studies consider conveying both ore and waste from mobile in-pit crushers to reduce equipment and manpower requirements.
- 6) Tt recommends that future studies evaluate the economies of scale for increased production rates given the significant increase in mineralized tonnages from the 2006 PEA. We would suggest production rates of 45,000 and 60,000 tonnes per day.

### Water Management Recommendations

MWH has prepared the following recommendations (TABLE 1-12) for dealing with the water management issues at the Mt Todd Project site.

	TABLE 1-12: PROPOSED WATER MANAGEMENT PROGRAM VISTA GOLD CORP. – MT TODD GOLD PROJECT March 2008							
No.	Mitigation Methods	Cost Estimate (Aus\$)						
	Care and Maintenance Phase							
1	Installation of monitoring instrumentation at Edith River gauging sites SW2 and SW4 to increase discharge from RP1 and improve the hydrological dataset	\$20,000 Completed Sept 2007 at SW4						
2	Construction of a water treatment plant to allow year-round release of treated ARD excess and reduce the pit water removal requirements in advance of mining	\$450,000 (commissioning scheduled for June 2009)						
	Operational / Closure Phases	,						
1	Continued application of care and maintenance mitigation methods as appropriate	As above						
2	Wetland polishing of moderately contaminated waters prior to discharge	ND						
3	Land application of <i>treated</i> wastewater to reduce sulphate levels before discharge	ND						
4	Pumping of the Heap Leach Facility leachate to RP-3.	Conceptual closure plan						
5	Incorporation of ARD generation considerations during further development of the waste rock dump.	ND						

ND = Not Determined

### Closure Recommendations

There are opportunities during the Mt Todd Project to conduct closure of a number of the facilities prior to or during operation, including the current HLP. In addition, it may be possible to close portions of the WRD, but this opportunity may be limited by the need for a selective waste rock placement program to help mitigate potential ARD.

As the closure plan develops, the following considerations should be made, some of which are discussed above:

- Closure of the HLP (as part of mine restart up);
- Locating and evaluating sources of borrow materials;
- A waste rock management strategy to reduce ARD concerns;
- Stockpiling benign waste materials for use in closure (e.g., for rock cover); and
- Consideration of waste rock placement to facilitate a geomorphic slope (i.e., convex at the top and concave on the lower slopes); such designs are more erosionally stable and have a more "natural" appearance.

Major assumptions have been made regarding the properties of the waste materials and soils that could be used for cover materials. Characterization of the waste and borrow materials which should include the physical and chemical properties should be initiated before the closure process can proceed beyond this conceptual level. The results from the characterization testing would then be used with climate and plant data to finalize the cover designs. Additional assumptions regarding the physical and erosional stability and the short and long-term water treatment requirements should also be checked using site-specific information.

# 2.0 INTRODUCTION

Tetra Tech, Inc. ("Tt") was commissioned by Vista Gold Corp. ("Vista") in March 2009 to prepare an update of the December 29, 2006 Canadian National Instrument 43-101 ("NI43-101") compliant Preliminary Economic Assessment Report ("PEA") on the Mt Todd Gold Project in the NT, Australia. On March 1, 2006, Vista purchased the Mt Todd property and the acquisition was completed on June 16, 2006, when the mineral leases transferred to Vista and funds were released from escrow.

# 2.1 Terms of Reference

This report has been prepared in accordance with the guidelines provided in National Instrument 43-101, Standards of Disclosure for Mineral Projects. The Qualified Person responsible for this report is Mr. John W. Rozelle P.G., Principal Geologist at Tt.

# 2.2 Scope of Work

The Mt Todd Mine property is made up of several gold deposits occurring in an area of some 5,365 hectares in the NT of Australia. The most prominent of these deposits are the Batman and Quigleys Deposits. The other mineral occurrences do not have sufficient data available at this time to develop classified mineral resource estimates.

The scope of work undertaken by Tt involved an update of the PEA from December 29, 2006 based on the recent update of the gold resource model completed in February 2009, which include exploration, geology, and assay work completed by Vista as part of their 2007 and 2008 exploration program. Based on these additional data, Tt re-estimated the capital and operating costs, re-developed pit designs and production schedules for the Batman Deposit.

# 2.3 Effective Date

The effective date of the mineral resource and mineral reserve statements in this report is May 15, 2009.

# 2.4 Units

All dollars are presented in US dollars unless otherwise noted. For the purpose of this report the exchange rates are CDN1.00 = US and A1.00 = US. Common units of measure and conversion factors used in this report include:

# Linear Measure

- 1 inch = 2.54 centimeters 1 foot = 0.3048 meter 1 yard = 0.9144 meter
- 1 mile = 1.6 kilometers

# Area Measure

1 acre = 0.4047 hectare 1 square mile = 640 acres = 259 hectares

# Capacity Measure (liquid)

1 US gallon = 4 quarts = 3.785 liter 1 cubic meter per hour = 4.403 US gpm

# Weight

1 short ton	= 2000 pounds	= 0.907 tonne
1 pound	= 16 oz	= 0.454 kg
1 oz (troy)	= 31.103486 g	

# Analytical Values

	percent	grams per metric tonne	troy ounces per short ton
1% 1 gm/tonne 1 oz troy/short ton 10 ppb 100 ppm	1% 0.0001% 0.003429%	10,000 1.0 34.2857	291.667 0.0291667 1 0.00029 2.917

# Frequently used acronyms and abbreviations

AA	=	atomic absorption spectrometry
Ag	=	silver
Aŭ	=	gold
°C	=	degrees Centigrade
CIC	=	Carbon-in-column
CIM	=	Canadian Institute of Mining, Metallurgical, and Petroleum
CIP	=	Carbon-in-pulp
°F	=	degrees Fahrenheit
FA	=	Fire Assay
ft	=	foot or feet
g	=	gram(s)
g/kWh	=	grams per kilowatt hour
g/t	=	grams per tonne
ĥ	=	hour
ICP	=	Inductively Coupled Plasma Atomic Emission Spectroscopy
km	=	kilometer
kV	=	kilovolts
kWh	=	Kilowatt hour
kWh/t	=	Kilowatt hours per tonne
L	=	liter
m	=	meter(s)
m <sup>2</sup>	=	square meter(s)
m²/t/d	=	square meters per tonne per day
m <sup>3</sup>	=	cubic meter(s)

m³/h	=	cubic meter(s) per hour
mm	=	millimeter
MW	=	megawatts
NSR	=	net smelter return
oz Ag/t=		troy ounces silver per short ton (oz/ton)
oz Au/t=		troy ounces gold per short ton (oz/ton)
ppm	=	parts per million
ppb	=	parts per billion
RC	=	reverse circulation drilling method
SAG	=	semi-autogenous grinding
ton	=	short ton(s)
tonne	=	metric tonne
t/m <sup>3</sup>	=	tonne per cubic meter
tpd	=	tonnes per day
tph	=	tonnes per hour
μm	=	micron(s)
%	=	percent
tpy	=	tons (or tonnes) per year
tpm	=	tons (or tonnes) per month

# Abbreviations of the Periodic Table

actinium = Ac	aluminum = Al	amercium = Am	antimony = Sb	argon = Ar
arsenic = As	astatine = At	barium = Ba	berkelium = Bk	beryllium = Be
bismuth = Bi	bohrium = Bh	boron = B	bromine = Br	cadmium = Cd
calcium = Ca	californium = Cf	carbon = C	cerium = Ce	cesium = Cs
chlorine = Cl	chromium = Cr	cobalt = Co	copper = Cu	curium = Cm
dubnium = Db	dysprosium = Dy	einsteinum = Es	erbium = Er	europium = Eu
fermium = Fm	fluorine = F	francium = Fr	gadolinium = Gd	gallium = Ga
germanium = Ge	gold = Au	hafnium = Hf	hahnium = Hn	helium = He
holmium = Ho	hydrogen = H	indium = In	iodine = I	iridium = Ir
iron = Fe	juliotium = JI	krypton = Kr	lanthanum = La	lawrencium = Lr
lead = Pb	lithium = Li	lutetium = Lu	magnesium = Mg	manganese = Mn
meltnerium = Mt	mendelevium = Md	mercury = Hg	molybdenum = Mo	neodymium = Nd
neon = Ne	neptunium = Np	nickel = Ni	niobium = Nb	nitrogen = N
nobelium = No	osmium = Os	oxygen = O	palladium = Pd	phosphorus = P
platinum = Pt	plutonium = Pu	polonium = Po	potassium = K	prasodymium = Pr
promethium = Pm	protactinium = Pa	radium = Ra	radon = Rn	rhodium = Rh
rubidium = Rb	ruthenium = Ru	rutherfordium = Rf	rhenium = Re	samarium = Sm
scandium = Sc	selenium = Se	silicon = Si	silver = Ag	sodium = Na
strontium = Sr	sulphur = S	technetium = Tc	tantalum = Ta	tellurium = Te
terbium = Tb	thallium = TI	thorium = Th	thulium = Tm	tin = Sn
titanium = Ti	tungsten = W	uranium = U	vanadium = V	xenon = Xe
ytterbium = Yb	yttrium = Y	zinc = Zn	zirconium = Zr	

# 2.5 Qualifications of Consultant

John W. Rozelle of Tt visited the Mt Todd property in June 2005, June 2008, and November 2008. Messrs: Knudsen, Kowaleski, Olin, Rippere, and Tschabrun all were present on site during the November 2008 site visit. During his visits Mr. Rozelle examined the Mt Todd mine site, core storage facility at the mine site, the data repository in Darwin, observed the 2008 exploration core drilling, sampling, sample preparation and security, and inspected the overall project site. In addition, Mr. Rozelle also visited the ALS Chemex laboratory in Adelaide, Australia. This report has been prepared based on a technical review and preparation of resource estimates by consultants based in Tt's Golden, Colorado, office. These consultants are

specialists in the fields of geology, mineral resource and mineral reserve estimation and classification, mining and mineral economics.

Neither Tt nor any of its employees and associates employed in the preparation of this report has any beneficial interest in Vista or in the assets of Vista. Tt will be paid a fee for this work in accordance with normal professional consulting practice.

The individuals who have provided input to this technical report, who are listed below, have extensive experience in the mining industry and are members in good standing of appropriate professional institutions.

The key project personnel contributing to this report are listed in TABLE 2-1.

TABLE 2-1: KEY PROJECT PERSONNELVISTA GOLD CORP. – MT TODD GOLD PROJECTJune 2009							
Company	Name	Title					
Vista Gold Corp.	Fred Earnest	President & COO					
	Frank Fenne	Vice President, Exploration					
Tetra Tech MM, Inc.	John Rozelle	Principal Geologist					
	Stephen Krajewski	Senior Geologist					
	Rex Bryan	Principal Geostatistician					
	LeRoy Aga	Sr. Mine Planner					
	Donald Tschabrun	Principal Mine Engineer					
	Eric Olin	Principal Process Engineer					
	Justin Knudsen	Project Geotechnical Engineer					
Resource Development Inc.	Deepak Malhotra	President, Metallurgist					

# 2.6 Basis of Report

Tt has prepared this report exclusively for Vista. The information presented, opinions and conclusions stated, and estimates made are based on the following information:

- Information available at the time of the preparation of the report as provided by Vista;
- Assumptions, conditions, and qualifications as set forth in the report;
- Data, reports, and opinions from prior owners and third-party entities; and
- Data, reports, and opinions from Vista exploration work and consultants.

Effective March 1, 2006, Vista and their subsidiary, Vista Gold Australia Pty Ltd (Vista Australia) entered into agreements with Ferrier Hodgson, the Deed Administrators for Pegasus Gold Australia Pty Ltd, the government of the Northern Territory of Australia, and the Jawoyn Association Aboriginal Corporation ("JAAC") to purchase a 100 percent interest in the Mt Todd gold mine (i.e. Mining Licenses) and acquire the rights to the surface in the area of the mining licenses and exploration licenses. Tt has reviewed this information and information that shows that Vista is current with all obligations that are part of these agreements and is satisfied that they have all the necessary legal and financial rights to explore and develop the MT Todd Gold Project.

# 3.0 RELIANCE ON OTHER EXPERTS

The Mt Todd mining property, having been an operating mine for several years, has been the subject of numerous written reports. The Trustee for the NT has provided Vista with an inventory of the available documentation for the property. Many of these reports and other documents were prepared by mining consulting firms on behalf of the operators of the mine/property at the time. Tt has used a number of the references in the preparation of the mineral resource estimate detailed herein. The reports referenced have each been reviewed for materiality and accuracy, as they pertain to Vista's plans for property development. Specific experts that had an important role in the preparation of this report include:

## Dr. Stephen A. Krajewski

Graduated with Geography (B.S.-1964), Geology (M.S.-1971) and Earth Science (Ed.D.-1977) degrees from The Pennsylvania State University

Is a Member of the American Institute of Professional Geologists, Member Number 4739, member of the Society for Mining, Metallurgy, and Exploration, Inc. (SME); member of the American Association of Petroleum Geologists; and a member of the Rocky Mountain Association of Geologists.

Has worked with computers to map and model mineral deposits since 1983. His geologic career has included 42 years of domestic and international experience in the employ of Major and Junior Mining Industry Companies, Major and Minor Oil & Gas Companies, environmental consulting companies, a state geological survey, and universities.

## Dr. Rex C. Bryan

Graduated with a Mineral Economics Ph.D. from the Colorado School of Mines, Golden, Colorado, in 1980. Graduated in 1976 from Brown University, in Providence, Rhode Island, with M.Sc. Geology. Graduated from Michigan State University with a MBA (1973) and a BS in Engineering (1971).

Is a member of the Society for Mining, Metallurgy, and Exploration, Inc. (SME).

Has worked as a geostatistical reserve analyst and mineral industry consultant for a total of 26 years since graduating from Colorado School of Mines. He is an expert witness to industry and for the U.S. Department of Justice on ore-grade control, reserves, and mine contamination issues. He is currently a consultant to the industry

## Ken Rippere

Graduated with a BS degree in Geological Engineering from the Colorado School of Mines in 1966; is a member of the American Institute of Professional Geologists (CPG No. 6023), The Society of Mining, Metallurgy, and Exploration (SME), and is registered to practice geology in Arizona and Georgia; has worked on the geotechnical aspects of rock slopes, including both design and failure management, particularly for open pit mines, for 41 years, nearly equally divided between consulting and mine operations, at properties around the world.

#### Dr. Deepak Malhotra

Graduated with a Mineral Economics Ph.D. from Colorado School of Mines, Golden, Colorado, in 1979. Graduated in 1974 from Colorado School of Mines in Golden, Colorado, with M.S. in Metallurgical Engineering. Graduated from Indian Institute of Technology, Kanpur, India, in 1970 with a B.S. in Metallurgical Engineering.

Is a member of the Society of Mining, Metallurgy and Exploration, Inc. (SME) and the Canadian Institute of Mining, Metallurgy and Petroleum (CIM).

Has worked as a metallurgist for seventeen years for a Major Mining Industry Company and since 1990 has worked as a consultant to Major and Junior Mining Industry Companies, International Finance Corporation (IFC), and United Nations. His area of expertise is in mineral processing, mineral economics, due diligences and plant audits.

Mr. John W. Rozelle, P.G. has personally reviewed the available reports and the extracted data in order to ensure that these items meet all of the necessary reporting criteria as set out in the NI43-101 guidelines.

# 4.0 LOCATION AND PROPERTY DESCRIPTION

# 4.1 Location

The Mt Todd Project is located 56 km by road northwest of Katherine, and approximately 250 km southeast of Darwin in the NT of Australia. Access to the property is via high quality, twolane paved roads from the Stuart Highway, the main arterial within the territory (FIGURE 4-1).

## Tenements

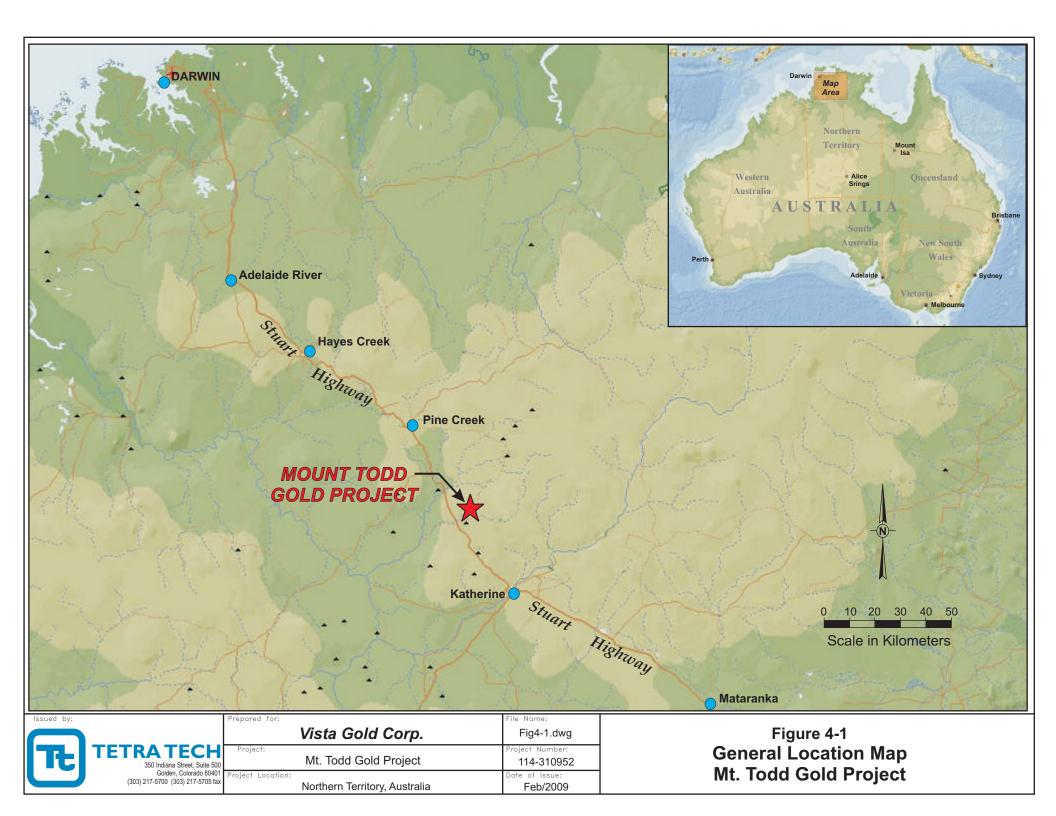
The concession consists of three individual mineral leases ("ML"), MLN1070, MLN1071, and MLN1127 comprising some 5,365.27 hectares. In addition, Vista controls exploration leases ("EL") EL25668, EL25669, EL25576, and EL 25670 comprising some 160,884 hectares. FIGURE 4-2 illustrates the general location of the tenements and the relative position of the two primary mineral deposits: Batman and Quigleys.

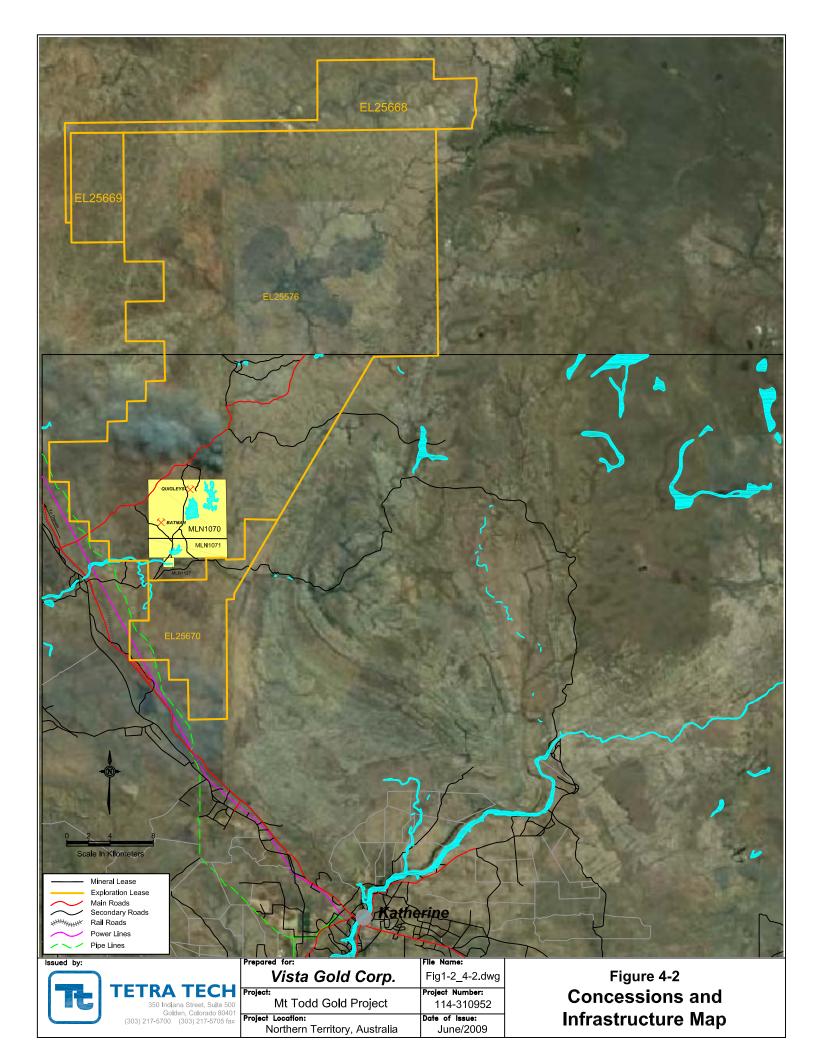
## Lease and Royalty Structure

The agreement with the Territory is for an initial term of five years commencing January 1, 2006, with an extension of five years at Vista's option and three additional years possible at option of the Territory. During the first five-year term in accordance with the conditions of the agreement, Vista has undertaken a comprehensive technical and environmental review of the project to evaluate current site environmental conditions and developed a program to stabilize the environmental conditions and minimize offsite contamination. Vista has also reviewed the water management plan and implemented recommendations. Vista is in development of the technical report for the re-starting of operations.

Vista paid the Territory's costs of management and operation of the Mt Todd site up to a maximum of A\$375,000 during the first year of the term, and assumed site management and pay management and operation costs in following years. In the agreement, the Territory acknowledges its commitment to rehabilitate the site and that Vista has no rehabilitation obligations for pre-existing conditions until it submits and receives approval of a Mine Management Plan for the resumption of mining operations. Recognizing the importance placed by the Territory upon local industry participation, Vista has agreed to use, where appropriate, NT labor and services during the period of the agreement in connection with the Mt Todd property, and further, that when a production decision is reached, to prepare and execute a local Industry Participation Plan.

The agreement with the Jawoyn Association Aboriginal Corporation (JAAC) called for Vista to issue common shares of Vista with a value of CAD \$1.0 million as consideration for the JAAC entering into the agreement and for rent for the use of the surface overlying the mineral leases during the period from the effective date until a decision is reached to begin production. Vista pays the JAAC A\$5,000 per month in return for consulting with respect to Aboriginal, cultural and heritage issues.





If the Mt Todd Project proves feasible for economic development of the mineral leases including a fully funded site reclamation bond, Vista will establish a technical oversight committee with representatives of the Territory and the JAAC. Additionally, Vista will offer the JAAC the opportunity for joint venture participation in the operation on a 90% Vista / 10% JAAC basis. For rent of the surface during production, Vista (or the Joint Venture if formed) will pay the JAAC an annual amount equal to 1% of the annual value of production with an annual minimum of A\$50,000. As part of the agreement, Vista will endeavor to use services and labor provided by the JAAC when feasible. Vista and the JAAC may form a 50 / 50 exploration joint venture to explore JAAC lands outside the mineral leases.

# 5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

# 5.1 Accessibility

The Mt Todd Project is located 56 km by road northwest of Katherine, and approximately 250 km southeast of Darwin in the NT of Australia (see FIGURE 4-2). Access to the mine is via high quality, two-lane paved roads from the Stuart Highway, the main artery within the territory.

# 5.2 Climate

The Mt Todd area has a sub-tropical climate with a distinct wet season and dry season. The area receives most of its rainfall between the months of January and early March. The temperature usually ranges from 25° to 35° C (77° to 95° F). Between November and December, temperatures can reach 40° C (104° F). Winter temperatures in the dry season are warm in the daytime, but can drop to 10° C (50° F) at night.

## 5.3 Local Resources and Infrastructure

Access to local resources and infrastructure is excellent. The Mt Todd Project is located sufficiently close to the city of Katherine to allow for an easy commute for workers. Because the area has both historic and current mining activity, the area contains a skilled mining workforce. In addition, Katherine offers all of the necessary support functions that are found in a medium sized city with regard to supplies, hotels, communications, etc.

The property has an existing high-pressure gas line and an electric line that was used by previous operators. In addition, both wells for potable water and a dam for process water are also located on or adjacent to the site. Finally, a fully functioning tailings dam is also present on site.

The concessions are within 2 to 3 km of the Nitmiluk Aboriginal National Park on the east. This National Park contains a number of culturally and geologically significant attractions. The proximity to the National Park has not historically yielded any impediments to operating. It is not expected to yield any issues to renewed operation of the property in the future.

# 5.4 Environmental Conditions

The following environmental section has been prepared by MWH Consultants (MWH) of Perth, Australia and updated by Tt to reflect recent changes in the project development strategy. MWH has had significant experience with mining projects both internationally and in Australia.

## 5.4.1 Existing Environmental Conditions

A comprehensive directory of reports exists for Mt Todd and is detailed in the March 2008 report entitled "Mt Todd Gold Project, Gold Resource Update". The process of cataloguing and reviewing these documents is ongoing.

The Draft Environmental Impact Statement for the mine released in 2002 gave the following as the specific environmental issues to be considered for the project: conservation of the Gouldian Finch in the Yinberrie Hills; control of acid drainage; heap leach solution containment; tailings containment; water management; rehabilitation planning; impacts of noise, dust and blasting; impacts on vegetation and fauna; impacts on Aboriginal sites of cultural significance; impacts on historical and Aboriginal archaeological sites; impacts on regional urban and social infrastructure; and general site management issues, such as weeds, mosquito-borne diseases, wildlife and workforce behavior.

The conservation of the Gouldian Finch was an important consideration at the start of mining operations in 1993, when it was thought that the finch was confined to the Yinberrie Hills. However, the range of the finch is now believed to be broader and less emphasis is placed by the NT government on this issue.

The Jawoyn people (an Aboriginal group) have strong involvement in the planning for the future of Mt Todd. Vista Gold has a good relationship with the Jawoyn, and at this time they have raised no concerns about re-opening the mine.

The Batman Pit, waste rock dump, heap leach pad and low-grade ore dump are all on-site sources of acidic water containing dissolved metals. This water is managed through a combination of evaporation, containment, and controlled discharge to streams during major flow events. Batman Pit has been used as a repository for ARD waters since 2005 and is a major part of the NT government's current acid drainage controls at the site. The acidic waters stored in Batman Pit must be removed before mining can begin. The reliance on Batman Pit as a repository for contaminated waters could not be continued under mining conditions.

The challenges posed by the ARD environment of the site are significant but are believed to be manageable. Vista Gold has engaged consultant MWH to conduct a preliminary assessment of the water management issues which will include preparation of a water balance model, investigation of low-cost mitigation measures and development of a conceptual closure plan.

## 5.4.2 Comments on Existing Known Liabilities

An in-depth discussion of the specific environmental liabilities that currently exist at the Mt Todd site can be found in the March 2008 report entitled "Mt Todd Gold Project, Gold Resource Update".

#### 5.4.3 *Permitting and other Regulatory Requirements*

Permitting requirements have been discussed with the Department of Primary Industries, Fisheries and Mines ("DPIFM") and are divided into exploration and mine development activities.

#### Exploration

The following applications, forms, and plans are mandatory as part of the exploration approvals process:

- Application for an authorization;
- Nomination for an Operator of a Mining Site;
- Security calculation form; and
- Small Mining/Exploration Operations Mining Management Plan.

The completion of applications and forms are likely to be straightforward. The Mining Management Plan is required to be submitted with the Application for an authorization of Mining Activities. Briefly, the plan will contain:

Description of mining activities to be carried out;

- Safety, health and environmental issues relevant to the mining activities and the management system to be implemented at the mine site; and
- A plan and costing of closure activities.

The NT government division advised that the key to approval at this phase is the existence of an effective safety and environment management plan. With such a plan in place to demonstrate good handling of safety and environmental issues, approvals can be expected to proceed.

#### Mining Development

The exact requirement for mining development approval for the site is currently unknown as three possible approvals paths may apply. The potential costs and timing of the three paths are addressed here and in Section 7.0 following.

The first step in all cases is the submission of a Notice of Intent ("NOI") to the NT government. The NOI is intended to cover all the major issues relating to the mine development and provide sufficient information (background and technical) to allow a preliminary assessment by the DPIFM. FIGURE 5-1 on the following page shows various possible process paths, which may follow from the assessment by the DPIFM. The flow chart is taken from the DPIFM Advisory Note "Environmental Assessment of Mining Proposals".

#### Notice of Intent (NOI)

The Notice of Intent for the mining development is mandatory as part of the mining development application. The components of a NOI broadly include:

- A General Description of the Mine;
- Description of the Existing Environment;
- Description of the Proposed Works;
- Identification of Issues; and
- Environmental Management of Impacts.

This document should be as thorough as possible to minimize the amount of time taken to assess the document by government.

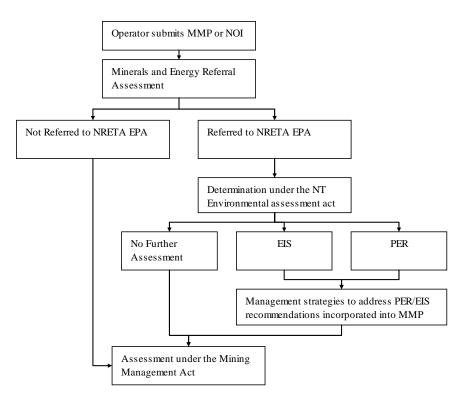


FIGURE 5-1: Permitting Process

## Public Environmental Report ("PER") and Environmental Impact Statement ("EIS")

If the DPIFM recommends referral to Department of Natural Resources, Environment and the Arts ("NRETA"), NRETA will advise on the requirement for either a PER or EIS. The guidelines provided by NRETA indicate that:

- A PER is required to assist in assessing environmental impacts that are considered significant but limited in extent; while
- An EIS is required to assist in assessing environmental impacts that are significant either in terms of site-specific issues, off-site issues and conservation values and/or the nature of the proposal.

## 5.4.4 Estimated Permitting Costs and Spending Schedule for Developing the Project

#### Exploration

The required exploration program permits are estimated to take approximately 2 weeks to prepare and will cost between \$9,000 and \$19,000. Time needed for the government approval process is not included in this estimate.

#### Mine Development

Depending on which permitting path the Mt Todd project follows (FIGURE 5-1) the time and expenditure required to secure a permit will vary. TABLE 5-1 details the various possibilities.

TABLE 5-1: ESTIMATED MINE DEVELOPMENT PERMITTING COSTS VISTA GOLD CORP. – MT TODD GOLD PROJECT As of December 29, 2006							
TaskTime1Cost $(\$)^2$							
Case 1: Assessment under the Mini	ng Management Act (not referr	ed to NRETA)					
Notice of Intent	1 month	\$23,000					
Total	1 month	\$23,000					
Notice of Intent         1 month         \$23,00           Public Environmental Report         3 – 4 months         \$93,000 - \$168,00							
Total	4 – 5 months	\$117,000 - \$191,000					
Case 3: Referred to NRETA, Environmental Impact Statement Required							
Notice of Intent 1 month \$2							
Environmental Impact Statement	3 – 6 months	\$140,000 - \$234,000					
Total	4 – 7 months	\$163,000 - \$257,000					

Note: <sup>1</sup>preparation time only, does not include time for government approval process <sup>2</sup>if preparation is outsourced

## Dewatering Requirements and Costs

Future development of Mt Todd will require further hydrogeological investigations to improve the understanding of dewatering requirements. The investigations would form part of the general hydrogeological investigation needed to characterize existing groundwater conditions and establish a groundwater-monitoring program for the site.

It is noted that dewatering has been minimal and very manageable during previous operations at Mt Todd. However, the hydrogeology of the mining area has not been investigated in sufficient detail to comment conclusively on the future dewatering requirements or provide a dewatering cost estimate at this time.

## 5.4.5 Reclamation and Closure

Vista commissioned MWH to prepare the conceptual closure plan ("CCP") to support a preliminary feasibility study of the restart of mining operations. This CCP evaluates the closure liabilities that will transfer to Vista should a decision be made to restart mining operations at Mt Todd and is supported by separate reports prepared by MWH on the environmental status and water management at the site. This report utilizes a dry-stacked tailings facility rather than the existing and a proposed new traditional wet tailings facilities. For this reason, Tt has removed the costs associated with the traditional wet tailings facilities from the MWH proposed liabilities cost table.

There are five primary facilities that currently exist that will be carried forward as part of the new mine plan, as well as ancillary facilities and disturbed ground. These are included in this CCP, as listed below:

- Batman Pit and pit lake (RP3);
- Waste Rock Dump (WRD), waste rock dump pond, and runoff containment pond (RP1);
- Plant Area (not including stockpiles);

- Miscellaneous facilities (e.g., pipelines); and
- Disturbed ground (e.g., stockpile footprints).

This study incorporates the use of a dry-stacked tailings facility has a significantly smaller footprint, allows for concurrent reclamation, and lower final closure costs. This change has been accounted for separately in the financial analysis presented in this report.

The closure costs were estimated based on the proposed design (areas and volumes) of each of the closure facilities and MWH's experience with similar projects. Using MWH's experience on similar projects, including current reclamation programs, unit rates were developed for each element of the closure strategy, which were then applied to the area or volume of each feature. The majority of the unit rates is per unit volume or area and has been applied to conditions where mine labor is used to conduct the reclamation. Based on this, the conceptual estimated costs for implementing the CCP are US**\$23,900,000** including ten years of post-closure care and maintenance but before contingency, as summarized in TABLE 1-4

TABLE 5-2 summarizes the MWH estimated closure costs for the Mt Todd site as adjusted by Tt for the change in tailings facilities discussed above..

TABLE 5-2: MWH CONCEPTUAL CLOSURE COST ESTIMATE SUMMARY         VISTA GOLD CORP. – MT TODD GOLD PROJECT         As of December 29, 2006, adjusted by Tt June 2009				
Area Cost (US\$)				
Batman Pit	\$200,000			
Waste Rock Dump	\$9,200,000			
Heap Leach Pad	\$6,900,000			
Sulfide Tailings Facility Lined – New (option 1)	\$1,300,000			
Plant Area	\$500,000			
Disturbed Ground	\$600,000			
Water Management	\$300,000			
Subtotal \$19,000				
Engineering & Construction Management	\$1,800,000			
Total Capital Cost for Closure	\$20,800,000			
Operations & Maintenance	\$3,100,000			
Total Cost \$				
Annual O&M costs until full closure accepted \$300,0				

Notes: (1) Cost rounded to nearest \$100,000 in current US\$.

It was necessary to make various assumptions in developing the CCP. Some of the key assumptions, which must be better understood as the closure process proceeds include the following:

- The heap leach pad will not be used in any way by the restart of mining operations. Reclamation of this facility is included in the base case cash flow analysis at US\$6,900,000.
- Sufficient water resources will be available to flood Batman Pit in a reasonable time period (e.g., 6 years or less);
- The Batman Pit lake limnology and watershed hydrology will allow for the establishment of a long-term stable closure condition without long-term water treatment;

- The inert waste rock that will be placed under the cover for the waste rock dump will be suitable to support the soil cover as plant growth media both chemically and in terms of water holding capacity (i.e. it will provide enough water storage to effectively eliminate infiltration);
- The heap leach pile will not have to be rinsed or otherwise treated prior to closure;
- The proposed water treatment plant that will be part of the proposed mining facility will be available for closure and early post-closure water treatment; and
- Potential impacts to groundwater are assumed to be minimal and therefore no closure activities associated with groundwater are included in this CCP.

Several studies to gather information to confirm these assumptions and to provide the other necessary input parameters to model and finalize the design for the various mine facilities will be required prior to construction and closure.

Further information regarding details of the CCP can be found in the March 2008 report entitled "Mt Todd Gold Project, Gold Resource Update".

# 6.0 HISTORY

The Mt Todd Project area has significant gold deposits located on it and is located 250 km southeast of Darwin in the NT of Australia. It is situated in a well-mineralized historical mining district that supported small gold and tin operations in the past.

The Shell Company of Australia (Billiton), who was the managing partner in an exploration program in joint venture with Zapopan NL, discovered the Mt Todd mineralization, or more specifically the Batman Deposit, in May 1988. Zapopan acquired Shell's interest in 1992 by way of placement of shares to Pegasus Gold. Pegasus progressively increased their shareholding until they acquired full ownership of Zapopan in July 1995.

Feasibility studies for Phase I, a heap leach operation which focused predominately on the oxide portion of the deposit, commenced during 1992 culminating in an EPCM award to Minproc in November of that year. The Phase I project was predicated upon a 4 million tonne per annum heap leach plant designed to recover 90,000 ounces per annum over a life of 4 years. This came on stream in late 1993. The treatment rate was subsequently expanded to a rate of 6 million tonnes per annum in late 1994.

A comparison of actual and predicted production figures is printed in TABLE 6-1.

TABLE 6-1: HEAP LEACH – FEASIBILITY ESTIMATES VS. ACTUAL PRODUCTION         VISTA GOLD CORP. – MT TODD GOLD PROJECT         June 2009								
Category	Category Feasibility Study Actual Production							
Tonnes Leached - million 13.0 13.2								
Head Grade – g Au/t 1.2 0.96								
Recovery - % 65 53.8								
Gold Recovered - oz 320,000 220,755								
Cost/tonne – A\$ 7.13 8.33								
Cost/oz – A\$ 281 500								

Note: All tonnages and grades shown in TABLE 6-1 are historical numbers and are not NI43-101 compliant.

Phase II involved expanding to 8 million tonnes per annum and treatment through a flotation and CIL circuit. The feasibility study was conducted by a joint venture between Bateman Kinhill and Kilborne (BKK) and was completed in June 1995. The feasibility study indicated that treatment of transitional and primary ore from the Batman pit would provide an 8-year mine life to recover 2 million ounces at a cost of \$A369 (\$US266) per ounce. Capital cost for Phase II was estimated at \$A207.8 million.

The Pegasus Board approved the project on 17 August 1995 and awarded an EPCM contract to BKK in October 1995. Commissioning commenced in November 1996. Final capital cost to complete the project was \$A232 million (US\$181 million).

Design capacity was never achieved due to inadequacies in the crushing circuit. An annualized throughput rate of just under 7 million tonnes per annum was achieved by mid 1997. However, problems with high soluble copper necessitated the closure of the flotation circuit which resulted in reduced recoveries. Operating costs were above those predicted in the feasibility study.

The spot price of gold deteriorated from above \$US400 in early 1996 to below \$US300 per ounce during 1997. According to the 1997 Pegasus Gold Inc. Annual Report, the economics of the project were seriously affected by the slump. Underperformance of the project and higher

operating costs led to the mine being closed and placed on care and maintenance on 14 November 1997.

In February 1999, General Gold agreed to form a joint venture with Multiplex Resources and Pegasus Gold Australia to own, operate, and explore the mine. Initial equity participation in the joint venture was General Gold 2%, Multiplex Resources 93%, and Pegasus Gold Australia 5%. The joint venture appointed General Gold as mine operator, which contributed the operating plan in exchange for a 50% share of the net cash flow generated by the project, after allowing for acquisition costs and environmental sinking fund contributions. General Gold operated the mine from March 1999 to July 2000.

## 6.1 History of Previous Exploration

The Batman gold prospect, located about 3.5 km west of Mt Todd, is part of a goldfield that was worked from early in the 20<sup>th</sup> century. Gold and tin were discovered in the Mt Todd area in 1889. Most deposits were worked in the period from 1902 to 1914. A total of 7.80 tonnes of tin concentrate was obtained from cassiterite-bearing quartz-kaolin lodes at the Morris and Shamrock mines. The Jones Brothers reef was the most extensively mined gold-bearing quartz vein, with a recorded production of 28.45 kg. This reef consists of a steeply dipping ferruginous quartz lode within tightly folded greywackes.

The Yinberrie Wolfram field, discovered in 1913, is located 5 km west of Mt Todd. Tungsten, molybdenum and bismuth mineralization was discovered in greisenised aplite dykes and quartz veins in a small stock of the Cullen Batholith. Recorded production from numerous shallow shafts is 163 tonnes of tungsten, 130 kg of molybdenite and a small quantity of bismuth.

Exploration for uranium began in the 1950s. Small uranium prospects were discovered in sheared or greisenised portions of the Cullen Batholith in the vicinity of the Edith River. The area has been explored previously by Esso for uranium without any economic success.

Australian Ores and Minerals Limited ("AOM") in joint venture with Wandaroo Mining Corporation and Esso Standard Oil took out a number of mining leases in the Mt Todd area during 1975. Initial exploration consisted of stream sediment sampling, rock chip sampling, and geological reconnaissance for a variety of commodities. A number of geochemical anomalies were found primarily in the vicinity of old workings.

Follow-up work concentrated on alluvial tin and, later, auriferous reefs. Backhoe trenching, costeaning, and ground follow-up were the favored mode of exploration. Two diamond drillholes were drilled at Quigleys Reef. Despite determining that the gold potential of the reefs in the area was promising, AOM ceased work around Mt Todd. The Arafura Mining Corporation, CRA Exploration, and Marriaz Pty Ltd all explored the Mt Todd area at different times between 1975 and 1983. In late 1981, CRA Exploration conducted grid surveys, geological mapping and a 14-diamond drillhole program, with an aggregate meterage of 676.5 m, to test the gold content of Quigleys Reef over a strike length of 800 m. Following this program CRAE did not proceed with further exploration.

During late 1986, Pacific Gold Mines NL undertook exploration in the area which resulted in small-scale open cut mining on the Quigleys and Golf reefs, and limited test mining at the Alpha, Bravo, Charlie and Delta pits. Ore was carted to a CIP plant owned by Pacific at Moline. This continued until December 1987. Pacific Gold Mines ceased operations in the area in February 1988 having produced approximately 86,000 tonnes grading 4 g Au/t gold (Historic reported quantity, not NI43-101 compliant.). Subsequent negotiations between the Mt Todd JV partners (Billiton and Zapopan) and Pacific Gold Mines resulted in the acquisition of this ground and incorporation into the Joint Venture.

TABLE 6-2 presents the	most important historia	cal events in a chro	onologic order.

TABLE 6-2: PROPERTY HISTORY VISTA GOLD CORP. – MT TODD GOLD PROJECT June 2009					
1986					
October 1986 – January 1987:	Conceptual Studies, Australia Gold PTY LTD (Billiton); Regional Screening; (Higgins), Ground Acquisition by Zapopan N.L.				
<u>1987</u> February: June-July: October:	Joint Venture finalized between Zapopan and Billiton. Geological Reconnaissance, Regional BCL, stream sediment sampling. Follow-up BCL stream sediment sampling, rock chip sampling and geological mapping (Geonorth)				
1988 Feb-March: March-April: May: May-June: July:	Data reassessment (Truelove) Gridding, BCL grid soil sampling, grid based rock chip sampling and geological mapping (Truelove) Percussion drilling Batman (Truelove) - (BP1-17, 1475m percussion) Follow-up BCL soil and rock chip sampling (Ruxton, Mackay) Percussion drilling Robin (Truelove, Mackay) - RP1-14, (1584m percussion)				
July-Dec:	Batman diamond, percussion and RC drilling (Kenny, Wegmann, Fuccenecco) - BP18-70, (6263m percussion); BD1-71, (8562m Diamond); BP71-100, (3065m R.C.)				
<u>1989</u> Feb-June:	Batman diamond and RC drilling:BD72-85 (5060m diamond); BP101-208, (8072m RC). Penguin, Regatta, Golf, Tollis Reef Exploration Drilling: PP1-8, PD1, RGP132, GP1-8, BP108, TP1-7 (202m diamond, 3090m RC); TR1-159 (501m RAB).				
June:	Mining lease application (MLA's 1070, 1071) lodged.				
July-Dec:	Resource Estimates; mining-related studies; Batman EM-drilling: BD12, BD8690 (1375m diamond); RC pre-collars and H/W drilling, BP209-220 (1320m RC); Exploration EM and exploration drilling: Tollis, Quigleys, TP9, TD1, QP1-3, QD1-4 (1141 diamond, 278m RC); Negative Exploration Tailings Dam: E1-16 (318m RC); DR1-144 (701. RAB) (Kenny, Wegmann, Fuccenecco, Gibbs).				
<u>1990</u> Jan-March:	Pre-feasibility related studies; Batman Inclined Infill RC drilling: BP222-239 (2370m RC); Tollis RC drilling, TP10-25 (1080m RC). (Kenny, Wegmann, Fuccenecco, Gibbs)				
<u>1993 - 1997</u> Pegasus Gold Australia Pty Ltd.	Pegasus Gold Australia Pty Ltd reported investing more than US\$200 million in the development of the Mt Todd mine and operated it from 1993 to 1997, when the project closed as a result of technical difficulties and low gold prices. The deed administrators were appointed in 1997 and sold the mine in March 1999 to a joint venture comprised of Multiplex Resources Pty Ltd and General Gold Resources Ltd.				
<u>1999 - 2000</u> March - June	Operated by a joint venture comprised of Multiplex Resources Pty Ltd and General Gold Resources Ltd. Operations ceased in July 2000, Pegasus, through the Deed Administrators, regained possession of various parts of the mine assets in order to recoup the balance of purchase price owed it. Most				

	of the equipment was sold in June 2001 and removed from the mine. The tailings facility and raw water facilities still remain at the site.		
<u>2000 – 2006</u>	Ferrier Hodgson (the Deed Administrators), Pegasus Gold Australia Pty Ltd, the government of the NT, and the Jawoyn Association Aboriginal Corporation (JAAC) held the property.		
<u>2006</u> March	Vista Gold Corp. acquires concession rights from the Deed Administrators.		

# 6.2 Historic Drilling

The following discussion centers on the historic drillhole databases that were provided to Tt for use in this report. Based on the reports by companies, individuals and other consultants, it is Tt's opinion that the drill-hole databases used as the bases of this report contain all of the available data. Tt is unaware of any drillhole data that have been excluded from this report.

## Batman Deposit

There are 730 historic drillholes in the Batman Deposit assay database. FIGURE 6-1 shows the drillhole locations for the Batman Deposit. These holes include 225-diamond drill core ("DDH"), 435 reverse circulation holes ("RVC"), and 70 open rotary holes ("OP"). Nearly all of the DDH and RVC holes were inclined 60° to the west. Samples were collected in one-meter intervals. DDH holes included both HQ and NQ core diameters. Core recoveries were reported to be very high with a mean of 98%. The Central area of the deposit was extensively core-drilled. Outside of the Central area, most of the drillholes were RVC and OP holes. All drillholes collars were surveyed by the mine surveyor. Down-hole surveys were conducted on most drillholes using an Eastman single shot instrument. All holes were logged on site.

A series of vertical RVC infill holes were drilled on a 25-meter-by-12.5-meter grid in the core of the deposit to depths between 50 and 85 meters below the surface. Zapopan elected to exclude these holes from modeling the Batman Deposit because the assays from these holes seemed to be downwardly biased and more erratic compared to assays from inclined RVC holes. Of the possible reasons cited as to why vertical RVC holes might report lower grades and have a more erratic character, the 1992 Mining & Resource Technology Pty Ltd ("MRT") report states that "the orientation of vertical holes sub-parallel to mineralization caused preferential sampling of barren host rocks...". This statement was, at least in part, borne out by the later sampling work done on the blastholes as it was credited with part of the reproducibility problems that were encountered when the Batman Deposit was being mined.

## Drillhole Density and Orientation

Pegasus was aware of the problem of drillhole density within the Batman Deposit. According to Pegasus management, the decision to not drill out the lower portion of the Batman Deposit was based on economic considerations. Section 7.0 of the 1995 BKK feasibility study detailed the decrease in drillhole density with depth. At the time of that study, there were 593 holes in the assay database of which 531 were used in the construction of the MRT block model. Reserve Services Group ("RSG") reported that the drilling density in the Central area oxide and transition zone ore was generally 25 meters by 25 meters. The spacing was wider on the periphery of the ore envelope. The drilling density in the Central area of the primary ore ranged from 50 meters by 50 meters, but decreased to 50 meters by 100 meters and greater at depth.

At the time of The Winters Company's ("TWC") site visit in 1997, the drillhole database numbered 730 holes. It is not known if any holes were excluded from the Pegasus exploration

models. Most of the new drilling that had been added since the 1994 MRT model was relatively shallow. TWC reviewed PGA's 50-meter drill sections through the Batman Deposit and saw that there was a marked decrease in drillhole spacing below 1000 RL (the model has had constant 1000 meters added to it in order to prevent elevations below 0 (sea level) and have been denoted as RL for relative elevation) and another sharp break below 900 RL. The drillhole spacing in the south of 1000 N on the 954 RL bench plan approached 80 meters by 80 meters. Pegasus was able to get around this problem by using very long search ranges in its grade estimation. In the main ore zone, Pegasus used maximum search distances in the north and east directions of nearly 300 meters.

Another potential problem related to drilling is the preferred orientation of the drillholes. Most of the holes in the assay database are inclined to the west to capture the vein set which strikes N10° to 20°E, dips east, and which dominates the mineralized envelope. This orientation is the obvious choice to most geologists since these veins are by far the most abundant. Ormsby (1997) discussed that while the majority of mineralization occurs in these veins, the distribution of gold mineralization higher than 0.4 g Au/t is controlled by structures in other orientations, such as east-west joints and bedding. For this reason, Ormsby stated, *"The result is that few ore boundaries (in the geological model) actually occur in the most common vein orientation.*" If this is truly the case, the strongly preferential drilling orientation has not crosscut the best mineralization and in cases may be sub-parallel to it.

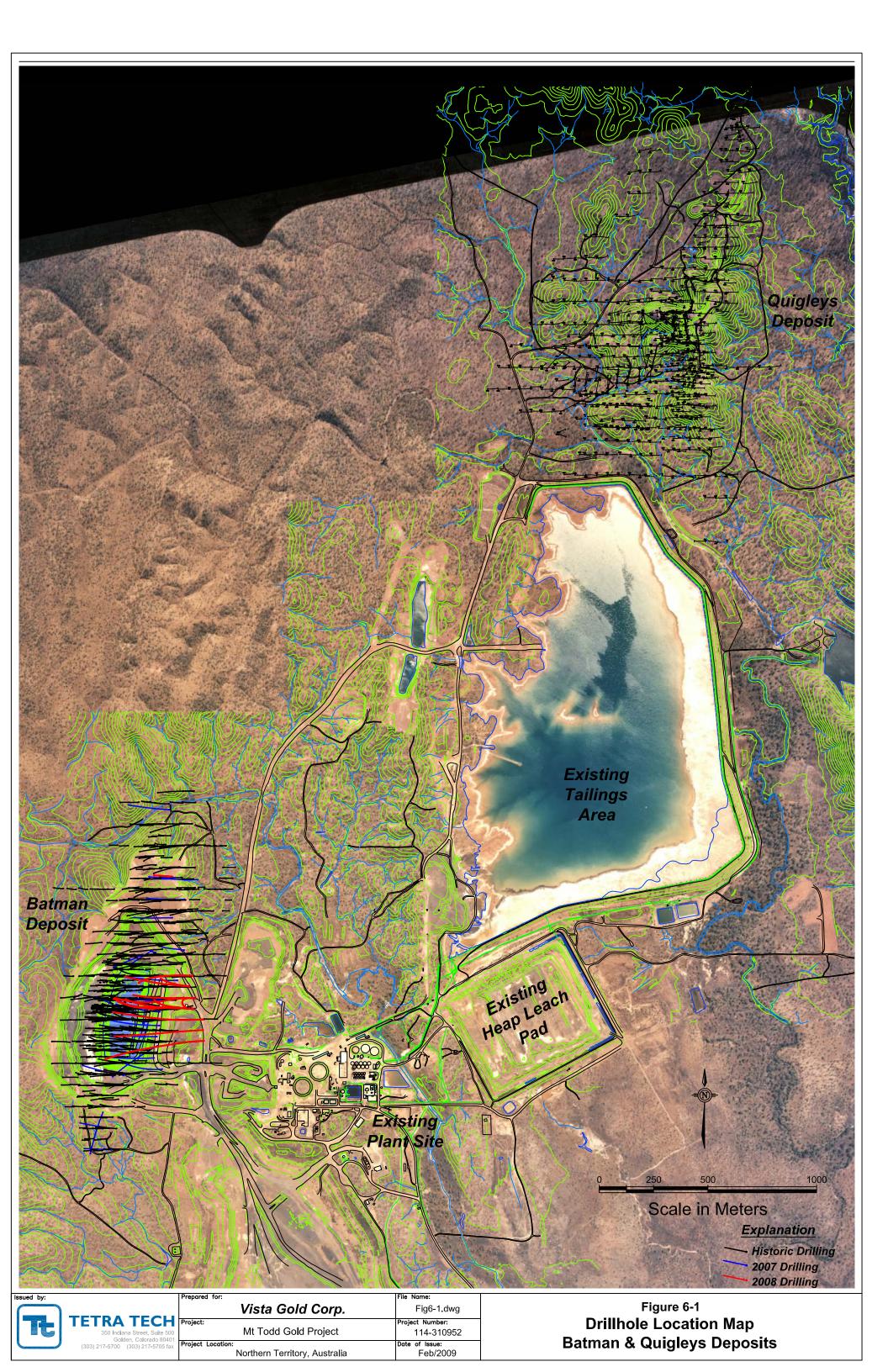
Vertically oriented RVC holes were not included in the drillhole database for the 1994 MRT model because their assay results appeared to be too low compared to other hole orientations. If vertical hole orientations were actually underestimating the gold content during exploration drilling, the vertical and often wet blastholes, which are used for ore control, pose a similar problem and will need to be addressed prior to commencing any new mining on the site.

## Quigleys

TABLE 6-3 details the Quigleys exploration database as of the time of this report. FIGURE 6-1 also shows the drillhole locations for the Quigleys Deposit.

TABLE 6-3: SUMMARY OF QUIGLEYS EXPLORATION DATABASE VISTA GOLD CORP. – MT TODD GOLD PROJECT June 2009								
Drillholes	Drillholes Gold Assays Copper Assays Lithologic Codes							
632								

Snowden completed a statistical study of the Quigleys drillhole database in order to bias test it. A comparison of historic and recent data by Snowden suggested that a bias might exist. Further study concluded that a bias is not apparent where all drilling is oriented in a similar direction (and not clustered). This suggests the inclusion of assay data from all phases of drilling is reasonable. The March 2008 report entitled "Mt Todd Gold Project, Gold Resource Update" contains additional information regarding the Snowden findings.



# 6.3 Historic Sampling Method and Approach

NQ core intervals were sawed lengthwise into half core. HQ core was quartered. RVC samples were riffle split on site and a 3- to 4-kg sample was sent to an assay lab. The 1992 MRT resource report commented that many of the RVC holes were drilled wet and that Billiton and Zapopan were aware of possible contamination problems. Oddly, in some comparison tests, DDH holes had averaged assays 5% to 6% higher than RVC holes; for that reason, MRT elected to exclude RVC holes from the drillhole database for grade estimation of the Central area of the Batman Deposit.

Since the property is currently not operating, Tt did not witness any drilling and sampling personally. We have taken the following discussion from reports by the various operators and more importantly, from reports by independent consultants that were retained throughout the history of the property to audit and verify the sampling and assaying procedures. It is Tt's opinion that the reports by the various companies and consultants have fairly represented the sampling and assaying history at the site and that the procedures implemented by the operators, most notably GGC, have resulted in an assay database that fairly represents the tenor of the mineralization at Batman.

## 6.4 Historic Sample Preparation, Analysis, and Security

The large number of campaigns and labs used in the Mt Todd drilling effort has resulted in a relatively complex sampling and assaying history. The database developed prior to August of 1992 was subjected to a review by Billiton, and has been subjected to extensive check assays throughout the project life. Furthermore, a number of consultants have reviewed the integrity of the database and have been content with the data for modeling purposes.

Drillhole samples were taken on one-meter intervals, though there are instances of two-meter intervals in the typically barren outlying holes. The procedure involved sawing the NQ core lengthwise in half. HQ core was quartered. RVC samples were riffle split on site and a 3- to 4-kg sample was sent to the laboratory for analyses. PAH stated that they actually witnessed the sample preparation process at a number of steps and concured with the methods in use; however, PAH also noted that they would prefer that the sample cuts following the ring grinding process be conducted with a splitter rather than a scoop. While free gold is not a problem in this deposit, the potential does exist for segregation based upon particle hardness, which could bias assay results.

Pegasus (and Zapopan NL, before) conducted a check assay program which is consistent with industry practice. Every 20th assay sample was subjected to assay by an independent lab. Standards were run periodically as well, using a non-coded sample number to prevent inadvertent bias in the labs.

Billiton conducted an audit/analysis of the data set available in 1992, which resulted in a number of recommendations. Generally, factoring of any kind, particularly upward, can be a source of problems and is not recommended practice. The 4% adjustment applied to a portion of the pre-1989 data set is unlikely to introduce a significant problem. Similarly, averages of multiple samples were placed into the assay field designated AU\_PREF, which is also a potential source of error, as it creates a set of samples whose variance will be somewhat lower than the single-assay population. Again, the number of samples subjected to averaging is less than one in ten, so the net effects are negligible.

While the concerns mentioned thus far are relatively minor, It was PAH's feeling that a more detailed examination of the assay set would be in order. The first concern focused on the

integrity of the AU\_PREF assays, which were calculated from a number of methods depending upon date drilled and the existence of check assays. PAH ran regressions and correlations on AU\_PREF against the primary and repeat assays of the Batman Deposit and noted that their data set contained 39% more samples than the feasibility dataset, most of which have been prepared under the more stringent and repeatable guidelines as specified by Pegasus and others.

The results indicated that at higher grades, the AU\_PREF assay differed by less than 1% (on average) from the primary and repeat assays. Agreement with the primary assay was within 1% over the entire range, which, indicates that AU\_PREF, even with the averaged data, does not materially differ from the source assays. The average difference between the regressed grade and AU\_PREF becomes larger at lower grades, particularly at less than 0.5 g au/t. This effect is probably due to detectability differences between the different labs and the mathematical effect of even small differences on low-grade samples.

#### Sample Analysis

According to reports by Pegasus, various consultants, and others, the early exploration assays were largely done at various commercial labs in Pine Creek and Darwin. Later assays were done at the Mt Todd mine site lab. At least three different sample preparation procedures were used at one time or another. All fire assays were conducted on 50-gram charges. Based on these reports, it appears that the assay labs did use their own internal assay blanks, standards, and blind duplicates.

Assay laboratories used for gold analysis of the Batman drill data were Classic Comlabs in Darwin, Australia Assay Laboratories in Pine Creek and Alice Springs and Pegasus site Laboratory.

The exploration data consist of 91,225 samples with an average and median length of 1 meter. The minimum sample length is 0.1 meters and the maximum sample length is 5 meters. 137 samples are less than 1 meter and 65 samples are over one meter in length.

All exploration drill data were used for the resource estimate. Four-meter down hole composite samples were calculated down hole for the resource estimate. The assay composited data were tabulated in the database field called "Comp". The weighted average grades, the length, and the hole were recorded.

#### Check Assays

Extensive check assaying was carried out on the exploration data. Approximately 5% of all RVC rejects were sent as duplicates and duplicate pulps were analyzed for 2.5% of all DDH intervals. Duplicate halves of 130 core intervals were analyzed as well. Overall, Mt Todd's check assay work is systematic and acceptable. The feasibility study showed that the precision of field duplicates of RVC samples is poor and that high errors exist in the database. The 1995 feasibility study stressed that because of the problems with the RVC assays, the RVC and OP assays should be kept in a separate database from the DDH assays. However, since that time, the majority of the identified assaying issues have been corrected by GGC based on recommendations of consultants. It is Tt's opinion that the assay database used in the creation of the current independent resource estimation exercise is acceptable and meets industry standards for accuracy and reliability.

## Security

Tt is unaware of any "special" or additional security measures that were in place and/or followed by the various exploration companies, other than the normal practices of retaining photographs, core splits, and/or pulps of the samples sent to a commercial assay laboratory.

## 6.5 Historic Process Description

The process flowsheet as designed utilized four-stage crushing, ball mill grinding, flotation, and carbon-in-leach (CIL) circuit gold recovery. A more detailed description of the process components and flowsheet can be found in the March 2008 report entitled "Mt Todd Gold Project, Gold Resource Update".

# 7.0 GEOLOGICAL SETTING

# 7.1 Geological and Structural Setting

The Mt Todd Project is situated within the southeastern portion of the Early Proterozoic Pine Creek Geosyncline (FIGURE 7-1). Meta-sediments, granitoids, basic intrusives, acid and intermediate volcanic rocks occur within this geological province.

Within the Mt Todd region, the oldest outcropping rocks are assigned to the Burrell Creek Formation. These rocks consist primarily of interbedded greywackes, siltstones, and shales of turbidite affinity, which are interspersed with minor volcanics. The sedimentary sequence incorporates slump structures, flute casts and graded beds, as well as occasional crossbeds. The Burrell Creek Formation is overlain by interbedded greywackes, mudstones, tuffs, minor conglomerates, mafic to intermediate volcanics and banded ironstone of the Tollis Formation. The Burrell Creek Formation and Tollis Formation comprise the Finniss River Group.

The Finniss River Group strata have been folded about northerly trending F1 fold axes. The folds are closed to open style and have moderately westerly dipping axial planes with some sections being overturned. A later north-south compression event resulted in east-west trending open style upright D2 folds.

The Finniss River Group has been regionally metamorphosed to lower green schist facies.

Late and Post Orogenic granitoid intrusion of the Cullen Batholith occurred from 1789 Ma to 1730 Ma, and brought about local contact metamorphism to hornblende hornfels facies.

Unconformably overlying the Burrell Creek Formation are sandstones, shales and tuffaceous sediments of the Phillips Creek sandstone, with acid and minor basic volcanics of the Plum Tree Creek Volcanics. Both these units form part of the Edith River Group, and occur to the south of the Project Area.

Relatively flat lying and undeformed sediments of the Lower Proterozoic Katherine River Group unconformably overlie the older rock units. The basal Kombolgie Formation forms a major escarpment, which dominates the topography to the east of the Project Area.

# 7.2 Local Geology

The geology of the Batman Deposit consists of a sequence of hornfelsed interbedded greywackes, and shales with minor thin beds of felsic tuff. Bedding is striking consistently at  $325^{\circ}$ , dipping at 40 to  $60^{\circ}$  to the southwest. Minor lamprophyre dykes trending north-south pinch and swell, cross cutting the bedding.

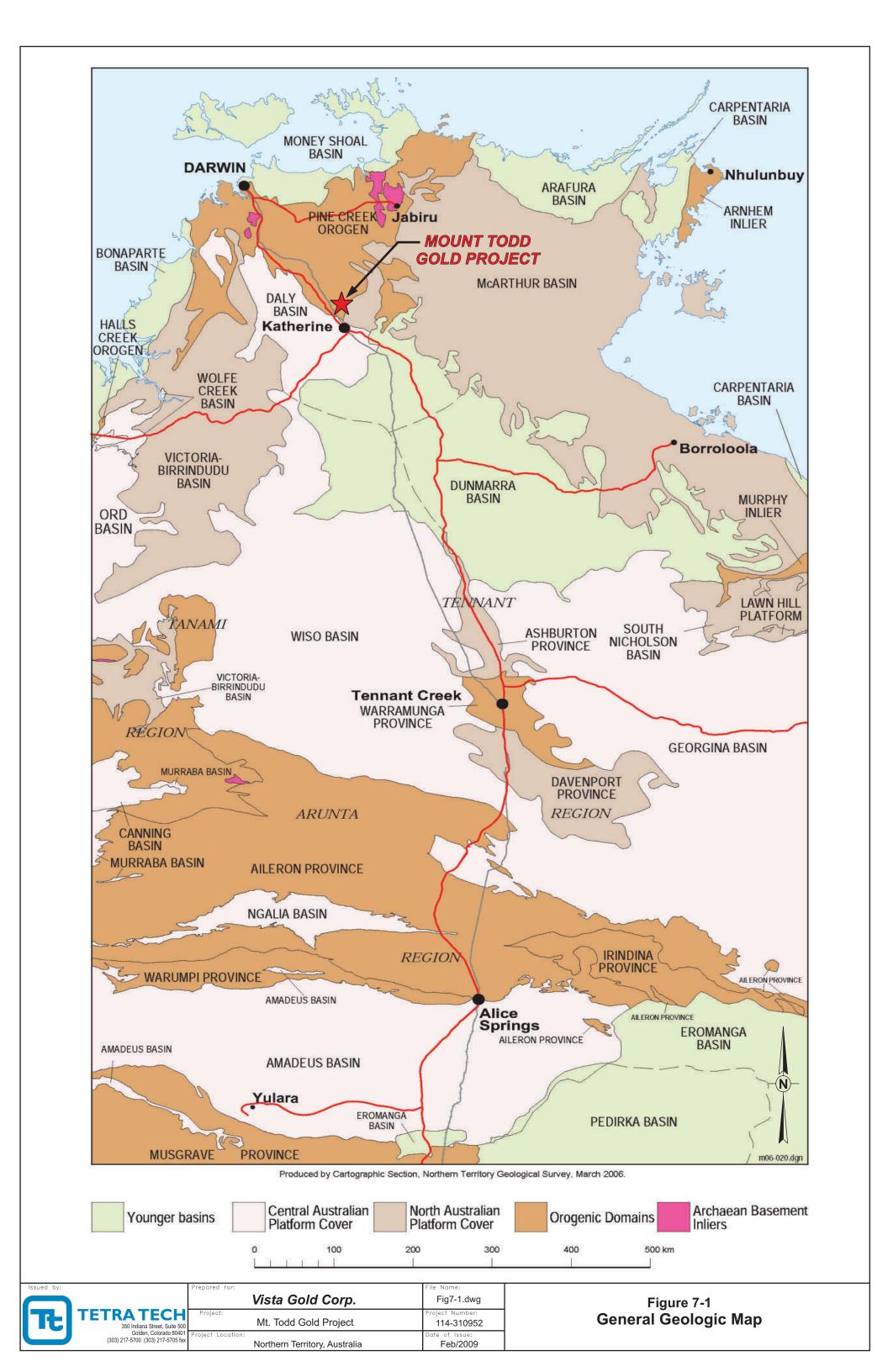
Nineteen lithological units have been identified within the deposit and are listed in TABLE 7-1 below from south to north (oldest to youngest).

TABLE 7-1: GEOLOGIC CODES AND LITHOLOGIC UNITS VISTA GOLD CORP. – MT TODD GOLD PROJECT June 2009						
Unit code Lithology Description						
1	GW25	greywacke				
2	SH24	shale				
3	GW24A	greywacke				
4	SHGW24A	shale/greywacke				
5	GW24	greywacke				
6	SHGW23	shale/greywacke				
7	GWSH23	greywacke/shale				
8	GW23	greywacke				
9	SH22	shale				
10	T21	felsic tuff				
11	SH21	shale				
12	T20	felsic tuff				
13	SH20	shale				
14	GWSH20	greywacke/shale				
15	SH19	shale				
16	T18	felsic tuff				
17	SH18	shale				
18	GW18	greywacke				
Int	INT	lamprophyre dyke				

Bedding parallel shears are present in some of the shale horizons (especially in units SHGW23, GWSH23 and SH22). These bedding shears are identified by quartz/ calcite sulphidic breccias. Pyrite, pyrrhotite, chalcopyrite, galena and sphalerite are the main primary sulfides associated with the bedding parallel shears.

East west trending faults and joint sets crosscut bedding. Only minor movement has been observed on these faults. Calcite veining is sometimes associated with these faults. These structures appear to be post mineralization.

Northerly trending quartz sulfide veins and joints striking at  $0^{\circ}$  to  $20^{\circ}$ , dipping to the east at  $60^{\circ}$  are the major location for mineralization in the Batman Deposit. The veins are 1 to 100 mm in thickness with an average thickness of around 8 to 10 mm. The veins consist of dominantly quartz with sulfides on the margins. The veining occurs in sheets with up to 20 veins per horizontal meter. These sheet veins are the main source of mineralization in the Batman Deposit.



# 8.0 DEPOSIT TYPE

According to Hein (2003), the Batman and Quigleys gold deposits of the Mt Todd Mine are formed by hydrothermal activity, concomitant with retrograde contact metamorphism and associated deformation, during cooling and crystallization of the Tennysons Leucogranite and early in D2 (Hein, submitted for publication). It is speculated that pluton cooling resulted in the development of effective tensile stresses that dilated and/or reactivated structures generated during pluton emplacement and/ or during D1 (Furlong et al., 1991), or which fractured the country rock carapace as is typical during cooling of shallowly emplaced plutons (Knapp and Norton, 1981). In particular, this model invokes sinistral reactivation of a northeasterly trending chanalization basement strike-slip fault, causing brittle failure in the upper crust and/or dilation of existing north-northeasterly trending faults, fractures, and joints in competent rock units such as meta-greywackes and siltstones. The generation of dilatant structures above the basement structure (i.e., along a northeasterly trending corridor overlying the basement fault), coupled with a sudden reduction in pressure, and concomitant to brecciation by hydraulic implosion (Sibson, 1987; Je'brak, 1997) may have facilitated chanalization of predominantly metamorphic fluid in the intermediate contact metamorphic aureole (possibly suprahydrostatic-pressured) and into the upper crust (Furlong et al., 1991; Cox et al., 2001). Rising fluids decompressed concurrent with mineral precipitation. Throttling of the conduit or fluid pathways probably resulted in over pressuring of the fluid (Sibson, 2001), this giving way to further fracturing, etc. Mineral precipitation accompanied a decrease in temperature although, ultimately, the hydrothermal system cooled as isotherms collapsed about the cooling pluton (Knapp and Norton, 1981).

Gold mineralization is constrained to a single mineralizing event that included:

- Retrogressive contact metamorphism during cooling and crystallization of the Tennysons Leucogranite;
- Fracturing of the country rock carapace;
- Sinistral reactivation of a NE-trending basement strike-slip fault;
- Brittle failure and fluid-assisted brecciation; and
- Channelization of predominantly metamorphic fluid in the intermediate contact metamorphic aureole into dilatant structures.

The deposits are similar to other gold deposits of the PCG and are classified as orogenic gold deposits in the subdivision of thermal aureole gold style. The Batman Deposit shares some characteristics with intrusion-related gold systems, especially in terms of the association of gold with bismuth and reduced ore mineralogies. This makes the deposit unique in the PCG.

# 9.0 MINERALIZATION

A variety of mineralization styles occur within the Mt Todd area. Of greatest known economic significance are auriferous quartz-sulfide vein systems. These vein systems include the Batman, Jones, Golf, Quigleys and Horseshoe prospects, which occur within a north-northeast trending corridor, and are hosted by the Burrell Creek Formation. Tin occurs in a north-northwest trending corridor. The tin mineralization comprises cassiterite, quartz, tourmaline, kaolin, and hematite bearing assemblages, which occur as bedding parallel breccia zones and pipes. Polymetallic Au, W, Mo, and Cu mineralization occurs in quartz-greisen veins within the Yinberrie Leucogranite; a late stage highly fractionated phase of the Cullen Batholith.

# 9.1 Batman Deposit

## Local Mineralization Controls

The mineralization within the Batman Deposit is directly related to the intensity of the northsouth trending quartz sulfide veining. The lithological units impact on the orientation and intensity of mineralization.

Sulfide minerals associated with the gold mineralization are pyrite, pyrrhotite and lesser amounts of chalcophyrite, bismuthinite and arsenopyrite. Galena and sphalerite are also present, but appear to be post-gold mineralization, and are related to calcite veining in the bedding plains and the east-west trending faults and joints.

Two main styles of mineralization have been identified in the Batman Deposit. These are the north-south trending vein mineralization and bedding parallel mineralization.

#### North-South Trending Corridor

The north-south trending mineralization occurs in all rock units and is most dominant in the shales and greywackes designated SHGW23. Inspection of grade control and exploration data, drill logs, diamond core and the pit has shown that the north-south trending mineralization can be divided into 3 major zones based on veining and jointing intensity.

#### Core Complex

Mineralization is consistent and most, to all, joints have been filled with quartz and sulfides. Vein frequency per meter is high in this zone. This zone occurs in all rock types.

#### Hanging Wall Zone

Mineralization is patchier than the core complex due to quartz veining not being as abundant as the core complex. The lithology controls the amount of mineralization within the hanging wall zone. The hanging wall zone doesn't occur north of T21. South of reference line T21 to the greywacke shale unit designated GWSH23, the mineralization has a bedding trend. A large quartz/ pyrrhotite vein defines the boundary of the hanging wall and core complex in places.

#### Footwall Zone

Like the Hanging Wall Zone, the mineralization is patchier than the core complex and jointing is more prevalent than quartz veining. Footwall Zone mineralization style is controlled by the lithology and occurs in all lithological units.

Narrow bands of north-south trending mineralization also occur outside the three zones, but these bands are patchy.

#### **Bedding Parallel Mineralization**

Bedding parallel mineralization occurs in rock types SH22 to SH20 to the east of the Core complex. Veining is both bedding parallel and north south trending. The mineralization appears to have migrated from the south along narrow north-south trending zones and "balloon out" parallel to bedding around the felsic tuffs.

## 9.2 Quigleys Deposit

The Quigleys Deposit mineralization was interpreted by Pegasus and confirmed by Snowden to have a distinctive high-grade shallow dipping 30°-35° NW shear zone extending for nearly 1 km in strike and 230m vertical depth within a zone of more erratic lower grade mineralisation. The area has been investigated by RC and diamond drilling by Pegasus and previous explorers on 50m lines with some infill to 25m.

Drillhole intersections generally revealed an abrupt change from less than 0.4 g Au/t to high grade (>1 g Au /t) mineralization at the hanging wall position of the logged shear, but also revealed a gradational change to lower grade mineralisation with depth. Some adjacent holes were also noted with significant variation in the interpreted position of the shear zone, and some of the discrepancies appeared to have been resolved on the basis of selection of the highest gold grade. While the above method may result in a valid starting point for geological interpretation, the selection of such a narrow high grade zone is overly restrictive for interpretation of mineralization continuity and will require additional work prior to estimating any resources.

It was further thought that while the shear might be readily identified in diamond drillholes, interpretation in RC drilling, and in particular later interpretation from previously omitted RC holes, must invoke a degree of uncertainty in the interpretation.

The conclusion was that, while the shear zone was identifiable on a broad scale, the local variation was difficult to map with confidence and therefore difficult to estimate with any degree of certainty at this time.

# 10.0 EXPLORATION

Vista exploration staff conducted a surface exploration program, including prospecting, rock sampling and GPS surveying of drillhole collars and grid pickets on the Mt. Todd Exploration Licenses from April to July, 2008. Equipment and personnel were mobilized from the Mt Todd Mine site. The work was conducted by geologists and field technicians.

During the 2008 field season, the exploration effort was focused on four areas: Red Kangaroo Dreaming ("RKD"), Mt Todd mine site area, Tablelands area and Wolfram Hill. All prospects can be accessed from the Mt Todd mine site easily via existing roads. A total of 216 rock samples were collected from all areas (see table below). These prospect areas were chosen for further exploration as they were along strike (or proximal) of a mineralized northeast regional trend which hosts the Batman Pit and numerous gold prospects.

TABLE 10-1: 2008 ROCK SAMPLES VISTA GOLD CORP. – MT TODD GOLD PROJECT June 2009				
Prospect Samples Collected				
Red Kangaroo Dreaming 145				
Mt Todd Mine Site Area 52				
Tablelands Area 6				
Wolfram Hill Area 13				
Total Samples 216				

RKD was previously explored by the previous operator (Pegasus: 38 RC holes, 58 RAB holes). Mineralization was defined along a south trending 575 meter strike length. The area sampled during the 2008 program is west and south of the main RKD mineralized zone. The rock sampling was conducted to confirm both historical gold anomalies and soil anomalies from the 2007 Vista soil sampling program. At RKD, 145 samples were collected and submitted for analysis.

Prospecting and rock sampling was conducted at the Mt Todd mine site to locate mineralization proximal to Batman pit. Approximately 52 samples were collected and submitted for analysis. The area sampled includes the area south of the waste dump and heap leach pad. The sampled area contains historical soil and rock chip Au anomalies that have seen limited exploration.

In the Wolfram Hill area, 13 samples were collected and submitted for analysis. There are numerous historical gold anomalies in the Wolfram Hill area that have seen limited exploration. The area that was sampled includes historical shafts and adits from previous tungsten mining operations.

Limited sampling at Tablelands area, 33 km northeast of the Batman pit (14 km northeast of RKD), comprised only 6 samples. Previous drilling by past operators returned a near surface assay of 36 g/T Au as well as other anomalous values.

All observations and sampling are recorded as "stations" which have UTM coordinates that are located in the field with a GPS unit.

An ICP multi-element suite was utilized to analyze the rock samples from RKD, Mt Todd mine site area, Tablelands area and Wolfram Hill prospect by ALS Chemex Labs in Adelaide, South Australia. The ICP analysis consist of a multi-element suite that reports analyses for base and

precious metals, pathfinder elements for these commodities, as well as elements useful for mapping bedrock geology.

Concurrent with the rock sampling, from April to July 2008, drillhole collar locations and grid pickets were surveyed at Tablelands prospects using a GPS unit. Accurate drillhole locations has enabled the compilation of an accurate database for further drill planning and geological interpretation.

## RESULTS

Approximately 1100 meters due west of the RKD prospect, a 600 meter long arsenic soil anomaly was prospected and sampled during the 2008 exploration program. Historical rock samples have assayed up to 17.37 g Au/t within the anomaly. During the program, a topographic ridge corresponding within the southern portion of the anomaly was explored. The ridge was sampled along 500 meters with 41 samples collected. Of the samples collected almost half (46%) were over 0.3 g Au/t (ranging from 0.3 to 2.36 Au/t). No known drilling has been conducted on the anomaly and the mineralized ridge, although historical drillholes are collared 500 meters west and 200 meters south of the current target. Further field work is recommended including mapping, rock sampling and further soil sampling to define the anomaly and develop a drill target.

At the Wolfram Hill prospect, the 2008 rock sampling located anomalous gold, silver, copper, and tungsten anomalies including one sample which assayed 2.33 g Au/t, 738 g Ag/t, 37.8 %Cu and 0.21 %W. Only preliminary work was conducted in 2008; further work is warranted due to the significant gold, silver and copper values that were delineated in 2008 and by previous operators. It should also be noted that other historic tungsten occurrences, similar to the Wolfram Hill prospect, in the Pine Creek Orogen, also have significant enrichment of tantalum (it is currently unclear if the Wolfram Hill prospect has been explored for or historic samples have been analyzed for tantalum). Tantalum mineralization is present in a number of deposit styles including pegmatites and polymetallic veins of which both are found at the Wolfram Hill prospect.

Preliminary reconnaissance exploration was completed at the Tablelands prospect and additional work is recommended to follow up anomalous gold mineralization identified by previous operators.

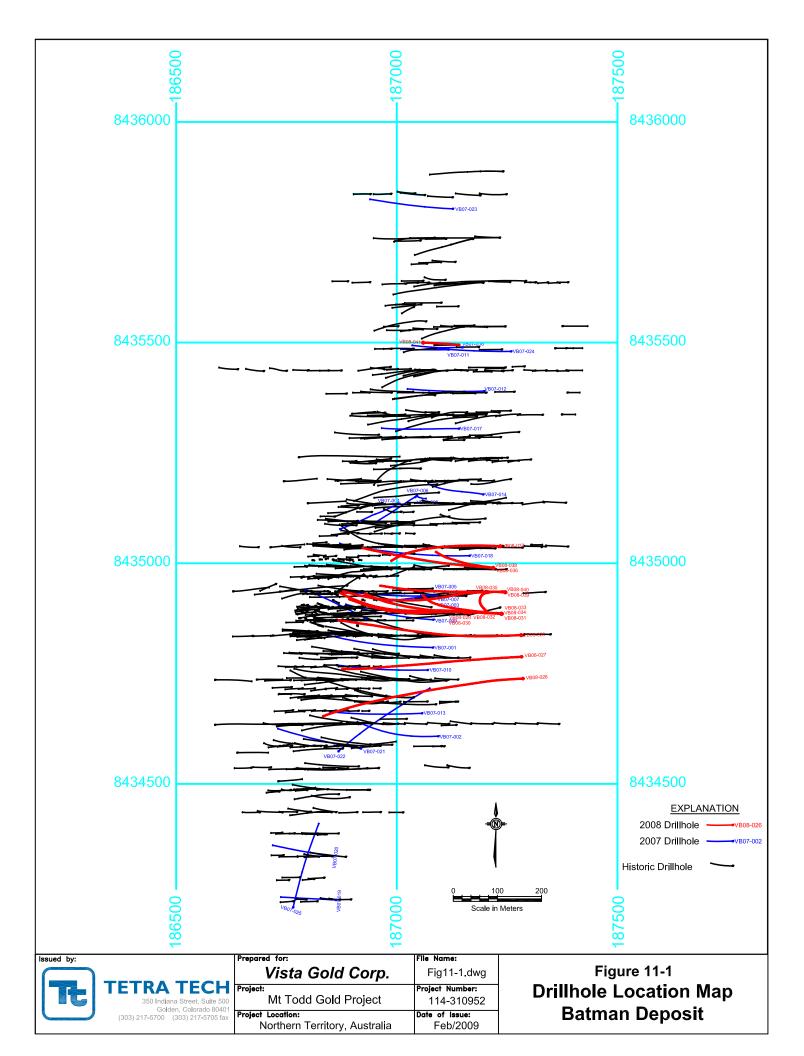
South of the waste dump at the Mt Todd mine site, a spot gold anomaly of 1.2 g Au/t confirms historical gold anomalies of 1.99 to 14.2 g Au/t. All three samples occur along a 200 meter strike length which trends north-south. The area sampled south of the heap leach pad also had isolated spot gold anomalies up to 2.29 g Au/t. Further work is required and recommended to locate and further refine known areas of gold mineralization proximal to the Mt Todd mine site.

# 11.0 DRILLING

The 2008 Vista exploration program at the Batman deposit consisted of 16 diamond core drillholes containing some 9,037.4 meters that targeted both infill definitional drilling and stepout drilling. TABLE 11-1 contains information of the 16 drillholes completed. A total of 7,367 assays were submitted from the program to the ALS Chemex for analyses. Core holes VB08-029 and VB08-033 were terminated early due to poor ground conditions.

TABLE 11-1: 2008 EXPLORATION DRILLHOLE SUMMARY VISTA GOLD CORP. – MT TODD GOLD PROJECT June 2009						
Hole ID	Northing	Easting	Elevation	Bearing	Dip	Total Depth
			(m above msl)	(degrees)	(degrees)	(m)
VB08-026	8434739.0	187386.1	144.9	267.2	49.2	700.5
VB08-027	8434788.0	187282.8	146.0	266.6	51.7	661.3
VB08-028	8434837.0	187282.0	146.4	268.1	52.9	647.8
VB08-029	8434888.0	187166.0	146.0	266.3	59.1	26.8
VB08-030	8434890.0	187165.9	146.3	275.1	59.6	599.1
VB08-031	8434886.0	187236.4	146.3	273.0	60.6	640.6
VB08-032	8434888.0	187201.0	146.4	273.0	58.2	632.7
VB08-033	8434886.0	187237.0	146.3	278.2	72.7	42.0
VB08-034	8434886.0	187238.1	146.3	274.7	73.2	750.0
VB08-035	8434934.0	187206.5	141.8	268.6	59.8	678.0
VB08-036	8434990.0	187218.3	143.3	274.1	60.0	657.1
VB08-037	8435039.0	187234.6	153.2	272.5	60.5	655.1
VB08-038	8434990.0	187218.7	143.3	278.3	76.3	730.7
VB08-039	8434934.0	187245.4	147.3	272.4	59.5	615.3
VB08-040	8434934.0	187246.1	147.3	274.7	73.7	700.0
VB08-041	8435500.0	187059.7	171.3	88.6	75.4	300.4

FIGURE 11-1 is a plan map that details the locations of the drillholes completed as part of the 2008 exploration program.



# 12.0 SAMPLING METHOD AND APPROACH

The sampling method and approach was similar to what has historically been used at Mt Todd. The drill core, upon removal from the core barrel, is photographed, geologically logged, geotechnically logged, and placed into metal core boxes. The metal core boxes are transported to the sample preparation building where the core is marked and sawn into halves. One-half is placed into sample bags as one-meter sample lengths, and the other half retained for future reference. The only exception to this is when a portion of the remaining core has been flagged for use in the ongoing metallurgical testwork.

The bagged samples have sample tags placed both inside and on the outside of the sample bags. The individual samples are grouped into "lots" for submission to ALS Chemex for preparation and analytical testing. All of this work was done under the supervision of a Vista geologist.

# 13.0 SAMPLE PREPARATION, ANALYSES, AND SECURITY

Vista and Tt developed an assay protocol for the analyses of the 2008 exploration drill core and for validation of the historic assays.

## **13.1** Sample Preparation

The diamond drilling program was conducted under the supervision of the Geologic Staff which was composed of a Chief Geologist, several contract expatriate geologists, and a core handling/cutting crew. The core handling crew was casual labor recruited locally.

Facilities for the core processing included an enclosed logging shed and a covered cutting and storage area that was fenced in. Both of these facilities were considered to be limited access areas and kept secured when work was not in progress.

The diamond drill core was boxed and stacked at the rig by the drill crews. Core was then picked up daily by members of the core cutting crew and transported directly into the logging shed.

Processing of the core included photographing, geotechnical and geologic logging, and marking the core for sampling. The nominal sample interval was 1 meter. When this process was completed, the core was moved into the core cutting/storage area where it was lined out for sampling. The core was laid out for the following procedures:

- One-meter intervals were marked out on the core by a member of the geologic staff;
- Geotechnical logging was done in accordance with the instructions received from SRK;
- Geologic logging was then done by a member of the geologic staff. Assay intervals
  were selected at this time and a cut line marked on the core. The standard sample
  interval was one-meter. During the early part of the program some flexibility was
  allowed for portions of the core that were not expected to return significant values
  based on visual inspection. These portions of the core were sampled in two-meter
  intervals. This was discontinued when numerous > 1 ppm assays were received from
  the 2 meter intervals;
- Blind sample numbers were then assigned and sample tickets prepared. Duplicate sample tickets were placed in the core tray at the appropriate locations; and
- Each core tray was photographed and restacked on pallets pending sample cutting.

The core is then cut using diamond saws with each interval placed in marked plastic bags. At this time, the standards and blanks were also placed in plastic bags for inclusion in the shipment. When a sequence of 5 samples was completed, they were placed in a shipping bag and closed with a zip tie. All of these samples were kept in the secure area until crated for shipping.

Samples were then placed in crates for shipping with 100 samples per crate (20 shipping bags). The crates were secured with padlocks and numbered globe seals as soon as they were loaded. The secured crates were stacked outside the core shed until picked up for transport.

## **13.2** Sample Analyses

After the samples were prepared, a split of the pulp was shipped directly to the ALS Chemex laboratory located in Perth for analysis.

#### ALS Chemex

#### 31 Denninup Way Malaga Perth, Western Australia Australia, 6090

The ALS Chemex sample preparation facility also prepared splits of the designated pulps and coarse rejects for cross laboratory checks. Genalysis was selected as the secondary laboratory to do the QA/QC checks. When a batch of samples had been prepared, the selected pulps and coarse rejects were shipped via TNT to the Genalysis sample preparation facility if Adelaide for the cross laboratory check work.

#### Genalysis

#### 11 Senna Road Wingfield South Australia 5013

ALS Chemex sent Vista an e-mail list of samples transmitted to Genalysis when they were shipped. When this notification was received by Vista, sample transmittals were prepared and e-mailed to Genalysis.

When the additional sample preparation work was completed, the Genalysis sample preparation facility in Adelaide shipped the pulps to their laboratory in Perth for the analytical work.

Genalysis

#### 15 Davison Street Maddington Western Australia 6109

## 13.3 Sample Security

ALS Chemex was selected as the primary laboratory for all further preparation and analysis. The closest ALS Chemex facility with the capability of preparing the samples to the desired specifications was their sample preparation facility located in Adelaide. A series of padlocks were purchased for the sample crates and keys to these padlocks were sent to the sample preparation facility. ALS Chemex was instructed to notify Vista immediately if a crate of samples arrived without the padlocks or if the globe seals were missing or showed evidence of tampering.

## ALS Chemex

#### Unit 1, Burma Road Pooraka Adelaide, South Australia Australia, 5095

Sample shipments were scheduled for approximately once a week. The sealed crates were picked up on site by the transport company for road transport to the preparation facility. A con note was prepared and signed by both the shipping company and the geologist supervising the loading. These con notes were attached to the sample inventory and filed in the geologist office on site.

When the shipment left site, sample transmittals were prepared and e-mailed to ALS Chemex. When the shipment arrived at the preparation facility the samples were lined out and a confirmation of sample receipt was e-mailed back to Vista.

# 14.0 DATA VERIFICATION

## 14.1 Drill Core and Geologic Logs

As stated earlier in this report, the Mt Todd Project has an excellent drillhole database comprised of drill core, photographs of the drill core, assay certificates and results, and geologic logs. The meticulous preservation of the drill core and associated "hard copies" of the data are a testament to the originators of the project and the subsequent companies that have looked at the project. All data are readily available for inspection and verification. In addition, most of the subsequent companies or their consultants that have examined the project have completed checks of the data and assay results. Other than the "normal" types of errors inherent in a project this size, (i.e. mislabeled intervals, number transpositions, etc.), which were corrected prior to Tt's resource estimation, it is Tt's opinion that the databases and associated data are of a "high quality" in nature.

Tt found no significant discrepancies with the existing drillhole geologic logs and is satisfied that the geologic logging, as provided for the development of the three-dimensional geologic models, fairly represents both the geologic and mineralogic conditions of each of the deposits that comprise the Mt Todd Project.

## 14.2 Topography

The topographic map of the project area was delivered electronically in an AutoCAD<sup>®</sup> compatible format and is dated December 1999. The surveyed drillhole collar coordinates agree well with the topographic map; it is Tt's opinion that the current topographic map is accurate and fairly represents the topography of the project area. In addition, it is suitable for the development of the geologic models, resource estimates, and potentially mineable resources.

## 14.3 Verification of Analytical Data

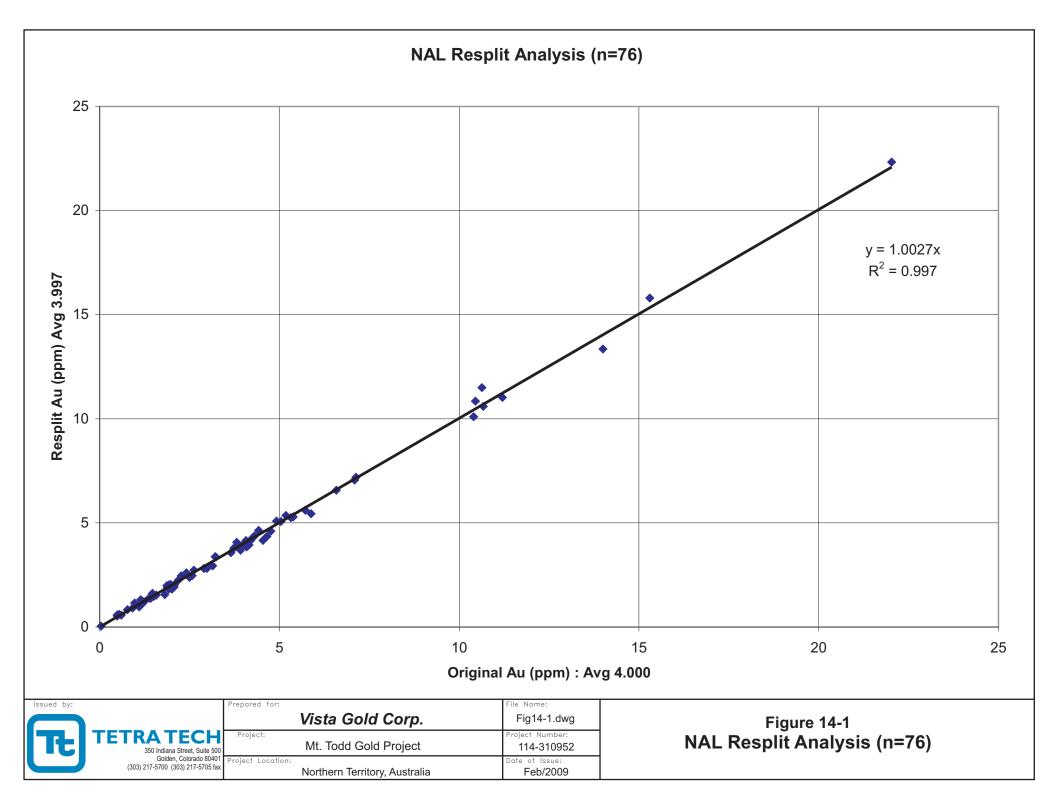
As part of the 2007 exploration program, Vista embarked on a program to both verify the historic assay results and ensure that any future analytical work meets all current NI 43-101 standards for reporting of mineral resources. This program consisted of two components; re-assaying of a portion of the historic drillholes, and assaying of the new core drillholes.

Vista completed a multi-phase program to evaluate the accuracy of gold assays generated by North Australian Labs (NAL) on Mt Todd core samples. The test involved three phases including, 1) cross checking assay standards used in the program between NAL and ALS-Chemex, 2) preparing and assaying 30 1-meter intervals of remaining half-core and detailed analysis of crushing and analytical performance between the two labs, and 3) screen sieve assay analysis of 45 coarse reject samples plus the 45 comparable remaining half core samples.

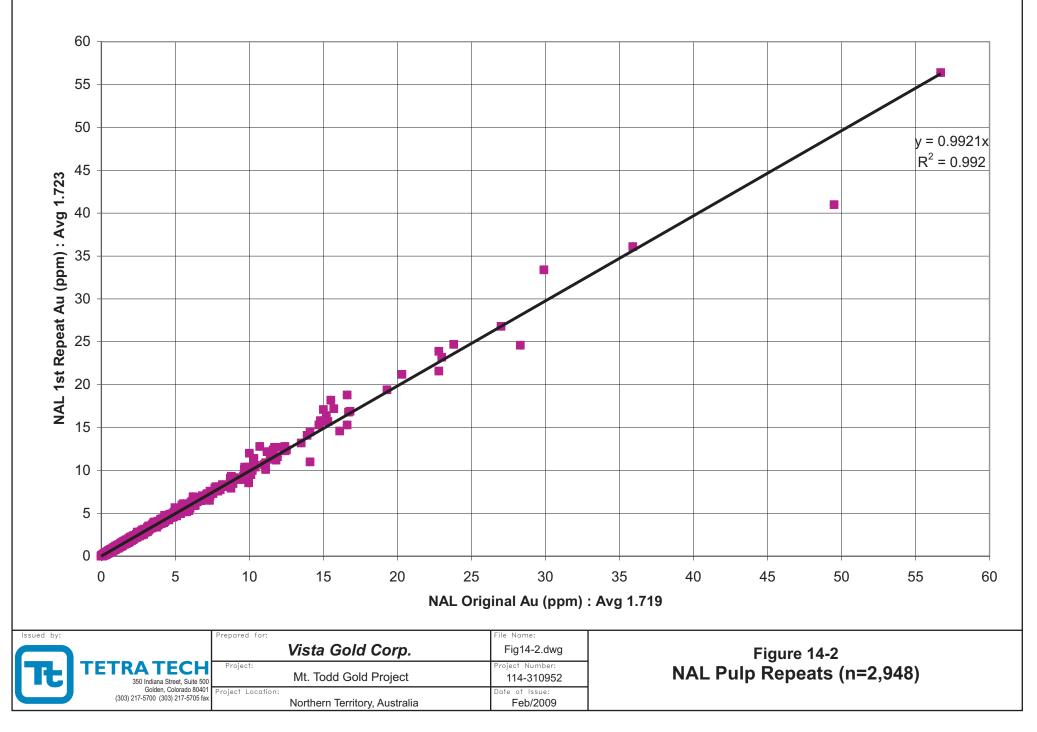
Analysis of the results from the two labs confirmed that finer material tends to be higher grade and that this fine material had been preferentially lost through the coarse-weave sample bags during storage and handling of the coarse reject samples. The test also showed good reproducibility between labs in all tests at grade ranges typical of the deposit. Greater variance, which is not unexpected, showed up in the few samples assaying in the 5-20 g Au/t range.

FIGURES 14-1, 14-2, and 14-1 detail the results of the analytical check program that was completed on the 2007 exploration drillholes. The program was designed to check both internal laboratory accuracy and inter-laboratory accuracy. NAL was the primary laboratory for completion of the sample analyses. ALS Chemex in Sydney, Australia performed the inter-laboratory analyses. As can be seen from the plats, the correlation coefficient for was 99.7% for the resplits of original assays, 99.2% for pulp repeats, and 98.6% for inter-laboratory analyses, respectively.

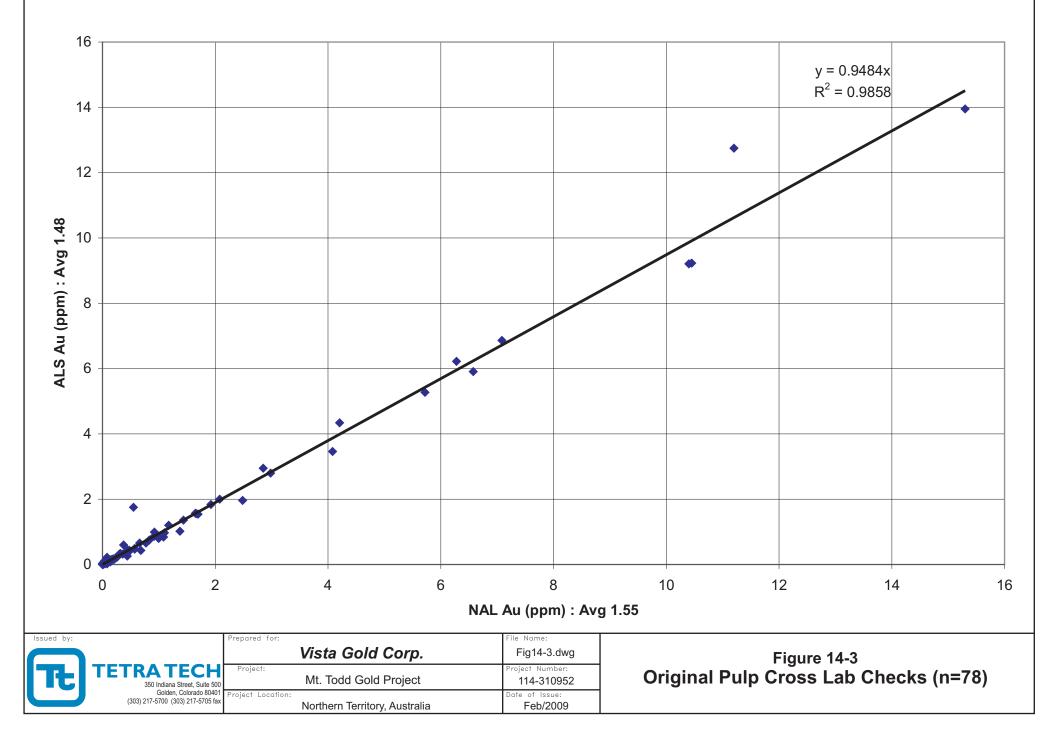
Vista continued their verification program as part of the 2008 exploration program.



NAL Pulp Repeats (n=2,948)



# **Original Pulp Cross Lab Checks (n=78)**



# 15.0 ADJACENT PROPERTIES

There are two major structural trends in the area (see FIGURE 15-1) that control most of the mineralization in the district. The northeast trending Cullen-Australus Corridor extends northeast and controls the deposits in the Pine Creek area including East Brilliant (Au), Saunders Rush (Au), Aston Hill (Au), etc. The Batman-Driffield trend within the tenements is northeast and is clearly defined by combined Landsat-Spot-aeromagnetic linear zones. There is a flexure in this trend around the Mountain View area that is associated with the Granitic Intrusive. The linear trends swing northwest in this area and define another mineralized linear zone linking Wandie-Moline and which is sub parallel to the Pine Creek linear.

Mineralization in the tenement blocks consists mainly of gold, tin, tungsten, with minor copper, lead, and zinc shows at Mountain View, Silver Spray, Tableland and Mt Diamond. Gold is usually associated with quartz veins and with chalcopyrite, arsenopyrite, pyrite, pyrrhotite and at Batman, minor bismuth and bismuthinite. At Batman, mineralization occurs as stockworks and sheeted quartz-sulfide veins. In other areas such as Quigleys, better grade mineralization is related to distinct shear zones that can have surrounding stockworks.

#### Yinberrie-EL 9733

Previous work defined two gold prospects. At Anomaly One, RC drilling by Billiton returned peak gold intercepts of 5 m of 2.93 g Au/t and 33 m of 1.21 g Au/t (including 6 m @ 2.54 g Au/t). Pegasus drill tested Anomaly One with 16 RC holes, for 1599 m on four sections between 10200N to 10700N. Intersections were from 2 to 8 m wide, grades from 1.05 to 3.14 g Au/t in strongly hornfelsed metasediments.

#### Horseshoe - EL 9735

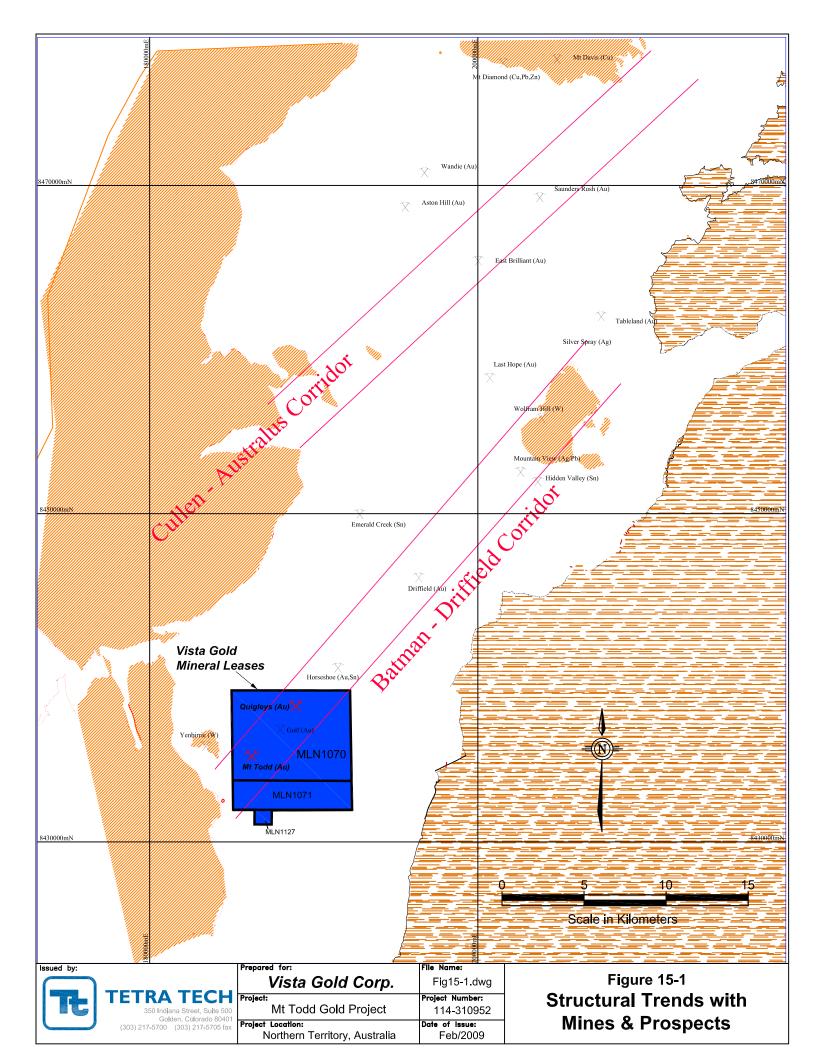
This area was previously held as EL 7635 and Mineral Claims N1918 to N1923 and N3676 to N3683 (inclusive). Billiton work defined two significant gold anomalies: Central, at the northern end, now held under BJV tenement SEL9679, and Horseshoe at the south. At Central the best RC drill result was 9 m @ 4.2 g Au/t Au while 15 m @ 1.8 g Au/t gold at Horseshoe was drilled. The Pegasus work performed over 5 years downgraded the Central Prospect. RC drilling at Horseshoe, based on detailed mapping, indicates the prospect consists of a number of thin high-grade shears with minimal stockwork mineralization in foot and hanging wall.

#### Driffield-EL 9734

Previous mining at Driffield produced about 5,300 oz of gold. Alluvial gold has also been worked on the EL and there are numerous small tin workings. Systematic exploration work carried out over previous years was collated, assessed and followed up. One diamond and sixty-six RC holes at six prospects were drilled by Pegasus for 4794 m at the Driffield Mining Center. Results indicated narrow lodes are only present. A further eleven RC holes were drilled at the Emerald Creek Prospect (670 m). No significant results were recorded.

Other prospects tested included Driffield North, Driffield West, Golden Slipper, and Driffield South. Results of five drillholes at Driffield North were disappointing. At Driffield West, nine RC holes were weakly anomalous, the best being DWRC 001 from 12 m, a length of 21 m @ 0.46 g Au/t; and from 45 m, 6 m @ 0.62 g Au/t. RAB drilling at Golden Slipper returned poor results and, while the bulk of rock chips at Driffield South were disappointing, some significant anomalies (+100 g Au/t) were recorded.

While 1997 results failed to locate a significant deposit, exploration is incomplete and other anomalies remain to be evaluated and drill tested.



#### Barnjarn - SEL 9679

This tenement is a large block of ground (353 sub-blocks totaling 1,136 sq.km). Compilation of previous exploration data defined targets at Australis (flanks Mt Davis), Wandie/Saunders Rush/Brilliant, Everest, and Triple Bull. Further anomalies were defined at six other areas. Rock chip sampling by Pegasus at eight areas returned results from 0.76 to 24.3 g Au/t gold in fourteen samples. Soil sampling at nine prospects outlined anomalous zones. Preliminary RAB drilling was carried out at Everest, RKD extensions and GT prospects with inconclusive results. At RKD, 38 RC holes were drilled which intersected 1 to 4 m of mineralisation, grading between 1.3 and 14.3 g Au/t Au. An airborne magnetic survey at 100 m spacing at 60 m mean terrain clearance was flown, and GLS and remote sensing studies completed. A total of 65 anomalies were defined by geochemical and/or structural means. A small resource has been interpreted at RKD and drilling at Mountain View, Cullen and Highway was proposed.

#### Summary

The Mt Todd region, and particularly the Batman style of mineralization, is one of sheeted veins that develop into a broad two-to-three dimensional stockwork. The grade of the > 200 million mineralized tonnes averages a little less than 1 g Au/t (Historical Pegasus estimate, not NI43-101 compliant (circa 1997)), and is associated with low grade copper, mostly as chalcopyrite.

At Cadia Hill in New South Wales, the mineralisation is similarly a sheeted vein, two to three dimensional stockwork grading around 0.9 g Au/t, associated with chalcopyrite grading < 0.2% copper. Exploration at Cadia was vigorously prosecuted and extremely persistent in testing of deeper combined magnetic/geochemical anomalies. This ultimately resulted in discovery, at depth, of the Ridgeway deposit (over 26 million tonnes at > 3 g Au/t and > 1% copper) (Historical estimate, not NI43-101 compliant).

Ridgeway is hosted by rocks similar to Cadia Hill, but there is a distinct increase in the quantity of mineralising fluid. Quartz veining with chalcopyrite-gold mineralization increases very significantly in proportion to the hosting altered, but unmineralized granitioid. It indicates an area of more forceful injection of fluids and an area of greater structural preparation. The Mt Todd region has a large endowment of gold.

Whatever the source of the fluids that caused the Mt Todd mineralization, it is the view of others that there is a high probability that somewhere in the ground currently under lease, may be a far more significant moderate to high grade economic deposit.

# 16.0 MINERAL PROCESSING AND METALLURGICAL TESTING

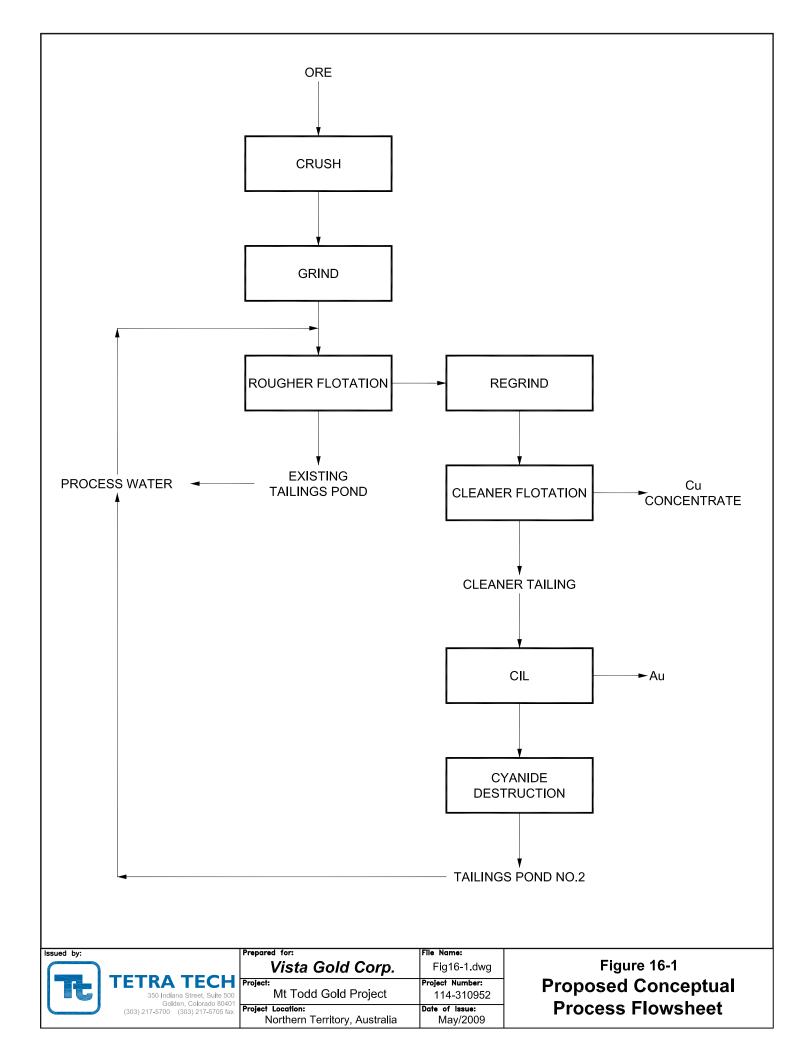
Resource Development Inc., (RDi) was contracted by Vista to undertake a metallurgical testing study to confirm and optimize the conceptual process flowsheet developed earlier and presented in the Preliminary Economic Assessment report published December 29, 2006. This work has resulted in an improved understanding of the ore characteristics at Mt. Todd that has required a change and improvement in the process flowsheet. On-going testwork will optimize the metallurgical balance for the process circuit and generate data for future economic studies.

Additional metallurgical test work is on-going at RDi. Although the process flowsheet has been modified/simplified and consists of coarse grinding followed by whole ore leaching, preliminary results indicate no changes from previous work with regard to anticipated gold recoveries. Gold extraction of more than 80 percent can be readily achieved at a relatively coarse grind with reasonable cyanide consumption. This phase of the test work is anticipated to be completed in the next two to three months and a report will be issued at that time.

## 16.1 Historical Review of Conceptual Process Flowsheet

RDi reviewed the historical metallurgical testwork for the Mt Todd project in 2006 and proposed the conceptual process flowsheet, shown in FIGURE 16-1, which would overcome the technical problems encountered by previous operators. The proposed flowsheet consisted of crushing and grinding the ore followed by floating the sulfides and gold in the rougher flotation. The objective of the rougher flotation step would be to maximize recoveries of gold, copper and other sulfides. The rougher tailings would have negligible amount of sulfides and would be non acid generating and sent to the existing tailings pond. The rougher concentrate, with 85% or higher gold recovery would be reground and selectively floated to recover copper and gold into a flotation cleaner concentrate which would assay over 20% Cu. The cleaner concentrate, containing  $\pm$  50% of the gold, would be sold to a smelter. The cleaner tailings would be cyanide leached in the carbon in leach (CIL) circuit. The leach residue would be subjected to cyanide destruction and the sulfides would be sent to a separate tailings pond. The tailings pond would be constantly monitored to ensure that acid is not generated.

In order to confirm this flowsheet, RDi undertook a testing program in late 2006 utilizing core samples provided by Vista Gold. The core samples consisted of approximately 3 kg each of ten drill core reject samples stored for several years. The composite sample prepared for the study assayed 1.78 g Au/t, 448 ppm Cu and 1.43% S<sub>Total</sub>. Based on the sequential copper analyses, the copper present in the composite consisted of 3% oxide copper, 63% secondary copper and 34% primary copper. The major sulfide mineral in the sample was pyrite. A simple reagent suite consisting of potassium amyl xanthate, Aeropromotor 3477 and methyl isobutyl alcohol recovered approximately 82% of gold and 90% of copper into a rougher flotation concentrate at a primary grind of P<sub>80</sub> 200 mesh. The rougher flotation concentrate was reground and upgraded to  $\pm$  19% Cu in two cleaner flotation stages. Additional cleaner stages could not be tested due to limited sample availability. Cyanide leaching of the cleaner flotation tailings, containing  $\pm$  35% of the gold, extracted 84% of the gold contained in the cleaner tailing. The **limited open-circuit testwork indicated that the proposed conceptual process flowsheet should work for the deposit.** 



## 16.2 Metallurgical Testwork

Vista Gold conducted the first of the two exploration programs on the Mt. Todd Project in 2007. Part of the core from the 2007 drilling program was used for metallurgical testing to confirm the process flowsheet. The composite sample was very hard (Bond's ball mill work index of 23.9) and averaged 1.37 g Au/T, 447 ppm Cu and 0.92% S<sub>Total</sub>. The metallurgical testwork indicated that the gold recovery in the rougher flotation concentrate was  $\pm$  80% at a primary grind of P<sub>80</sub> 200 mesh. The rougher concentrate could not be upgraded to provide concentrate assaying  $\pm$  20% Cu. The best results were  $\pm$  6% Cu using the same test procedure as employed for earlier core testing (2006).

Similar metallurgical results were obtained with composite using 2008 core samples. This composite assayed 0.89 g Au/T and 450 ppm Cu. Poor metallurgical performance regarding the conceptual process flowsheet confirmation resulted in a study to determine the reasons for the differences in metallurgical response for the different samples. The results, summarized in TABLE 16-1, indicated that the historical core contained copper occurring predominantly as secondary copper mineralization, which is known to be a major consumer of cyanide. The major sulfide mineral was pyrite. However, copper in the 2007 and 2008 drill core was found to occur as primary mineral species and pyrrhotite was identified as the major sulfide mineral. Pyrrhotite is known to float readily as compared to pyrite and is significantly more difficult to depress in the flotation process. Thus, it was difficult to selectively float copper minerals and produce an acceptable copper concentrate.

TABLE 16-1: ASSAYS OF VARIOUS COMPOSITE SAMPLES VISTA GOLD CORP. – MT TODD GOLD PROJECT June 2009											
Parameter Historical Core 2007 Drilling 2008 Drilling											
Au, g/t	1.78	1.3	0.89								
Cu <sub>Total</sub> , ppm	448	447	450								
Cu <sub>AcidSol</sub> , ppm	19	24									
Cu <sub>CNSol</sub> , ppm	295	68	65								
S <sub>Total</sub> , %	1.42	0.92									
Cu Distribution, %											
Oxide	3.1	4.3	5.3								
Secondary	65.8	15.3	14.4								
Primary	31.1	80.4	80.3								
Primary Sulfide Mineral	Pyrite	Pyrrhotite	Pyrrhotite								

Historical drill core stored at site was predominantly from the transition zone. Subsequent studies have confirmed that ore with similar characteristics (i.e., transition zone sulfide minerals) accounted for less than 5% of the remaining resources at the mine. Over 95% of the resources were typical of ore encountered in 2007 and 2008 drilling. Hence, copper may not be as important an issue as indicated by a review of the historical processing challenges encountered by earlier operators.

While this ore characterization study was on-going, the issue of the hardness of the ore was also evaluated by RDi. It is widely recognized that the energy required to grind the material to the desired size in a conventional flowsheet increases as the hardness of the ore increases. Taking advantage of the basic principle "that it is cheaper to crush than to grind" since crushing requires less energy than grinding, testwork was undertaken to evaluate High Pressure Grinding

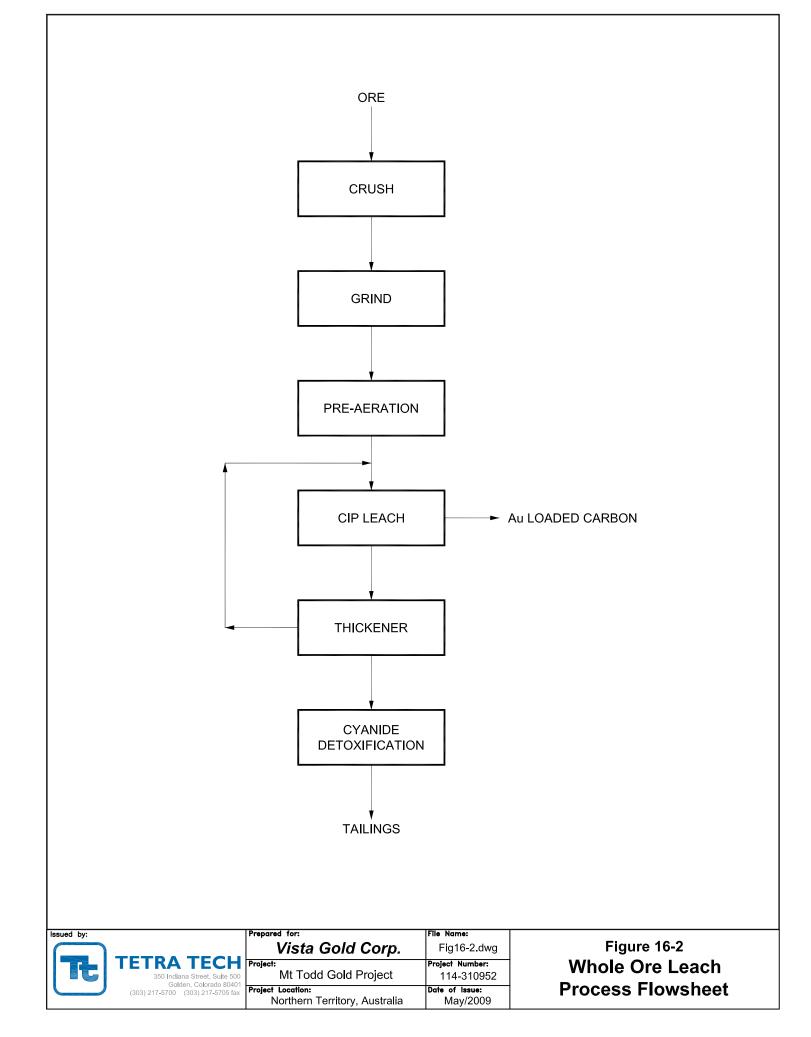
Rolls (HPGR) in order to reduce the energy requirement for the process flowsheet. Incorporation of HPGRs into the process flowsheet would essentially provide a tertiary stage of fine crushing prior to ball mill grinding. Based on subsequent laboratory studies, the energy requirements for the two flowsheets (shown in FIGURES 16-1 and 16-2) were determined. The results found in TABLE 16-2 indicate a significant reduction in power requirements by incorporating HPGR in the grinding circuit and changing the process to whole ore leach at a coarse grind size. The power requirements dropped from 33.70 kwh/t to 18.11 kwh/t.

TABLE 16-2: ENERGY REQUIREMENTS FOR DIFFERENT PROCESS FLOWSHEETS VISTA GOLD CORP. – MT TODD GOLD PROJECT June 2009										
	Process									
Flotation Process Direct Leach (P <sub>80</sub> =200 mesh) (P <sub>80</sub> =100 mesh)										
Conventional Crush/Grind										
Power, kwh/t	33.70	24.06								
Steel, kg/t	0.72	0.66								
HPGR/Grind										
Power, kwh/t	24.22	18.11								
Steel, kg/t	0.79	0.72								

As a result of better understanding of the mineralogy of the Batman Deposit and the metallurgical testing completed on the drill core from the 2007 drill program, the decision was made not to recover copper as a by-product. As such, RDi evaluated a whole ore leach option to determine the viability of this flowsheet at a coarser grind. The process flowsheet evaluated for whole ore leach is given in FIGURE 16-2. The test data demonstrate that a gold extraction of  $\pm$  82% can be achieved (TABLE 16-3). In addition, testwork was conducted to evaluate the effect of preaeration prior to cyanide leaching as a method of passivating the pyrrhotite and reducing overall cyanide consumption. The metallurgical study is being completed and the final report will be issued by July, 2009.

Test	June 2009 Test Cvanide Leach Extraction % Residue Cal. NaCN													
Test No.	Cyanide Maintain/ Decay	Leach Time, Hours	Au	Cu	g/t Au	Cal. Head g/t Au	NaCN Consumptior Kg/t							
72	Decay	24	82.6	13.5	0.20	1.14	0.60							
76	Decay	30	80.4	14.3	0.20	1.03	0.54							
78	Maintain	30	82.2	14.5	0.17	0.93	0.60							
80	Decay	36	82.2	15.0	0.14	0.79	0.54							
82	Maintain	36	84.0	16.3	0.14	0.85	0.59							
99	Decay	CIP 24+6	82.3	14.1	0.19	1.05	0.52							
100	Decay	CIP 24+6	82.0	15.6	0.18	1.01	0.58							
101	Decay	CIP 24+6	85.4	14.4	0.15	1.04	040							
102	Decay	CIP 24+6	86.7	14.4	0.15	1.15	0.46							

**Note:** Leach tests at 40% solids, pH 11 with 1 g/L NaCN initial addition. CIP tests run with 20 g/L carbon added after 24 hrs. All tests have 4 hours pre-aeration.



## **16.3 Process Flowsheet Description**

The recommended process flowsheet for treating Mt. Todd ore is shown in FIGURE 16-2. The run-of-mine (ROM) ore will be crushed in a two-stage open circuit with a primary crusher (gyratory crusher) and a secondary cone crusher and conveyed to a stockpile. The crushed ore will be reclaimed from the stockpile and crushed in closed circuit tertiary crushing circuit consisting of high pressure grinding rolls (HPGR). The HPGR product will be conveyed to the ball mill discharge sump. The cyclone overflow will be sent to a thickener and cyclone underflow will report to the ball mill for further grinding. The desired product size to the leach circuit will have a  $P_{80}$  of 150 microns. Following thickening, the ore will be pre-aerated at pH 11 adjusted with lime for 4 hours prior to adding cyanide for leaching. The retention time in the CIP circuit would be 30 hours with carbon added after 24 hours of leaching. The leached residue would be subjected to cyanide destruction and sent to the tailings pond.

## 17.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

The following sections detail the thought processes, procedures, and results of Tt's independent estimate of the contained gold resources of the Batman Deposit. Only the Batman Deposit currently has classified resource estimates. As detailed elsewhere in this report, the Quigleys Deposit, even though considerable data are available, will require additional work prior to estimation of a resource.

## 17.1 Batman Deposit

A total of 16,373 samples were tested for bulk density (diamond core). These bulk densities were carried out on a 10 to 15 cm piece of core from a meter sample. Based on this work, the bulk densities applied to the resource model are presented in TABLE 17-1.

TABLE 17-1: SUMMARY OF BATMAN SG DIAMOND CORE DATA BY OXIDATION STATE VISTA GOLD CORP. – MT TODD GOLD PROJECT March 2008												
Oxidation No of Min Max Mean Variance CV samples												
Oxide	2,341	1.77	3.28	2.47	0.04	0.08						
Transitional	Transitional 1,316 2.07 3.55 2.67 0.01 0.04											
Primary	12,716	1.58	3.90	2.77	0.006	0.03						

In addition, one hundred fist-sized grab samples (50 from 1060 level and 50 from 1040 level) were collected and sent to Assay Corp for moisture and bulk density determination and are presented in TABLE 17-2. Results show that the average moisture content is less than 1% and the average SG for the 1060 RL (all primary) is 2.77 and 1140 RL (mixture of primary and transitional) is 2.74. These results match the predicted specific gravity within the existing and new block models.

TABLE 17-2: BATMAN PIT SAMPLE SG DATA VISTA GOLD CORP. – MT TODD GOLD PROJECT March 2008 1060-1068 RL 1146- 1140RL											
	1060	-1068 RL	1146-	1140RL							
	SG	Moisture%	SG	Moisture%							
Number of samples	50	50	50	50							
Average bulk density (t/cm)	2.77	0.01	2.74	0							
Median bulk density (t/cm)	2.78	0	2.76	0							
Maximum bulk density (t/cm)	2.88	0.18	2.83	0.07							
Minimum bulk density (t/cm)	2.54	0	2.52	0							
Standard deviation.	0.05	0.03	0.07	0.01							

# 17.2 Quigleys Deposit

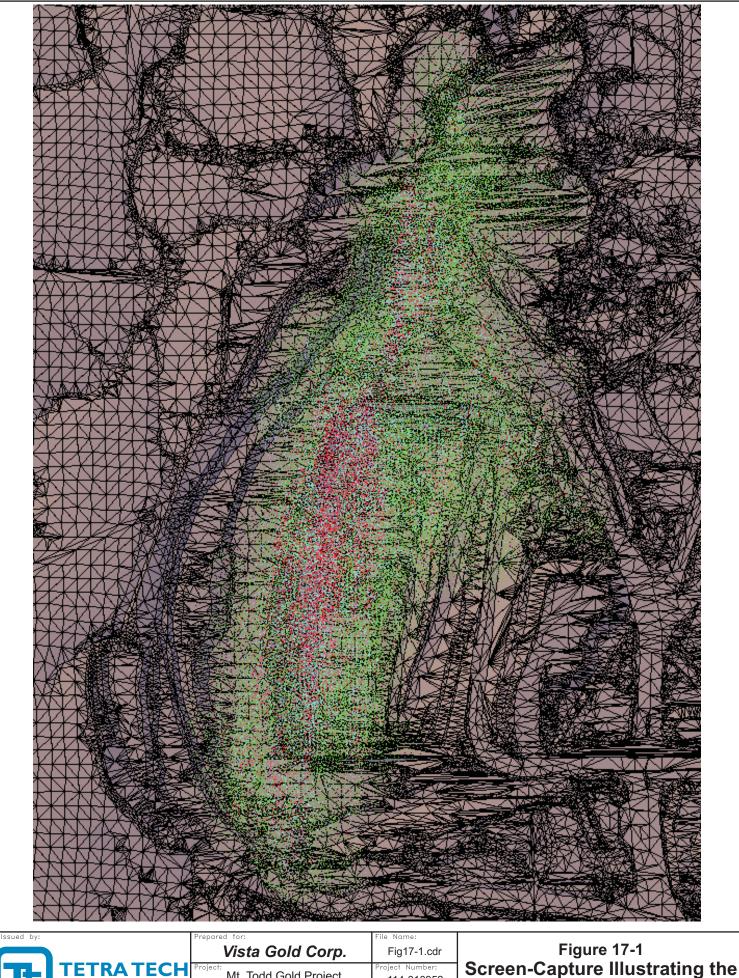
Bulk density data were supplied by Pegasus for two ore types and waste within the oxide, transition and primary zones, based on a total of 39 samples collected from recent RC drilling. The two ore densities supplied were for stockwork and shear, with the density of the shear material substantially higher, particularly in the transition and primary zones. These samples were over 1-m to 2-m intervals and thus selected the narrow high grade portion of the shear zone as originally interpreted by Pegasus. The final mineralization envelope was much broader than this, and the bulk density was therefore estimated by assuming the final envelope contained 15% shear and 85% stockwork and weighting the density values accordingly. TABLE 17-3 contains the SG data assigned to the Quigleys area according to oxidation state.

TABLE 17-3: QUIGLEYS DEPOSIT SG DATA VISTA GOLD CORP. – MT TODD GOLD PROJECT March 2008								
Oxide within modeled shear (t/cm) 2.60								
Oxide Waste (t/cm) 2.62								
Transition within modeled shear (t/cm)	2.65							
Transition Waste (t/cm)	2.58							
Primary within modeled shear (t/cm) 2.70								
Primary Waste (t/cm)	2.61							

More confidence in the geological interpretation would be needed to ascertain the geometry of the high-grade portion of the shear zone. Alternatively, it may be appropriate, with a more detailed density study, to weight the high-grade blocks with a higher density.

## 17.3 Geostatistical Analysis of Blasthole Data

A new geostatistical study was initiated with the objective being the refinement of the variograms derived solely from exploration gold samples. Vista Gold re-entered blasthole data produced during the mining of Mt. Todd by Pegasus Minerals and General Gold. The data includes a total of 158,640 gold samples from blasthole cuttings on 28 mining benches. The 8-m benches were mined in two 4-m mining lifts, producing two blasthole samples for each lift. FIGURE 17-1 is a screen capture of the Mt. Todd mine looking from above. The figure's size is approximately 1200 m in the N-S direction and 860 m in the W-E direction. Each blasthole is shown as a colored dot.



	vista Gold Corp.	Fig17-1.cdr	Figure 17-1
<b>TRA TECH</b>		Project Number: 114-310952	Screen-Capture Illustrating t
350 Indiana Street, Suite 500 Golden, Colorado 80401	Project Location:	Date of Issue:	Blasthole Locations
(303) 217-5700 (303) 217-5705 fax	Northern Territory Australia	Feb/2009	

The blasthole grade intervals shown in FIGURE 17-1 are as shown in TABLE 17-4.

TABLE 17-4: GRADE RANGES OF BLASTHOLE DATA IN FIGURE 17-1 VISTA GOLD CORP. – MT TODD GOLD PROJECT March 2008						
0.01 and <= 0.5g Au/t	Green					
> 0.5 and <= 1.0g Au/t	Cyan					
>1.0 and <= 2.0 g Au/t	Red					
>2.0 g Au/t	Magenta					

Note that at the screen capture resolution individual blastholes smear into a cloud of colors. The higher grade blasthole show a north-south trend, which when plotted against the geologic model discussed earlier in this report, appear to fall within the core complex.

TABLE 17-5 shows the statistics for all of the data above a minimum cutoff of 0.01 g Au/t. The data is lognormal-like as shown in FIGURE 17-2, and a coefficient of variation (CV) of 1.41, which is a measure of overall variability of the data. This level of CV is common for lower grade gold deposits.

#### TABLE 17-5: OVERALL STATISTICS FOR BLASTHOLE DATA (ALL ROCK TYPES)

PROJ				Statisti ast hole											
	DATA TYI CURRENT														
	THIRD PARAMETER FOR LOG TRANSFORM = 0.000000														
 I	si	AMPLE CO			 U		MED STAT	ISTICS			LOG-TRA	NSFORMEI	) STATS	LOG-DE	RIVED
 I ROCKI		AMPLE CO BELOW	UNT ABOVE	INSIDE	 U	NTRANSFOR	MED STAT	ISTICS	std.			NSFORMEI LOG	) STATS   LOG	LOG-DE	CRIVED   COEF.
		BELOW	ABOVE			NTRANSFOR MAXIMUM		ISTICS VARIANCE	STD. DEV.	 COEF.  OF VAR	LOG				

FIGURE 17-3 shows a log-probability plot with subtle breaks in a straight-line fit. These separate straight-line segments suggest that there is a mixture of several gold populations. Presented are three possible breakpoints shown with a circle symbols.

There are 66 rock codes in the computerized resource model. The blasthole data was further broken out using codes 3000 through 3018 for the Hanging Wall (HW), 2000 through 2018 for the Foot Wall (FW) and codes 1000 through 1018 for the Core. The data showed a similar lognormal distribution for each; however, gold grades are more similar when they are partitioned to be within their respective zones. The HW and FW zones have CVs of 1.35 and 1.39 respectively. The CV for the Core was even lower, with a value of 1.1, indicating less variability than the HW and FW. TABLE 17-6 details the basic statistics of the blasthole data by zone.

# WUNTIME TITLE : Calculate Statistics PROJECT TITLE : mt\_todd blast hole study

CURRENT LABEL : Au

LOWER BOUND	UPPER BOUND	4000	8000	12000	16000	20000	24000	28000
>=	< +	+	+	+	+	+	+	
0.0100	0.0158 *							
0.0158	0.0251 **							
0.0251	0.0397 **							
0.0397	0.0630 **	********						
0.0630	0.0997 **	********						
0.0997	0.1580 **	********	********	********	*****			
0.1580	0.2502 **	********	********	********	********	********	*	
0.2502	-	********						
0.3964	0.6279 **	********	********	********	*******	********	********	******
0.6279	0.9946 **	********	********	********	*******	********	*****	
0.9946	1.5755 **	********	********	********	*******			
1.5755	2.4956 **	********	******					
2.4956	3.9531 **	******						
3.9531	6.2618 **	*						
6.2618	9.9189 *							
9.9189	15.7118							
15.7118	24.8881							
24.8881	39.4235							
39.4235	62.4481							
62.4481	98.9199							
	+	+	+	+	+	+	+	+
	0	4000	8000	12000	16000	20000	24000	28000

Issued by:		Prepared for:	File Name:	
		Vista Gold Corp.	Fig17-2.dwg	Figure 17-2
Tt	TETRATECH 350 Indiana Street, Suite 500	Project: Mt. Todd Gold Project	Project Number: 114-310952	Log Histogram of Blasthole Data
	Golden, Colorado 80401 (303) 217-5700 (303) 217-5705 fax	Project Location: Northern Territory, Australia	Date of Issue: Feb/2009	(all rock types)

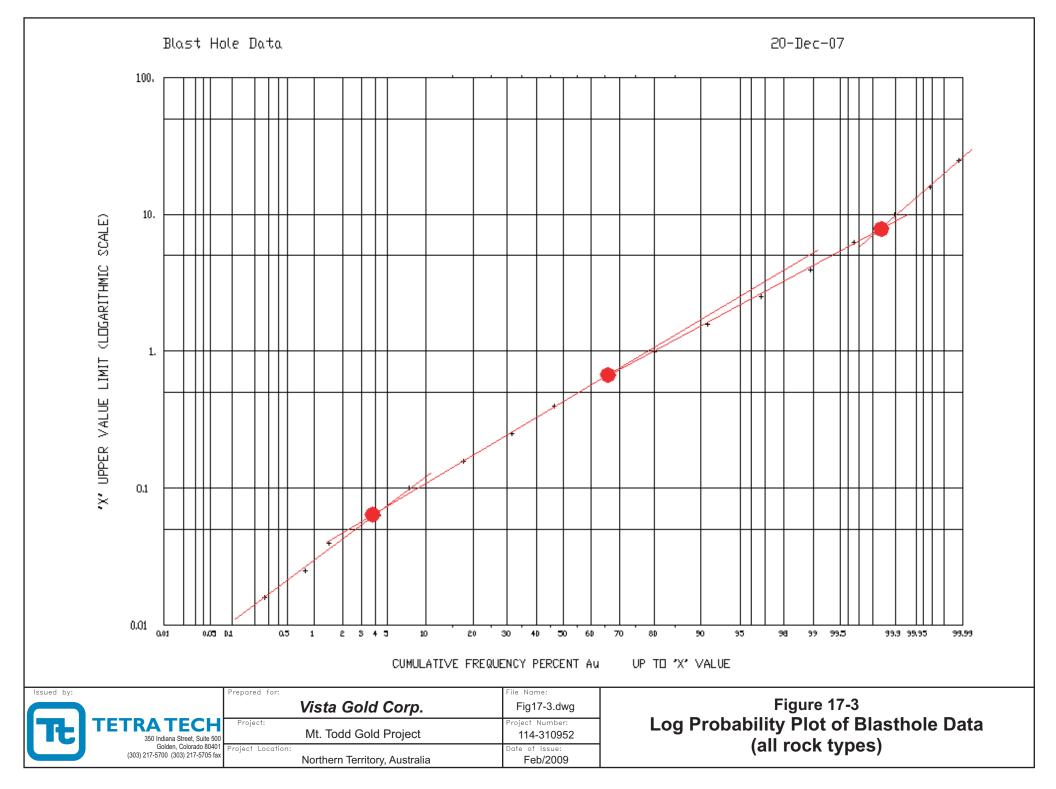


	TABLE 17-6: BASIC STATISTICS ON BLASTHOLE DATA BY ZONE VISTA GOLD CORP. – MT TODD GOLD PROJECT February 2009													
	Composite Count Untransformed Statistics													
Rock	Missing	Below	Above	Inside	Min	Max	Mean	Var	Std	Coef				
Code		Limits	Limits	Limits					Dev	Of Var				
1000	30626	658	0	37130	0.010	48.5	0.929	1.03	1.0189	1.096				
2000	11582	189	0	12693	0.010	22.2	0.530	0.51	0.7179	1.354				
3000	13844	561	0	15238	0.010	33.2	0.639	0.79	0.8905	1.393				

Twelve directional variograms were calculated for the blasthole data for the combined zones. In all cases, the variogram were calculated with log transformed data which was then recalibrated into relative variograms. These variograms showed a large nugget effect with a relative variance of 1.2 which is almost 2/3 of the final sill. The variograms were modeled with a spherical function. Two nested spherical functions were nested. The first was modeled with a short range of between 10 and 20 m. The longer range was modeled with ranges from 200 to 600 m. A geometric anisotropy was observed with the longest ranges in the N-to-N-E and vertical directions which follow the mineralization package along strike enclosed between the HW and FW.

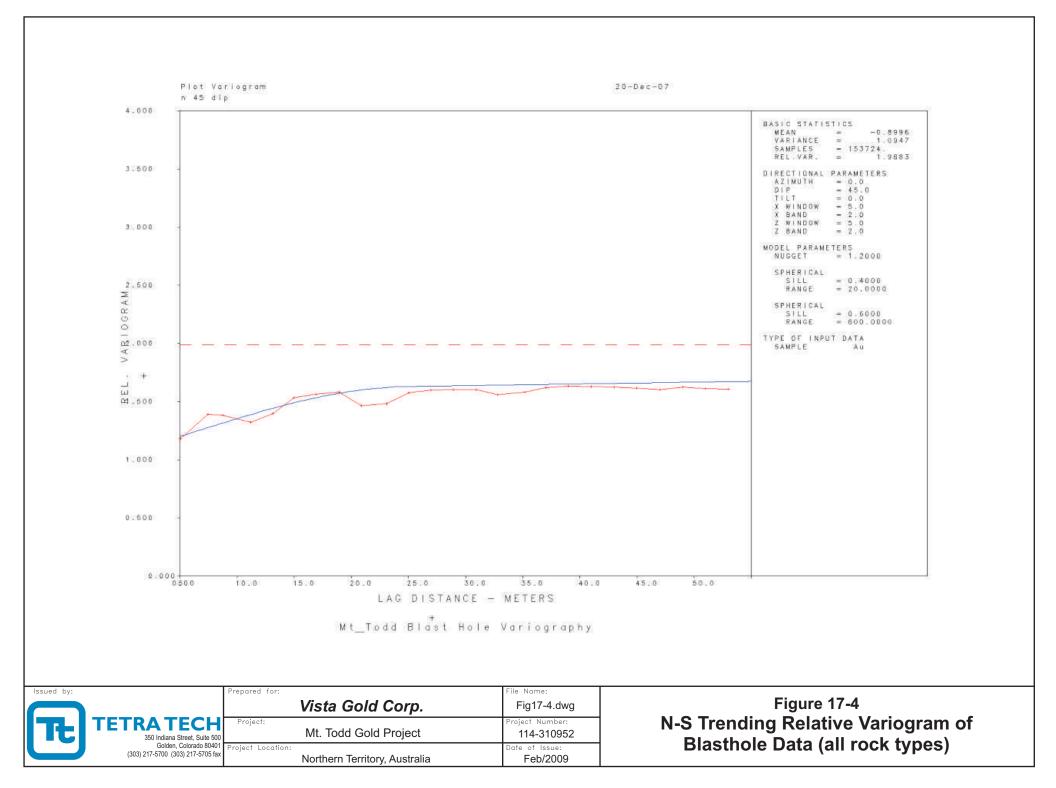
FIGURES 17-4 and 17-5 show representative variograms for N-S and E-W directions. The N-S has a short-range of 20 m and a long range of 400 m. FIGURE 4 has a short range of 10 m and a longer range of 200 m.

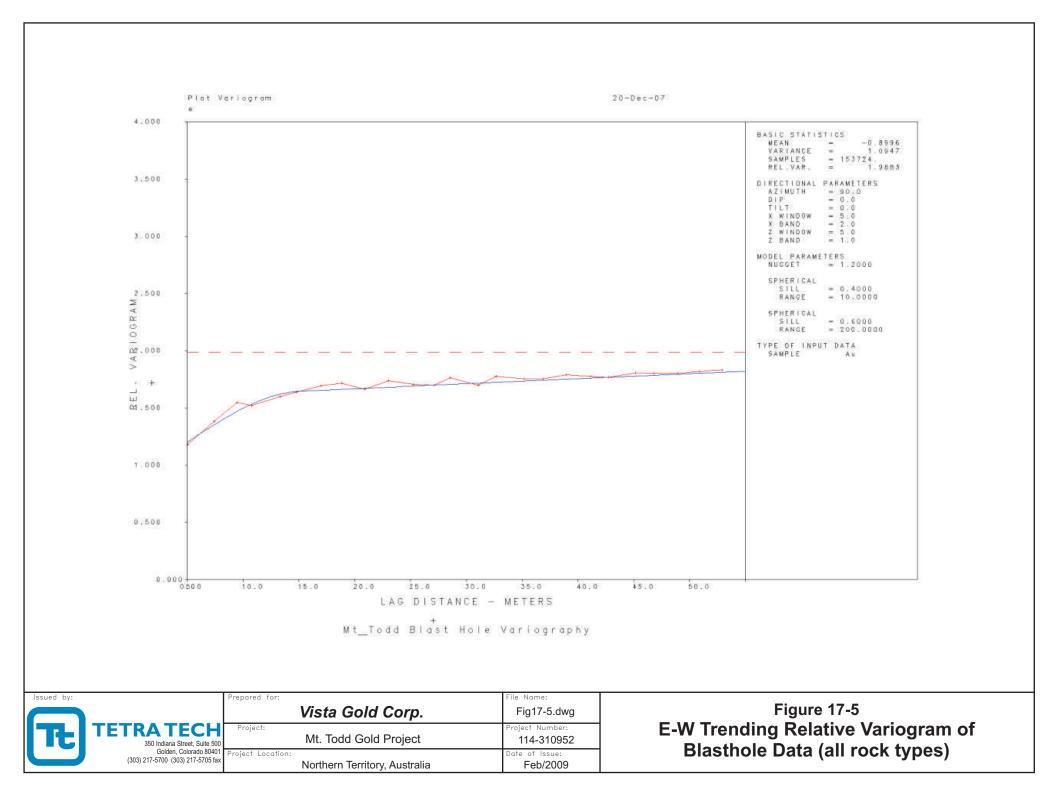
The other directional variograms show the same pattern as these two. Variograms using the FW, HW, or Core data alone shows lower sills than the combined data. The general geometry of ranges does not change. While geologic modeling does not appear to alter variogram ranges, it can have impact on final estimate quality. It is important, therefore to use geologic codes in all estimations.

A standard rule-of-thumb is that kriged blocks to be classified as "Measured" must have samples that are near the variogram range. In this case, the shorter of the two ranges is the appropriate distance for this rule. This distance is approaching 20 m. To classify resources at the "Indicated" level will require a single sampling distance to be no less than as 20 m. For a kriging estimate that uses at least 16 samples, this condition is met by setting the unitized relative kriging variance to a maximum of 0.30.

A standard rule-of-thumb is that kriged blocks to be classified as "Indicated" must have samples that are near the variogram range. In this case, the shorter of the two ranges is the appropriate distance for this rule. This distance is approaching 20 m. To classify resources at the "Indicated" level will require a single sampling distance to be no less than as 20 m. For a kriging estimate that uses at least 16 samples, this condition is met by setting the unitized relative kriging variance to a maximum of 0.30 to 0.55.

All blocks that were either unestimated and/or had kriging variances that exceeded the above variance parameters were re-estimated as "Inferred" resources. A single sampling distance of approximately 2 times the variogram range (i.e. 40 m) was used. For the kriged grade estimate, a maximum of 12 samples was used and a relative kriging variance of 0.0 to 0.45 was applied.





#### Blasthole Study Conclusions:

The blasthole study provided a better understanding of the shorter range components to the gold variograms derived from only exploration holes. This better understanding was incorporated into the updated grade model discussed in the next sub-section of this report. Important contributions from the blasthole study include:

- The sill values are related to the CV of the data population which has an impact on the quality of kriged estimation. This in turn supports the continuation of using rock code to partition the deposit;
- The high nugget modeled using exploration holes is corroborated by this blasthole study;
- A short range of from 10 to 20 m using BH data is consistently seen within the core;
- A longer range of 200 to 600 m using BH is also consistently seen;
- These observations also corroborate the previous geostatistical modeling; and
- The anisotropy directions are controlled by the geologic HW, Core, and FW structure, with the longest ranges along strike.

### 17.4 Drillhole Data

An Access database set up in Gemcom has been recreated from the old exploration database. Tables for the grade control database have been inserted into this database.

#### Batman Exploration Database

The pre-2007 exploration database consisted of 730 drillholes, 226 diamond holes and 504 percussion holes. A total of 47,029 samples existed within that exploration database. Diamond core is a combination of NQ and HQ, with the NQ core being sawed into half splits and the HQ core being sawed into quarter splits.

Problems have been identified from the original Batman exploration database:

- Only one gold field existed in the database called "Au Preferred". Au Preferred was a factored gold grade;
- Zones of non-assayed mineralized core were incorrectly coded and given 0 grade; and
- Some samples with assays below detection have been incorrectly coded as not sampled.

Original assays from logs and/or laboratory assay sheets have shown that there are up to 15 gold assay fields (five different splits with three gold fields). The Au preferred is usually the average of the gold assay, but with the early data, notably the Billiton data, the Au Preferred has been factored. Exactly how this factoring was calculated is a question. Billiton reports suggest that different laboratories along with the orientation of drillholes have impacted on the grade returned from the laboratory and factors to counter this have been applied in the calculation of the Au Preferred field.

MicroModel® files have been found containing 80% of the original assay data. Inspection of these data has shown codes, in some cases, were used for below detection (- 0.800 or - 0.008) while other times below detection was given a grade (0.005 or 0 or 0.001) instead of the code. Missing samples were given a code (- 0.900 or - 0.009 or - 0.700). Sometimes these codes have been misused with below detection codes being used instead of missing samples and vice

versa. This has impacted on the Au Preferred field in the database. Original lab assay data sheets and logs have been used to fix this problem.

After going through all the logs and laboratory assays, the data have now been corrected and reloaded into the database. Codes have been allocated, with below detection assays given a grade of 0.005, which is half the detection limit of 0.01 and missing samples given a code - 9.000.

The assays in the database have been split into different tables to save room and make the processing of the data more efficient. The gold fields have been split up into six different tables, depending on the number of duplicate samples. Gold1 is the first assay taken, Gold2 the second assay taken and so on to Gold5. An Auav (average gold grades) table has also been added for the average gold grade from the five gold assay tables. The Au Preferred field has been retained in the present dill hole database. A separate table has also been created for the multi-element data.

The existing lithology tables in the database are split into two tables, Extra and More (containing lithology, mineralization, oxidation structural data etc.).

In 2008 an additional sixteen (16) core holes were drilled. Gold was analyzed along with thirtythree (33) elements and added to the database. In addition, pulps from thirteen (13) of the pre-2007 holes were analyzed for the same suite of multi-elements.

#### Quigleys Exploration Database

TABLE 17-7 details the Quigleys exploration database.

TABLE 17-7: SUMMARY OF QUIGLEYS EXPLORATION DATABASE VISTA GOLD CORP. – MT TODD GOLD PROJECT March 2008						
Drillholes Gold Assays Copper Assays Litholog (approx 1m) (approx 1m) Codes						
632	49,178	41,673	51,205			

At the present time, no resource estimates have been made for the Quigleys Deposit.

#### Validation of the Batman Exploration Database

The exploration database has been validated in Gemcom for missing intervals, missing holes, invalid interval lengths, and erroneous azimuth, dip, and collar co-ordinates. The assay file was validated against the collar and survey file for interval length errors. No significant errors were encountered.

## 17.5 Batman Solids

In previous resource models, the Batman Deposit resource was calculated either nonconstrained, or with a grade shell for grade interpolation. Lithological units had not fully been taken into account. The GGC resource model and the pre-2009 Tt resource model both incorporate the lithological unit's interaction with mineralization within the deposit. The 2009 Tt resource model uses a simpler zoning scheme that consolidates the lithologic and oxide zones. However, the original coding has been maintained within the Tt database for cross-reference and comparison purposes. Solids have been created in Gemcom to flag the assay data and block model for oxidation state, lithological boundaries, and mineralized zone.

The following discussion describes the statistical analysis using both pre-2009 and 2009 coding schemes.

#### **Oxidation Solids**

Pegasus oxidation solids were found for oxide, transitional, and primary. Close inspection of exploration data, pit inspections, and specific gravity test work showed these solids to predict the oxidation states with a high degree of certainty. These oxidation solids have been used to flag the block model and assay data. Coding of oxidation is the same as the block model rock type coding. TABLE 17-8 details the codes and SGs assigned to the oxidation solids.

TABLE 17-8: OXIDATION MODEL CODES & ASSOCIATED SG – BATMAN DEPOSIT VISTA GOLD CORP. – MT TODD GOLD PROJECT March 2008						
Oxidation State Code SG (t/cm)						
OXIDE	100	2.47				
TRANSITIONAL	200	2.67				
PRIMARY	300	2.77				

#### Lithological Solids

Close inspection of the grade control and exploration data shows that the lithology interacts with the orientation and nature of mineralization. Pegasus mine geologists had created a solid interpretation of the lithology using Gemcom®. These lithological solids predict the lithological boundaries well. The Pegasus lithological solids were then extracted into a Gemcom® polygon database and projected to fit the size of the entire block model. These polygons were extracted as three-dimensional rubber sheets (3drs) and solids were created that were then used to code both the assay data and the block model. Some units, notably lithologic unit SHGW23, could be broken up into sub units of shale and greywacke, but the grade distribution within the unit is relatively consistent.

#### Mineralization Zoning

Close inspection of the grade control and exploration data, shows that the mineralization can be zoned in to areas that have similar characteristics. Four major zones exist, the core, the hanging wall, the footwall and outside. All these zones show changes in mineralization characteristics across lithological boundaries.

These zones were created visually using a combination of assay data (both grade control and exploration assays), quartz percent, quartz veining per meter, vein orientation, fractures per meter and lithology and sulfides. Below are the details describing these zones. The Core Zone, Footwall Zone, and Hanging wall Zone together comprise the core complex.

#### Core Zone (GGC Code = 10000, Tt Code = 1000)

This zone is the main mineralized zone within the deposit. It is characterized by having a high quartz percentage with a high vein frequency. Veins are orientated at  $0^{\circ}$  to  $20^{\circ}$  to the north and

dipping at around 80° to 60° to the east. Mineralization within the core zone is more consistent than in the other zones.

#### Footwall Zone (GGC Code = 20000, Tt Code = 2000)

The Footwall zone is adjacent to and to the west of the core zone. Less quartz veining and patchier grade, distinguish the footwall zone from the core complex. The north south jointing is present, but not all joints are filled with quartz/sulfides. Lithology tends to control the intensity of mineralization. The western boundary of the footwall zone is where the north-south jointing intensity decreases dramatically.

#### Hanging wall Zone (GGC Code = 30000, Tt Code = 3000)

The Hanging wall zone is adjacent to and to the east of the core zone. As with the Footwall zone, less quartz veining and patchier mineralization distinguish the hanging wall zone from the core zone. The north-south jointing is present but not all joints are filled with quartz/sulfides. Lithology tends to control the intensity and style of mineralization. The hanging wall Zone doesn't occur north of T21 and south of T21 to GWSH23 the mineralization has a bedding trend. A large quartz-sulfide vein, up to 2 m in thickness, consisting of quartz and pyrrhotite marks the boundary of the Hanging wall Zone and the core zone in places (it is possible source of large magnetic anomaly). This vein is only slightly mineralized. The eastern boundary of the hanging wall zone is marked by the last (eastern most) of the consistent quartz filled joints.

#### Outside Zone (Above and below the core complex, Tt Codes = 500 & 3500)

The Outside zone is all material outside the other zones. Narrow inconsistent north-south trending zones are present, as well as bedding parallel mineralization around bedding faults and areas of shale and felsic tuff, namely SH22 to SH20. For the 2009 resource estimate Tt assigned a rock code of 3500 to material below the Footwall Zone. Tt assigned a rock code of 500 to material above the hangingwall of the core complex.

FIGURE 17-6 provides a detailed picture of these three main mineralized zones for the Batman Deposit. The Hanging Wall zone is blue, the Core is yellow and Foot Wall is green. The 3-D view shows partial drillholes within a given lower and upper elevation horizontal slice.

## 17.6 Batman Drillhole Coding

The drillhole databases were coded for oxidation, geological zone and mineralized zone, into separate tables in the database. These tables were named;

- Complith: geological zone coding;
- Compox: oxidation coding; and
- Compzone: mineralization zones coding.

Coding was checked visually in section, plan, and 3D for errors.

#### Lithological Coding

GGC modeled eighteen lithological units identified within the deposit and are listed in TABLE 17-9 from south to north (oldest to youngest). These lithological codes were further consolidated into five codes within mineralization zones. FIGURE 17-7 shows the pattern of the 18 lithologies. The N-S trend of the "mineralized zones" crosscuts across a NW-SE pattern of lithologies. FIGURE17-2 illustrates the relationship of the individual units that comprise the core complex.

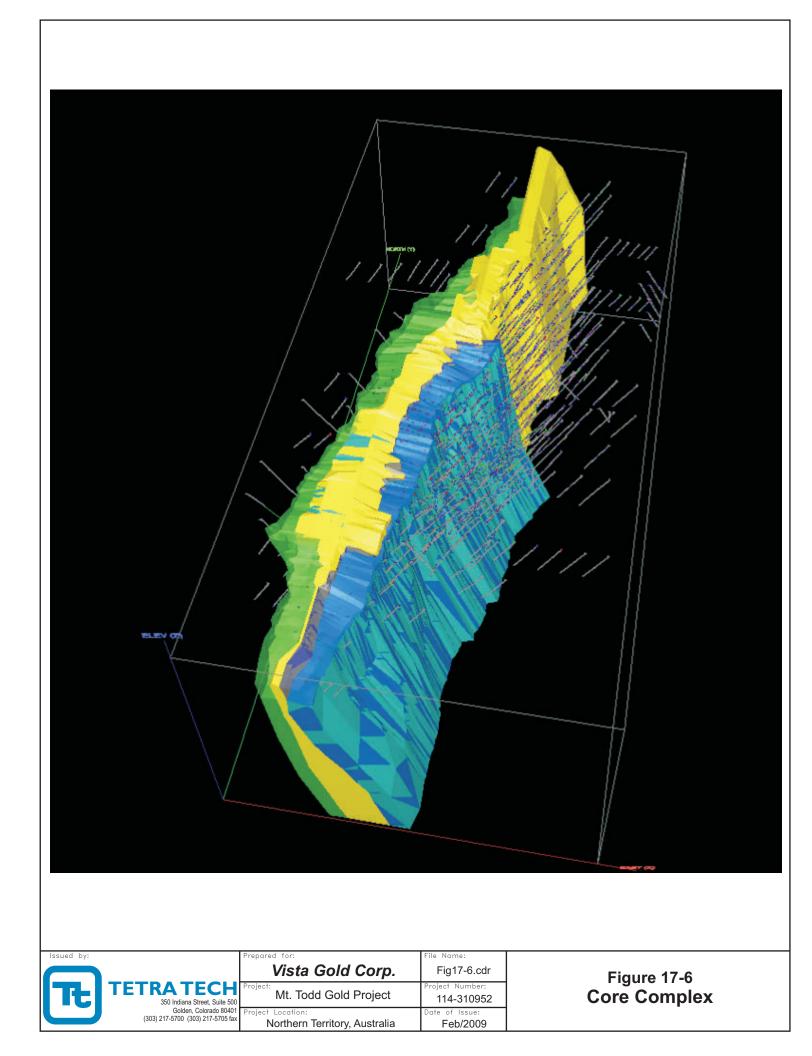


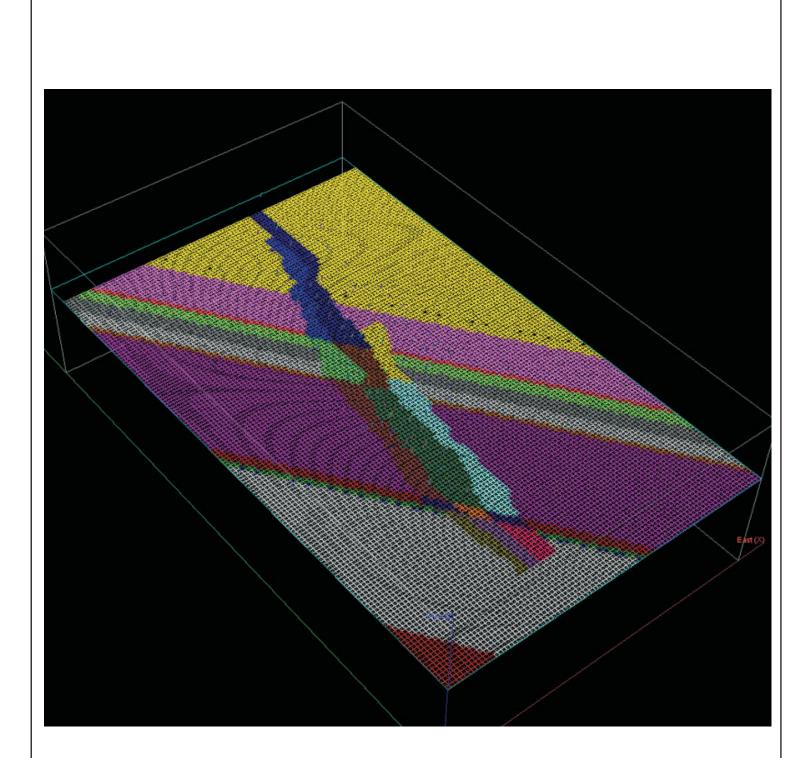
TABLE 17-9: SUMMARY OF GEOLOGIC MODEL CODING – BATMAN DEPOSIT VISTA GOLD CORP. – MT TODD GOLD PROJECT March 2008							
Lithology	Lithologic Unit Code	Description	Geological Zone Code (core, footwall, outside)	Geological Zone Code (hangingwall)			
GW25	1	greywacke	1	1			
SH24	2	shale	1	1			
GW24A	3	greywacke	1	1			
SHG24A	4	shale/greywacke	1	1			
GW24	5	greywacke	1	1			
SHGW23	6	shale/greywacke	2	2			
GWSH23	7	greywacke/shale	3	3			
GW23	8	greywacke	3	3			
SH22	9	shale	4	3			
T21	10	felsic tuff	4				
SH21	11	shale	4				
T20	12	felsic tuff	4				
SH20	13	shale	4				
GWSH20	14	greywacke/shale	5				
SH19	15	shale	5				
T18	16	felsic tuff	5				
SH18	17	shale	5				
GW18	18	greywacke	5				

#### North-South Trending Corridor

The north-south trending mineralization occurs in all rock units. Inspection of grade control and exploration data, drill logs, diamond core and the pit has shown that the north-south trending mineralization can be divided into three major zones based on veining and jointing intensity. These three zones were given Compzone codes that have values in the ten thousands, i.e. 10000, 20000, and 30000 by GGC, which Tt has modified to be 1000, 2000, and 3000, respectively. Outside of the corridor, the code is 0. Note that in FIGURE 17-2, two sets of lithology produce a striped pattern. The first pattern is one of NW-SE, while the other is a pattern of N-S. The major gold mineralization falls within the latter pattern which allows the Complith codes to be simplified and remapped as codes 1 to 5 depending on whether they fall within the Hanging Wall, Core, or Footwall Zones. The relationship between the detailed and simplified Complith codes is shown in TABLE 17-6.

#### Mineralization Zone Coding

The mineralized zones were coded in the drillhole database in field designated as COMPZONE (as in TABLE 17-10). Tt changed the GGC codes to 1000 series numbers in order to be compatible with the GEMCOM software.



Issued by:		Prepared for: <b>Vista Gold Corp.</b>	File Name: Fig17-7.cdr	Figure 17-7
ITŁ	TETRATECH 350 Indiana Street, Suite 500		Project Number: 114-310952	The 18 "detailed" Complith
	Golden, Colorado 80401 (303) 217-5700 (303) 217-5705 fax	Project Location: Northern Territory, Australia	Date of Issue: Feb/2009	Codes Show a General Pattern

TABLE 17-10: MINERALIZED ZONE MODEL CODES – BATMAN DEPOSIT VISTA GOLD CORP. – MT TODD GOLD PROJECT February 2009							
Zone	Zone GGC ID TT ID (2009)						
CORE	10000	1000					
COREHW	30000	3000					
COREFW	2000	2000					
OUTSIDECORE (above HW)*	0	500					
OUTSIDECORE (below FW)* 0 3500							
* Code added for 2009 Estimation							

#### Rock Type Model

A block model was created for oxidation, lithology and mineralized zones. The blocks were coded by intersecting with solids. A minimum of 51% intersection with the solids was the block coding criteria.

#### Density Model

The density model was coded from the oxidation model. Blocks were coded on the specific gravity given to the solids as presented in TABLE 17-5.

## 17.7 Mineral Resource Estimate

The Mt Todd gold resource estimate was independently developed by Tt using the MicroModel® software package. This updated gold resources estimate used the twenty-five (25) core holes completed by Vista Gold Corp. in 2007, the fourteen (14 of the 16) core holes completed in 2008, thirteen re-assays of pre-2007 holes and information gained from the blasthole study. The assay data were carefully reviewed and incorporated with the existing data from 730 drillholes (225 core, 435 reverse circulation, 70 rotary holes) from previous drill campaigns by BHP Resources Pty, Ltd., Zapopan NL and Pegasus Gold Australia Pty, Ltd. Many fundamental model parameters including: topography, drill assay and composite location, and the rock model developed by GGC were found to be acceptable. This included the interpretation by GGC of the lithologic rock designation, the oxidation level and the type and location of mineralized zones. The three-part designation of lithology, oxidation, and zone (LOZ) was incorporated into a block model framework used by GEMCOM® software and then transferred to MicroModel. Crucial differences between the GGC and Tt resource classification are found within the interpretation of variogram and kriging parameters and the use of different block sizes (GGC=12x12x12 versus Tt=12x12x6). Data from an additional forty-one (41) core holes drilled in 2007 and 2008 were added to the database. Gold values follow a three-parameter lognormal distribution and were modeled with general relative (genRel) variograms retransformed from log variograms. This interpretation included analysis of the drillhole and blasthole data. The results from the blasthole study resulted in a considerable shortening of variogram ranges. However, blasthole data was not used in the estimation of the mineral resource estimate. The estimating technique used geologically controlled, multiple pass ordinary kriging (OK) of gold values. This technique is supported by observations of Tt and other consultants (PAH, Snowden) that the primary variogram ranges are short (rarely longer than 50 m). The GGC model and currently the Tt model have no copper assays results. This is a crucial shortcoming in that the existence of copper appears to have had a negative impact on the earlier Pegasus Mt Todd operation. A copper to gold regression relationship was developed from a nearby-mineralized deposit

(Quigleys). The resultant block kriging gold estimation errors were in turn used to classify estimated blocks into measured, indicated, and inferred categorizations. Until existing core from Mt Todd is re-assayed for copper, the regression relationship will be used for imputing inferred copper values. Finally, a sampling program was designed to efficiently upgrade the gold indicated and inferred blocks to a measured class.

In conclusion, Tt's interpretation of the data had impacts on the resource estimation. They are:

- 1) Gold values follow a three-parameter lognormal distribution, which was modeled with log normal variograms translated into general relative (genRel) variograms.
- 2) Tt geostatistical interpretation used data from blastholes to produce variograms resulting in a considerable shortening of ranges (1/3 in most case) when compared to GGC. The blasthole data was not utilized for the purposes of estimating the grade of remaining mineralized material.
- 3) 91,225 assays from 730 drillholes (225 core, 435 reverse circulation and 70 rotary holes) were used in estimating remaining mineralized material. In addition 9,460 assays from 25 core holes drilled by Vista were also used. Block size was halved in the vertical direction (GGC's 12x12x12 m versus Tt's 12x12x6 m.)
- 4) Tt used a maximum of 12 samples in an octant search versus GGC's 30 samples.
- 5) Tt variogram models were also simplified, utilizing a nugget and the nesting of two spherical models as compared to the multiple nested structures (up to 10) proposed by GGC. Tt used a multiple-pass kriging approach producing a JAS and Halo model
- 6) Tt used kriging variance for determining whether a kriged block falls within a measured, indicated or inferred resource class. GGC used a resource classification solely on distance and number of drillholes used in the estimation.
- 7) The previous block model by GGC did not have copper estimates. This deficiency goes back to a failure to analyze for copper. An imputed inferred copper value was included in the Tt block model. The copper values were estimated by a regression relationship derived from the nearby Quigleys Deposit. These copper values will not be used in any resource tabulation.
- 8) Jackknife calculations were used to validate the inferred classification scheme.
- 9) Kriging variance was used to propose future sampling locations which were drilled and used in the Tt estimation.

#### Model Dimensions

TABLE 17-11 provides the details associated with the Batman block model.

TABLE 17-11: BLOCK MODEL* PHYSICAL PARAMETERS – BATMAN DEPOSIT VISTA GOLD CORP. – MT TODD GOLD PROJECT February 2009								
Direction	Minimum Maximum Block size #Blocks							
x-dir	186,492 mE	187,548 mE	12m	84				
y-dir	8,434,188 mN	8,435,952 mN	12m	146				
z-dir	-994 m	224m	6	203				
* Model changed depths.	from previous Tt esti	mates to reflect the	new 2008 drillhol	e locations and				

#### Geostatistics of the Batman Deposit

The drilled resource forming the Batman Deposit is situated within a rectangular area approximately 1,500 m N-S, and 1,125 m E-W (FIGURE 17-1). Note that the 2009 model has approximately the same size in the northing and easting directions, but is almost twice as deep. geology of the Batman Deposit consists of a sequence of hornfelsed interbedded greywackes, and shales with minor thin beds of felsic tuffs. Minor lamprophyre dykes trending north-south crosscut the bedding. The mineralized lithologic package" consists of a tabular deposit striking at 325° with a dip of 40° to 60° to the southeast. The majority of drilling slants at a dip of approximately 65° with an azimuth of 270°. FIGURE 17-8 shows a 3-D image of the Batman Deposit, with topography shown in green, drillholes shown in red (gold assay >= 0.6 g Au/t) and blue (gold assays < 0.6 g Au/t). The Batman mine is now an abandoned open pit resulting in drillhole traces that are shown above the present topography.

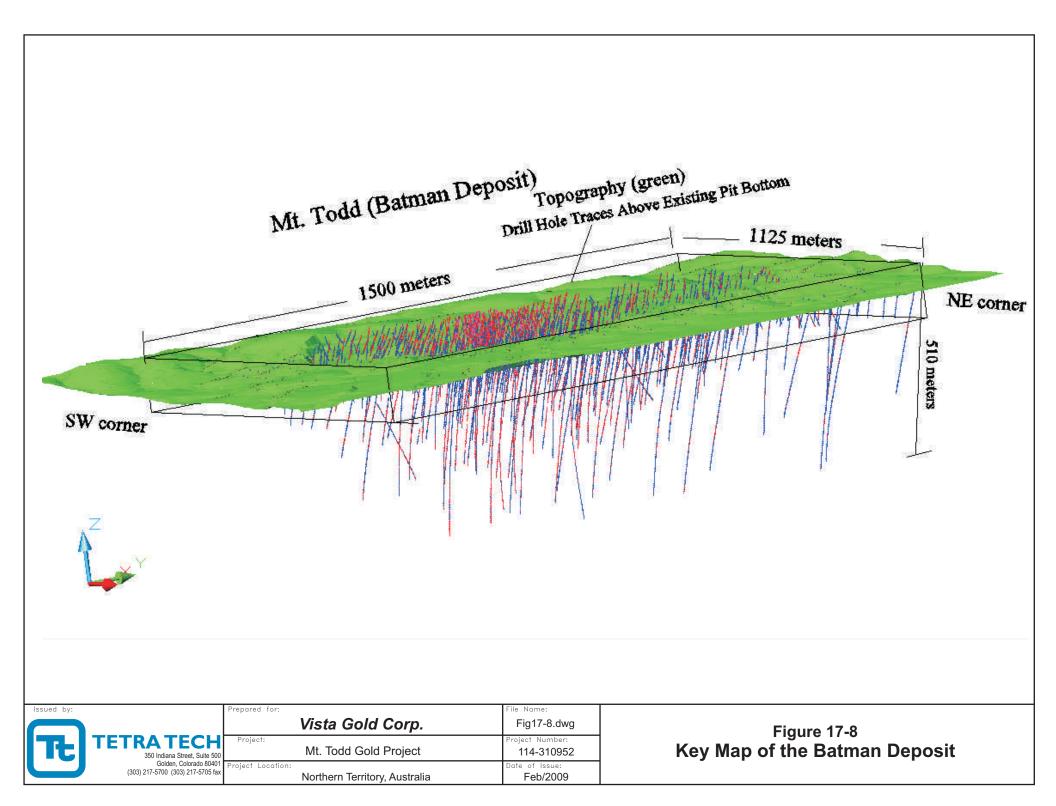
Bedding parallel shears are present in some of the shale horizons (especially in lithologic units SHGW23, GWSH23, and SH22). These bedding shears are identified by quartz/ calcite sulfidic breccias. Pyrite, pyrrhotite, chalcoprite, galena, and sphalerite are the main primary sulfides associated with the bedding parallel shears.

East-west trending faults and joint sets crosscut bedding. Only minor movement has been observed on these faults. Calcite veining is sometimes associated with these faults. These structures appear to be post mineralization.

Northerly trending quartz sulfide veins and joints striking at  $0^{\circ}$  to  $20^{\circ}$ , dipping to the east at  $60^{\circ}$  are the major location for mineralization in the Batman Deposit. The veins are 1 to 100 mm in thickness with an average thickness of around 8 to 10 mm. The veins consist of dominantly quartz with sulfides on the margins. The veining occurs in sheets with up to 20 veins per horizontal meter. These sheet veins are the main source of mineralization in the Batman Deposit.

The mineralization within the Batman Deposit is directly related to the intensity of the northsouth trending quartz sulfide veining. The lithological units impact on the orientation and intensity of mineralization.

Sulfide minerals associated with the gold mineralization are pyrite, pyrrhotite and lesser amounts of chalcopyrite, bismuthinite and arsenopyrite. Galena and sphalerite are also present but appear to be post gold mineralization and are related to calcite veining bedding and the east-west trending faults and joints.



There have been several previous resource studies, with the most recent being GGC in the year 2000, Snowden in 1997, PAH, in 1995 and Pegasus (MRT) also in 1995. The PAH study was a Due Diligence Review of Mt Todd. In their report, PAH recommend that the down-hole assay data be composited to 4 m. PAH examined the variogram interpretations by Pegasus for their Mt Todd Feasibility Study. PAH concluded that Pegasus (MRT) interpreted variogram ranges to be too long and the variogram nugget effect was too low. The report commented:

"... the Feasibility Study...(had) ... interpreted a second structure to the variogram data that extends the range significantly beyond the more obvious range, working on a portion of the structure that represents ten percent of the total sill (PAH, 1995).

The present review by Tt finds that GGC's variogram modeling has the same problems. GGC's variograms were modeled with multiple nested structures, all within the last 10% of the sill. While GGC appears to have followed PAH recommendation in using log-variography, this may have contributed to GGC overestimating the variogram ranges, which in turn were used to specify overly optimistic search ellipsoids sizes, which were used in kriging. A final PAH recommendation that indicator kriging be used was explored by GGC. In the end, GGC used ordinary kriging (OK) with log-variograms on the exploration data for their kriged block model. Tt has also used ordinary kriging for the development of our independent resource estimate for the Batman Deposit.

GGC compared mineralized zones with each other and with the simplified lithological zones. The mineralized zones showed a straight-line graph (i.e., lognormal distribution), with hangingwall and footwall having lower grades than the core zone, suggesting that the sample populations are similar with a lower mean. For this reason, GGC decided to do the variography on the lithology zone (apart from Zones 3 and 4 in the footwall and core zones). GGC separated the sample codes and block model codes into ten zones for variography and interpolation (TABLE 17-12A). The 2009 Tt study consolidated these ten zones into five (TABLE 17-12B).

TABLE 1		ID INTERPOLATION DOMAINS – BA DRP. – MT TODD GOLD PROJECT	TMAN DEPOSIT
		February 2009	
zone	description	Block model codes	Sample codes
Os1	Outside mineralized zones	1,2,3,4,5	1,
	in lithological zone 1		
Os2	Outside mineralized zones in lithological zone 2	6,	2,
Os3	Outside mineralized zones in lithological zone 3	7,8	3,
Os4		9, 10, 11, 12, 13, 3010, 3011, 3012, 3013	4,
Os5		14, 15, 16, 17, 18, 3014, 3015, 3016 , 3017, 3018	5,
Zone1	Mineralized zones in lithological zone 1	1001, 1002, 1003, 1004, 1005, 2001, 2002, 2003, 2004, 2005, 3001, 3002, 3003, 3004, 3005	
Zone2	Mineralized zones in lithological zone 2	1006, 2006, 3006	10002, 20002, 30002
Zone3	Mineralized zones apart from hanging wall in lithological zones 3 and 4	1007, 1008, 1009, 1010, 1011, 1012, 1013, 2007, 2008, 2009, 2010, 2011, 2012, 2013	
Zone3a	Hanging wall zone in lithological zone 3	3007, 3008, 3009	30003,
Zone5	Mineralized zones apart from hanging wall in lithological zones 5	1014, 1015, 1016, 1017, 1018, 2014, 2015, 2016, 2017, 2018	10005, 20005
TABLE	17-12B: CONSOLIDATED	VARIOGRAPHY AND INTERPOLAT February 2009	ION DOMAINS
zone	description	Block model codes	Sample codes
OUT-FW	Outside Core Complex below FW	3500	3500
CORE-FW	Core Complex Lower Zone (Foot Wall)	2000	2000
CORE	Core Complex Central Zone	1000	1000
CORE-HW	Core Complex Upper Zone (Hanging Wall)	3000	3000
OUT-HW	Outside Core Complex above HW	500	500

The following statistical discussion uses the March 2008 MinZone Codes for the ten Interpolation Domains are shown in TABLE 17-13. These ten domains were further studied with variogram analysis. GGC used a computer program called Visor to analyze the variograms. Tt broke out the statistical analysis using different codes based on the previously discussed LOZ coding. It was determined that there are 96 possible combinations of Complith (6 = Codes 0, 1, 2, 3, 4, 5), Compox (4= Codes 0, 100, 200, 300) and Compzone (4= codes 0, 1000, 2000, 3000).

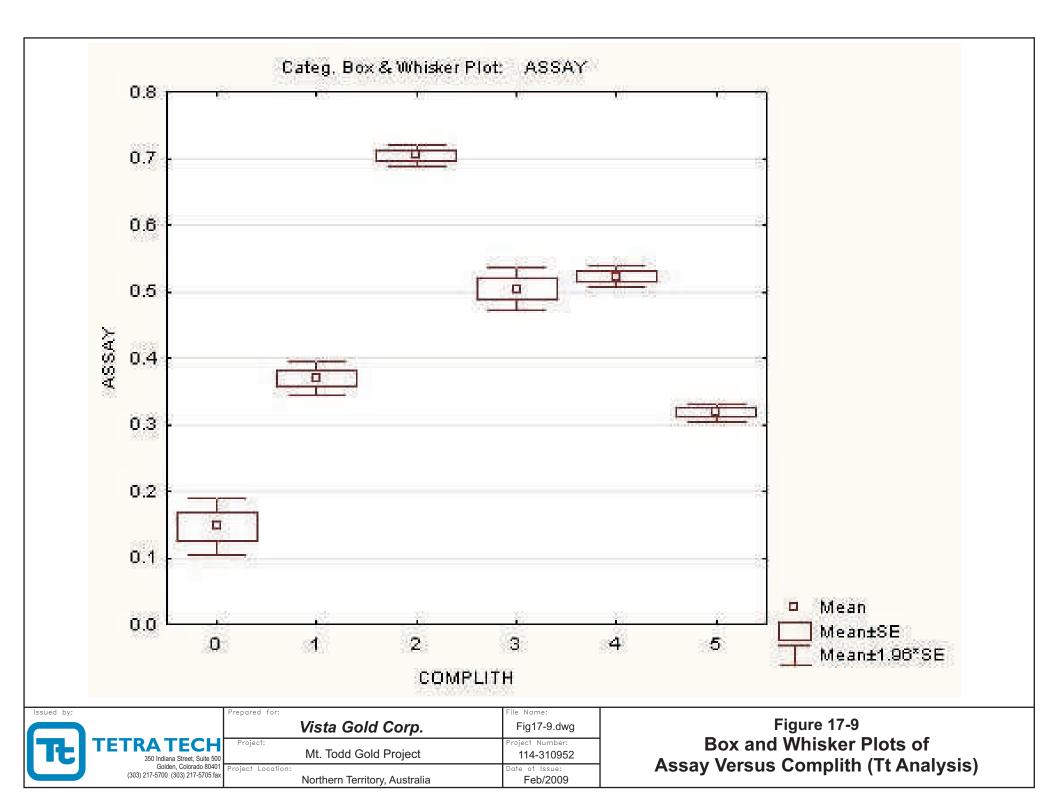
TABLE 17-13: SUMMARY NORMAL STATISTICS (PRE-2007) - INTERPOLATION DOMAINS - GGC MODEL VISTA GOLD CORP MT TODD GOLD PROJECT										
	March 2008									
Zone	Os1	Os2	Os3	Os4	Os5	Zone1	Zone2	Zone3	Zone3a	Zone5
Count	296	2064	837	1703	5346	1353	7450	650	294	2175
Maximum (g Au/t)	1.868	6.628	6.22	10.59	7.27	6.75	15.37	7.88	5.33	7.88
Minimum (g Au/t)	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Mean (g Au/t)	0.098	0.247	0.297	0.453	0.32	0.436	0.866	0.796	0.526	0.593
Median g Au/t)	0.05	0.155	0.175	0.265	0.195	0.294	0.673	0.592	0.323	0.429
Std dev	0.16	0.365	0.44	0.685	0.436	0.543	0.865	0.815	0.664	0.633
Coeff var	1.66	1.478	1.48	1.513	1.361	1.208	0.96	1.024	1.262	1.067
97.5 %tile	0.9	0.98	1.1	1.95	1.38	1.77	3.04	2.72	2.33	2.35
99 %tile	1.7	1.43	1.75	3.94	2.09	2.77	4.1	4.05	3.74	3.22

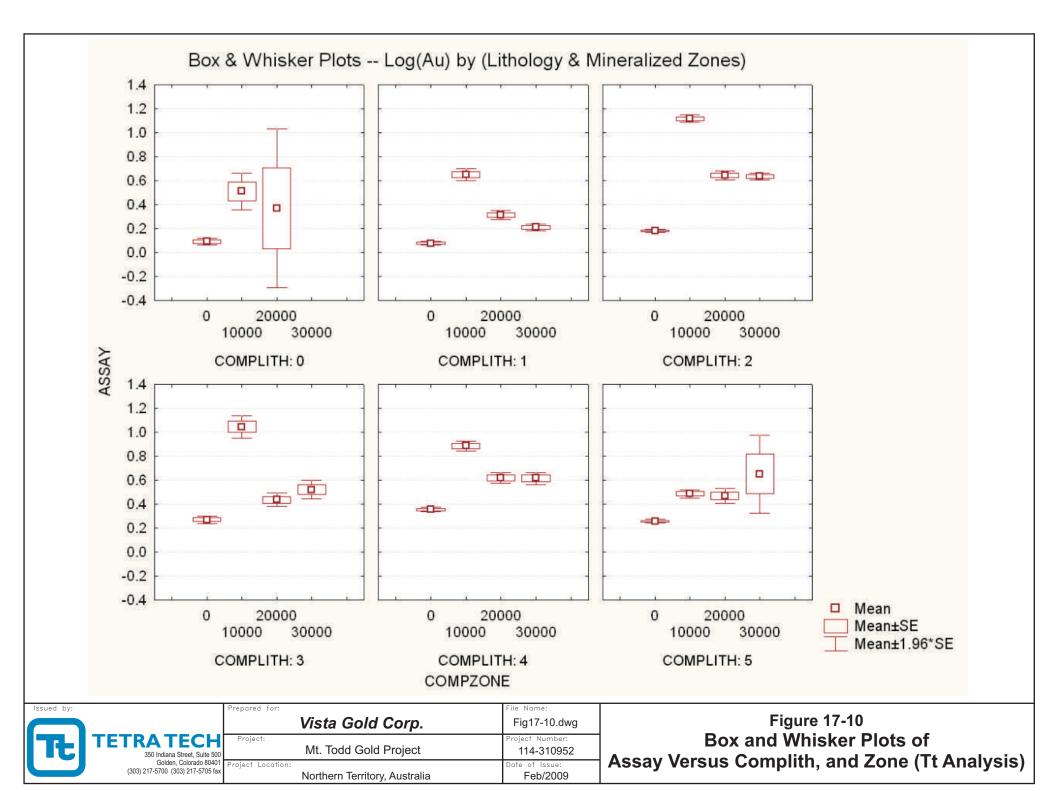
The spread of gold grades at each Complith (Lith designation) is shown in FIGURE 17-9. The small box encloses the mean, and the larger box all values within one standard error of the mean. The "whiskers" represent composites with a range of values that go from 1.96 times the standard error (SE). Note that the highest mean grade is within Complith Code 2, which has an average value above 0.70 g Au/t.

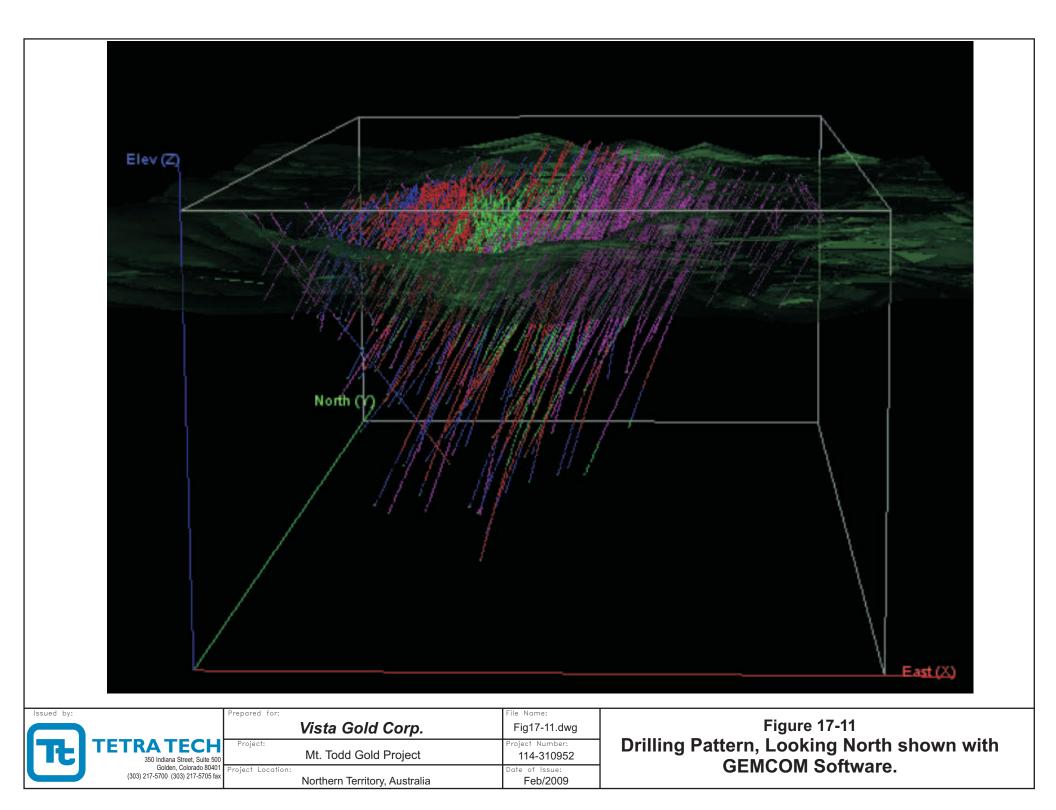
FIGURE 17-10 is a more detailed box-and-whisker plot breaks out gold grades by Complith Codes 1 through 5 and by Zone codes 0 and 10000 through 30000. Note that the highest grades are again in Complith 2, with zone 10000 having averages approaching 1.2 g Au/t.

Looking north in FIGURE 17-11, shows the majority of the drillholes slanting approximately 65° to the west. In the following variogram analysis, drill data that are in areas that have been mined are not discarded. The information of the missing data is still useful in producing spatial statistics for application to the remaining mineralization.

TABLE 17-14 contains ten LOZ codes that contain more than 70% of gold content of the Batman Deposit. In fact, the LOZ code 10302 contains over 20% of the total gold content. Within this particular LOZ code, the highest gold value of 15.373 g Au/t was analyzed.





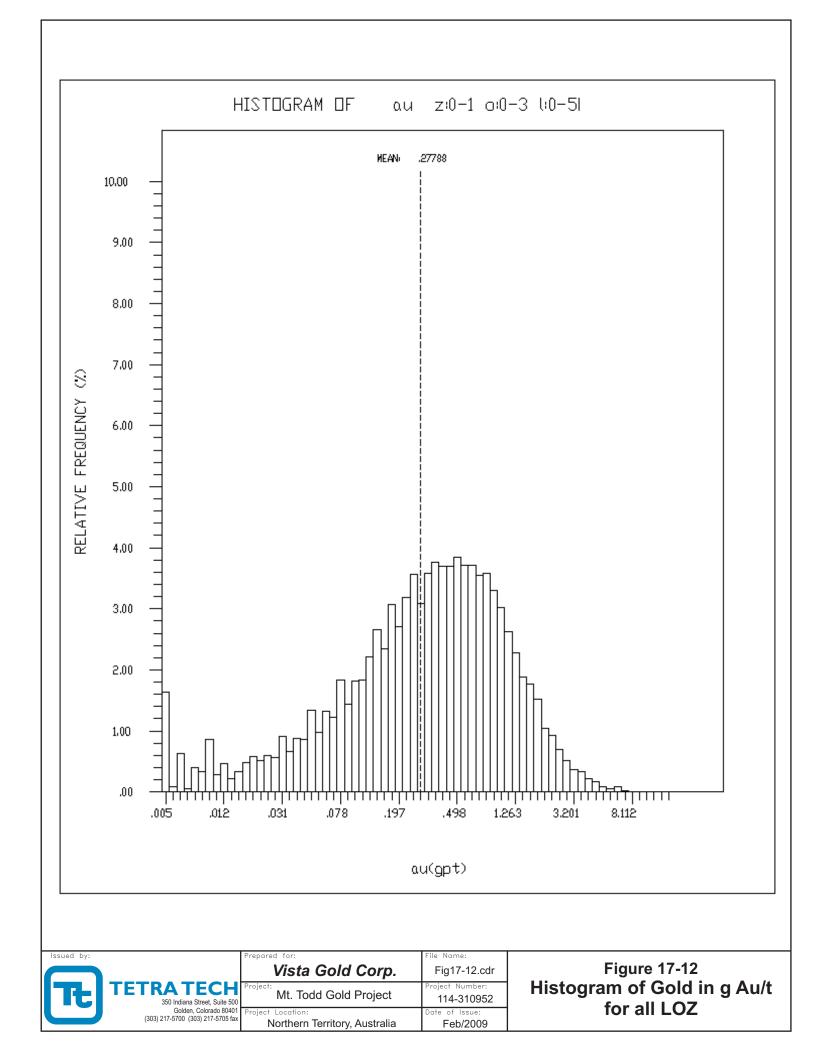


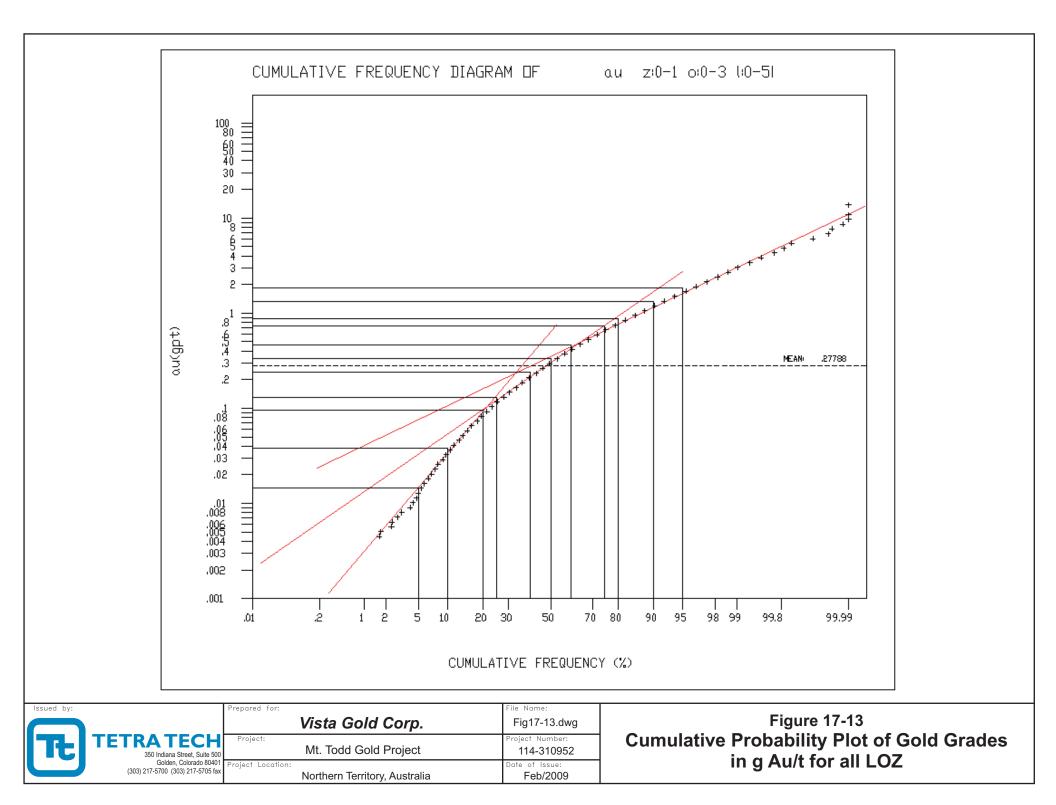
TAE	TABLE 17-14: TOP 10 GROUPS OF LOZ WITH GREATER THAN 70% OF GOLD CONTENT – BATMAN DEPOSIT (PRE-2007) VISTA GOLD CORP. – MT TODD GOLD PROJECT														
Rank	Lith Code	Ox Code	Zone	Assay Mean g Au/t	No. Assay	proxy metal content g*t	March 200 % of Total gold	Assa	Assay Min. (g Au/t)	Assay Max. (g Au/t)	Assay Q25 (g Au/t)	Assay Median (g Au/t)	Assay Q75 (g Au/t	%til e	%tile
														95	99
1	2	300	1000	1.223	2169	2653.1	20.10%	1.022	0.005	15.373	0.578	0.973	1.573	3.01	4.9
2	4	300	1000	0.919	1266	1163.7	8.80%	0.823	0.045	6.818	0.42	0.665	1.1	2.598	3.888
3	2	100	1000	1.117	889	993.3	7.50%	0.723	0.015	7.105	0.635	0.95	1.48	2.38	3.665
4	4	300	0	0.369	2670	984.6	7.50%	0.568	0.005	10.595	0.085	0.215	0.438	1.195	2.833
5	2	300	3000	0.678	1235	837	6.30%	0.736	0.005	6.725	0.203	0.45	0.885	2.13	3.49
6	2	300	2000	0.608	1182	718.3	5.40%	0.782	0.005	12.115	0.16	0.399	0.768	1.905	3.85
7	4	300	2000	0.648	755	489.1	3.70%	0.692	0.015	7.78	0.238	0.448	0.808	1.905	3.503
8	2	200	1000	1.121	334	374.3	2.80%	0.72	0.009	4.225	0.62	0.985	1.475	2.605	3.517
9	3	300	1000	1.13	313	353.6	2.70%	0.958	0.115	7.88	0.578	0.875	1.35	2.648	4.548
10	2	100	2000	0.711	475	337.5	2.60%	0.606	0.01	4.363	0.303	0.57	0.92	1.953	2.958
		То	p 10 Groups	0.789	11288	8904.6	71.70%			15.373					
		All G	roups	0.581	22709	13183.1	100.00%	0.732	0.005	15.373	0.133	0.348	0.76	1.91	3.517
		notes:					top 10				>	10 g Au/t			
	% metal														

FIGURE 17-12 shows a histogram of g Au/t for all LOZ classes. The height of the vertical bars charts the relative frequency (y-axis) of composites falling within grade classes (x-axis). Note that the grade classes (bins) are log scaled. FIGURE 17-13 charts the same data on a log-probability plot. This is a specialized form of a cumulative frequency plot such that a lognormal distribution will plot as a straight line. A break from a normal curve occurs around 0.1 g Au/t. The gentle flexure of the curve exists above 0.1 g Au/t. A second break point has been modeled at 0.5 g Au/t. TABLE 17-15 lists the statistics of the curve, with 5% of the gold is below 0.15 g Au/t, 20% below 0.095 g Au/t and 95% below 1.83 g Au/t. FIGURE 17-14 shows the cumulative probability plot of a three-parameter lognormal model, with 0.1 g Au/t as the third parameter. Note that the curve is essentially a straight line, implying a single mode, lognormal distribution.

## Variography

MicroModel® was used to calculate 3-D variograms. FIGURE 17-15 contains examples of these variograms. Gold grades were log transformed before the variograms were calculated. They were then back transformed into relative variograms.





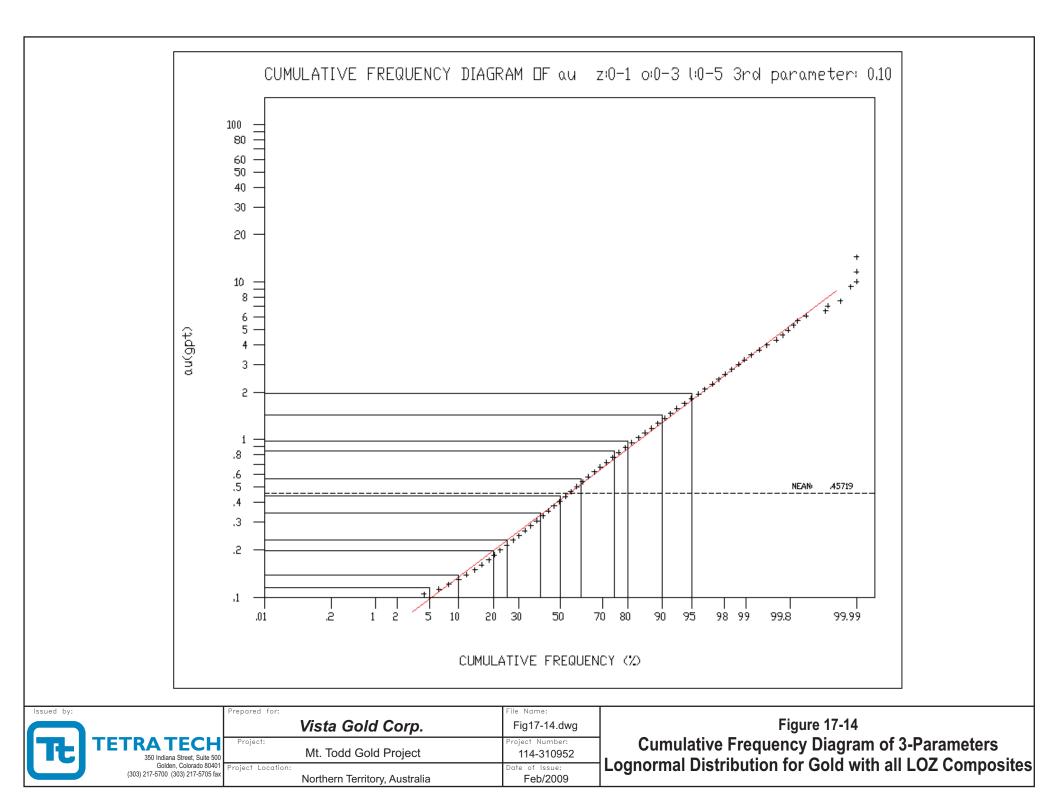
#### TABLE 17-15: STATISTICS ALL LOZ – BATMAN DEPOSIT VISTA GOLD CORP. – MT TODD GOLD PROJECT March 2008

mt-todd au z:0-1 o:0- au z:0-1 o:0-3 l:0-5 Limits on the variabl Limits on the data ax Limits on the freq ax	 e : is : is :	** NONE ** 5403678E+01 .0000000E+00	
SAMPLES DISTRIBUTION	INFO		
Number of samples	:	22709	
Samples under minimum	:	9	
Samples over maximum	:	9	
Missing values	:	0	
Out by restrictions	:	0	
Out by logarithm	:	0	
Minimum	:	.00	450
Percentile 5%		. 01	463
10%	:	. 03	848
2 0%	:	. 09	573
25%		.12	
40%	:	.23	
50%		.33	
60%	:	.46	
75%	:	.73	
80%	-	.86	
96%	-	1.31	
95%	-	1.83	
Maximum	:	15.37	250

#### STATISTICS INFORMATION

#### LOGARITHMIC STATISTICS

Samples kept	:	22709	Samples kept	:	22709
Median	:	-33697 -58052	Median	:	-1.08775 -1.28055
Average Mode	:	. 49844	Average Mode	:	69627
Variance Std deviation	:	.53522 .73159	Variance Std deviation	:	2.01357 1.41900
Coefficient	•	.73159	Coefficient	-	1.41900
of variation	:	1.26021	of variation	:	-1.10810
Skewness	:	3.69785	Skewness	:	77127
Kurtosis	:	30.47623	Kurtosis	:	3.42226



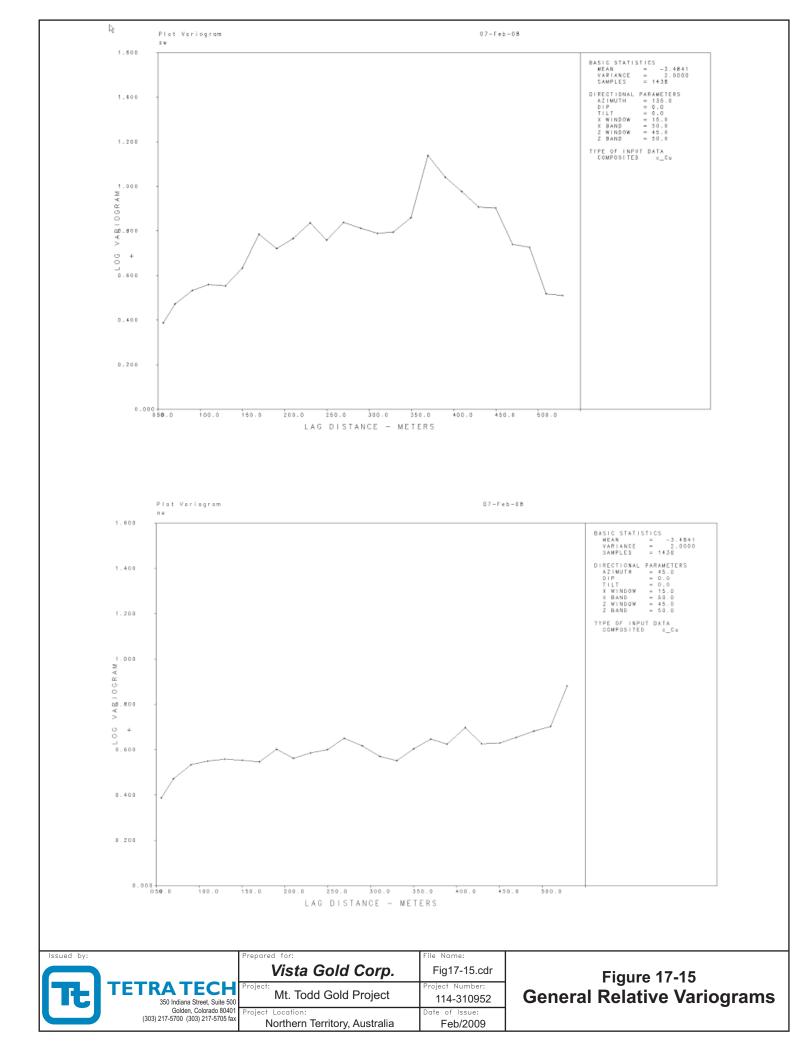


FIGURE 17-16 is an extract of the printer listing from Micro Model<sup>®</sup>. It shows the logarithmic variograms in the 0° directions, with a 90° angular window. The nugget for the log variogram is 60% of the sill, and the range is 50 m.

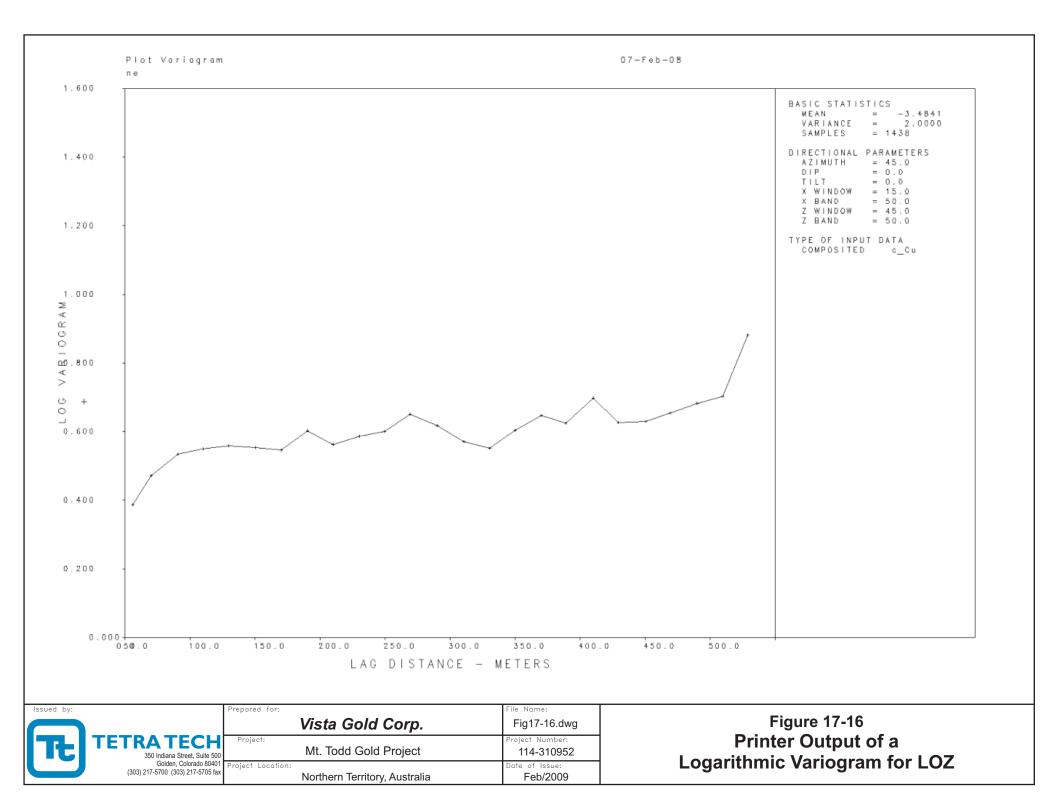
TABLE 17-16 contains the variogram parameters written in red, which were modeled by Tt. In general, the variograms ranges used by GGC are almost three times longer than those modeled by Tt. In addition, the Tt modeled variogram structures as a simple nugget of 60% of the sill and single spherical curve, while GGC tended to have multiple nested variogram structures in the last 10% of the sill. GGC utilized Visor, an automatic variogram modeler. It is noted by GGC that GEMCOM has a limit of 8 variogram structures. At times Visor defined up to 10 structures. The GGC variogram range issue becomes doubly important in that it is used to specify the search ellipse. GGC's search parameters are typed in black and Tt in red.

#### Octant Search, Target Codes, and Ellipsoids

GGC used a minimum of 4 sample points and a maximum of 30 sample points for kriging within an ellipsoid search. Tt used a minimum of 3 sample points and a maximum of 12 sample points. Tt, as well as other independent consultants, believes that the maximum of 30 points is "oversmoothing" the grade model and providing an inaccurate picture of the actual distribution and tenor of the mineralization.

TABLE 17-16A shows the March 2008 target code for blocks and the required LOZ code for composites for each interpolation zone using GemCom®. For example, a zone3ok has block codes 1007, 2007,1008, 2008, 1009, 2009, 1010, 2010,1011, 1011, 1012, 2012, 1013, 2013, 3007, 3008, or 3009. Only Composites with LOZ codes 10002, 20002, 10001, 20001, 30001, 10003, 20003, 30004, 10004, or 20004 that fall within the search ellipse and meet the octant search criteria can be to estimate the block. The codes in red were found missing from GGC's technical write-up of their kriging procedure. FIGURE 17-17 is a GEMCOM generated "photo" that illustrates the matching that takes place between the drillhole composites and the block model.

Note that GEMCOM uses ZYZ (relative rotation) rotation method to specify 3-D orientation of both variogram anisotropy and search ellipsoids. MicroModel® uses an orientation scheme such that the ellipsoid axes are referenced to true coordinates in space. FIGURE 17-18 shows a set of rectangular boxes that would contain search or anisotropy ellipsoids. Generalized size and orientation of search ellipsoids are shown from various 3-D views-the large rectangular box would enclose GGC and the larger ellipsoid used to estimate inferred blocks. The small rectangular box is 1/3 the larger one's size. It would enclose the search ellipsoid that is used to estimate measured and indicated blocks. The cube represents the scale and orientation of a 12x12x12 m mining block. The line intersecting large block illustrates general drill-hole direction. (Left panel is a SW view; top right panel is a NE view and bottom right panel is a top view.)



TABL	E 17-16A: GGC VERSUS TT VISTA GO	SEARCH AND VARIOG DLD CORP. – MT TODE March 2008			-	6 – BA <sup>-</sup>	ТМА	N DEF	POSIT	
Kriging Profile	Block Model target rock codes	Composite File sample rock codes	Zrot	Yrot	Zrot	r1 (m)	r2 (m)	r3 (m)	Со	C1
os1ok	1, 2, 3, 4, 5	1, 2, 30001, 20001	165	85	-5	<mark>150</mark> 168		<mark>60</mark> 18	0.60	0.40
os2ok	6	1, 2, 3, 30002, 20002	170	105	-30	1 <mark>50</mark> 228		<mark>60</mark> 29	0.60	0.40
os3ok	7,8	2, 3, 4, 30003, 20003	-10	90	-20	<b>150</b> 44		<mark>60</mark> 18	0.60	0.40
os4ok	9, 10, 11, 12, 13, 3010, 3011, 3012, 3013	3, 4 ,5, 30004, 20004	-144	50	-70	<b>150</b> 46	<b>105</b> 5	<mark>60</mark> 14	0.60	0.40
os5ok	14,15.16,17,18, 3014, 3015, 3016, 3017, 3018	4, 5, 30005, 20005	175	109	-9	<mark>150</mark> 169	105	<mark>60</mark> 53	0.60	0.40
zone1ok	1001,2001,3001,1002,2002, 3002, 1003,2003, 3003,1004,2004, 3004, 1005, 2005, 3005	10001, 20001, 30001,10002, 20002, 30002	170	-80	-30	<mark>50</mark> 121		<mark>20</mark> 18		0.40
zone2ok	1006.2006, 3006	10002, 20002, 30002, 10001, 20001, 30001, 10003, 2000, 30003	<mark>170</mark> 165		-30	<mark>50</mark> 128		<mark>20</mark> 29		0.40
zone3aok	3007, 3008, 3009	10002, 30002, 10004, 30004, 30003, 10003, 3, 4	170 50		-30 -80	<mark>50</mark> 36		<mark>20</mark> 18	0.60	0.40
zone3ok	1007, 2007,1008, 2008, 1009, 2009, 1010, 2010,1011, 1011, 1012, 2012, 1013, 2013, 3007, 3008, 3009	10002, 20002, 10001, 20001, 30001, 10003, 20003, 30004, <b>10004,</b> <b>20004</b>	<mark>170</mark> 165		-30	<mark>50</mark> 137	35 122	<mark>20</mark> 38	0.60	0.40
zone5ok	1014, 2014, 1015, 2015, 1016, 2016, 1017, 2017, 1018, 2018	10004, 20004, 10005, 20005	170	- <mark>80</mark> 100	-20	<mark>50</mark> 156	<mark>35</mark> 130	<mark>20</mark> 120	0.60	0.40

Note: Gemcom® ZYZ rotation

Key: Red: Tt search and variogram parameters that are different

#### Black: GGC search parameters unchanged

TABLE 17-16B shows the February 2009 consolidated target code for blocks and the code for composite for each 2009 interpolation zone using MicroModel®.

TABLE 17-	TABLE 17-16B: CONSOLIDATED TT SEARCH AND VARIOGRAM PARAMETERS – BATMAN DEPOSIT         VISTA GOLD CORP. – MT TODD GOLD PROJECT         February 2009												
Kriging Profile	Block Model target rock codes	Composite File sample rock codes	1 <sup>st</sup> axis rotation (Azimuth)		3 <sup>rd</sup> Rotation (Tilt)	r1 (m)	r2 (m)	r3 (m)	Со	C1			
CORE COMPLEX	1000, 2000, 3000	1000, 2000, 3000	110	80	0	150	105	60	0.60	0.40			
OutSide CORE COMPLEX	500, 3500	500, 3500	110	80	0	150	105	60	0.60	0.40			

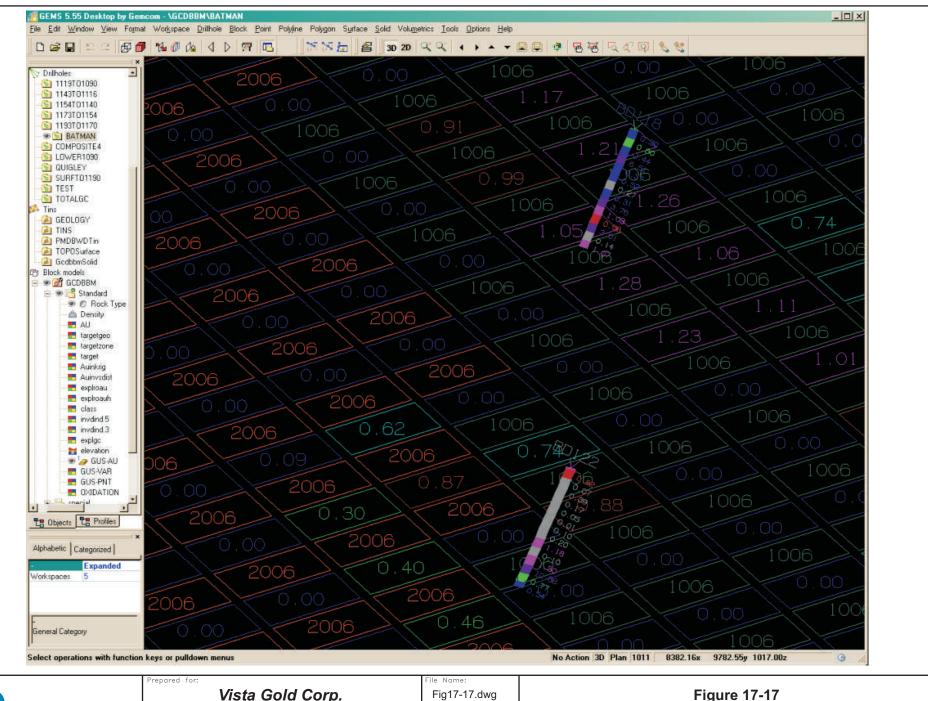
Note: MicroModel® Azimuth/Dip/Tilt Rotation

TABLE 17-17 provides a comparison between the GGC and the Tt gold grade models and the base data used to create them.

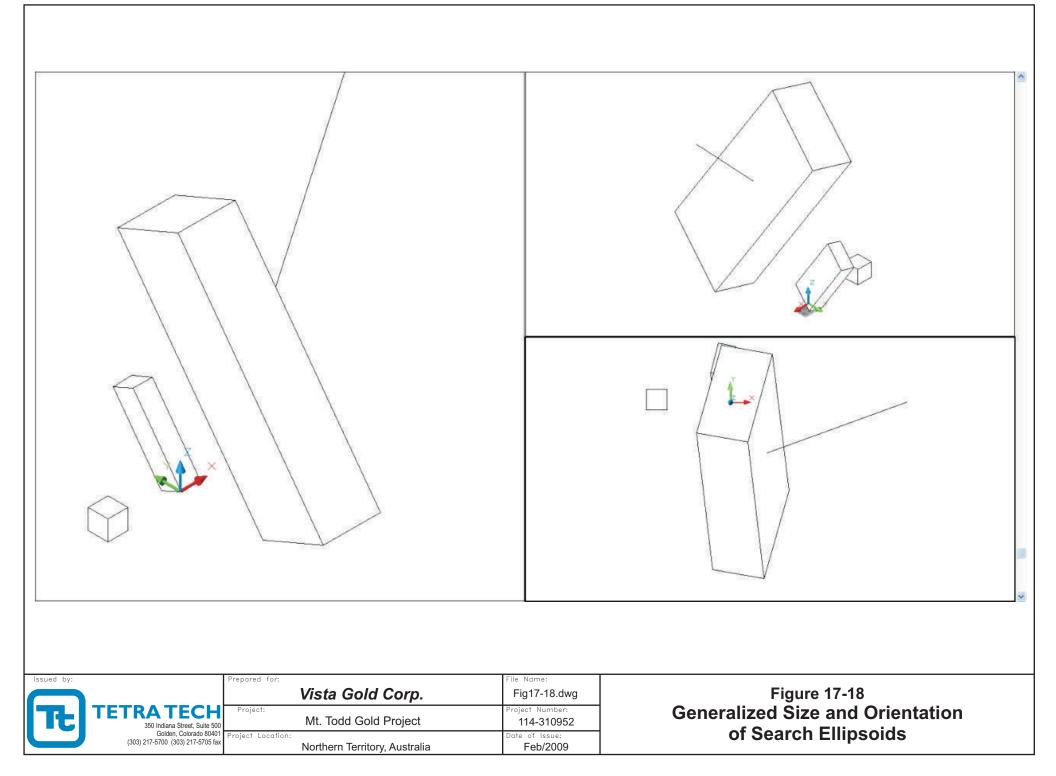
<b>TABLE 17-1</b>	TABLE 17-17: COMPARISON OF GGC AND TT BLOCK MODELS – BATMAN DEPOSIT         VISTA GOLD CORP. – MT TODD GOLD PROJECT         March 2008 & February 2009									
GGC.										
Explroau	OK using exploration data only Long Ranges; multiple structures									
Tt-JAL	OK using exploration data only Long Ranges; two structures									
Tt-JAS	OK using exploration data only Short Ranges; two structures									
Tt-HALO	HALO=JAL-JAS									

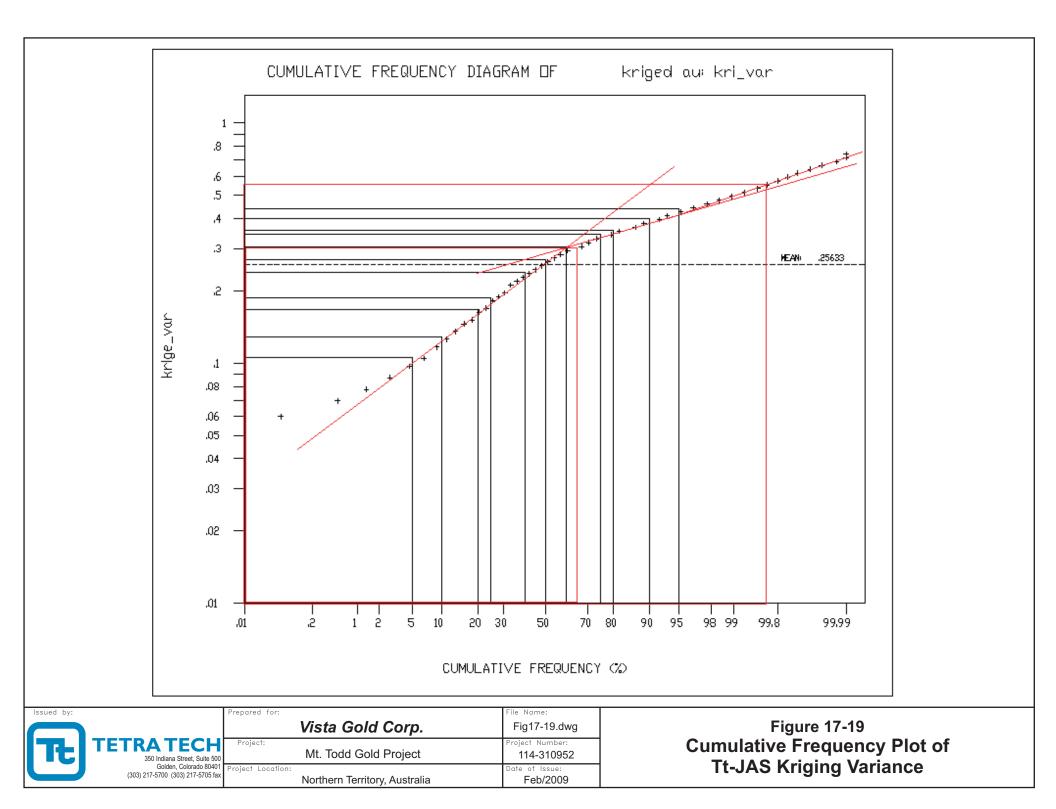
Additional differences are as follows:

- GGC's Explroau model uses 4-m composited exploration data. It has been used as the template for the two Tt models. The first is the Tt-JAS that uses search ellipses specified in TABLE 17-13. During kriging the minimum distance of a valid sample point used in the estimate and the kriging variance were written out to a file. Analysis of the kriging variance using cumulative frequency plots shows a reasonable break at 0.30 krige\_var. This kriging variance was chosen as the break between Measured and Indicated resources. Only a small number of blocks are above 0.55 krige\_var. Hence the break point of Inferred was found by producing the Tt-JAL model.
- The model Tt-JAL is similar to GGC's model in that the ranges are three times the values shown in TABLE 17-13. FIGURE 17-19 shows the relative difference in search ranges. Once again the minimum distance of a valid sample point used in the estimate and the kriging variance was written out to a file. The break between Measured and Indicated is when the closest sample is 10 m.
- The final step was to produce a Tt-HALO model by doing a Boolean subtraction of *Tt*-JAS from Tt-JAL (FIGURE 17-20). This leaves a void where blocks are for the most part measured and indicated. Blocks that remain with a krige\_var less than 0.45 krige\_var were classified as inferred.



Issued by:		Prepared for: <b>Vista Gold Corp.</b>	File Name: Fig17-17.dwg	Figure 17-17
<b>T</b> t	TETRATECH 350 Indiana Street, Suite 500	Project: Mt. Todd Gold Project	Project Number: 114-310952	GEMCOM "photo" Showing the Process of Matching Composite Codes to Block Model Codes for Kriging
	Golden, Colorado 80401 (303) 217-5700 (303) 217-5705 fax	Project Location:	Date of Issue: Feb/2009	Composite Codes to Block Model Codes for Kriging





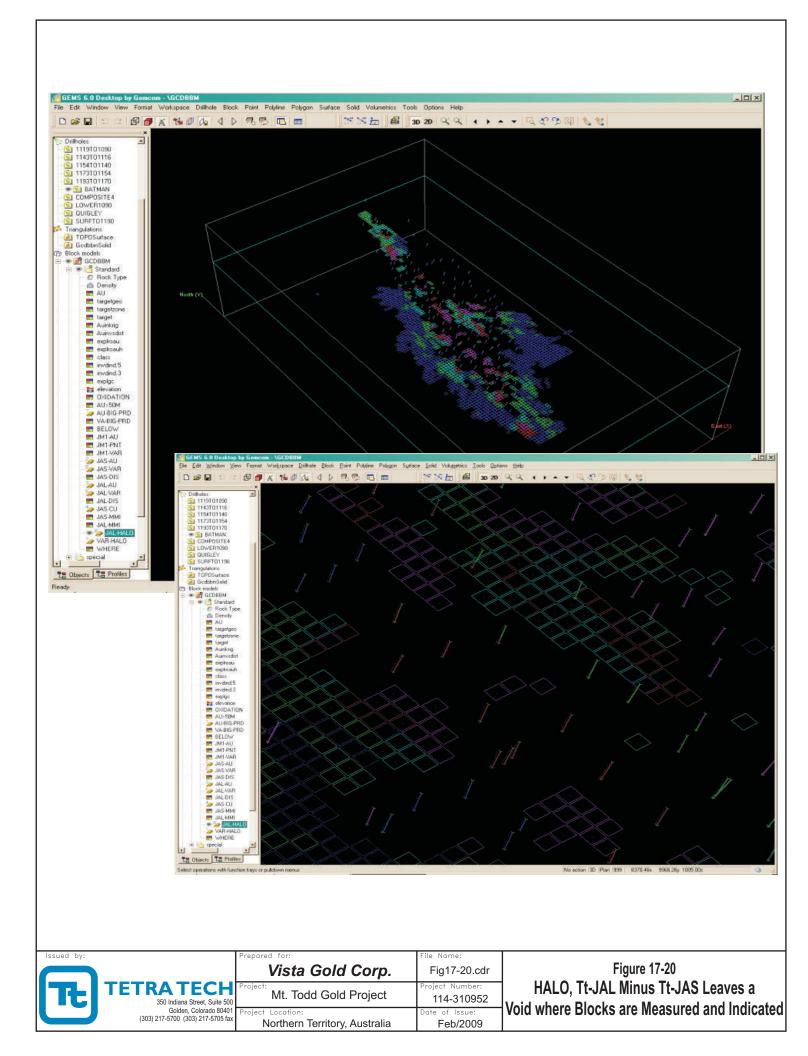


TABLE 17-18 details the differences in the determination of the resource classification between the GGC and the Tt grade models. It is important to note that the Tt classification uses significantly shorter searches, fewer points, and incorporates the block variances. Tt has retained the same classification criteria for this updated resource as was used in the March 2008 resource update and as presented in TABLE 17-18.

TABLE 17-18: COMPARISON OF GGC AND TT CLASSIFICATION CRITERIA- BATMAN DEPOSIT         VISTA GOLD CORP MT TODD GOLD PROJECT         March 2008 & February 2009										
Resource Class	GGC Model	Tt Model								
Measured (Class 30)	Within 25 m of data point. At least 16 samples used to estimate the block grade. At least 2 two drillholes used to provide data	50 m of data point and Unitized								
Indicated (Class 20)	Between 25 and 50 m of a data point. At least 10 samples used to estimate the block grade.	Core Model Kriging (JAS) within 50 m of data point and Unitized Relative Variance: >= .30 & < .55								
Inferred (Class 10)	Greater than 50 m from a data point. At least 4 samples used to estimate the block grade	Halo Model Kriging within 150 m of data point and Unitized Relative Variance: <= 0.45								

TABLE 17-19 shows a MicroModel® printout of the statistics for the kriged gold grades (combined JAS and Halo models). The rock codes within the core (1000, 2000, and 3000) have been consolidated to simplify presentation. The final gold grades have a distribution that is skewed to towards lower grades but still lognormal-like in shape.

FIGURE 17-21 is a plan map detailing the locations of the cross sections presented in this report. FIGURES 17-22 and 17-23 are east-west cross sections looking north that illustrate the drillhole traces, estimated gold blocks, and primary mineralized zones for the Batman Deposit. FIGURES 17-24 and 17-25 are north-south longitudinal sections looking east that show the drillhole traces, the estimated gold blocks, and the primary mineralized zones. It is important to note that the cross sections and longitudinal sections show estimated gold blocks above the current topographic surface. This is because all of the drillhole assay data were used to estimate the gold grades. These blocks have been removed prior to tabulating the in place geologic resources.

Finally, FIGURES 17-26 and 17-27 are plan view maps of the estimated gold grades with drillhole pierce points and the primary mineralized zones.

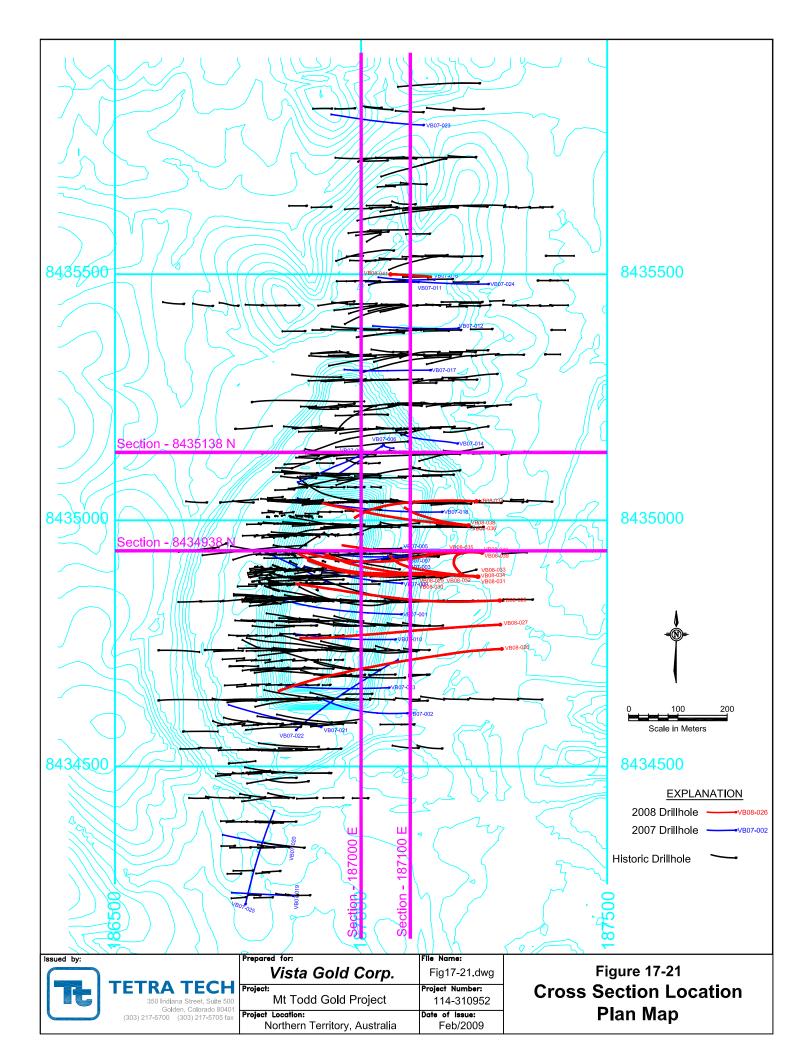
# 17.8 Other Metals and Sulfur Resource Estimate

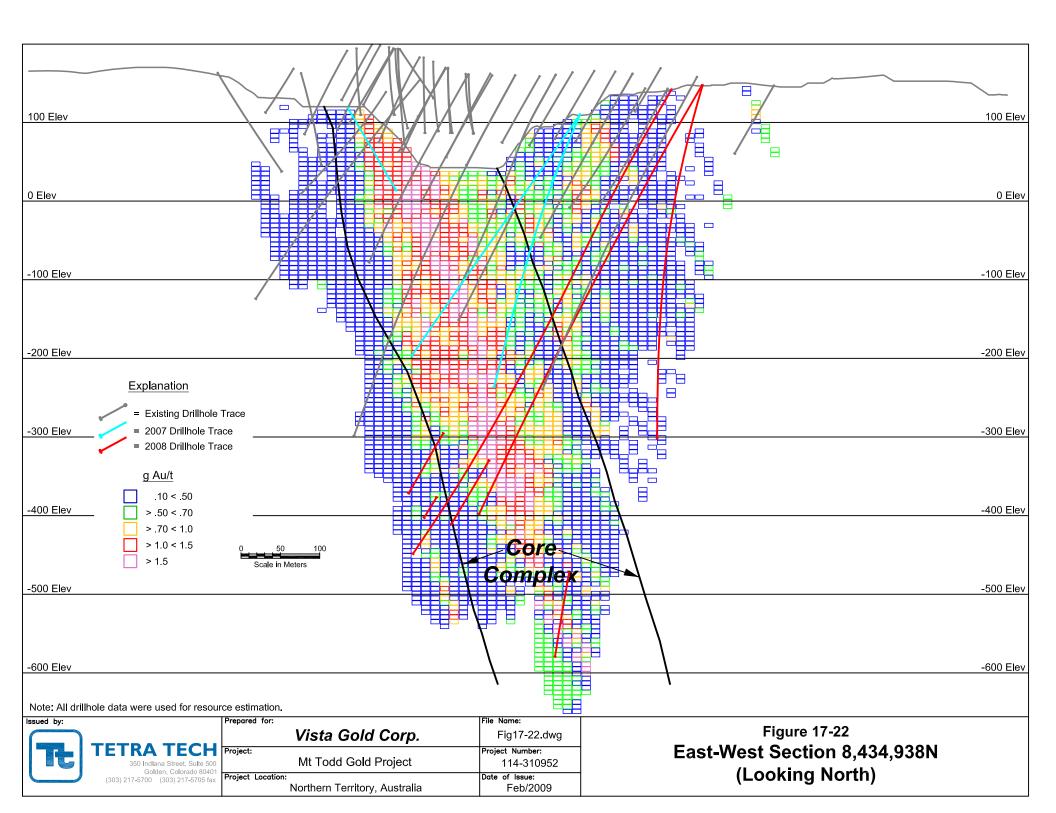
## 17.8.1 Summary of Study:

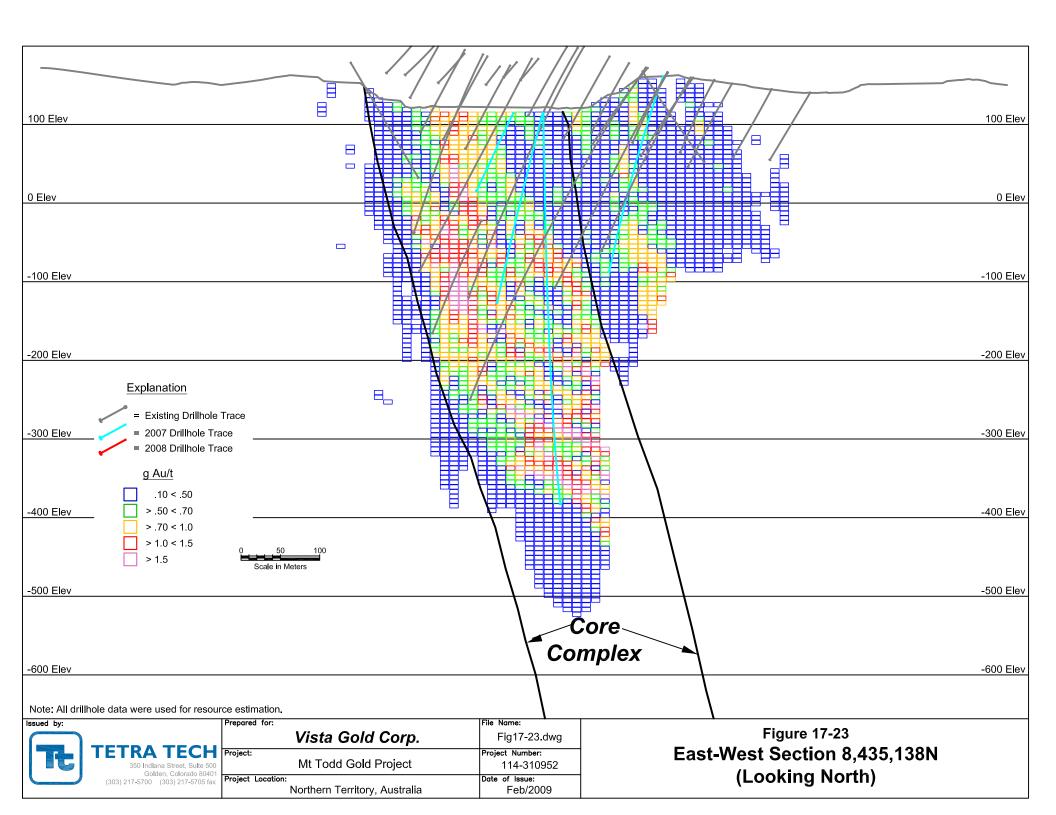
- 1. Mt Todd is a poly-metallic deposit containing significant grades of gold and copper along with lower concentrations of lead, zinc, arsenic, iron, and silver.
- 2. Significant concentrations of sulfur also exist.
- 3. The metals and sulfur generally follow lognormal-like distributions.
- 4. There is generally poor correlation amongst these metal concentrations within samples with the exceptions of lead/zinc and silver/lead.
- 5. Of the 771 drill-holes used to estimate gold, 38 were used to estimate the other metals.

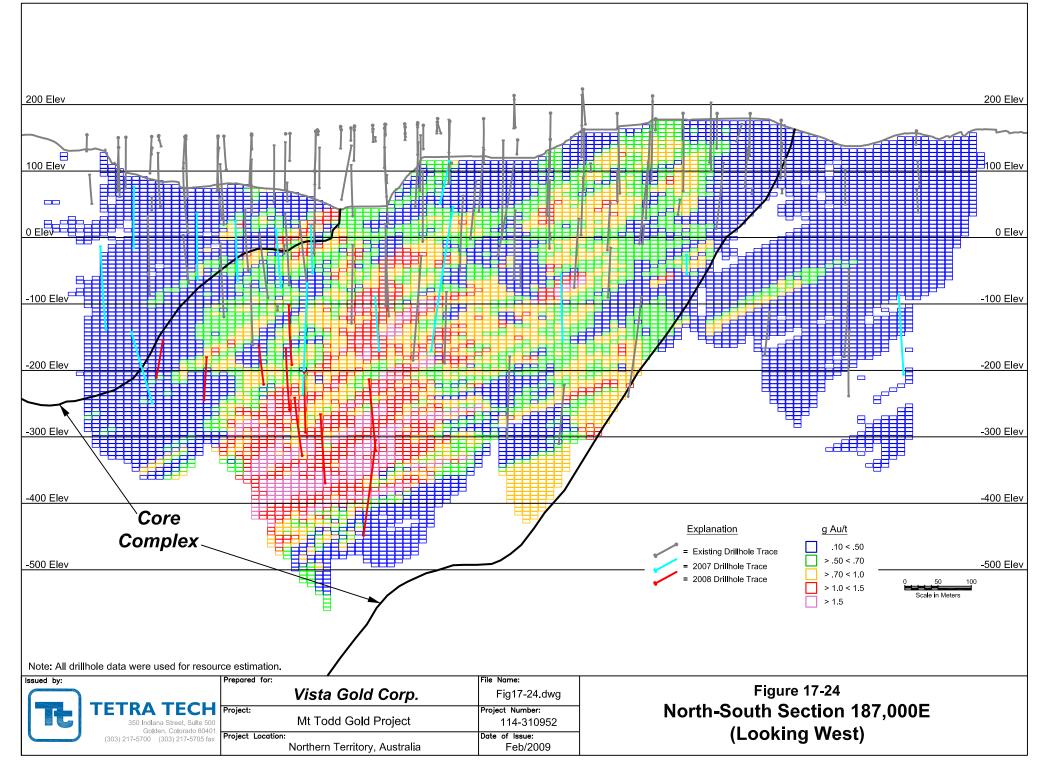
## TABLE 17-19: BASIC STATISTICS ON KRIGED BLOCKS BY ZONE AND A COMBINED HISTORAM VISTA GOLD CORP. - MT TODD GOLD PROJECT Feb/2009

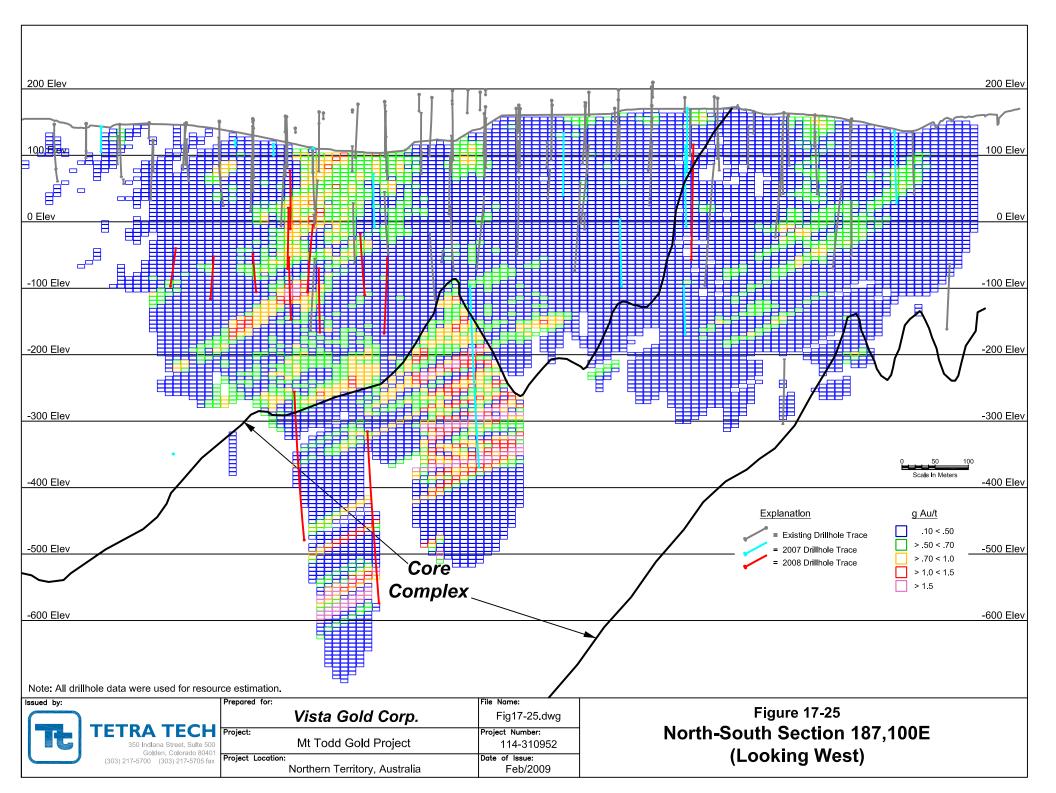
PE   1 00 00 00 00 00 00 00	MISSING  0 0 0	LIMITS 673566		LIMITS	MINIMUM	MAXIMUM	MEAN								
00 100 100	0	673566					THE ALM	VARIANCE	DEV.	OF VAR	MEAN		STD.DEV		OF VAR
00	-		0	129416	0.00500	3.6330	0.22644	0.04516	0.21251	0.9385	-1.9817		1.1356	0.2626	1.622
000	0	103883	0	49687	0.00600	5.1640	0.78684	0.31351	0.55992	0.7116	-0.4970	0.5811	0.7623	0.81346	0.887
		80305	0		0.00600		0.63124		0.45861					0.64058	0.798
00	0	62733	0	26732	0.01600	4.3010	0.51411	0.11607	0.34069	0.6627	-0.8633	0.4295	0.6553	0.52281	0.732
	0	1059011	0	93483	0.00500	1.7720	0.17018	0.02692	0.16407	0.9641	-2.2699	1.2645	1.1245	0.1944	1.594
LL	0	1979498	0	358230	0.00500	5.1640	0.37752	0.16475	0.40590	1.0752	-1.5554	1.5027	1.2258	0.4475	1.869
LOWER	BOUND	UPPER BOUND	5000	1000	0 150	00 20	000	25000	30000	35000	40000	45000	) 500	00	
	>=		++-												
(	0.0050	0.0071	*******												
ſ	0.0071	0.0100	******												
ſ	0.0100	0.0142	*********	****											
0	0.0142	0.0200	********	e											
0	0.0200	0.0283	********	****											
0	0.0283	0.0401	********	*******	*										
0	0.0401	0.0567	********	*******	* * * * * * * * *	*									
0	0.0567	0.0803	* * * * * * * * * * *	********	* * * * * * * * * *	* * * * * * * * *	***								
0	0.0803	0.1136	* * * * * * * * * * *	*******	* * * * * * * * * *	* * * * * * * * *	*******	* * *							
0	0.1136	0.1607	********	********	* * * * * * * * * *	* * * * * * * * *	*******	* * * * * * * * * *	*******						
0	0.1607	0.2274	*******	*******	* * * * * * * * * *	* * * * * * * * *	*******	* * * * * * * * * *	* * * * * * * * * * *	* * * * * * * *	******				
0	0.2274	0.3217	********	*******	* * * * * * * * *	* * * * * * * * *	*******	* * * * * * * * *	* * * * * * * * * *	******	* * * * * * * * *	******			
(	0.3217	0.4551	********	*******	* * * * * * * * *	* * * * * * * * *	******	* * * * * * * * *	* * * * * * * * * *	* * * * * * * *	* * * * * * * * *	*******	r		
0	0.4551	0.6439	********	*******	* * * * * * * * *	* * * * * * * * *	*******	*******	* * * * * * * * * *	* * * * * * * *	*******				
0	0.6439	0.9110	*******	*******	********	******	*******	********	*******						
ſ	0.9110	1.2889	*******	*******	********	*******									
ź	1.2889	1.8236	********	*******											
	1.8236	2.5800	******												
1	2.5800	3.6503	**												
1	3.6503	5.1645													

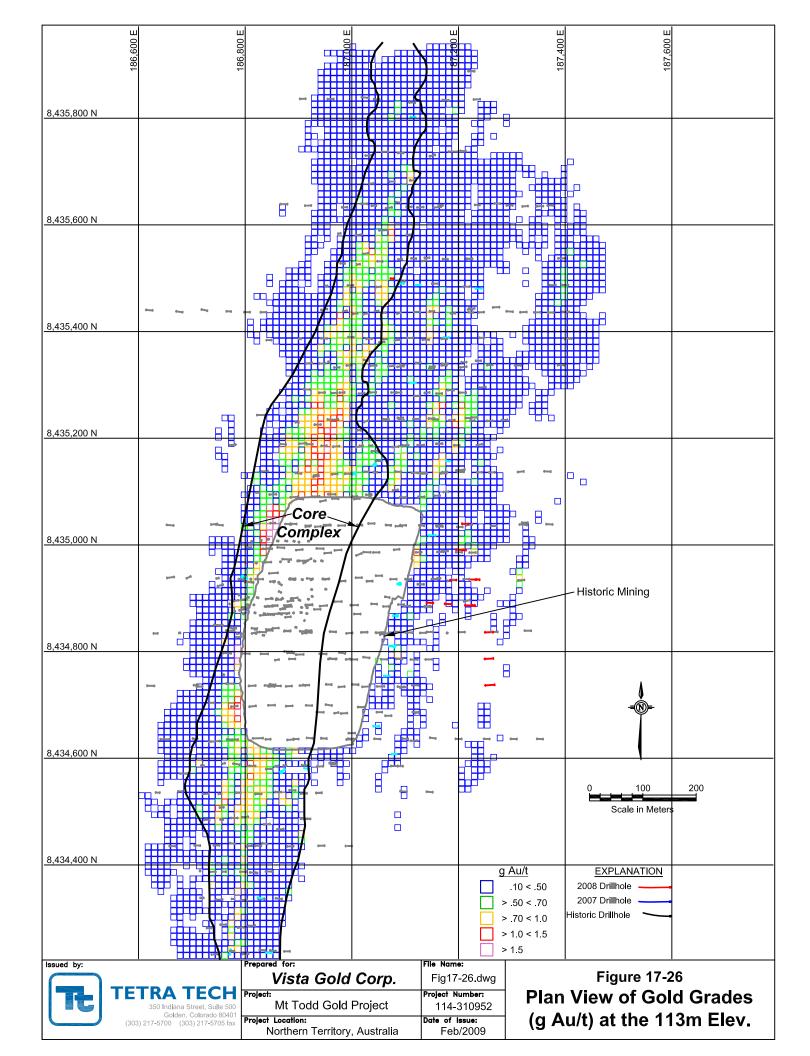


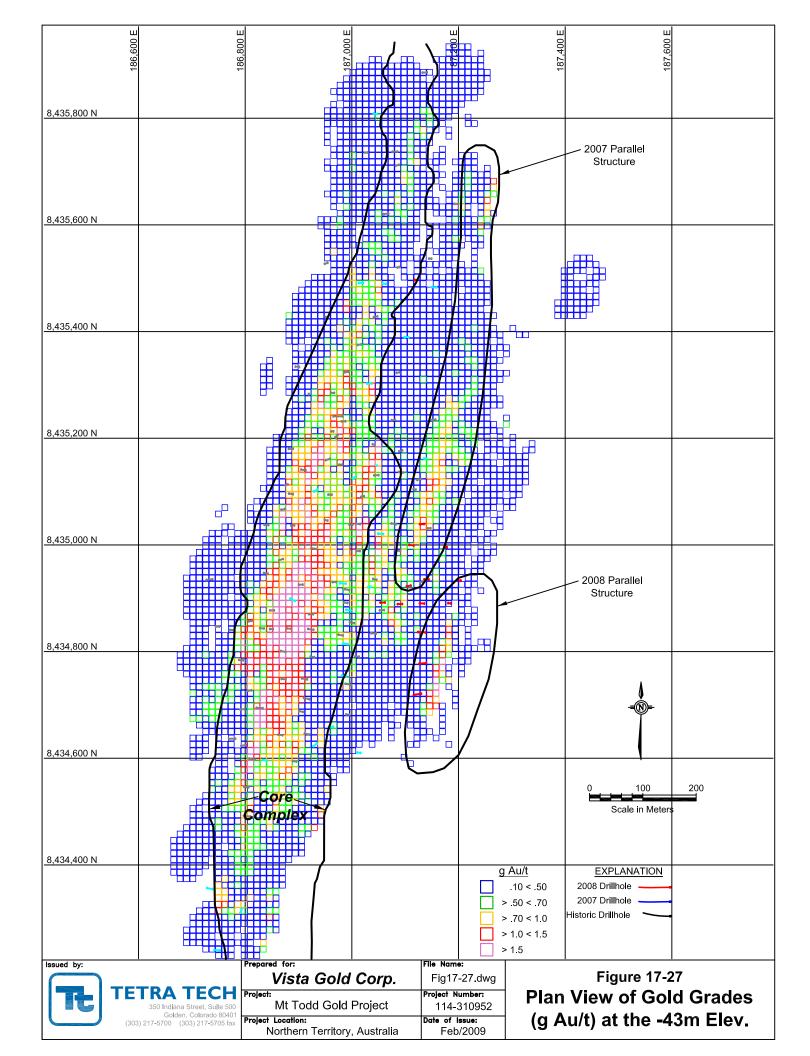












- 6. The 38 drill-holes are located in such a way as to provide a representative spatial sample.
- 7. The variography of each of the metals follows much the same pattern shown by gold, with longer ranges along the strike of the mineralized zones.
- 8. General Relative Kriging was used to estimate the six additional metals and sulfur at the blocks previously estimated for gold.
- Resources of the other metals and sulfur are categorized by gold resource class and by gold cutoff grades; however all of the other metals resource estimates are classified as inferred.
- 10. Data from core hole VB07-13 was removed from the statistical analysis and kriging as an outlier

## 17.8.2 Detailed Discussion of Study

Mineralization at Mt Todd is poly-metallic; hence an additional study was done to produce resources for six other metals along with sulfur. The elements chosen for further analysis have either a potential positive impact (Ag, Cu) or a possible negative one (Cu, Zn, As, Fe, S, Pb). Only a subset of thirty-eight holes was analyzed for the additional metals and sulfur. Sample rejects from thirteen historical holes were re-assayed (BD-series) along with the twenty-five 2007 drilling (VB-series). The multi-element analysis for the 2008 data was not yet available for this study.

The holes used are listed in TABLE 17-20.

TABLE 17-20: LIST OF DRILLHOLES WITH MULTI-METAL ANALYSIS DATA VISTA GOLD CORP. – MT TODD GOLD PROJECT May 2008									
Old Holes with re-assay									
data									
BD077	VB07-001	VB07-014							
BD080	VB07-002	VB07-015							
BD090	VB07-003	VB07-016							
BD110	VB07-004	VB07-017							
BD113	VB07-005	VB07-018							
BD123	VB07-006	VB07-019							
BD124	VB07-007	VB07-020							
BD127	VB07-008	VB07-021							
BD130	VB07-009	VB07-022							
BD131	VB07-010	VB07-023							
BD132	VB07-011	VB07-024							
BD184	VB07-012	VB07-025							
BD186	VB07-013*								
* Data removed from statistic	s and estimation as an ou	utlier							

The holes spatially cover the Mt Todd model area fairly well. FIGURE 17-28 shows schematically the general location of the holes as a side-view looking west. The changing colors along the drillhole traces represent gold grades which are also shown schematically in this figure. The current mined topography is shown as a grey-colored mesh.

Multi-spectral Atomic adsorption (AA) was done on more elements than was studied geostatistically in this report. The total database included along with gold (au), copper (cu), lead (pb), zinc (zn), sliver (ag), aluminum (al), arsenic (as), barium (ba), beryllium (be), bismuth (bi), calcium (ca), cadmium (cd), cobalt (co), chromium (cr), iron (fe), gallium (ga), potassium (k), lanthium (la), magnesium (mg), manganese (mn), molybdenum (mo), sodium (na), nickel (ni), phosphorous (p), sulfur (s), antimony (sb), scandium (sc), strontium (sr), thorium (th), titanium (ti), thallium (tl), uranium (u), vanadium (v), and tungsten (w). Of these elements, eight were selected for statistical and geostatistical study. TABLE 17-21 shows the selected list of nine metals and sulfur along with general statistics of the group. Gold assays have the largest number of analysis with over 100,000 samples above detection. This came from a database comprised of 771 drillholes. As discussed earlier, the other elements come from a more limited database. The statistical and geostatistical analysis of gold has been reported in a previous part of this report. From the 37 BD and VB07 drillholes kept, each metal had a valid count of samples above its detection limit.

×			
Issued by: TETRATECH 350 Indiana Street, Suite 50 Golden, Colorado 8040 (303) 217-5700 (303) 217-5705 fa	Project Location:	File Name: Fig17-28.dwg Project Number: 114-310952 Date of Issue: Feb/2009	Figure 17-28 Location Map of Other Metals Drilling (looking West)

TABLE 17-21: GENERAL STATISTICS OF SAMPLE (ONE-METER INTERCEPT DATA)* All Zone Codes (3500, 2000, 1000, 3000, 3500) VISTA GOLD CORP. – MT TODD GOLD PROJECT February 2009										
	Count Average Max Min CV									
Au (ppm)	107,013	0.582	55.37	0.001	2.09					
Cu (%)	20,062	0.041	2.40	0.001	1.51					
Pb (ppm)	17,779	271.5	73,500	0.5	5.45					
Zn (ppm)	20,069	401.9	44,500	1	3.46					
Ag (ppm)	14,534	1.019	44	0.250	1.45					
As (ppm)	11,810	136.1	9,350	2.5	3.92					
Fe (%)	11,861	6.01	23.0	1.880	0.24					
S(%)	11,868	0.984	11.80	0.001	1.00					
Ni(ppm)	11,868	36.14	368.0	.024	0.46					
V(ppm)	11,867	75.08	309.00	0.34	0.38					
* Excluding Hole	VB07-13									

These data were composited to an average over 4-meters and assigned rock codes according to the geologic model discussed earlier. TABLE 17-22 shows more detailed statistics for the composited copper (cCu). The first portion of that table presents statistics according to the rock codes discussed in a previous section of this report. The second part shows a histogram, plotting the frequency of measured concentrations within each listed grade range. Note that the graph is plotted with log-transformed grades. Hence the "bell-shaped" curve represents a lognormal-like distribution for cCu.

TABLE 17-23 shows more detailed statistics for the composited silver (cAg). The statistics are broken out by rock code. A detailed study of silver indicates that multiple populations might exist. The graph shown in this figure only hints at this possibility. A spike of assays at the lowest interval complicates an interpretation of a simple lognormal distribution. This indicates that there are a large number of silver assays near the detection limit.

FIGURE 17-29 shows histograms of the log transformed data for the nine selected elements. Note that most of the histograms appear approximately lognormal with an additional detection limit spike at the lowest grade reported.

FIGURE 17-30 shows histograms for the log transformed gold composites broken out by mineralized zone.

FIGURE 17-31 shows the same gold composites as box-and-whisker plots. The gold means for the core complex all fall within the boxes representing the mean+/- one standard deviation.

This multi-element study shows low correlations amongst the selected metals and sulfur, with the exception of lead to zinc and lead to silver. Analysis was done using natural log transformed data. Of particular interest are the low correlations between gold and the rest of the elements

## TABLE 17-22: DETAILED STATISTICS FOR THE 4-METER COMPOSITED Cu (cCu) DATA VISTA GOLD CORP. - MT TODD GOLD PROJECT Feb/2009

#### RUNTIME TITLE : Calculate Statistics PROJECT TITLE : mt\_todd 2009 12x12x6 au\_cu\_pb\_zn\_fe\_S etc DATA TYPE IS COMPOSITE

CURRENT LABEL : cCu

I	COMPOSITE COUNT			I	u		LOG-TRANSFORMED			D STATS	LOG-DE	G-DERIVED			
ROCK	NTOOTHO	BELOU	ABOVE	INSIDE	*****	****	ME AN	UNDIANCE	STD.	COEF.	LOG	LOG	LOG	NE 111	COEF.
TTPE	MISSING	L18115	LIMITS	LIM113	MINIMUM	MAXIMUM	MEAN	VARIANCE	DEV.	OF VAR	MEAN	VAR.	STD.DEV	MEAN	OF VAR.
500	4718	0	0	1913	0.00100	0.35475	0.02013	0.000685	0.02617	1.3002	-4.5769	1.5822	1.2578	0.0227	1.9661
1000	3786	0	0	1092	0.00275	0.44050	0.05470	0.00251	0.05012	0.9162	-3.2406	0.7090	0.8420	0.0558	1.0159
2000	3174	0	0	918	0.00100	0.36450	0.05508	0.00203	0.04501	0.8173	-3.2407	0.8406	0.9168	0.0596	1.1479
3000	1403	0	0	836	0.00200	0.87220	0.04048	0.00242	0.04918	1.2147	-3.5955	0.7621	0.8730	0.0402	1.0690
3500	1410	0	0	391	0.00150	0.26225	0.04307	0.00145	0.03810	0.8845	-3.5187	0.8564	0.9254	0.0455	1.1639
ALL	14491	0	0	5150	0.00100	0.87220	0.03874	0.00188	0.04338	1.1199	-3.8157	1.4353	1.1981	0.0451	1.7892

LOWER BOUND	UPPER BOUND	80	160	240	320	400	480	560	640	720	800
>=	< +	+	+	+	+	+	+	+	+	+	+
0.0010	0.0014 ****	********	* * * * * * * * * *	* * *							
0.0014	0.0020 ****	**									
0.0020	0.0028 ****	********									
0.0028	0.0039 ****	********	*								
0.0039	0.0054 ****	********	* * * * * * * * *								
0.0054	0.0076 ****	********	* * * * * * * * * *	* * * * * * * * * *							
0.0076	0.0107 ****	********	* * * * * * * * * *	* * * * * * * * * * * *	*******						
0.0107	0.0150 ****	********	* * * * * * * * * *	* * * * * * * * * * * *	*********	********					
0.0150	0.0211 ****	*******	* * * * * * * * * * *	* * * * * * * * * * * *	*********	*********	*********				
0.0211	0.0295 ****	********	* * * * * * * * * * *	* * * * * * * * * * * *	*********	*********	*********	********			
0.0295	0.0414 ****	*******	* * * * * * * * * * *	* * * * * * * * * * *	*********	*********	*********	********	**********	1.1	
0.0414	0.0581 ****	********	* * * * * * * * * * *	* * * * * * * * * * * *	**********	*********	*********	********	*******		
0.0581	0.0816 ****	*******	* * * * * * * * * * *	* * * * * * * * * * * *	* * * * * * * * * * * *	*********	*******				
0.0816	0.1144 ****	********	* * * * * * * * * * *	* * * * * * * * * * * *	****						
0.1144	0.1605 ****	*******	* * * * * *								
0.1605	0.2252 ****	*****									
0.2252	0.3159 ***										
0.3159	0.4432 *										
0.4432	0.6218										
0.6218	0.8723										
	+	+	+	+	+	+	+	+	+	+	+
	0	80	160	240	320	400	480	560	640	720	800

#### TABLE 17-23: DETAILED STATISTICS FOR THE 4-METER COMPOSITED SILVER (cAg) DATA VISTA GOLD CORP. - MT TODD GOLD PROJECT Feb/2009

 RUNTIME TITLE : Calculate Statistics

 PROJECT TITLE : mt\_todd 2009 12x12x6 au\_cu\_pb\_zn\_fe\_S etc

 DATA TYPE IS COMPOSITE

 CURRENT LABEL : cAg

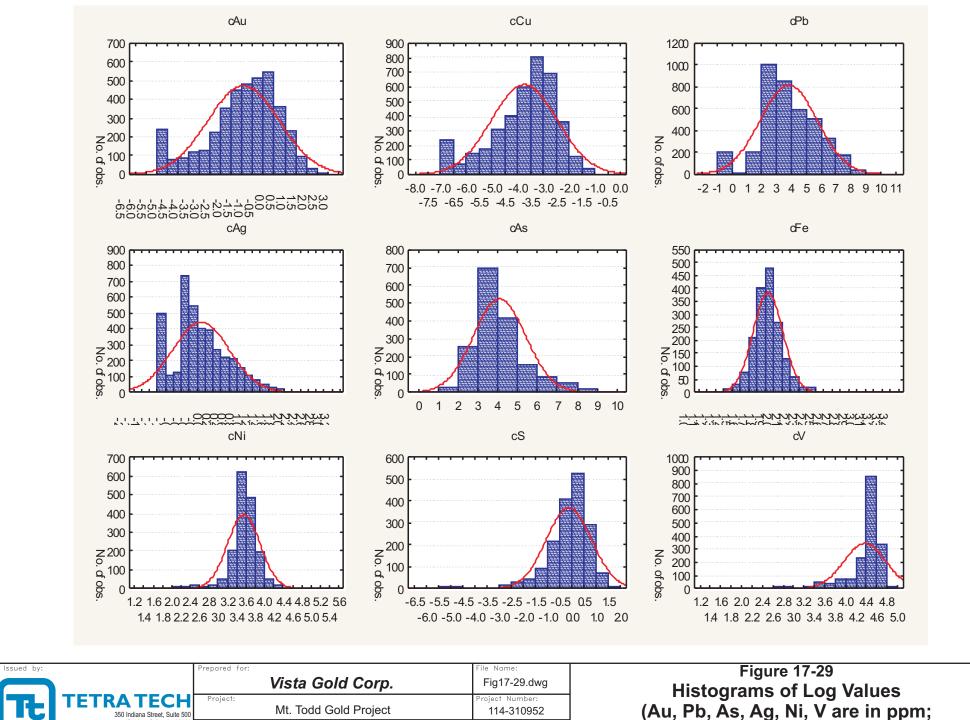
 THIRD PARAMETER FOR LOG TRANSFORM =
 0.000000

 MINIMUM CUT-OFF ENTERED
 =
 0.250000

 MXXIMUM CUT-OFF ENTERED
 =
 50.000000

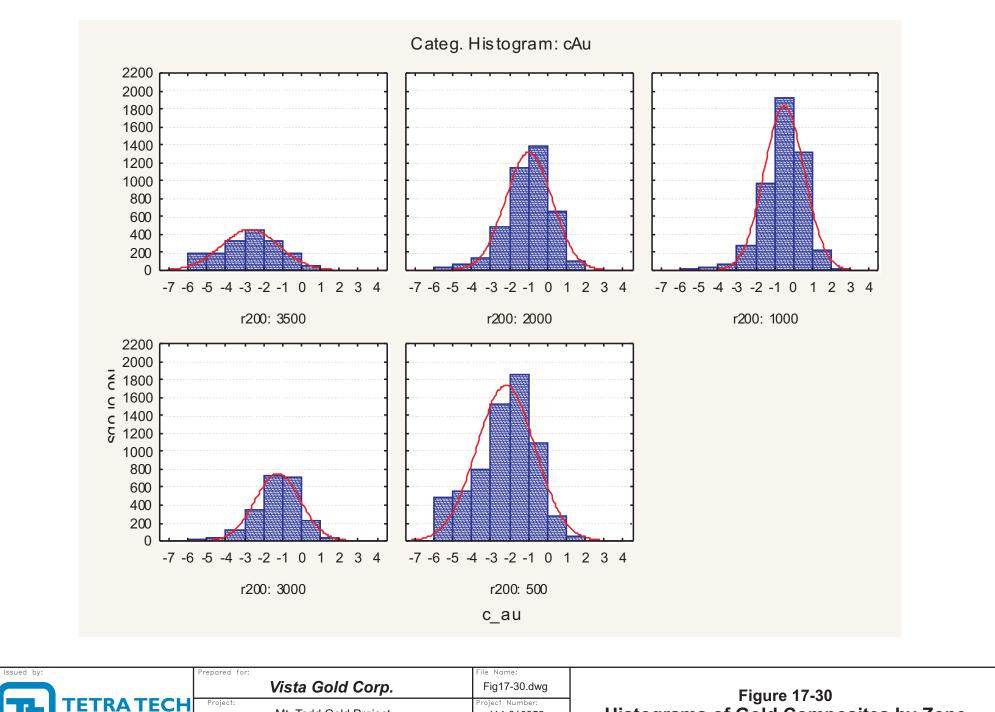
	COL	IPOSITE	COUNT		UNTRANSFORMED STATISTICS						LOG-TR.	ANSFORME	D STATS	LOG-DERIVED	
ROCKI		BELOW	ABOVE	INSIDE					STD.	COEF .	LOG	LOG	LOG		COEF.
TYPE	MISSING	LIMITS	LIMITS	LIMITS	MINIMUM	MAXIMUM	ME AN	VARIANCE	DEV.	OF VARI	MEAN	VAR.	STD.DEV	MEAN	OF VAR.
500	5076	0	0	1555	0.25000	20.220	0.74665	0.64034	0.80021	1.0717	-0.5166	0.3628	0.6024	0.71524	0.6614
1000	4056	0	0	822	0.25000	21.300	1.3562	2.6784	1,6366	1.2067	-0.0477	0.6225	0.7890	1.30157	0.9293
2000	3412	0	2	678	0.25000	20.447	1.1119	1.5244	1.2347	1.1104	-0.1909	0.5388	0.7340	1.08167	0.8450
3000	1682	0	2	555	0.25000	22.167	1.1286	1.7730	1.3315	1.1798	-0.1500	0.4354	0.6598	1.07006	0.7386
3 500	1553	0	0	248	0.25000	4,5000	0.80113	0.40702	0.63798	0.7964	-0.4748	0.4937	0.7026	0.79616	0,7989
ALL	15779	0	4	3858	0.25000	22.167	0.99917	1.4365	1.1985	1.1995	-0.3040	0.5077	0.7125	0.95107	0.8133

LOWER BOUND	UPPER BOUND	100	200	300	400	500	600	700	800	900	100
>=	< +	+	+	+	+						
0.2500	0.3258  ***	* * * * * * * * * * * *	*******	********	* * * * * * * * * *	********	* * *				
0.3258	0.4247  ***	* * * * * * *									
0.4247	0.5535  ***	****	*****	*****	* * * * * * * * * * *	******	********	*********	******	* * * * * *	
0.5535	0.7214 ***	********	********	********	********	********	****				
0.7214	0.9402  ***	* * * * * * * * * * * *	********	********	********	* * * * * *					
0.9402	1.2253  ***	*********	*********	********	* * * * * * *						
1.2253		********		*****							
1.5970	2.0814  ***	********	*******								
2.0814	2.7127  ***	*********	* *								
2.7127	3.5355  ***	* * * * = = *									
3.5355	4,6079  ***	* * *									
4,6079	6.0056  ***	*									
6.0056	7.8273 *										
7.8273	10.2014										
10,2014	13.29571										
13.2957	17.3286										
17.3286	22.58481										
22.5848	29.43521										
29.4352	38.3635										
38,3635	50,00001										
	+	+	+	+	+	+	+	+	+	+	
	0	100	200	300	400	500	600	700	800	900	100



	vista Gold Corp.	Fig17-29.dwg	Histograms of Log Value
ATECH 350 Indiana Street, Suite 500	Mt. Toda Gola Project	Project Number: 114-310952	(Au, Pb, As, Ag, Ni, V are in j
Golden, Colorado 80401 17-5700 (303) 217-5705 fax	Project Location: Northern Territory, Australia	Date of Issue: Feb/2009	Cu, Fe and S are in %)

(303) 217-5700 (303) 217-5705 fax



Feb/2009

Mt. Todd Gold Project 114-310952 350 Indiana Street, Suite 500 Golden, Colorado 80401 (303) 217-5700 (303) 217-5705 fax Project Location: Date of Issue

Northern Territory, Australia

Histograms of Gold Composites by Zone

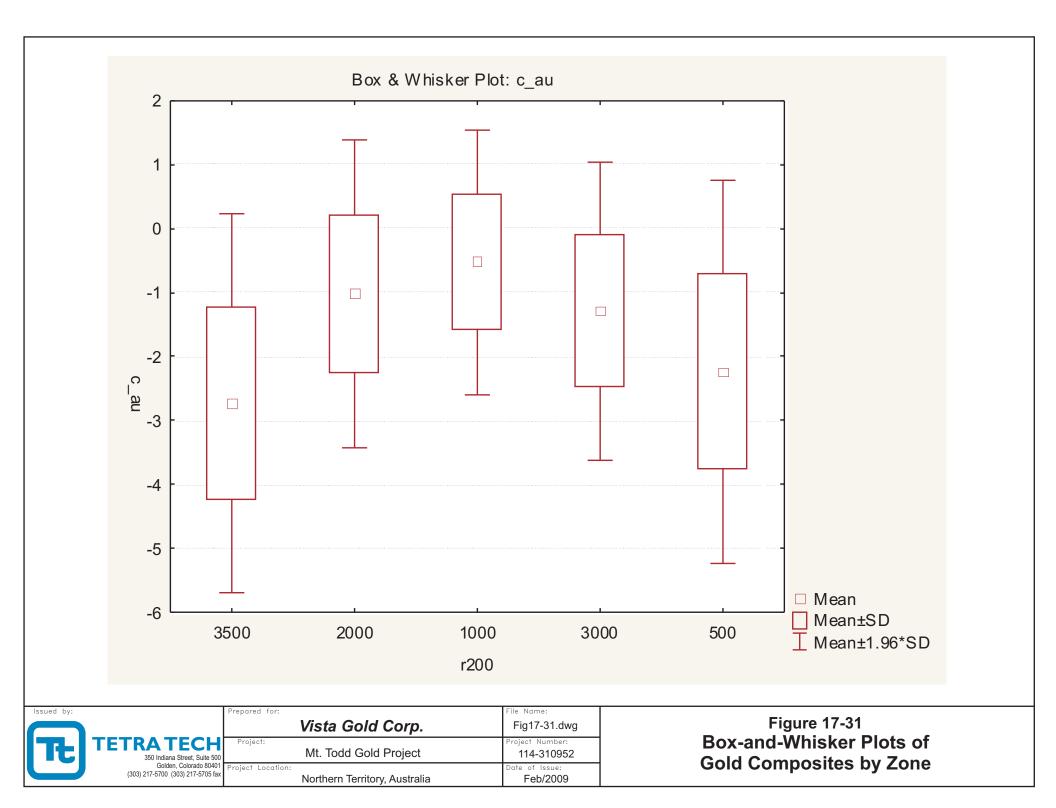


TABLE 17-24 is shown as a correlation matrix with the columns and rows indicating each of the elements. For example, the first row is listed as LAu, i.e. log-transformed gold. The column headers indicate each of the elements. The first column is also LAu, and has a correlation of 1.00, correctly indicating that gold is perfectly correlated with itself. The next column is LCu, and cell intersecting the first row shows a correlation of 0.39.

	TABLE 17-24: CORRELATION AMONGST ONE-METER INTERVAL DATA VISTA GOLD CORP. – MT TODD GOLD PROJECT May 2008												
	LAu LCu LPb LZn LAg LAs LFe LS												
LAu	1.00	0.39	0.05	0.04	0.31	0.07	0.27	0.43					
LCu	0.39	1.00	0.06	0.08	0.47	0.04	0.35	0.64					
LPb	0.05	0.06	1.00	0.86	0.61	0.38	-0.19	-0.05					
LZn	0.04	0.08	0.86	1.00	0.51	0.35	-0.14	0.03					
LAg	0.31	0.47	0.61	0.51	1.00	0.31	0.10	0.28					
LAs	0.07	0.04	0.38	0.35	0.31	1.00	-0.04	-0.07					
LFe	0.27	0.35	-0.19	-0.14	0.10	-0.04	1.00	0.48					
LS	0.43	0.64	-0.05	0.03	0.28	-0.07	0.48	1.00					

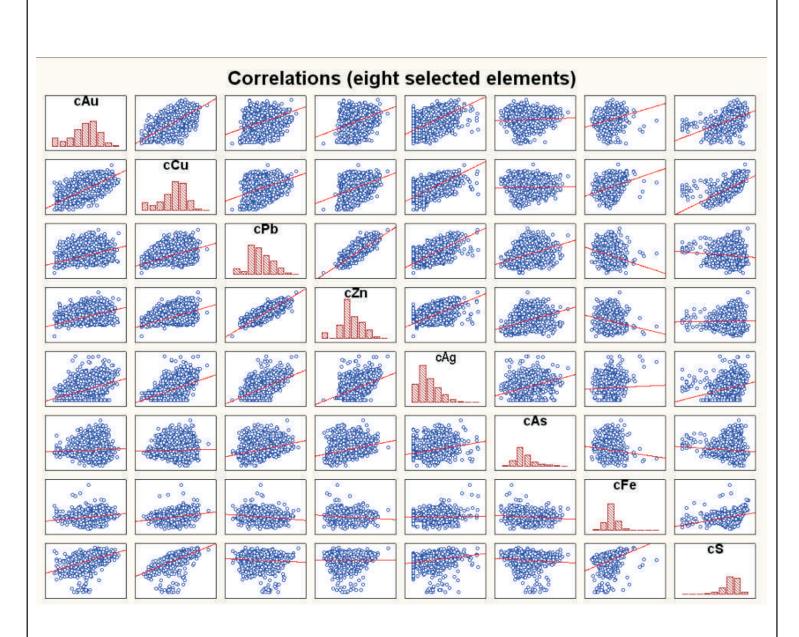
FIGURE 17-32 shows correlation in a graphical way using scatter-plots. The order of the elements is the same as in TABLE 17-24. If the scatter of points falls along a positively sloped line, it will have a high positive correlation, while a negative slope signifies a negative one. Note that most of the points are scattered. This indicates a low correlation. The histogram of the element is shown along the diagonal in FIGURE 17-32.

FIGURES 17-33, 17-34 and 17-35 show more detailed scatter plots for the 4-meter composites of copper to gold (cCu to cAu), silver to gold (cAg to cAu) and lead to zinc (cPb to cZn) respectively.

FIGURE 17-36 shows the average omni-directional relative variogram of silver composites for all rock codes.

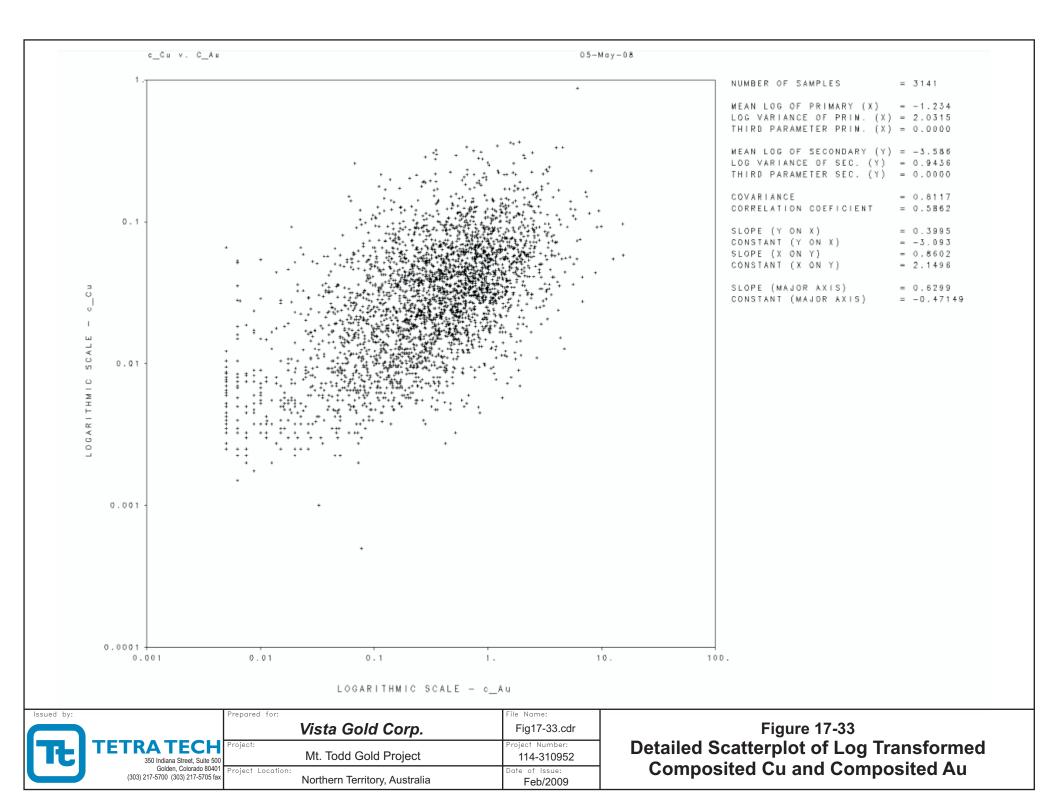
## 17.8.3 Multi-metal kriging

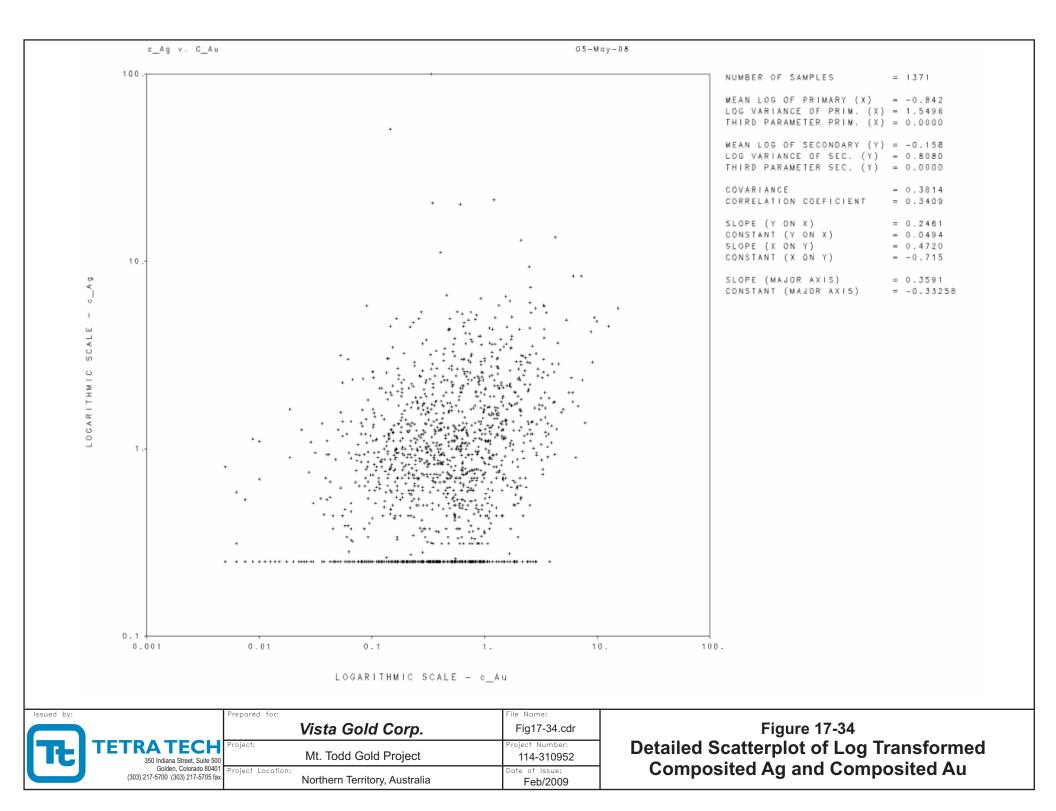
Each metal and sulfur was modeled with same anisotropy and ranges as gold. Each metal and sulfur was kriged using a sector search with four points per sector and a maximum of three points from a single drillhole. The blocks estimated for gold were used to select the blocks estimated in this study.

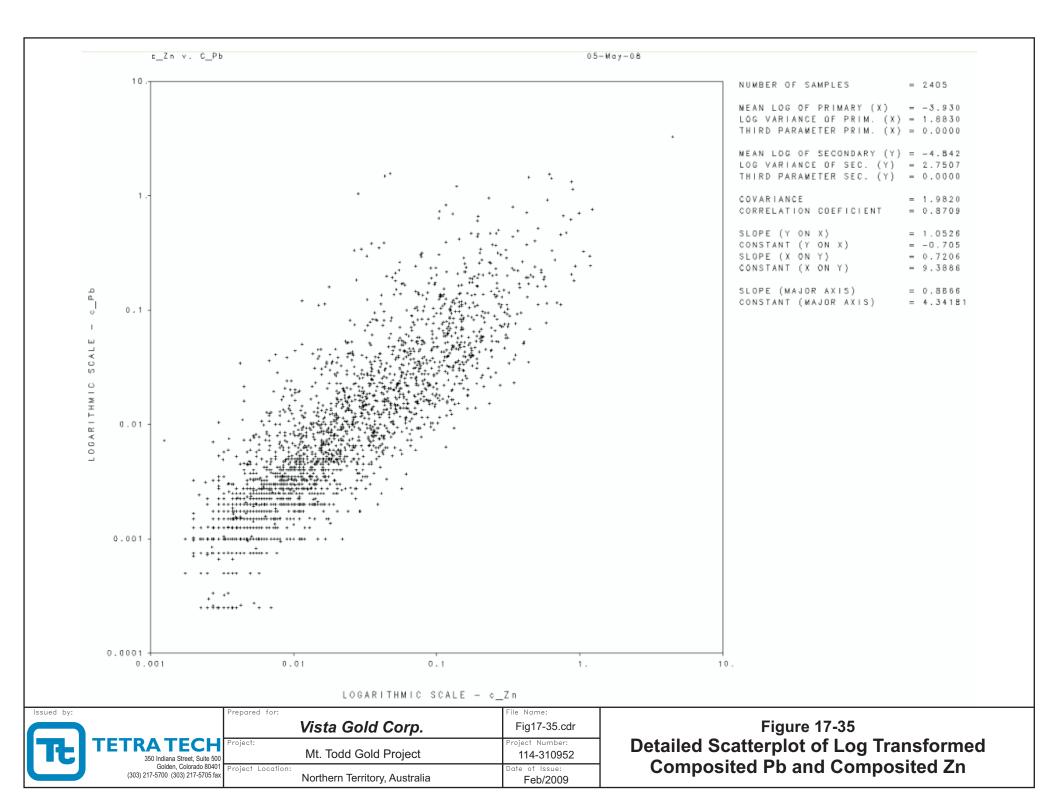


sued by:	Prepared for: Vista Gold Corp.	File Name: Fig17-32.cdr	Figure 17-
TETRATECH 350 Indiana Street, Suite 50		Project Number: 114-310952	Correlation Rela
Golden, Colorado 8040 (303) 217-5700 (303) 217-5705 fa	<sup>1</sup> Project Location: Northern Territory, Australia	Date of Issue: Feb/2009	for the Metals

7-32 ationships & sulfur







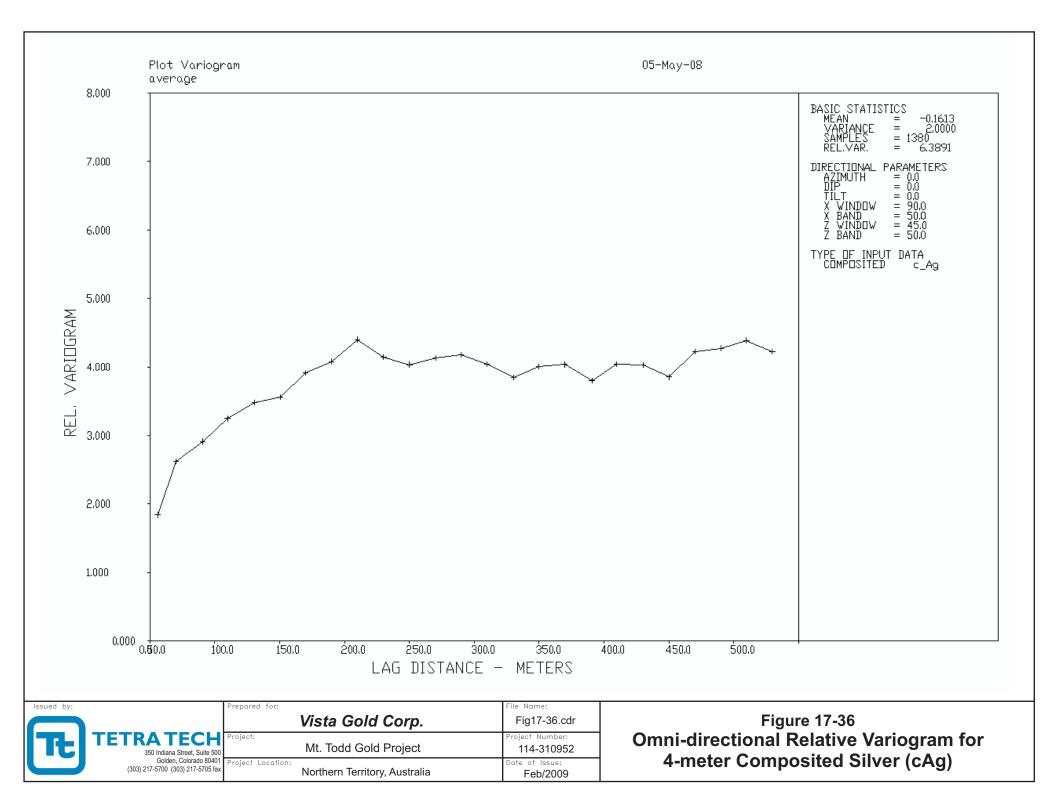


TABLE 17-25 shows the detailed statistics of the kriged silver. The average grade of silver blocks is 1.46 ppm (grams per tonne), with a coefficient of variation of 0.42.

FIGURE 17-37 shows a plan view of the kriged copper on the -43m elevation. The grades are in percent (%) and indicated as:

-	0.001 – 0.005	Grey
-	0.005 0.010	Blue
-	0.010 – 0.030	Green
-	0.030 - 0.075	Yellow
-	0.075 – 0.500	Red
-	0.500 – 99.00	Magenta

FIGURE 17-38 shows a plan view of the kriged silver on the -43m elevation. The grades are in g Ag/t and indicated as:

-	0.10 0.20	Grey
-	0.20 - 0.50	Blue
-	0.50 - 1.00	Green
-	1.00 - 3.00	Red
-	3.00 – 99.00	Magenta

FIGURE 17-39 shows a plan view of the kriged iron on the -43m elevation. The grades are in percent (%) and indicated as:

-	1.00 - 3.00	Grey
-	3.00 - 5.00	Blue
-	5.00 - 6.00	Green
-	6.00 - 7.00	Orange
-	7.00 – 10.00	Red
-	10.00 – 99.00	Magenta

FIGURE 17-40 shows a plan view of the kriged lead on the -43m elevation. The grades are in ppm and indicated as:

-	10 – 50	Grey
-	50 – 100	Blue
-	100 – 500	Green
-	500 – 1,000	Yellow
-	1,000 – 5,000	Red
-	5,000 - 9,999	Magenta

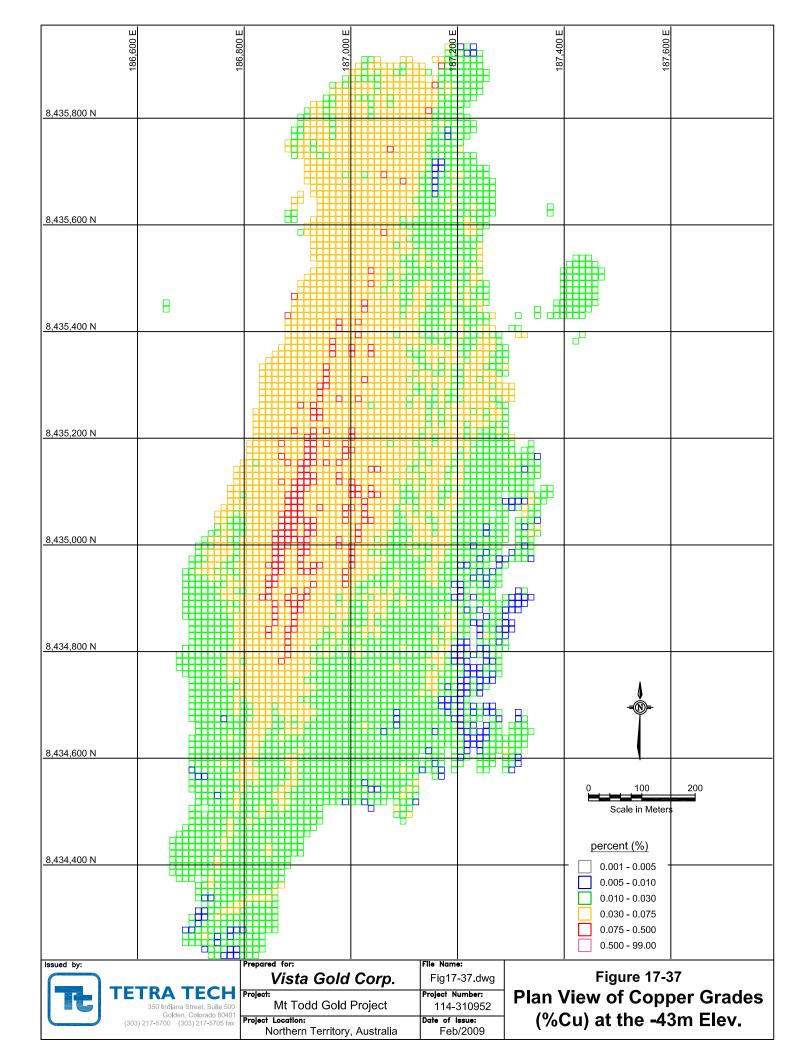
FIGURE 17-41 shows a plan view of the kriged sulfur on the -43m elevation. The grades are in percent (%) and indicated as:

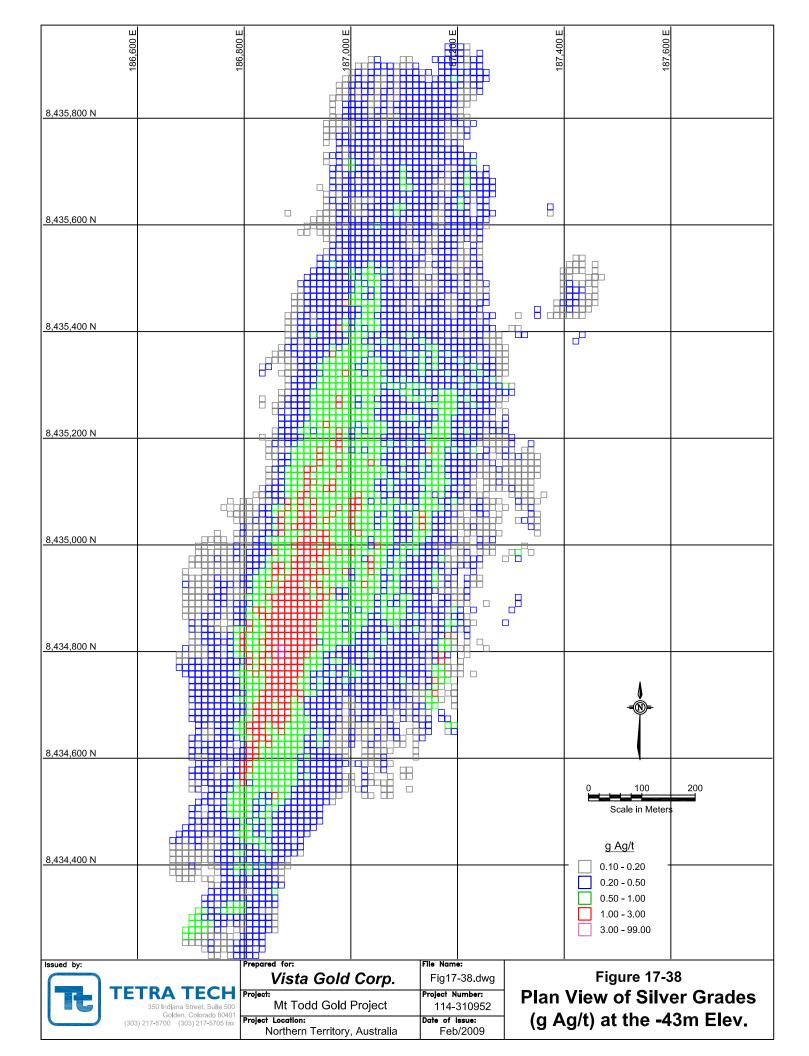
-	0.10 - 0.50	Grey
-	0.50 0.80	Blue
-	0.80 - 0.95	Green
-	0.95 – 1.10	Orange
-	1.10 - 1.50	Red
-	1.50 – 99.00	Magenta

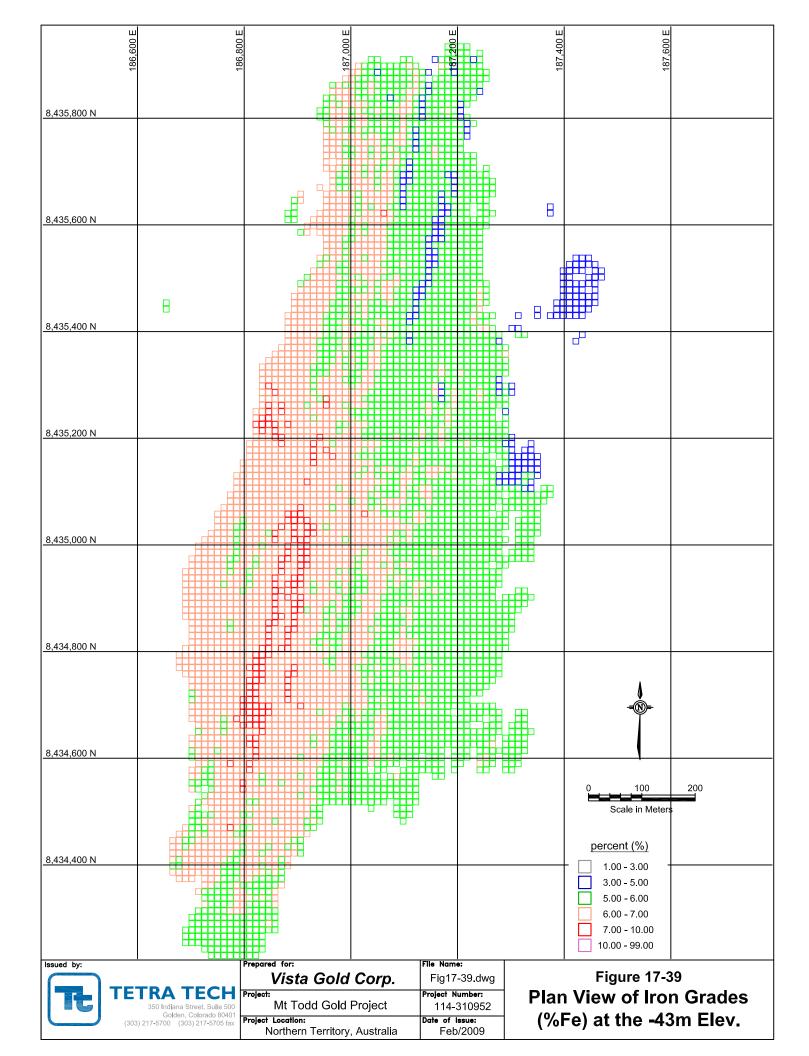
## TABLE 17-25: DETAILED STATISTICS OF BLOCK KRIGED SILVER (kAg) VISTA GOLD CORP. - MT TODD GOLD PROJECT Feb/2009

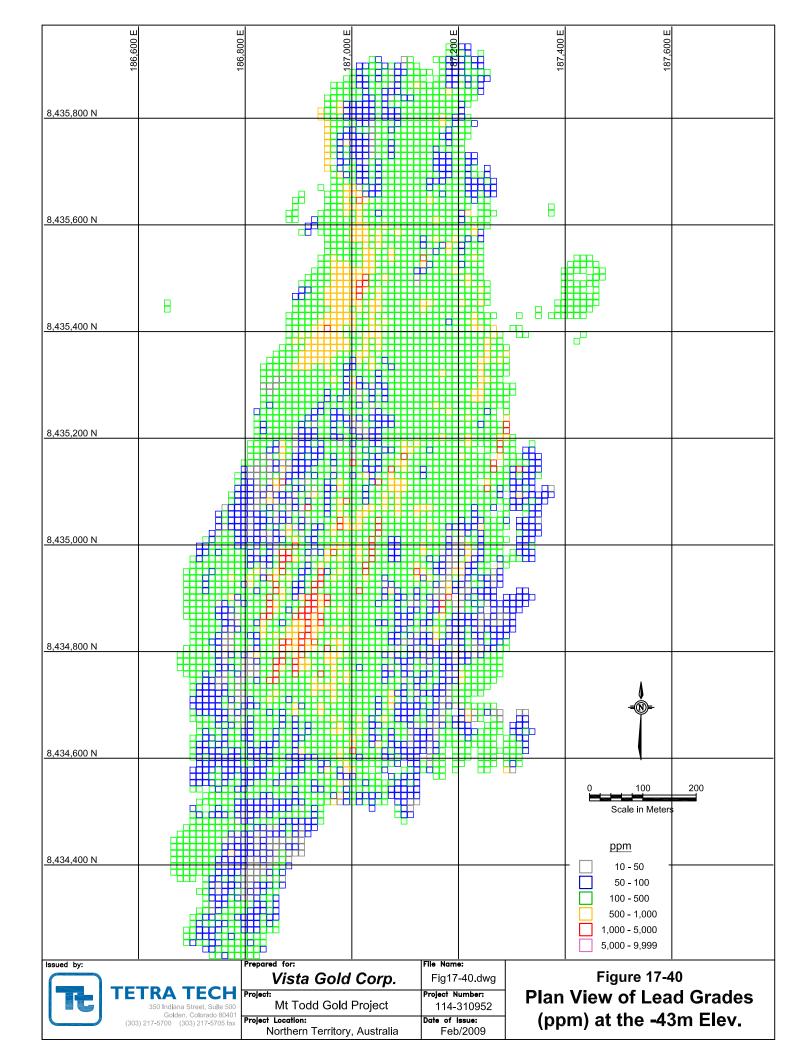
RUNTIME TITLE : Calculate Statistics PROJECT TITLE : mt\_todd 2009 12x12x6 au\_cu\_pb\_zn\_fe\_S etc CURRENT LABEL : (G106) Kriged Grade kAg

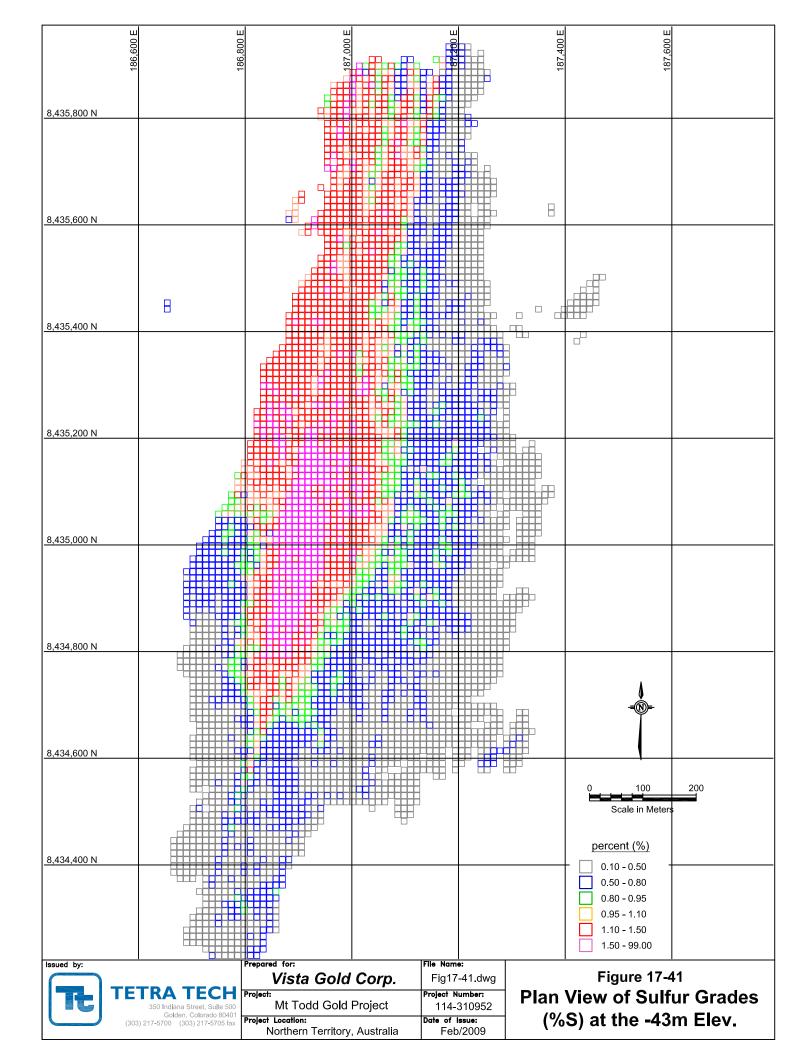
		BLOCK COUNT			υ	NTRANSFOR	MED STAT	ISTICS		 I	LOG-TR.	ANSFORME	D STATS	LOG-DE	RIVED
ROCK		BELOU	ABOVE	INSIDE					STD.	COEF.		LOG	LOG		COEF.
TYPE	MISSING	LIMITS	LIMITS			MAXIMUM		VARIANCE			MEAN		STD.DEV		OF VAR.
500	673566	0	0		0.00594				0.18543				0.8730	0.2650	1.0691
1000	103883	0	0	49687	0.06912	4.1316	0.76706	0.21534	0.46404	0.6050	-0.4524	0.3991	0.6318	0.77659	0.7004
2000	80305	0	0	58912	0.03310	4.1529	0.57932	0.13014	0.36075	0.6227	-0.7158	0.3423	0.5851	0.58004	0.6389
3000	62733	0	0	26732	0.02475	2.9138	0.52860	0.06604	0.25698	0.4861	-0.7613	0.2704	0.5200	0.53467	0.5572
3500	1059011	0	0		0.00500				0.13959					0.1980	0.9129
ALL	1979498	0	0		0.00500				0.34392			0.9012		0.4042	1.2094
L	OWER BOUND	UPPER BOUND	6000	1200	0 180	100 24	000 :	30000	3 6000	42000	48000	5400	0 600	00	
	>=	< +	+-		+	-+	+	+	+	+	+		+	-+	
	0.0050	0.0070													
	0.0070	0.0098													
	0.0098	0.0137	*												
	0.0137	0.0192	**												
	0.0192	0.0268	******												
	0.0268	0.0376	********	**											
	0.0376	0.0526	********	*****											
	0.0526		* * * * * * * * * * *												
	0.0736		* * * * * * * * * * *												
	0.1030	0.1441	* * * * * * * * * * *	* * * * * * * *	* * * * * * * * *	* * * * * * * * *	******	*							
	0.1441	0.2017	* * * * * * * * * * *	******	* * * * * * * * *	* * * * * * * * *	* * * * * * * *	* = * = * = * * * *	*******	*****					
	0.2017	0.2822	* * * * * * * * * * *	* * * * * * * *	* * * * * * * * *	* * * * * * * * *	******	* = * = * = * * * *	*******	* = * = * = * *	*******	* * * * * * * *			
	0.2822	0.3950	* * * * * * * * * * *	******	* * * * * * * * *	* * * * * * * * *	* * * * * * * *	* = * = * = * * * *	*******	* * * * * * * *	* * * * * * * * * *	* * * * * * * *	*		
	0.3950	0.5528	* * * * * * * * * * *	* * * * * * * *	* * * * * * * * *	* * * * * * * * *	* * * * * * * *	* = * = * = * * * *	*******	* * * * * * * *	*****				
	0.5528	0.7736	* * * * * * * * * * *	* * * * * * * *	* * * * * * * * *	* * * * * * * * *	* * * * * * * *	* = * = * = * * * *	*****						
	0.7736	1.0827	* * * * * * * * * * *	* * * * * * * * *	*******	* * * * * * * * *									
	1.0827	1.5153	*********	* * * * * * * *	*										
	1.5153	2.1206	*******												
	2.1206	2.9678	*												
	2.9678	4.1534													
		+	+-		+	-+	+	+	+	+	+		+	-+	
		0	6000	1200	0 180	00 24	000 :	30000	3 6000	42000	48000	5400	D 600	00	











# 17.9 Resource Estimate Tables

At the present time, resources have only been estimated for the Batman Deposit. Tt created three-dimensional computerized geologic and grade models of the Batman Deposit. While the deposit model also contains the Quigleys Deposit, no geologic resource estimate has been made for this deposit at the present time.

The geologic model of the Batman Deposit was created by GGC and audited by Tt. The geologic model was constructed by creating three-dimensional wire-frames of the main geologic units, oxidation types, and mineralizing controls and super-imposing them on each other to create an overall numeric code that details all of the input parameters. GGC created the model based on the prior work of others, recommendations of other consultants, and General Gold's own experience. It is Tt's opinion that the GGC geologic model accurately portrays the geologic environment of the Batman Deposit.

Tt used the geologic model to guide the statistical and geostatistical analysis of the gold assay data. The analysis of the gold assays further confirmed the geologic divisions made by GGC in the geologic model. Gold grades were estimated into the individual blocks of the model by ordinary, whole-block kriging.

The rock model was then assigned a tonnage factor based on the oxidation state (i.e., oxidized, transition, primary). The tonnage factors were based on a number of tests from the core and, in Tt's opinion, are representative of the various rock units, and are acceptable for estimation of the in-place geologic resources.

TABLE 17-26: BATMAN RESOURCE CLASSIFICATION CRITERIA VISTA GOLD CORP. – MT TODD GOLD PROJECT March 2008 & February 2009											
Category	Category Kriging Variance No. of Sectors No. of Points/Sector										
Measured	Core Complex < 0.30	4	4-16								
Indicated	Core Complex >= 0.30 and <0.55	4	4-16								
Inferred	Outside Core Complex <0.45	3	2-8								

The estimated gold resources were classified into measured, indicated, and inferred categories according to the parameters detailed in TABLE 17-26.

The classification was accomplished by a combination of kriging variance, number of points used in the estimate, and number of sectors used. TABLES 17-27 and 17-28 detail the results of the classification. Copper, lead, zinc, and silver quantities and grades are presented using the gold cutoff grades and classification. All of the resources quoted are contained on Vista's mineral leases.

TABLE 17-27 details the estimated in-place resources by classification and by cutoff grade for the Batman Deposit. All of the resources quoted are contained on Vista's mineral leases. The base case cutoff for the resource reporting is 0.4 g Au/t and is bolded in the table. This cutoff value was determined according to a three-year average gold price of US\$750, a three-year average exchange rate of A\$1.35 = US\$1.00, and accompanying parameters as presented in TABLE 1-4 of this report. It is important to note that the change in the cutoff grade has resulted

in the reporting of significantly more contained gold ounces; however, the gold grade model is unchanged from the February 27, 2009 Technical Report.

TABLE 17-27: BATMAN DEPOSIT CLASSIFIED GOLD RESOURCES VISTA GOLD CORP. – MT TODD GOLD PROJECT February 2009						
Cutoff Grade g Au/tonne	Tonnes (x1000)	Average Grade g Au/tonne	Total Au Ounces (x1000)			
		MEASURED				
2.00	1,977	2.38	151			
1.75	3,676	2.14	253			
1.50	6,469	1.91	398			
1.25	10,163	1.71	560			
1.00	16,119	1.49	774			
0.90	19,764	1.39	885			
0.80	24,262	1.29	1,007			
0.70	29,616	1.19	1,136			
0.60	36,700	1.09	1,284			
0.50	44,645	0.99	1,424			
0.40	52,919	0.91	1,543			
		INDICATED				
2.00	3,238	2.49	259			
1.75	5,773	2.21	410			
1.50	10,140	1.95	637			
1.25	17,532	1.70	961			
1.00	30,873	1.45	1,437			
0.90	39,308	1.34	1,694			
0.80	50,410	1.23	1,996			
0.70	64,371	1.13	2,332			
0.60	82,412	1.02	2,707			
0.50	105,936	0.92	3,121			
0.40	138,020	0.81	3,581			
_	MEASUF	RED + INDICATED (1)				
2.00	5,215	2.45	410			
1.75	9,449	2.18	663			
1.50	16,609	1.94	1,035			
1.25	27,695	1.71	1,521			
1.00	46,992	1.46	2,210			
0.90	59,072	1.36	2,578			
0.80	74,672	1.25	3,003			
0.70	93,987	1.15	3,468			
0.60	119,112	1.04	3,991			
0.50	150,581	0.94	4,545			
0.40	190,939	0.84	5,125			

NOTE (1): The sum of measured and indicated resources as reported under NI 43-101 is equivalent to mineralized material under SEC Industry Guide 7.

	INFERRED RESOURCES							
Cutoff Grade g Au/tonne	Tonnes (x1000	Average Grade g Au/tonne	Total Au Ounces (x1000)					
2.00	2,058	2.76	183					
1.75	3,056	2.47	242					
1.50	4,808	2.16	333					
1.25	7,936	1.84	470					
1.00	14,280	1.52	696					
0.90	18,878	1.38	836					
0.80	25,593	1.24	1,018					
0.70	35,885	1.10	1,266					
0.60	48,503	0.98	1,529					
0.50	66,725	0.86	1,849					
0.40	94,008	0.74	2,244					

# **18.0 MINERAL RESERVE ESTIMATE**

At the present time, the Mt Todd gold project contains no CIM definable mineral reserves. Since this study is a Preliminary Economic Assessment ("PEA"), we have used all of the estimated resources, i.e. measured, indicated, and inferred, for determination of the potentially mineable mineral resources. The PEA is preliminary in nature and includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves. There is no certainty that the PEA will be realized. Additionally, mineral resources that are not mineral reserves have no demonstrated economic viability. A total of three scenarios have been evaluated as part of this study. The Base Case scenario updates the previous PEA study to include the current mineral resource estimate. Case 2 anticipates a smaller, high-grade pit with a shorter mine life. Case 3 maximizes recovery of the resource based on the three-year average gold price of US\$750. As will be presented in the following sections, all three scenarios result in an economically positive project.

## 18.1 Geotechnical Data

An existing pit at Mt. Todd was excavated during the period from 1992 to 1997. This excavation reached a depth of approximately 130 meters and was terminated at the end of the first ore phase, at which time the second phase had been essentially stripped. Water (pumped in from RP1) currently fills the pit to a depth of approximately 80 meters, leaving only the slopes of the second phase exposed.

The pit has been standing for eleven years with little evidence of slope deterioration during this period, except in the upper 50 meters of weathered materials where small failure scarps can be seen locally. Within the exposed pit wall there are local sections of the slope that are defined by geologic structure (bedding and/or joints), particularly on the eastern walls, but for the most part the slopes are standing as they were excavated and the bench faces reflect the equipment utilized for excavation.

### Pit Wall Design

With today's technology, the design of pit slopes is based on a review of geologic conditions that might limit the stable slope angle. These conditions include geologic structures, rock strength, and groundwater. If no limiting conditions are found during the investigation, the designer usually falls back to some sort of "fail-safe" recommendation.

For all but the weakest rock (as long as geologic conditions don't change over spatial distance), a slope that will stand over a nominal height, say 10 meters, will also stand over a considerably greater height (several tens of meters) at the same angle. In practice, however, we usually leave residual benches in the slope profile to "catch" rockfalls, hoping to protect men and equipment working at lower elevations. For the most part, rockfall is the result of careless excavation practice and can easily be minimized if the operators attend to good blasting and excavating practice during mining. With rockfall minimized, so the need for catch benches is minimized, and benches can be safely stacked to improve the inter-ramp slope angle by as much as 15 degrees. There is generally a significant economic benefit to this and it more than covers the slightly increased mining cost that results from the improved practice.

Given the discussion above, it is apparent that the key parameter in pit slope design is the bench face angle, or the angle from the horizontal at which the bench face will stand in a stable fashion. This angle will either directly reflect the structural conditions within the rock mass; i.e., bedding, foliation, faults and joints, or the method of excavation; i.e., rope shovels, hydraulic excavators, backhoes, etc., as well as the blasting practice employed.

With an existing pit available for inspection, the determination of bench face angles and the governing structural conditions becomes a simple matter.

### Geologic Structures

Bedding in the host rock metasediments is the single pervasive structural condition of concern. Through the pit area, bedding strikes consistently at 145 degrees (N35E) and dips southwesterly between 40 and 60 degrees. In the northeast corner of the present pit, bench faces are locally determined by bedding. Elsewhere along the east wall, bedding, in combination with northwesterly dipping joints, forms adversely oriented wedges which define the bench face angle. These structural conditions determine the geometry of the benches along the east wall, which are standing typically around 50 degrees but are locally flatter than that. For design, bench faces on the east wall should not be considered to stand at angles steeper than 50 degrees. Careful excavation should minimize rockfall, enabling inter-ramp slopes of around 40 degrees or slightly steeper.

Elsewhere around the pit, limiting conditions are rarely in evidence and most of the structures dip away from the pit. Bench faces are typically at 65 degrees or greater and often as steep as 80 degrees. There is no reason that these slopes shouldn't be planned at 70 degrees, with inter-ramp slopes in the 55- to 60-degree range. Diligent excavation practice will be required to minimize rockfall.

### Rock Strength

As it stands within the ground, rock is under stress: gravitational assuredly, but most likely tectonic as well. As a general rule, the horizontal stress is about 1.5 times the vertical stress near the earth's surface. The effect of excavating an open pit is fundamentally to relieve this stress through unloading. The horizontal stress realigns around the excavation while the vertical stress is reduced. The only significant part of the pit in which stress levels increase is the region of the toe. Elsewhere, as the stress level reduces, simple elasticity considerations dictate a tendency for the slopes to move upward and toward the excavation. This trend is most noticeable at the pit crest and diminishes both with distance behind the slope and at depth within the pit. This general observation largely determines the behavior of the pit walls as excavation proceeds, including the development of surficial instabilities.

The metasediments at Mt. Todd are unusually strong: compressive strength is typically greater than 100 MPa (about 14,500 psi), but does drop to perhaps 70 MPa in local units. However, the stress levels to be generated in the toe area of the proposed approximately 500-meter-deep pit should not exceed 10 or 20 MPa, so failure of the rock materials is not likely.

### Groundwater

The groundwater regime at Mt. Todd is poorly defined at present. But the rock has a very low porosity and water will be largely confined to and controlled by fracture systems within the rock mass. Permeability should be sufficient to encourage natural drainage towards the excavation and thereby reduce the influence of water pressures on wall stability. The affect of groundwater can be ignored for this stage of the project study.

### Pit Slope Recommendations

To summarize, the limiting factors on slope performance at Mt. Todd are geologic structures; primarily bedding, but jointing as well to a lesser degree. Rock strength and groundwater do not appear to be significant considerations at this time.

Bench faces on the east wall should be designed at 50 degrees, with inter-ramp slopes not to exceed 40 degrees. Elsewhere, bench faces can be designed at 70 degrees, with inter-ramp slopes in the 55- to 60-degree range.

### **18.2** Base Case Pit Optimization

Potentially mineable pit shapes were evaluated using a Lerchs-Grossman ("LG") analyses performed with the GEMS® Whittle 4.1.1 pit optimization software and the Mt Todd mineral resource model. The primary purpose of this was to determine ultimate pit limits and the best extraction sequence for open pit mine design. For this PEA, measured, indicated, and inferred resources were considered potential ore. The parameters assumed for the LG analyses are summarized in TABLE 18-1 (all prices and costs are reported in first quarter 2009 US dollars).

TABLE 18-1: BASE CASE PARAMETERS FOR LERCHS-GROSSMAN ANALYSES VISTA GOLD CORP. – MT TODD GOLD PROJECT June 2009						
Average Pit Slopes	All 50 degrees					
Gold Price	US\$600 per oz Au					
Gold Recovery	82 percent					
Mining Cost	US\$1.74 per tonne mined					
Processing Cost	US\$5.75 per tonne processed					
General and Administrative Cost	US\$0.44 per tonne processed					
Tailings-related Costs	US\$0.36 per tonne processed					
Environmental/Regulatory Cost	US\$0.05 per tonne processed					

The Base Case LG shell is defined by the economic factors listed in TABLE 18-1 and is illustrated by mid-bench contours in FIGURE 18-1. A total of 15 LG runs, including the Base Case, were run to determine sensitivities to gold price and pit slopes. Gold price sensitivity was analyzed in \$50.00 per ounce increments from \$400 to \$800 per ounce Au. The results of the \$400 per ounce Au case was used for preliminary phasing of the pit for mine planning. TABLE 18-2 summarizes the results from the \$400, \$500, \$600, \$700, and \$800 per ounce Au LG runs:

TABLE 18-2: LERCHS-GROSMAN PRICE SENSITIVITY VISTA GOLD CORP. – MT TODD GOLD PROJECT June 2009								
Pit Slope (degrees)	Gold Price (US\$/oz)	Mineralized Tonnes (millions)	Au Grade (g/t)	Contained Oz Au (1000)	Waste Tonnes (Millions)	Stripping Ratio (W:O)		
50	400	21.8	1.28	900	16.3	0.7		
50	500	88.9	1.03	2,940	123.1	1.4		
50	600	156.1	0.90	4,520	208.2	1.3		
50	700	231.4	0.81	6,030	291.5	1.3		
50	800	279.5	0.75	6,740	319.6	1.1		
55	400	40.1	1.20	1,550	40.3	1.0		
55	500	99.3	1.03	3,290	120.9	1.2		
55	600	171.2	0.90	4,950	196.6	1.2		
55	700	237.9	0.81	6,200	251.7	1.1		
55	800	286.8	0.75	6,920	272.7	0.9		

## 18.3 Base Case Pit Design

For the Base Case, the ultimate pit was designed for 18-m<sup>3</sup> hydraulic front shovels and 141tonne haul trucks. The design includes smoothed pit walls, haulage ramps, benches, and pit access. The \$400 cone was used to assist in production scheduling by emulating an early phase of mining that would encounter higher grade material and thus, enhance the economics of the project. The ultimate pit is illustrated in FIGURE 18-2.

### Pit Design Parameters

Based on geotechnical conditions, the inter-ramp slopes were estimated at 50 degrees, with the bench heights set at 18 meters (triple benched) and haul road widths designed at 27 meters to accommodate the planned equipment fleet for Mt Todd.

The pit was designed by triple-benching the 6-meter benches with a catch bench designed between the double bench configuration. Bench face angles were designed at 75 degrees, and minimum catch bench width is set to 8 meters. Haulage ramps were designed using a 27 meter width and at a maximum grade of 8 percent.

### Mining Phases

The preliminary production schedule presented in this PEA is based on an initial phase and the ultimate pit. The initial phase is based on the \$400 Au LG pit. The initial phase allows for about three years of mine production with the remaining life-of-mine production coming from the ultimate pit. The anticipated mining rate of 10.65 million tonnes per year of mineralized material (30,000 tonnes-per-day) results in a mine life of about 15.2 years.

The primary crusher will be located to the east of the pit, and all the waste will be hauled to a single waste stockpile to the south of the pit.

### Potentially Mineable Mineral Resource

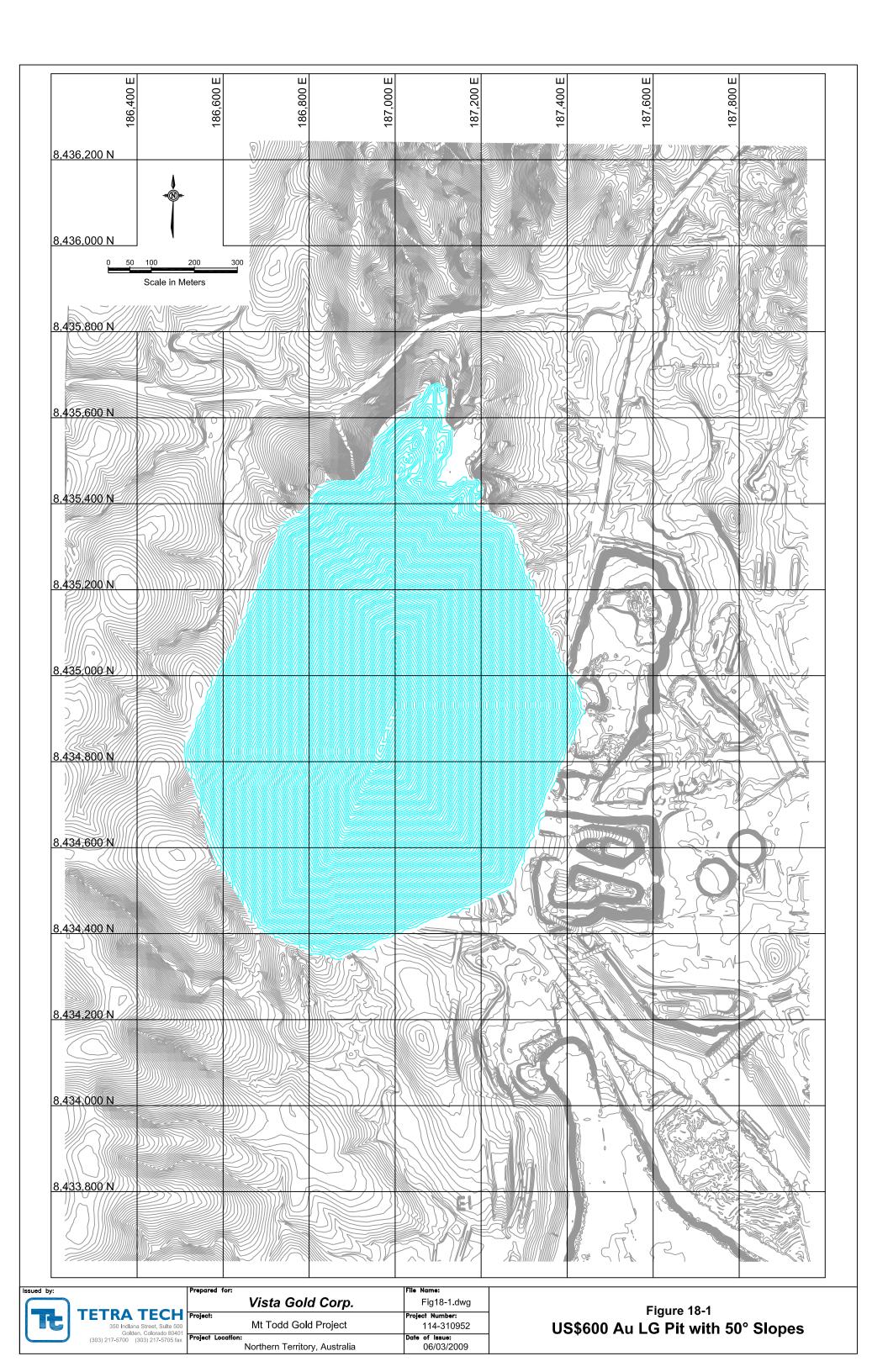
This PEA includes an inventory of "potentially mineable mineral resource," and no mineral reserve estimate is offered. Measured, Indicated, and Inferred (M+I+I) resources are included in the potentially mineable resource estimate, rather than the normal prefeasibility and feasibility requirement restricting "reserves" to only measured and indicated resources.

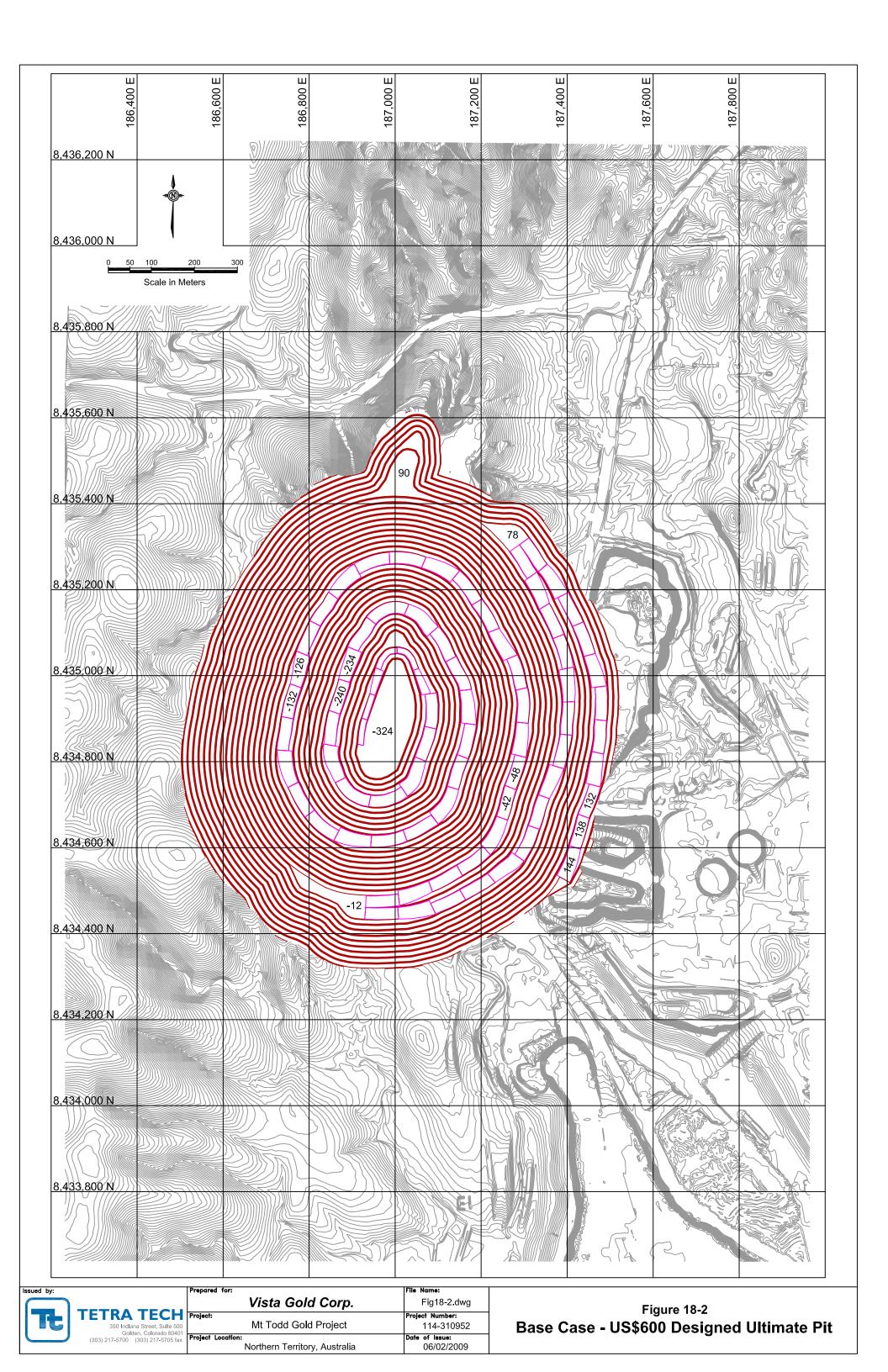
### In-situ Bulk Density

Individual bulk densities of the material that will be mined are contained in TABLE 17-1 of SECTION 17 of this report.

### Cutoff Grade

The LG analysis calculates the internal cutoff grade as it determines if a block should be mined as either ore or waste. Using the economic assumptions listed in TABLE 18-1, the internal cutoff grade for the Mt Todd deposit is calculated to be approximately 0.42 g Au/ tonne.





### Dilution and Recovery

This PEA does not apply a dilution factor to the material grades generated by the geologic model. The model incorporates some dilution in the compositing process, as does smoothing from grade interpolations. In addition, the ore zones are very continuous and ore control should be effective. Similarly, this analysis assumes 100 percent mine recovery. It is Tt's opinion that these are reasonable expectations since the potentially mineralized material is distinct from the surrounding waste rock units due to the extensive silica flooding that occurred as part of the mineralizing event. In addition, once in the potentially mineralized zone, the majority of the material is above the economic cutoff.

### Potentially Mineable Resource Summary

For this PEA, no mineral reserves have been estimated. Tt based the ultimate pit design on the contained measured, indicated, and inferred resource blocks. Tt has therefore defined the pit tonnages as the "potentially mineable mineral resource" (mineable resources) at Mt Todd. These mineable resources are summarized in TABLE 18-3. TABLE 18-4 presents the mineable resource by resource classification.

-	TABLE 18-3: S	UMMARY OF BAS	SE CASE POTEN DRP. – MT TODD			CES
			June 2009			
Mining	"Ore"	Gold Grade	Contained	Waste	Total	Stripping
Phase	Tonnes	(g Au/t)	Gold	Tonnes	Tonnes	Ratio (W:O)
	(1000)		(oz)	(1000)	(1000)	
TOTAL	161,818	0.87	4,530,000	300,000	461,818	1.9:1

TABLE 18-4: CLASSIFICATION OF MINEABLE RESOURCES (\$600 PER OZ AU DESIGNED PIT) VISTA GOLD CORP. – MT TODD GOLD PROJECT May 2009						
Class	Ore Tonnes (x 1000)	Average Gold Grade (gm/t))	Contained Gold (oz)	Waste Tonnes (x 1000)	Total Tonnes (x 1000)	Stripping Ratio (W:O)
Measured	46,528	0.95	1,421,110	-NA-	-NA-	-NA-
Indicated	101,041	0.87	2,826,530	-NA-	-NA-	-NA-
Measured + Indicated	147,569	0.93	4,247,640	-NA-	-NA	-NA-
Inferred	14,249	0.73	334.420	-NA-	-NA-	-NA-
Waste	-NA-	-NA-	-NA-	300,000	461,818	1.9:1

## 18.4 Alternative Pit Options

In addition to the Base Case, two other potential development options were evaluated. The following discussion details the development of the designed open pits for these options.

### 18.4.1 Case 2 - US\$550 Case

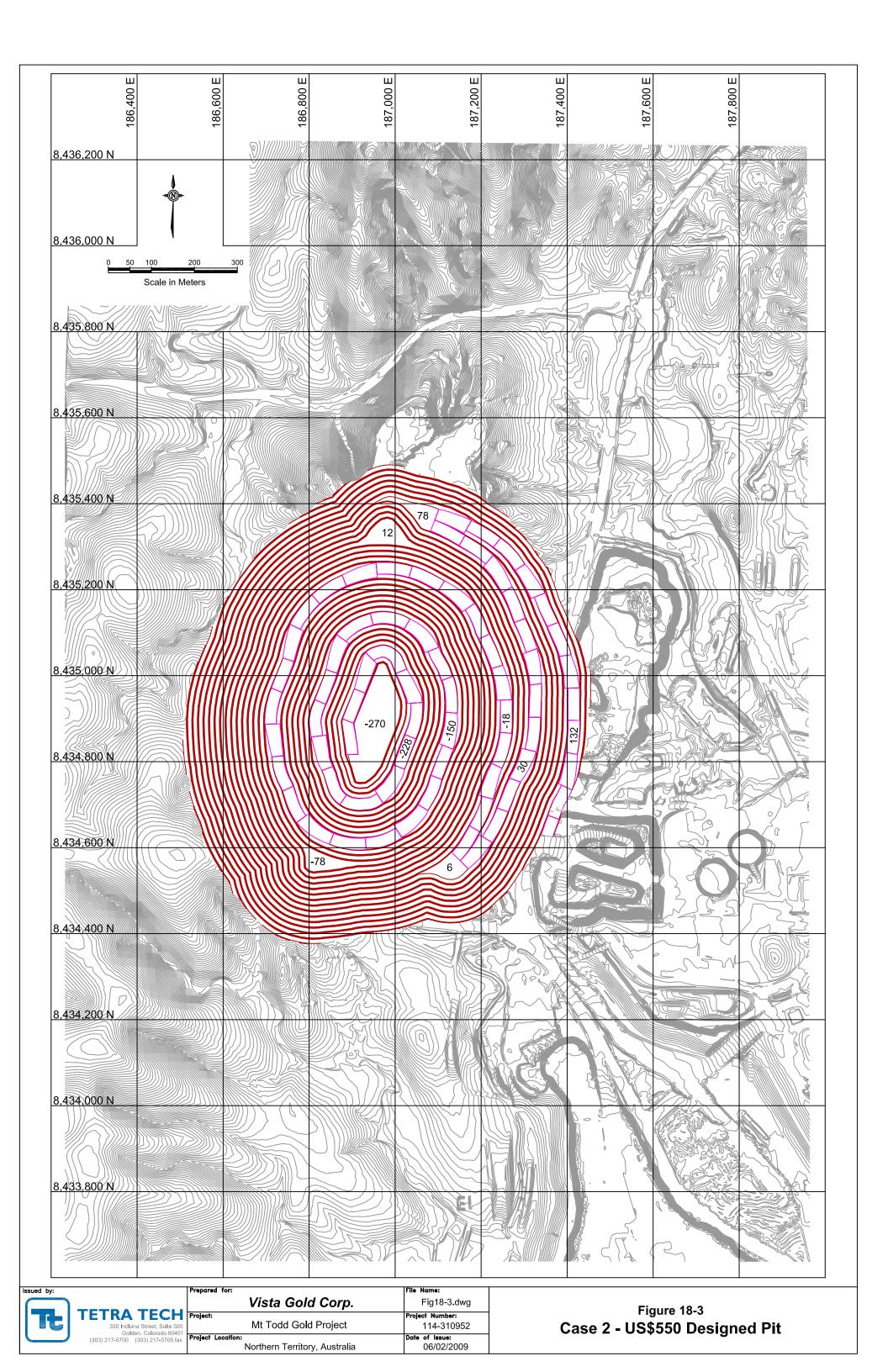
Tt developed Case 2 by utilizing the same pit optimization parameters as detailed in TABLE 18-1 with the exception of adjusting the gold price to US\$550 per ounce and restricting the use of classified resources to only the measured and indicated classes for valuing the potential ore blocks. By using this approach, Tt developed a smaller, higher-grade option for project development. FIGURE 18-3 illustrates the designed pit shape for this scenario. TABLE 18-4 details the measured, indicated, and inferred resources within this designed pit above a breakeven cutoff grade of 0.58 g Au/tonne.

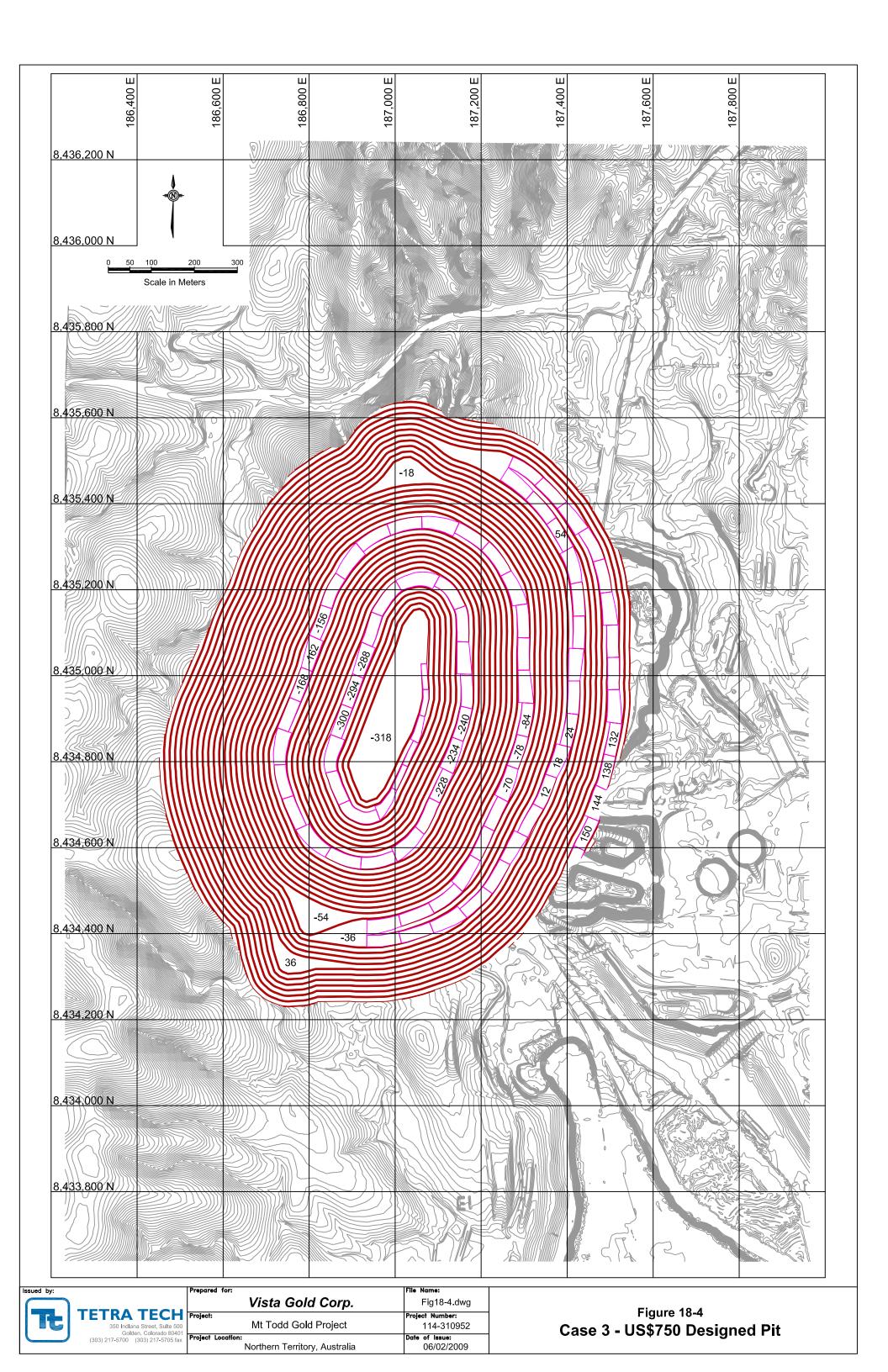
TABLE 18-5: SUMMARY OF CASE 2 - POTENTIALLY MINEABLE RESOURCES VISTA GOLD CORP. – MT TODD GOLD PROJECT June 2009						
	"Ore" Tonnes (1000)	Gold Grade (g Au/t)	Contained Gold (oz)	Waste Tonnes (1000)	Total Tonnes (1000)	Stripping Ratio (W:O)
TOTAL	93,694	1.05	3,160,000	256,824	350,518	2.7:1

### 18.4.2 Case 3 – US\$750 Case

Tt developed Case 3 by utilizing the same pit optimization parameters as detailed in TABLE 18-1 with the exception of adjusting the gold price to US\$750 per ounce and utilizing all of the classified resources (measured, indicated, and inferred) for valuing the potential ore blocks. This case concentrates on maximizing the recovery of the resource ounces for project development. FIGURE 18-4 illustrates the designed pit shape for this scenario. TABLE 18-6 details the measured, indicated, and inferred resources within this designed pit above an internal cutoff grade of 0.34 g Au/tonne.

	<b>TABLE 18-6</b> :	SUMMARY OF C VISTA GOLD CO	ASE 3 - POTENT DRP. – MT TODD June 2009			S
	"Ore" Tonnes	Gold Grade (g Au/t)	Contained Gold	Waste Tonnes	Total Tonnes	Stripping Ratio
	(1000)	(g Auri)	(oz)	(1000)	(1000)	(W:O)
TOTAL	253,760	0.76	6,200,000	400,000	653,760	1.6:1





# **19.0 OTHER RELEVANT DATA AND INFORMATION**

A Preliminary Economic Assessment report was completed and submitted on December 29, 2006, and updated Technical Reports on May 15, 2008 and February 27, 2009 and are available on the SEDAR website. This report uses the geologic model from the February 27, 2009 as the basis for the results developed and presented. In addition, Vista has metallurgical testwork currently in progress at Resource Development Inc. of Wheat Ridge, Colorado and the next round of exploration drilling which are both part of the planned work program detailed in SECTION 21 of this report.

Tt is unaware of any other data and/or information that would be relevant to this report and is not contained in one of the SECTIONS of this report.

# 20.0 INTERPRETATION AND CONCLUSIONS

## 20.1 Interpretation

It is Tt's opinion that all of the current Vista work meets and/or exceeds the current CIM standards for reporting of mineral resources. Any historic work that does not meet current standards has either been replaced with new data by Vista as part of their ongoing exploration program and/or has been identified within the body of this report. The work completed prior to Vista, was been completed by well-qualified technical professionals, reputable mining companies, and independent third-party contractors and laboratories according to standards that meet most of today's requirements; however, all of the Vista work completed meets and/or exceeds all of the current requirements.

The results of the 2008 Vista exploration and development programs continue to provide strong support that the current geologic model and resource estimates are indicative of the mineralization present at Mt. Todd. In addition, the 2008 exploration program has identified an additional "sympathetic" structure and mineralization east of the main Batman mineralized zone. This new resource area will have significant impact on the waste to ore ratios because it represents previously undefined mineralization as opposed to mineralization that changes from waste to ore due to changing gold prices. The 2008 Batman exploration program was designed to complete four main objectives:

- 1) Confirmation of the existing geologic and grade model at depth;
- 2) Confirmation of the previous assaying programs and grades in the assay database;
- 3) Development of additional definition in the short-range portion of the variogram; and
- 4) Development of additional measured and indicated mineral resources.

All of these objectives were met and/or exceeded. The results of the 2008 exploration program added approximately 197,000 ounces of gold to the measured resource class and approximately 2,032,000 ounces to the indicated resource class at a 0.4 g Au/t cutoff grade. Measured and indicated resources now account for approximately 70% of the known resources at the Batman deposit. Approximately 713,000 ounces of gold were added to the inferred resource class as compared to the March 2008 inferred resource estimate.

### 20.2 Conclusions

Vista's exploration and development work on the Mt Todd Gold Project and specifically the Batman deposit, continue to provide strong justification for additional expenditures and efforts to develop a new mine at this site. The positive results of this updated study clearly demonstrate the potential robustness of several different development scenarios. Specific areas that warrant additional expenditures and work that will likely continue to yield positive results include:

### Batman Deposit

While not yet totally defined by drilling, the Batman deposit continues to warrant both exploration and development work. Additional exploration work is justified in locating the extents of the deposit as it is currently open on all sides. In addition, more development drilling is warranted to increase the measured and indicated resource base as the project moves toward a feasibility study. In support of the feasibility study, the following work items form the next logical progression in the development scenario:

- a) Additional metallurgical sampling and testing. Additional metallurgical samples are needed to ensure that all of the potential deposit variability is accounted for and considered in the process design phase.
- b) Additional testwork on the HPGR component of the process design is needed to reach feasibility-level results. Initial testwork has proven that this is highly likely to work at Mt Todd and results in significant energy and capital savings.
- c) Additional geotechnical logging and drilling to confirm the pit slope recommendations of this report.
- d) Additional waste characterization analyses. Initial waste characterization tests have provided a basis for the environmental considerations of this report; however, additional tests will be required for the feasibility study.
- e) The potential cost savings, reduced disturbance, and ability to concurrently reclaim the dry-stacked tailings alternative prove it worthy of more detailed studies Additional testwork on the dewatered tailings in order to confirm with a feasibilitylevel of accuracy the ability to cost-effectively dewater the tailings, stack and compact the dewatered tailings, and protect the stacked tailings from erosional and other forces is recommended.

### **Quigleys and Golf Tollis Deposits**

While the Quigleys and the Golf Tollis deposits have had limited drilling and some surface production, they have not been explored using the lessons learned at Batman. The exploration to date has concentrated on near-surface oxide gold mineralization with few, if any, deep drill holes existing. In addition, the Batman structural interpretation has not been applied to these deposits either. Since these deposits are known to contain gold mineralization, a more systematic exploration program is warranted.

### Exploration Leases

A significant portion of the exploration leases is yet to be systematically explored and evaluated. The broad structural and geologic trends that host the Batman, Quigleys, and Golf Tollis deposits may well host other deposits. Much of what Vista has learned form more detailed exploration of the Batman deposit has yet to be applied to these other areas and therefore, these areas remain highly prospective.

# 21.0 **RECOMMENDATIONS**

Based on Tt's review of the database, previous studies and work products, and as an outgrowth of the recent mineral resource modeling and PEA update, Tt provides the following list of recommendations for Vista's consideration.

### Batman Deposit

Vista's 2008 exploration program on the Batman Deposit provided answers to three major questions; improvement of the short range portion of the gold variogram, infill drilling for improvement in the quantity of measured and indicated resources, and confirmation of the work completed by previous owners/operators. With this in mind, the following recommendations are made for future exploration programs:

- 1. A prefeasibility study is in progress and should be completed as all requisite data are now available.
- 2. Additional exploration drilling, as the deposit is still open to the north, south, and at depth.
- 3. The 2007 and 2008 exploration drillhole programs have identified what appear to be parallel and/or sub-parallel structures to the east of the main core complex. Additional exploration and definition of these structures is warranted.
- 4. Completion of additional geologic and geotechnical mapping to increase the understanding of the larger system.
- 5. Advance the Batman deposit through prefeasibility and feasibility studies in order to advance the project to a development decision.

### Quigleys and Golf-Tollis Deposits

The Quigleys and Golf-Tollis Deposits appear to be more structurally controlled than Batman with the mineralization occurring in narrower bands. Because of this, additional work will need to be undertaken in order to develop an accurate resource estimate. Tt proposes that the following items be considered when preparing the work plan:

- 5. Surface mapping and subsequent re-interpretation of the footwall contact to the shear zone mineralization are recommended. Any additional structural complexity that results should, where appropriate, be used to refine the mineralized envelope upon which modeling updates are based.
- Optimization of the resource provides a focus to define areas requiring further investigation or infill drilling. Due to the high degree of variability in the deposit, infill drilling is best targeted at key areas of geological complexity.
- 7. A model should be developed for the area outside the shear zone. This will require separation of areas of mineralization from unmineralized areas using suitable envelope constraints.
- 8. The cause of the apparent bias between some of the old and new RC drilling should be confirmed to validate the inclusion of all samples in resource calculations.

### Other Mineralized Occurrences

Several other known mineral occurrences occur on the concession; these are Golf, Tollis, and Horseshoe deposits. There are some indications of prior exploration work, based on maps and minor references that has involved geologic, geochemical, geophysical, and drilling. While a lower priority than Batman and Quigleys, efforts should be undertaken that:

- 7) Locate all available data and confirm, if possible, the validity;
- 8) Re-assess the data to determine if additional exploration work is warranted; and
- 9) Develop appropriate programs that systematically attempt to define the size and tenor of the mineralization present.

#### Water Management Recommendations

MWH has prepared the following recommendations (TABLE 21-1) for dealing with the water management issues at the Mt Todd Project site.

	TABLE 21-1: PROPOSED WATER MANAGEMENT PROGRAM VISTA GOLD CORP. – MT TODD GOLD PROJECT March 2008				
No.	Mitigation Methods	Cost Estimate (Aus\$)			
	Care and Maintenance Phase				
1	Installation of monitoring instrumentation at Edith River gauging sites SW2 and SW4 to increase discharge from RP1 and improve the hydrological dataset	\$20,000 Completed Sept 2007 at SW4			
2	Construction of a water treatment plant to allow year-round release of treated ARD excess and reduce the pit water removal requirements in advance of mining	\$450,000 (commissioning scheduled for June 2009)			
	Operational / Closure Phases				
1	Continued application of care and maintenance mitigation methods as appropriate	As above			
2	Wetland polishing of moderately contaminated waters prior to discharge	ND			
3	Land application of <i>treated</i> wastewater to reduce sulphate levels before discharge	ND			
4	Pumping of the Heap Leach Facility leachate to RP-3.	Conceptual closure plan			
5	Incorporation of ARD generation considerations during further development of the waste rock dump.	ND			

ND = Not Determined

### Closure Recommendations

There are opportunities during the Mt Todd Project to conduct closure of a number of the facilities prior to or during operation, including the current HLP. In addition, it may be possible to close portions of the WRD, but this opportunity may be limited by the need for a selective waste rock placement program to help mitigate potential ARD.

As the closure plan develops, the following considerations should be made, some of which are discussed above:

Closure of the HLP (as part of mine restart up);

- Locating and evaluating sources of borrow materials;
- A waste rock management strategy to reduce ARD concerns;
- Stockpiling benign waste materials for use in closure (e.g., for rock cover); and
- Consideration of waste rock placement to facilitate a geomorphic slope (i.e., convex at the top and concave on the lower slopes); such designs are more erosionally stable and have a more "natural" appearance.

Major assumptions have been made regarding the properties of the waste materials and soils that could be used for cover materials. Characterization of the waste and borrow materials which should include the physical and chemical properties should be initiated before the closure process can proceed beyond this conceptual level. The results from the characterization testing would then be used with climate and plant data to finalize the cover designs. Additional assumptions regarding the physical and erosional stability and the short and long-term water treatment requirements should also be checked using site-specific information.

### Mine Planning Recommendations

The current mine plan only considers an owner-operated truck-shovel arrangement. Tt suggests that future studies consider the economic and technical trade-off of owner mining vs contract mining. In addition to the owner mining case, Tt recommends that future studies consider conveying both ore and waste from mobile in-pit crushers to reduce equipment and manpower requirements.

Tt recommends that future studies evaluate the economies of scale for increased production rates given the significant increase in mineralized tonnages from the 2006 PEA. We would suggest production rates of 45,000 and 60,000 tonnes per day.

### Planned Work Commitments

Vista, based on the above recommendations and their own work commitments, has developed a proposed work program to be completed during the next 18 months in order to advance the Batman deposit through completion of a feasibility study. This program is detailed in TABLE 21-2. As with these types of programs, some of the specific work items are dependent on the results of earlier items, and it is expected that some adjustments to the program will be made based on initial results. It is Tt's opinion that the proposed program is designed to address the most significant issues detailed in the recommendations above, is logical in its approach and well thought out, and is representative of the level of financial commitment necessary to complete the proposed work.

TABLE 21-2: PROPOSED WORK PLAN AND BUDGET VISTA GOLD CORP. – MT TODD GOLD PROJECT June 2009			
Description	Estimated Cost (Millions of US\$)		
Batman Deposit Development Drilling	4.0 to 6.0		
Exploration on Mineral Leases	1.0 to 2.0		
Exploration on Exploration Leases	1.0 to 2.0		
Pre-feasibility Study	0.8 to 1.1		
Metallurgical Testing and Feasibility Study	3.8 to 6.6		
TOTAL	10.0 to 15.5		

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# 23.0 DATE AND SIGNATURE PAGE

### John W Rozelle, P.G.

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CERTIFICATE of AUTHOR

I, John W. Rozelle, P.G., do hereby certify that:

1. I am currently employed by Tetra Tech MM, Inc. at:

350 Indiana Street Suite 500 Golden, Colorado 80401

- 2. I graduated with a degree in Geology (BA) from the State University of New York at Plattsburg, New York, in 1976. In addition, I graduated from the Colorado School of Mines, Golden, Colorado, with a graduate degree in Geochemistry (M.Sc.) in 1978.
- 3. I am a Member of the American Institute of Professional Geologists (CPG-07216), a registered Geologist in the State of Wyoming (PG-337), a member of Society for Mining, Metallurgy, and Exploration, Inc. (SME) and the Society of Economic Geologists.
- 4. I have worked as a geologist for a total of twenty-nine years since my graduation from university; as a graduate student, as an employee of a major mining company, and as a consultant for more than 25 years.
- 5. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI43-101.
- I am responsible for the preparation of the technical report titled "MT TODD GOLD PROJECT – UPDATED PRELIMINARY ECONOMIC ASSESSMENT REPORT, NORTHERN TERRITORY, AUSTRALIA." and dated 11 June 2009 (the "Technical Report"). I visited the subject property on June 20, 2005, June 12-14, 2008, and November 10-12, 2008.
- 7. I have either supervised the data collection, preparation, and analysis and/or personally completed an independent review and analysis of the data and written information contained in this Technical Report.
- 8. I have had prior involvement with Vista Gold Corp. on the property that is the subject of this Technical Report. My involvement has consisted of acting as the Qualified Person for previous Technical and Preliminary Economic Assessment Reports.

- 9. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
- 10. I do not hold, nor do I expect to receive, any securities or any other interest in any corporate entity, private or public, with interests in the properties that are the subject of this report or in the properties themselves, nor do I have any business relationship with any such entity apart from a professional consulting relationship with the issuer, nor to the best of my knowledge do I have any interest in any securities of any corporate entity with property within a 2-km distance of any of the subject properties.
- 11. I have read National Instrument 43-101 and Form 43-101F, and the Technical Report has been prepared in compliance with that instrument and form.
- 12. I consent to the filing of the Technical Report with any stock exchanges or other regulatory authority and any publication by them, including electronic publication in the public company files on the websites accessible by the public, of the Technical Report.

Dated this 11<sup>th</sup> Day of June, 2009.

Signature of Qualified Person

"John W. Rozelle" Print name of Qualified Person

## 24.0 ADDITIONAL REQUIREMENTS FOR TECHNICAL REPORTS ON DEVELOPMENT PROPERTIES AND PRODUCTION PROPERTIES

### 24.1 Base Case Mining

The preliminary assessment of the economic potential of reopening the Mt Todd Project was based on the mineral resource model presented earlier in this report. The Base Case ultimate pit was designed using \$600 gold, 50-degree average pit slopes, and all mineral resource class material (measured, indicated, and inferred).

### Base Case Production Schedule

Production scheduling was developed using the \$400 LG pit as an initial phase followed by the remaining tonnes in the designed ultimate pit. The ultimate pit is based on a gold price of \$600. The initial mine phase was used to slightly enhance gold grade to the mill, thus improving project economics. The mine production rate is based on delivering 10,650,000 tonnes per year (30,000 tonnes per day) to the process plant. A conceptual production schedule was developed to provide a 15.2-year mine life with two preproduction years for site construction activities, as shown in TABLE 24-1. Production scheduling parameters are summarized in TABLE 24-2.

TABLE 24-1: BASE CASE PRODUCTION SCHEDULE VISTA GOLD CORP. – MT TODD GOLD PROJECT								
		June 2						
Year	Ore Tonnes (x 1000)	Avg. Grade (g Au/tonne)	Waste Tonnes (x 1000)	Stripping Ratio (W:O)				
-2	0		0					
-1	0		0					
1	10,650	1.11	7,000	0.7				
2	10,650	1.11	7,000	0.7				
3	10,650	0.95	10,000	0.9				
4	10,650	0.83	15,000	1.4				
5	10,650	0.83	20,000	1.9				
6	10,650	0.83	24,000	2.3				
7	10,650	0.83	24,000	2.3				
8	10,650	0.83	24,000	2.3				
9	10,650	0.83	24,000	2.3				
10	10,650	0.83	24,000	2.3				
11	10,650	0.83	24,000	2.3				
12	10,650	0.83	24,000	2.3				
13	10,650	0.83	24,000	2.3				
14	10,650	0.83	24,000	2.3				
15	10,650	0.83	21,000	2.3				
16	2,068	0.83	3,946	1.9				
Total	161,818	0.87	299,946	1.9				

TABLE 24-2: MINE PRODUCTION SCHEDULING PARAMETERS VISTA GOLD CORP. – MT TODD GOLD PROJECT June 2009								
Daily Mill Feed Rate (tonnes)	30,000							
Annual Ore Production Rate (tonnes)	10,650,000							
Mine Operating Hours per Shift	12							
Mine Operating Shifts per Day	2							
Mine Operating Days per Week	7							
Scheduled Mine Operating Days per Year	355							
Number of Mine Crews	4							

#### Haul Roads

The plant facilities are located to the east of the open pit, and the mine waste stockpile is located to the southeast; therefore, the primary haul road and pit access is from the east side of the pit. Haul roads are designed at 27 meters wide to accommodate the proposed equipment fleet, inclusive of ditches and berms. The maximum designed road gradient is 8 percent.

#### Waste Rock Facility

As shown in FIGURE 24-1, the mine waste stockpile has been designed to accommodate 35 percent swell of the waste rock over the expected 16-year mine life. Average side slopes are designed at 3Horz:1Vert to facilitate reclamation and mine closure. Total capacity of the designed waste rock storage is over 400 million tonnes. No segregation of mine waste has been anticipated in this study.

#### Mine Equipment Selection and Requirements

The 30,000 tpd mill feed requirement provided the basis for equipment selection and fleet requirements. Mining will employ triple benching on 18-meter benches utilizing 18-m<sup>3</sup> hydraulic front shovels and 141-tonne haul trucks. The mine schedule is based on two 12-hour shifts per day, 355 days per year. Equipment requirements are estimated based on 10.5 operating hours per shift, which allows time for lunch, fueling, safety training and personal breaks during the shift. Equipment utilization of 90 percent and equipment availability of 85 percent have also been accounted for in the effective minutes per shift. Project capital cost estimates assume all new equipment. TABLE 24-3 summarizes the initial mine equipment fleet.

### <u>Drilling</u>

Crawler-mounted 34,000kg pulldown, down-the-hole hammer drills were selected for primary blasthole drilling. Drill productivity is based on a blasthole diameter of 203 mm and 14-meter depth, assuming 2 meters of subgrade drilling. The drill pattern is expected to be about 6 meters by 6 meters with about six meters of stemming, based on an estimated weighted average powder factor of 0.20 kg/tonne of mined material.

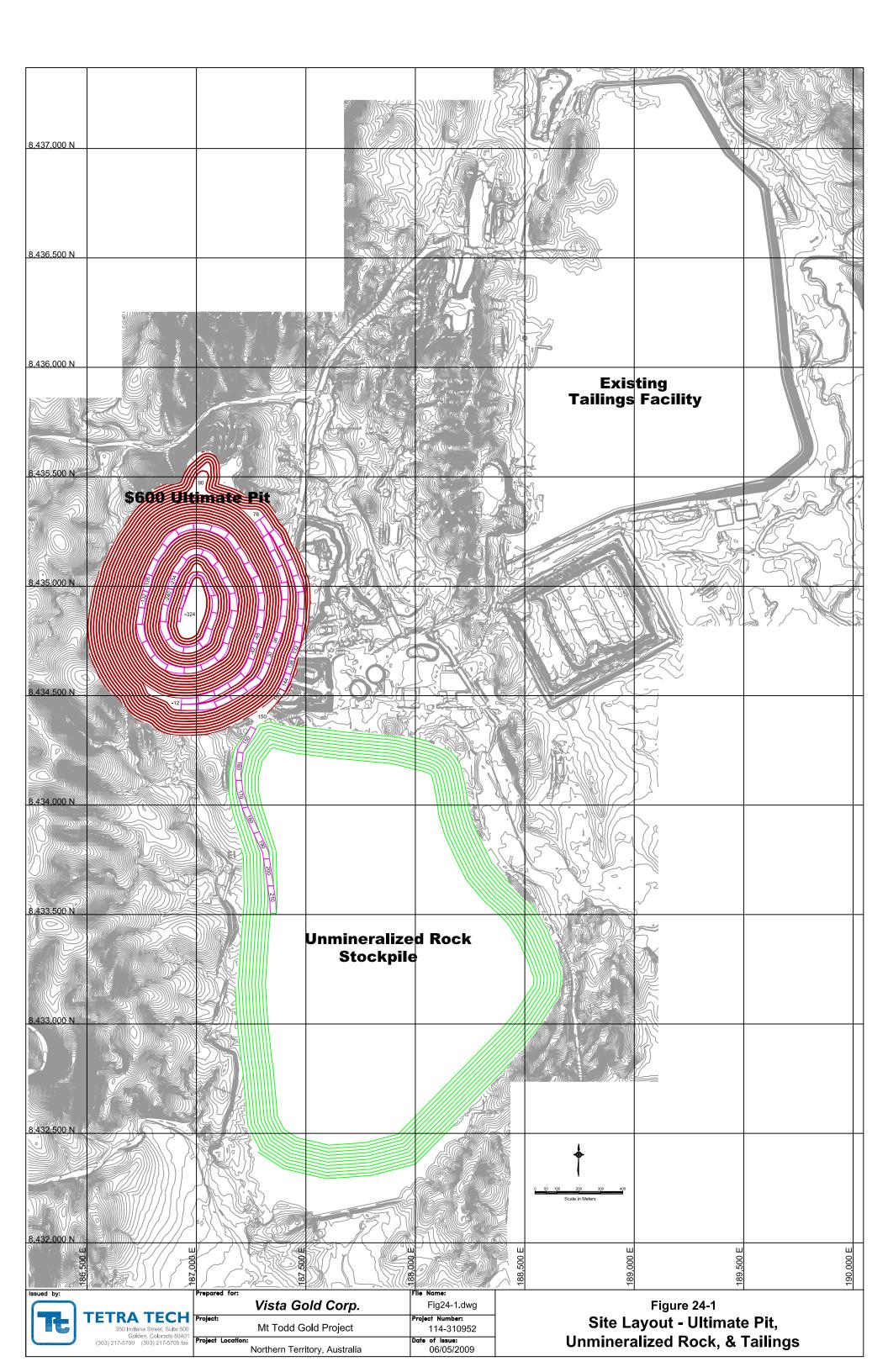


TABLE 24-3: BASE CASE MINE EQUIPMENT FLEET VISTA GOLD CORP. – MT TODD GOLD PROJECT June 2009										
Initial Add Total										
Primary Equipment										
Hydraulic Shovel (18 cu m)	1	1	2							
Haul Truck (785C, 141 t)	6	4	10							
Blasthole Drill (34K kg, 203 mm)	2	2	4							
Dozer (D9T)	3	0	3							
Grader (16H)	1	0	1							
Front Loader (12 cu m)	1	0	1							
Water Truck (45K ltr)	1	0	1							
Ancillary Equipment										
RT Dozer (834B)	1	0	1							
Fuel/Lube Truck	1	0	1							
Powder Truck	1	0	1							
Service Truck	2	0	2							
Tire Truck	1	0	1							
Utility Backhoe (1.5 cu m)	1	0	1							
Crane (36 t)	1	0	1							
Crew Vans	2	0	2							
Pickups	10	0	10							
Light Plants	6	0	6							

Most of the blasting will be done using ANFO. Assuming an average penetration rate of 23 meters per hour, drill productivities are expected to be 157 meters per shift. A crawler-mounted air track drill will be required for pioneering and road construction, as well as for secondary breakage within the pit. This rotary percussion drill will drill holes of about 89 mm diameter.

#### Loading

Two 18-m<sup>3</sup> hydraulic front shovels were selected for the primary loading units for ore and waste. They will be backed up by a 12-m<sup>3</sup> front-end loader. The hydraulic shovel will load the trucks in four passes with productivity estimated at about 33,000 tonnes per shift.

#### <u>Hauling</u>

Ore and waste haulage will be handled using 141-tonne haul trucks. Each haul truck is expected to haul over 7,000 tonnes per shift (average over the mine life). Truck productivities will decline over time as the pit deepens and the waste stockpile grows higher and farther away.

#### Ancillary Equipment

Ancillary equipment are required for miscellaneous activities such as waste rock facility, haul road and bench maintenance, dust control, and storm water management. Some of this equipment will serve the entire mine and mill complex. The major support equipment assigned to mining operations is also listed in TABLE 24-3.

#### Mine Operations Manpower

Mine manpower requirements were estimated on the basis of working two 12-hour shifts per day, 7 days per week, 52 weeks per year. A standard rotating four-crew work schedule has been assumed for the PEA. Operations and maintenance levels have been increased by 10 percent to account for vacation, sickness, and absenteeism (VSA). TABLE 24-4 lists projected hourly mine operations personnel. At peak levels, a total of 122 hourly mine operations personnel will be required.

#### Mine Maintenance Manpower

Most of the mine equipment maintenance will take place on site, including repairs and preventative maintenance. Maintenance personnel will be assigned to the four rotating crews. At peak operations, the PEA estimates a total mine maintenance requirement of about 28 personnel.

### Mine Supervision and Technical Services

TABLE 24-5 lists the mine supervision and technical services personnel for the Mt Todd Project. It is presumed that all supervisory and technical staff will be Australian nationals. Approximately 17 personnel will be required in operations and maintenance supervision, and 13 personnel will be required for mine technical services. lī

TABLE 24-4: BASE CASE MINE HOURLY PERSONNEL VISTA GOLD CORP. – MT TODD GOLD PROJECT June 2009									
		Base Rate							
Operations	Personnel	Aus\$/Yr	US\$/Year <sup>1</sup>						
Shovel Operator	8	100,000	877,037						
Truck Driver	40	95,000	4,165,926						
Blasthole Driller	16	120,000	2,104,889						
Driller Helper	8	72,000	631,467						
Track Dozer Operator	12	90,000	1,184,000						
Grader Operator	4	90,000	394,667						
Loader Operator	4	80,000	350,815						
Water Truck Driver	4	95,000	416,593						
RT Dozer Operator	4	80,000	350,815						
Service Truck/Utility	4	80,000	350,815						
Blaster	2	120,000	263,111						
Blaster Helper	2	75,000	164,444						
General Labor	4	70,000	306,963						
VSA	10	70,000	767,407						
Subtotal	122		12,328,948						
Maintenance									
Heavy Equip. Mechanic	8	95,000	833,185						
Mechanic/Welder	4	90,000	394,667						
Electrician/Instrumentman	4	110,000	482,370						
Lubeman/Mechanic	4	80,000	350,815						
Utilityman/Machinest	4	80,000	350,815						
Tireman	4	75,000	328889						
Subtotal	28		2,740,741						
Total Hourly Mine Operations	150		15,069,689						

Notes:

Includes benefits @ 48%
 Vacations, Sickness, and Absenteeism (VSA) = 10%

TABLE 24-5: BASE CASE MINE SALARIED PERSONNEL VISTA GOLD CORP. – MT TODD GOLD PROJECT June 2009								
		Base Rate						
Supervision	Personnel	Aus\$/Yr	US\$/Year <sup>1</sup>					
Mine Superintendent	1	140,000	153,481					
General Mine Foreman	1	120,000	131,556					
Drill & Blast Foreman	1	130,000	142,519					
Mine Shift Foremen	4	120,000	526,222					
Maintenance Superintendent	1	155,000	169,926					
Maintenance Planner	1	90,000	98,667					
Maintenance Shift Foremen	4	115,000	504,296					
Secretary/Clerk	4	58,000	254,341					
Subtotal	17		1,981,007					
Technical Services								
Chief Mine Engineer	1	140,000	153,481					
Sr. Mine Planning Eng.	1	135,000	148,000					
Ore Control Engineer	1	125,000	137,037					
Mine Engineer	1	135,000	148,000					
Sr. Mine Geologist	1	150,000	164,444					
Mine Geologist	2	125,000	274,074					
Surveyor	1	105,000	115,111					
Rodman	1	65,000	71,259					
Eng Tech/Ore Control	4	70,000	306,963					
Subtotal	13		1,518,370					
TOTAL	30		3,499,378					

Notes: Includes benefits at a 48 percent burden rate

### 24.2 Base Case General and Administrative

TABLE 24-6 lists the general and administrative personnel required for the project. These positions are responsible for overall site operations such as site management, accounting, purchasing, human resources, safety, security, and environmental. Approximately 30 personnel are required for these positions.

### 24.3 Infrastructure

The Mt Todd property has been mined historically from the Batman and Quigley deposits. Significant infrastructure, such as access roads, buildings, radio tower, storm water ponds, tailings disposal facility, and local line power are available from past operations.

#### Access

The Mt Todd Project is located 50 kilometers northwest of Katherine, and approximately 250 kilometers southeast of Darwin in the NT of Australia. Access to the mine is via high quality, two-lane paved roads from the Stuart Highway, the main artery within the territory. The project is sufficiently close to the city of Katherine to allow a reasonable commute for workers. Because there has been both historic and relatively current mining activity, the area contains a skilled mining workforce. In addition, Katherine offers all of the necessary support functions that are found in a medium sized city with regard to supplies, hotels, communications, etc.

#### Power and Water

The property has an existing high-pressure gas line. Although an electric line exists that was used by previous operators, the line will require upgrading. In addition, wells for potable water and a dam for process water are also located on the site.

#### Communications

The existing radio tower will allow sufficient communications for the project.

### Site Buildings

The site has some existing buildings in place, including a process building, a small shop/office, and two electrical buildings. At full operation, the project will require construction of an administration building, a truck shop, a warehouse building and other storage, new processing facilities, and a fuel and lube facility.

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TABLE 24-6: BASE CASE G VISTA GOLD COR			
	June 2009		-
		Base Salary	Total Annual Cost
	No. Emp	(Aus\$/Yr)	(US\$/Yr)
Management			
General Manager	1	200,000	219,259
Administrative Assistant	1	68,000	74,548
Accounting			
Accounting Manager	1	120,000	131,556
Senior Accountant	2	95,000	208,296
Payroll	1	90,000	98,667
Accounts Receivable	1	85,000	93,185
Purchasing			
Purchase Agent	1	105,000	115,111
Warehouseman	3	59,000	194,044
Inventory Control	2	59,000	129,363
Buyer	1	70,000	76,741
Human Resources			
HR Manager	1	105,000	115,111
Clerk	2	50,000	109,630
Safety, Security & Environmental			
Security Manager	1	70,000	76,741
Safety Trainer/Inspector	2	70,000	153,481
Security	8	55,000	482,370
Environmental Manager	1	110,000	120,593
Environmental Technicians	2	75,000	164,444
TOTAL G&A PAYROLL			2,563,141
General Expenses (\$/Yr)			2,156,000
TOTAL G&A Cost (\$)			4,719,141
TOTAL G&A Cost (\$/tonne processe	ed)		0.44

Notes:	
Benefit Rate (%):	48%
Exchange Rate: US\$ to Aus\$:	0.74

## 24.4 Base Case Capital Costs

### Mine Capital Costs

All costs are presented in US dollars unless otherwise noted. TABLE 24-7 summarizes the mine equipment capital expenditure schedule over the life of the project. Pre-production and Year 1 expenditures total approximately US \$24.3 million. Major and support operations equipment, maintenance equipment, and other miscellaneous support equipment such as pumps, light plants, shop equipment, and general surface mobile equipment are included. As the mine will commence operation within a pre-existing open pit, no pre-stripping will be required.

### Process Capital Costs

TABLE 24-8 summarizes RDi's capital cost estimate for the 30,000 tpd crushing and processing facility (excluding the tailings impoundment facility). The estimated total process capital cost is US \$194 million spread between preproduction years 1 and 2. The process capital cost estimate was based on the following criteria:

- The major equipment was sized for processing 10.65 million tonnes per year.
- Percentage factors were used for freight (20%), GST (10%), installation of equipment (20%), concrete (10%), structural steel (15%), piping (30%), electrical distribution (\$400/kW) and indirect (25%) of purchased equipment cost in the capital cost estimation.
- Percentage factors were also used for EPCM (15%) and spare parts (5%).
- The cost for the power plant, estimated by the supplier, was \$37.5 million.

### Dry-stack Tailings Disposal

As part of this PEA, Tt has evaluated alternatives to traditional tailings disposal. It is Tt's opinion that the use of a dry-stack tailings disposal method offers several advantages over conventional tailings disposal options. The first advantage is that up-front capital costs are decreased significantly because only a small containment berm is required as opposed to a large embankment needed for conventional tailings storage. Another advantage is that the tailings will be stored with significantly less water decreasing the potential for release of contact water. Progressive closure can also be performed further decreasing exposure to contaminants in the tailings. Based on these advantages, Tt offers the following points for consideration:

- Tt has performed a preliminary design of a dry-stack tailings at the Mt. Todd site. Design of the facility included the following components and assumptions:
- The natural topography of the area south of Mt. Todd will allow for relatively small amount of regrading given the eventual footprint of the facility.
- It is assumed that reworking surficial soils along with a geomembrane liner will be required; however, further testing of the tailings and site soils could show the geomembrane liner is unnecessary (the preliminary cost estimate includes costs for geomembrane liner installation).

TABLE 24-7: BASE CASE MINE EQUIPMENT CAPITAL EXPENDITURE SCHEDULE VISTA GOLD CORP. – MT TODD GOLD PROJECT																							
	June 2009																						
	Unit Cost																						
	(\$000)	PP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total
Primary Equipment																							
Hydraulic Shovel (18 cu m)	3,762	3,762	0	3,762	0	0	0	0	0	0	0	3,762	0	3,762	0	0	0	0	0	0	0	0	15,048
Haul Truck (785C, 141 t)	1,884	11,304	0	1,884	1,884	3,768	0	0	0	0	0	11,304	0	1,884	1,884	1,000	0	0	0	0	0	0	34,912
Blasthole Drill (34K kg, 203 mm)	1,006	2,012	0	1,006	0	1,006	0	0	0	0	0	2,012	0	1,006	0	0	0	0	0	0	0	0	7,042
Dozer (D9T)	642	1,926	0	0	0	0	0	0	0	0	0	1,926	0	0	0	0	0	0	0	0	0	0	3,852
Grader (16H)	581	581	0	0	0	0	0	0	0	581	0	0	0	0	0	0	0	0	0	0	0	0	1,162
Front Loader (12 cu m)	1,390	1,390	0	0	0	0	0	0	0	0	0	1,390	0	0	0	0	0	0	0	0	0	0	2,780
Water Truck (45K ltr)	702	702	0	0	0	0	0	0	0	0	0	702	0	0	0	0	0	0	0	0	0	0	1,404
																							0
Ancillary Equipment																							0
RT Dozer (834B)	648	648	0	0	0	0	0	648	0	0	0	0	0	648	0	0	0	0	0	0	0	0	1,944
Fuel/Lube Truck	62	62	0	0	0	0	0	62	0	0	0	0	0	62	0	0	0	0	0	0	0	0	186
Powder Truck	71	71	0	0	0	0	0	0	0	71	0	0	0	0	0	0	0	0	0	0	0	0	142
Service Truck	65	130	0	0	0	0	0	0	0	130	0	0	0	0	0	0	0	0	0	0	0	0	260
Tire Truck	92	92	0	0	0	0	0	0	0	92	0	0	0	0	0	0	0	0	0	0	0	0	184
Utility Backhoe (1.5 cu m)	247	247	0	0	0	0	0	0	0	247	0	0	0	0	0	0	0	0	0	0	0	0	494
Crane (36 t)	320	320	0	0	0	0	0	0	0	0	0	320	0	0	0	0	0	0	0	0	0	0	640
Crew Vans	25	50	0	0	0	50	0	0	0	50	0	0	0	50	0	0	0	0	0	0	0	0	200
Pickups	24	240	0	0	0	240	0	0	0	240	0	0	0	240	0	0	0	0	0	0	0	0	960
Light Plants	12	72	0	0	0	0	72	0	0	0	0	72	0	0	0	0	0	0	0	0	0	0	216
Miscellaneous Eqmt (2%)	738	738	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	738
Equipment Total		24,347	0	6,652	1,884	5,064	72	710	0	1,411	0	21,488	0	7,652	1,884	1,000	0	0	0	0	0	0	72,164

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TABLE 24-	8: CAPITAL COST ESTIMATE FOR PROCESSING 10.65 MM ORE TONNI VISTA GOLD CORP. – MT TODD GOLD PROJECT	ES PER YEAR
	June 2009	
Area	Description	Cost, US \$
100	Primary & Secondary Crushing Circuit	11,698,500
200	Crushed Ore Stockpile & Reclaim	3,097,000
300	HPGR Circuit	13,084,800
400	Grinding	13,500,000
500	Leaching	15,960,000
600	Carbon-In-Pulp	5,918,000
700	Copper/Gold Stripping Circuit	407,425
800	Gold Electrowinning Circuit	415,913
900	Acid Wash Circuit	167,638
1000	Carbon Regeneration Circuit	462,597
1100	Refinery	505,037
1200	Carbon Conditioning Circuit	203,712
1300	Cyanide Destruction	1,305,792
1400	Tailings Pipeline & Reclaim Water Barge & Piping	4,965,300
1500	Mill Building	928,175
1600	Analytical & Metallurgical Lab & Refinery Building	1,250,000
1700	Reagent Preparation Area	150,000
1800	Utilities	300,000
	Subtotal Direct Cost	74,319,888
	Indirect Cost @ 25% of Purchased Equipment	11,536,179
	Concrete @ 10% of Purchased Equipment	4,614,472
	Piping @ 30% of Purchased Equipment	13,843,415
	Structural Steel @ 15% of Purchased Equipment	6,921,707
	Electrical Distribution @ \$400 per kW	9,417,800
	Instrumentation @ 20% of Electrical Distribution	2,883,560
	Subtotal Direct + Indirect Cost	123,537,020
		40 500 550
	EPCM @ 15% of above Cost	18,530,553
	Spare Parts @ 5% of Above Costs	2,307,236
	Mobile Equipment Allowance	2,152,800
	Power Plant	37,535,212
	2 Spare Rolls + @ Spare Tires	5,395,000
	Slurry Tank & Thickener Spill Containment Structure	4,893,000
	TOTAL ESTIMATED CAPITAL COST	194,350,821

• Surface water management will be achieved by constructing a perimeter berm around the dry-stack. Precipitation and other water that contacts the tailings will be contained in a catchment pond downstream of the dry-stack. Water in the pond will be returned to the process circuit, treated, or pumped to other storage facilities.

The dry-stack facility will be designed in cells. This approach has many advantages including deferment of capital costs, reduced exposure to the environment, and progressive closure.

Preliminary design of the dry-stack was performed using a two-tier and three-tier design. An assumed dry density of 1.65 tonnes/m<sup>3</sup> was used for the dry-stack tailings based on the scoping study performed by MWH. The preliminary design of the dry-stack incorporated the following design criteria:

- Dry-stack inter-bench slopes: 3:1
- Bench height: 40m
- Horizontal spacing (catch bench) between benches: 15m

The two-tier design yielded the following results:

- The top of the dry-stack has an elevation of 195m and is approximately 75m high
- The total area of the dry-stack base is 2.5 million m<sup>2</sup>
- The total volume of dry tailings is 120 million m<sup>3</sup>
- The total storage of the dry tailings is 198 million tonnes

The three-tier design yielded the following results:

- The top of the dry-stack has an elevation of 235m and is approximately 115m high
- The total area of the dry-stack base is 2.5 million m<sup>2</sup>
- The total volume of dry tailings is 151 million m<sup>3</sup>
- The total storage of the dry tailings is 249 million tonnes

Additional studies will be required prior to development of a more detailed design and will be undertaken as part of the prefeasibility and feasibility studies. Dry-stack tailings storage requires large capacity filtration equipment, conveyors, and equipment to spread and compact the tailings. These capital and operating costs are included in this PEA. Initial testing indicates that the tailings are amenable to this process; however, additional testing of the tailings will be part of future metallurgical studies.

## 24.5 Other Capital Costs

Startup capital for other project components are summarized in TABLE 24-9 and discussed elsewhere in this report.

TABLE 24-9: OTHER CAPITAL COSTS VISTA GOLD CORP. – MT TODD GOLD PROJECT June 2009						
Item	<i>Start-up Cost</i> (US\$ 1000)					
Access and Site Preparation	450					
Surface Facilities	1,950					
Site Infrastructure	1,650					
Tailings Disposal Facilities	15,470					
Mine Development	7,950					
Permitting	1,500					
Capital Contingency	49,533					
TOTAL	78,503					
Total Estimated Closure Costs	27,270					

### Capital Cost Summary

The estimated capital expenditures for the life of the mine are summarized on TABLE 24-10.

	TABLE 24-10: BASE CASE CAPITAL COST SUMMARY (US\$1,000) VISTA GOLD CORP. – MT TODD GOLD PROJECT June 2009									
Year	Access & Site Prep	Plant & Facilities	Infrastructure	Tailings Disposal	Process Plant	Mine Development	Mine Equipment	Permitting & Closure	Contingency & Working Capital	TOTAL
PP2	300	950	1,150	10,000	120,000	5,550		1,000	30,659	169,609
PP1	150	1,000	500	5,470	74,350	2,400	24,347	500	18,874	127,591
1					1,000				24,941	25,941
2				10,000	2,000		6,652			18,652
3				5,000	1,000		1,884			7,884
4					2,000		5,064			7,064
5					1,000		72			1,072
6					2,000		710			2,710
7					1,000					1,000
8					2,000		1,411			3,411
9					1,000					1,000
10					5,000		21,488			26,488
11					1,000					1,000
12					2,000		7,652			9,652
13					1,000		1,884			2,884
14					1,000		1,000			2,000
15					500			2,000		2,500
16								5,000	-24,941	-19,941
17								27,270		27,270
TOTAL	450	1,950	1,650	30,470	217,850	7,950	72,164	35,770	49,533	417,787

### 24.6 Operating Cost Estimate

#### Mine Operating Costs

All costs are presented in US dollars unless otherwise noted. Mine operating costs were estimated based on the equipment operating and manpower requirements discussed previously. Mining costs include pit and waste stockpile operations, road maintenance, in-pit storm water management, mine supervision, and technical services from the mine to the primary crusher facilities located on the east side of the pit. Key operating cost parameters are as follows:

Diesel Fuel	US\$0.56 per liter
Electric Power	US\$0.0616 per kWh
ANFO	US\$1.12 per kg

Mine personnel labor rates, as shown in TABLES 24-4 and 24-5, includes a burden rate of 48 percent. The total mine personnel labor cost is estimated at about \$0.54 per tonne of total material mined. Hourly and salaried labor rates are based on local prevailing rates in north-central Australia.

Equipment unit operating costs were developed from current cost estimating manuals. Operating hours were estimated based on expected equipment productivity and two-shift-perday work schedules discussed previously. Hourly operating costs include costs for fuel, tires, wear and maintenance parts, power, and supplies. These costs do not include maintenance and operating labor, which are accounted for in the labor cost estimate. TABLE 24-11 summarizes equipment operating costs, which total \$0.73 per tonne material mined.

At full production, total estimated mining costs are summarized below:

Mine personnel	US\$0.54 per tonne material mined
Equipment	US\$0.73 per tonne material mined
Total	US\$1.27 per tonne material mined

Mine operating costs in the base case cash flow analysis vary by year depending on the total material movement and range from a low of US\$1.27 to a high of US\$2.00 and average over the entire life of the mine US\$1.34 per tonne of total material mined.

#### Plant Operating Costs

Plant operating costs as provided by RDi are summarized in TABLE 24-12. TABLE 24-13 summarizes estimated labor requirements for the plant. An exchange rate of \$A 1.35 per US \$ was used in the estimate.

TABLE 24-11: BASE CASE N VISTA GOLD C	ORP. – M	• -	-	TING COSTS
	No. of	Op Cost per	Op Hrs/Yr	Operating Cost
	Units	unit US\$/hr	per unit	US\$/Yr
Primary Equipment				
Hydraulic Shovel (18 cu m)	2	253.00	7,132	3,608,687
Haul Truck (785C, 141 t)	10	139.13	6,774	9,425,365
Blasthole Drill (34K kg, 203 mm)	4	99.30	4,848	1,925,400
Dozer (D9T)	3	43.81	6,000	788,493
Grader (16H)	1	38.80	6,000	232,818
Front Loader (12 cu m)	1	125.87	3,000	377,616
Water Truck (45K ltr)	1	84.18	6,000	505,064
Ancillary Equipment				
RT Dozer (834B)	1	49.88	4,000	199,536
Fuel/Lube Truck	1	7.15	4,000	28,588
Powder Truck	1	17.12	3,000	51,348
Service Truck	2	7.45	3,000	44,682
Tire Truck	1	9.80	3,000	29,391
Utility Backhoe (1.5 cu m)	1	20.30	3,000	60,910
Crane (36 t)	1	26.28	3,000	78,826
Crew Vans	2	4.06	2,000	16,246
Pickups	10	4.06	2,000	81,230

TABLE 24-12: 30,000 TPD VISTA GOLD CC		ERATING COST EST O GOLD PROJECT	ІМАТЕ
Cost	Cost	US\$ Per Tonne	A\$ Per Tonne Milled
Category			
	LABOR		
Salaried Personnel	2,299,141	0.22	0.29
Hourly Operations Personnel	9,042,896	0.85	1.15
Hourly Maintenance Personnel	2,722,210	0.26	0.35
Total Labor	14,064,247	1.32	1.78
	CONSUMABLE	S	
Power	13,059,831	1.23	1.66
Reagents	20,646,268	1.94	2.62
Grinding Steel	9,952,378	0.93	1.26
Maintenance Supplies	2,886,136	0.27	0.37
Misc. Operating Supplies	606,089	0.06	0.08
Estimated Operating Cost	61,214,948	5.75	7.76

TABLE 24-13: 30,000 TPD P VISTA GOLD CORP. – M June				
Position	No. per Shift	Total Number	US\$/Year	Annual US\$/Year
Salarie	ed Labor			
Mill Manager	0	1	120,000	120,000
Operations Superintendent	0	1	114,700	114,700
Mechanical Maintenance Superintendent	0	1	114,700	114,700
Electrical Maintenance Superintendent	0	1	114,700	114,700
Power House Superintendent	0	1	114,700	114,700
Operations Foreman	1	4	88,800	355,200
Mechanical Maintenance Foreman	0	1	88,800	88,800
Electrical Maintenance Foreman	0	1	88,800	88,800
Chief Metallurgist	0	1	97,200	97,200
Chief Chemist	0	1	88,800	88,800
Plant Metallurgist	0	1	88,800	88,800
Instrument Foreman	0	1	88,800	88,800
Clerk	0	2	36,000	72,000
Salaried Labor Totals				1,547,201
Payroll Burden @ 48.6%				751,940
Total Estimated Salaried Labor				2,299,141
	ng Labor			004.000
Crusher Operator	2	8	77,700	621,600
Control Room Operator	1	4	77,700	310,800
Grinding/HPGR Operator	1	4	77,700	310,800
Leach/CIP Operator	1	4	77,700	310,800
Carbon Stripper Operator	1	4	77,700	310,800
Tailings Operator	3	12	77,700	932,400
Operator Helpers	3	12	55,500	666,000
Assayers Matellussiaal Tachaidan	0	6	99,900	599,400
Metallurgical Technician	0	3	55,500	166,500
Samplers Laborers	0	6	55,500	333,000
	4	16	51,800	828,800
Equipment Operator	1	4	77,700	310,800
Operating Labor Totals Payroll Burden @ 48.6%				5,701,700 2,771,026
Overtime @ 10%				570,170
Total Estimated Operating Labor	17	83		9,042,896
· · · · · ·	Ince Labor	05		3,042,030
Maintena Mechanical Maintenance Man 1		8	84,700	677,600
Mechanical Maintenance Man I		8	70,000	560,000
Electrical Maintenance Man I		2	84,700	169,400
Electrical Maintenance Maint		2	70,000	140,000
Instrument Man I		2	84,700	169,400
Instrument II		۲	70,000	100,400
Maintenance Labor Totals			, 0,000	1,716,400
Payroll Burden @ 48.6%				834,170
Overtime @ 10%				171,640
Total Estimated Maintenance Labor		22		2,722,210

#### General and Administrative Costs

TABLE 24-6 summarizes general operation staffing, salary costs, and estimated expenses for general and administrative services for the Mt Todd Gold Project. The general and administrative payroll is about \$2.5 million per year, and the operating expenses are about \$2.2 million per year, for an average operating cost of about \$0.44 per tonne of material processed.

### 24.7 Economic Evaluation

A cash flow analysis was completed for the Base Case, which consists of mining the measured, indicated and inferred resources and assumes a gold price of \$750 per ounce, start-up capital of \$323 million, and operating costs of \$1.34 per tonne mined for mining, \$5.75 per tonne milled for processing, \$0.44 per tonne processed for G&A and \$0.41 per tonne processed for environmental and tailings disposal costs. TABLE 24-14 summarizes results from the before tax, 100 percent equity, constant 2009 US dollar, cash flow analysis.

TABLE 24-15 summarizes the sensitivity of the Net Present Value ("NPV") of the projected cash flows at a discount factor of 8 percent. Sensitivities were run at plus and minus 10 and 20 percent for gold price, operating and capital costs. The base case has a Discounted Cash Flow Rate of Return (also referred to as Internal Rate of Return) of 21.6 percent. TABLE 24-16 presents a sensitivity analysis to the project's NPV at 8 percent relative to various gold prices.

#### Table 24-14 - Base Case - Before Tax Cash Flow Summary (US \$) VISTA GOLD CORP. - MT TODD PROJECT

								VIST	A GOLD C	ORP MT	TODD PR	OJECT												
Case: 30,000 TPD	Gold Price (\$/oz)	\$750																						
			PP 2	PP 1	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13	Yr 14	Yr 15	Yr 16	Yr 17	Yr 18	Yr 19	Yr 20 Totals
MINE PRODUCTION SCHEDULE																								
Mineralized	Tonnes (1000)		0	0	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	2,068	0	0	0	0 161,818
	Au g/tonne				1.11	1.11	0.95	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83				0.87
	Au oz/tonne				0.036	0.036	0.031	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027				0.028
Waste	Tonnes (1000)		0	0	7,000	7,000	10,000	15,000	20,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	21,000	3,946				299,946
	Total Tonnes (1000) Strip Ratio		0	0	<b>17,650</b> 0.7	<b>17,650</b> 0.7	<b>20,650</b> 0.9	<b>25,650</b> 1.4	<b>30,650</b> 1.9	<b>34,650</b> 2.3	<b>31,650</b> 2.0	<b>6,014</b> 1.9	0	0	0	<b>0 461,764</b> 1.9								
PROCESS SCHEDULE					0.7	0.7	0.9	1.4	1.9	2.3	2.3	2.5	2.5	2.3	2.5	2.3	2.3	2.3	2.0	1.9				1.9
Mill Feed	Tonnes (1000)		0	0	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	2,068				161,818
	Au Recovery	82			82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82				
PAYABLES SCHEDULE																								
Rec Au from Mill	Rec Mill Au oz		0	0	311,657	311,657	266,734	233,041	233,041	233,041	233,041	233,041	233,041	233,041	233,041	233,041	233,041	233,041	233,041	45,252				3,731,791
Pay Au: 99.9%	Pay Ref Au oz		0	0	311,346	311,346	266,467	232,808	232,808	232,808	232,808	232,808	232,808	232,808	232,808	232,808	232,808	232,808	232,808	45,206				3,728,060
MINE REVENUE (\$1000) - Less Re	finery Ded: \$4/oz	\$750	0	0	232,264	232,264	198,784	173,675	173,675	173,675	173,675	173,675	173,675	173,675	173,675	173,675	173,675	173,675	173,675	33,724				2,796,045
··· <u>·····</u>							,													, , , , ,				
OPERATING COSTS (\$1000) Mining	Mining \$/t mined by yr \$/t process	3.84	0	0	1.67 29.476	1.67 29.476	1.60 33.040	1.43 36.680	1.35 41,378	1.27 44.006	1.27 44.006	1.27 44.006	1.27 44.006	1.27 44.006	1.27 44,006	1.27 44.006	1.27 44.006	1.27 44.006	1.35 42,728	2.00 12,028				1.34 620,853
Milling	\$/t process \$/t process	5.75	0	0	29,476	29,476 61,238	53,040 61,238	56,680 61,238	61,238	44,006 61,238	42,728	12,028				930,454								
Environmental	\$/t process	0.05	0	0	533	533	533	533	533	533	533	533	533	533	533	533	533	533	533	103				8,091
Dry filter stacking	\$/t process	0.23	0	0	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	476				37,218
Tailings Dewater	\$/t process	0.13	0	0	1,385	1,385	1,385	1,385	1,385	1,385	1,385	1,385	1,385	1,385	1,385	1,385	1,385	1,385	1,385	269				21,036
G&A	\$/t process	0.44	0	0	4,686	4,686	4,686	4,686	4,686	4,686 114.296	4,686	4,686	4,686	4,686	4,686	4,686	4,686	4,686	4,686	910				71,200 0 1.688.852
	TOTAL \$/t process	10.44	1.0 0	0	99,766	99,766	103,330	106,970	111,668	114,296	114,296	114,296	114,296	114,296	114,296	114,296	114,296	114,296	113,018	25,677	0	U	U	0 1,688,852
ROYALTY	Denehurst GSR%	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0
	JAAC NSR%	1.00	0	0	2,323	2,323	1,988 1,988	1,737	1,737	1,737	1,737	1,737	1,737	1,737	1,737	1,737	1,737	1,737	1,737	337 337	0	0	0	0 27,811
			, i i i i i i i i i i i i i i i i i i i			,	,	, -		, -	,		, -	, -				, -	, -					
NET OPERATING REVENUE (\$100	0)		0	0	130,176	130,176	93,466	64,968	60,270	57,642	57,642	57,642	57,642	57,642	57,642	57,642	57,642	57,642	58,920	7,710	0	0	0	0 1,064,469
CAPITAL COST SUMMARY (\$1000	))																							
Access and Site Prep Surface Plant and Facilities			300 950	150 1,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				450 1,950
Site Infrastructure			1,150	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				1,650
Process Facilities			120,000	74,350	1,000	2,000	1,000	2,000	1,000	2,000	1,000	2,000	1,000	5,000	1,000	2,000	1,000	1,000	500	0				217,850
Tailings Disposal			10,000	5,470		10,000	5,000			0														30,470
Mine Development			5,550	2,400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				7,950
Mine Equipment			14,347	10,000 0	0	6,652	1,884	5,064	72	710	0	1,411	0	21,488	0	7,652	1,884	1,000	0	0				72,164 0
Working Capital Permitting			0 1,000	500	24,941															(24,941)				1,500
Reclamation and Closure			1,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,000	5,000	27,270			34,270
Contingency (20%)			30,659	18,874	0	0	0	0	0	0	0	0	0	0	0	0	0	0	_,0	0	,			49,533
	TOTAL	1.0	183,956	113,244	25,941	18,652	7,884	7,064	1,072	2,710	1,000	3,411	1,000	26,488	1,000	9,652	2,884	2,000	2,500	(19,941)	27,270			0 417,787
NET PRETAX CASH FLOW (\$1000	)		(183,956)	(113,244)	104,234	111,524	85,582	57,904	59,198	54,932	56,642	54,231	56,642	31,154	56,642	47,990	54,758	55,642	56,420	27,651	(27,270)			0 646,682
	nmary (US \$1000)	Gold P	rice (US \$/oz)	\$750																				
Startup Capita																								
NPV	(US \$1000)		al Rate of Return	21.6%																				
0% 5%	646,682 345,090		ck Period (Yrs)	3.0																				
5% 8%	345,090 232,894	From st	art of Production																					
10%	176,142																							
10,0																								

TABLE 24-15: BASE CASE CASH FLOW NET PRESENT VALUE SENSITIVITY ANALYSIS VISTA GOLD COPR. – MT TODD PROJECT June 2009														
NPV @ 8% (US \$ Million)														
Gold Price (US \$/oz)	600	675	750	825	900									
	-20%	-10%	Base	+10%	+20%									
Gold Price	(43.7)	94.6	232.9	371.2	509.5									
Capital Cost	299.6	266.3	232.9	199.5	166.1									
Operating Cost	397.4	315.1	232.9	150.6	68.4									

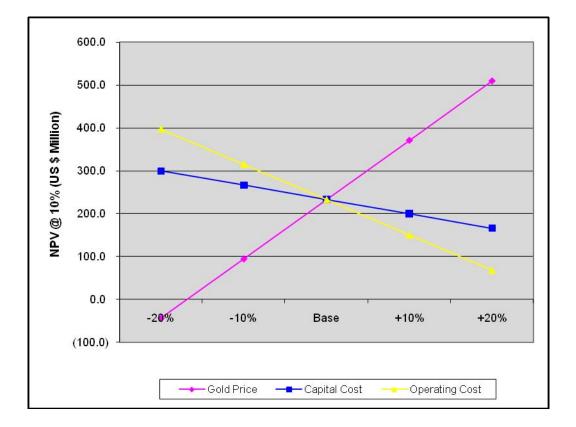


TABLE 24-16: BEFORE TAX CASH F VISTA GOLD (		MT TODD			ASE CASE)
Gold Price (US \$/oz)	650	750	850	950	1,050
NPV @ 8% (US \$M)	48.5	232.9	417.3	601.7	786.1
IRR (%)	11.3	21.6	30.1	37.7	44.7

### 24.8 Alternative Mine Development Options

In addition to the Base Case, two other potential development options were evaluated. The following discussion details the mine development plan and associated economic evaluation for each case.

### 24.8.1 Case 2 – US \$550 Gold Case

For Case 2 Tt developed a pit design based on a gold price of US \$550 per ounce using the same pit design parameters as the Base Case. Although the LGs were run only on measured and indicated, the potentially mineable resources were calculated based on measured, indicated and inferred material within the designed pit at the breakeven cutoff grade of 0.58 g Au/tonne. By using this approach, Tt developed a mine plan with the same operating mill feed as the Base Case, but with a shorter life (9 years) and higher mill feed grade.

Although the same type of mine equipment is utilized for this case, more waste material is moved, thus increasing the startup capital required. Total capital, plus reclamation and closure costs have been scaled back relative to the Base Case. Initial capital is estimated to be \$340 million. TABLE 24-17 presents the cash flow analysis for Case 2. Case 2 shows a DCFROR (also referred to as IRR) of 23.1 percent. Although the startup capital is slightly more than the Base Case, Case 2 shows a slightly higher return on investment. The NPVs are lower for Case 2 than the Base Case representing the impact of shorter mine life.

#### Table 24-17 - Mine Development Case 2 - Before Tax Cash Flow Summary (US \$) VISTA GOLD CORP. - MT TODD PROJECT

Case: 50,000 11 D	0010111100 (\$/02)	φ/ 50																							
			PP 2	PP 1	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13	Yr 14	Yr 15	Yr 16	Yr 17	Yr 18	Yr 19	Yr 20	Tot
INE PRODUCTION SCHEDULE																									
Mineralized	Tonnes (1000)		0	0	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	8,494	0	0	0	0	0	0	0	0	0	0	0	93
	Au g/tonne				1.20	1.20	1.14	1.05	0.97	0.97	0.97	0.97	0.97												
	Au oz/tonne				0.039	0.039	0.037	0.034	0.031	0.031	0.031	0.031	0.031												0
Waste	Tonnes (1000)		0	0	15,000	24,000	34,000	34,000	34,000	34,000	34,000	34,000	13,824												256,
	Total Tonnes (1000)		0	0	25,650	34,650	44,650	44,650	44,650	44,650	44,650	44,650	22,318	0	0	0	0	0	0	0	0	0	0	0	350,
	Strip Ratio				1.4	2.3	3.2	3.2	3.2	3.2	3.2	3.2	1.6												
ROCESS SCHEDULE Mill Feed	Tonnes (1000)		0	0	10,650	10,650	10,650	10,650	10,650	10,650	10,650	10,650	8,494												93.
Mill Feed	Au Recovery	82	0	0	10,050	82	82	82	82	82	82	82	82 <sup>8</sup>												93
	Autocovery	02			02	02	02	02	02	02	02	02	02												
PAYABLES SCHEDULE																									
Rec Au from Mill	Rec Mill Au oz		0	0	336,927	336,927	320,080	294,811	272,349	272,349	272,349	272,349	217,214											2	2,595,3
Pay Au: 99.9%	Pay Ref Au oz		0	0	336,590	336,590	319,760	294,516	272,077	272,077	272,077	272,077	216,997											2	2,592,
IINE REVENUE (\$1000) - Less R	efinery Ded: \$4/oz	\$750	0	0	251,096	251,096	238,541	219,709	202,969	202,969	202,969	202,969	161,880											1	,944,
·																									
PERATING COSTS (\$1000)	Mining \$/t mined by yr				1.43	1.27	1.18	1.18	1.18	1.18	1.18	1.18	1.50		•										1
Mining Millina	\$/t process	4.59 5.75	0	0	36,680	44,006 61,238	52,687	52,687	52,687	52,687	52,687	52,687	33,477	0	0	0	0								430, 538,
Environmental	\$/t process \$/t process	0.05	0	0	61,238 533	533	61,238 533	61,238 533	61,238 533	61,238 533	61,238 533	61,238 533	48,841 425	0	0	0	0								536, 4,
Dry filter stacking	\$/t process	0.23	0	0	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	1,954	0	0	0	0								21
Tailings Dewater	\$/t process	0.13	0	0	1,385	1,385	1,385	1,385	1,385	1,385	1,385	1,385	1,104	0	0	0	0								12
G&A	\$/t process	0.44	0	0	4,686	4,686	4,686	4,686	4,686	4,686	4,686	4,686	3,737	0	0	0	0								41,
	TOTAL \$/t process	11.19	1.0 0	0	106,970	114,296	122,977	122,977	122,977	122,977	122,977	122,977	89,537	0	0	0	0	0	0	0	0	0	0	0 1	l,048,6
OYALTY	Denehurst GSR%	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	JAAC NSR%	1.00	0	0	2,511	2,511	2,385	2,197	2,030	2,030	2,030	2,030	1,619	0	0	0	0	0	0	0	0	0	0	0	19,3
	TOTAL		0	0	2,511	2,511	2,385	2,197	2,030	2,030	2,030	2,030	1,619	0	0	0	0	0	0	0					
IET OPERATING REVENUE (\$10	000)		0	0	141,616	134,290	113,179	94,535	77,963	77,963	77,963	77,963	70,724	0	0	0	0	0	0	0	0	0	0	0	866,1
CAPITAL COST SUMMARY (\$100	)0)																								
Access and Site Prep			300	150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					4
Surface Plant and Facilities			950	1,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					1,9
Site Infrastructure			1,150	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					1,
Process Facilities			120,000	74,350	1,000	2,000	1,000	2,000	1,000	2,000	1,000	2,000	0	0	0	0	0	0	0	0					206,
Tailings Disposal			10,470	5,000		10,000	5,000			0															30,
Mine Development			5,550	2,400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					7
Mine Equipment			22,788 0	10,000 0	4,774	10,420	0	290	72	710	0	0	0	0	0	0	0	0	0	0					49,
Working Capital Permitting			1,000	500	26,742								(26,742)												1,
Reclamation and Closure			1,000	0	0	0	0	0	0	0	0	2,000	5,000	22,900											29.
Contingency (20%)			32,442	18,780	0	0	0	0	0	0	0	2,000	0,000	0	0	0	0	0	0	0					51,
	TOTAL	1.0	194,650	112,680	32,516	22,420	6,000	2,290	1,072	2,710	1,000	4,000	(21,742)	22,900	0	0	0	0	0	0	0			0	380,
ET PRETAX CASH FLOW (\$100	0)		(194,650)	(112,680)	109,099	111,870	107,179	92,245	76,891	75,253	76,963	73,963	92,466	(22,900)	0	0	0	0	0	0	0			0	485,6
					]																				
Startup Capi			rice (US \$/oz)	\$750																					
NPV	(US \$1000)	Interna	I Rate of Return	23.1%																					

Startup Capital	339,040		
NPV	(US \$1000)	Internal Rate of Return	23.1%
0%	485,697	Payback Period (Yrs)	3.8
5%	293,414	From start of Production	
8%	211,916		
10%	167,748		

Case: 30,000 TPD

Gold Price (\$/oz)

\$750

### 24.8.2 Case 3 – US\$750 Gold Case

For Case 3 Tt developed a pit design based on a gold price of US \$750 per ounce using the same pit design parameters as the Base Case. The LGs were run on measured, indicated and inferred material. The potentially mineable resources were calculated based on measured, indicated and inferred material within the designed pit at the internal cutoff grade of 0.34 g Au/tonne. This case concentrates on maximizing the recovery of the resource ounces for project development. Case 2 doubles the mill feed production to 60,00 tpd, which also increases the waste material mined per year. At this production rate Case 2 provides a mine plan with a 12 year life, though at a lower mill feed grade than the Base Case.

At the projected production rate of double the Base Case, the startup capital is higher at US \$ 495 million. Capital, for the most part, was factored from the Base Case using a factor of 1.51 times the Base Case figures. The same type of mine equipment is utilized for this case as the Base Case. Although using the same size mine equipment does not necessarily account for economies of scale, this case provides an order of magnitude indication of how the larger production rate impacts project economics. For a pre-feasibility study, a more rigorous evaluation should be conducted to determine the economic impact of various production rates. Both initial and ongoing capital, plus reclamation and closure costs have been scaled up relative to the Base Case to account for the higher production rate. TABLE 24-18 presents the cash flow analysis for Case 3. Case 3 shows a DCFROR (also referred to as IRR) of 20.4 percent. Although the return on investment is slightly lower than the Base Case, the NPVs for Case 3 are significantly higher than the Base Case indicating the positive impact with respect to mine life and higher production rate.

#### Table 24-18- Mine Development Case 3 - Before Tax Cash Flow Summary (US \$) VISTA GOLD CORP. - MT TODD PROJECT

Case: 60,000 TPD

\$750

Gold Price (\$/oz)

0436. 00,000 TI D		<b>\$750</b>																						
			PP 2	PP 1	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13	Yr 14	Yr 15	Yr 16	Yr 17	Yr 18	Yr 19	Yr 20 Totals
MINE PRODUCTION SCHEDULE														11.10					11 10			11 10	11.10	11 20 101010
Mineralized	Tonnes (1000)		0	0	21,300	21,300	21,300	21,300	21,300	21,300	21,300	21,300	21,300	21,300	21,300	19,460	0	0	0	0	0	0	0	0 253,760
	Au g/tonne				0.90	0.90	0.80	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73								0.76
	Au oz/tonne				0.029	0.029	0.026	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023								0.025
Waste	Tonnes (1000)		0	0	14.000	14.000	40.000	40.000	40.000	40.000	40.000	40.000	40.000	40.000	40.000	12.000								400,000
	Total Tonnes (1000)		0	0	35,300	35,300	61,300	61,300	61,300	61,300	61,300	61,300	61,300	61,300	61,300	31,460	0	0	0	0	0	0	0	0 653,760
	Strip Ratio				0.7	0.7	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	0.6								1.6
PROCESS SCHEDULE	<b>T</b> (1000)		<u> </u>				04.000	04.000	04.000	04.000	04.000		04.000			40.400								050 70
Mill Feed	Tonnes (1000) Au Recovery	82	0	0	21,300 82	19,460 82								253,760										
	Au Recovery	02			62	02	02	62	02	62	02	62	02	02	62	82								
PAYABLES SCHEDULE																								
Rec Au from Mill	Rec Mill Au oz		0	0	505,390	505,390	449,236	409,928	409,928	409,928	409,928	409,928	409,928	409,928	409,928	374,516								5,113,952
Pay Au: 99.9%	Pay Ref Au oz		0	0	504,885	504,885	448,786	409,518	409,518	409,518	409,518	409,518	409,518	409,518	409,518	374,141								5,108,838
MINE REVENUE (\$1000) - Less Ret	finery Ded: \$4/oz	\$750	0	0	376,644	376,644	334,795	305,500	305,500	305,500	305,500	305,500	305,500	305,500	305,500	279,109	0	0	0	0				3,831,628
(† . <u>) 2000 (</u>		4.00	•	•	010,011	0.0,011		000,000	,	000,000	,	000,000	,	000,000	000,000	2.0,.00	Ŭ	Ŭ	Ŭ	Ŭ				
OPERATING COSTS (\$1000)	Mining \$/t mined by yr				1.47	1.47	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.50								1.26
Mining	\$/t process	3.25 5.32	0	0	51,891	51,891	74,786	74,786	74,786	74,786	74,786	74,786	74,786	74,786	74,786	47,190 103.527	0	0	0	0				824,046
Milling Environmental	\$/t process \$/t process	5.32 0.05	0	0	113,316 1.065	113,316 1,065	103,527 973	0	0	0	0				1,350,003 12,688									
Dry filter stacking	\$/t process	0.03	0	0	4.899	4,899	4,899	4,899	4,899	4,899	4,899	4,899	4,899	4,899	4,899	4,476	0	0	0	0				58,365
Tailings Dewater	\$/t process	0.13	0	0	2,769	2,769	2,769	2,769	2,769	2,769	2,769	2,769	2,769	2,769	2,769	2,530	0	0	0	0				32,989
G&A	\$/t process	0.44	0	0	9,372	9,372	9,372	9,372	9,372	9,372	9,372	9,372	9,372	9,372	9,372	8,562	0	0	0	0				111,654
	TOTAL \$/t process	9.42	1.0 0	0	183,312	183,312	206,207	206,207	206,207	206,207	206,207	206,207	206,207	206,207	206,207	167,258	0	0	0	0	0	0	0	0 2,389,745
ROYALTY	Denehurst GSR%	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0
	JAAC NSR%	1.00	0	0	3,766	3,766	3,348	3,055	3,055	3,055	3,055	3,055	3,055	3,055	3,055	2,791	0	0	0	0	0	0	0	0 38,112
	TOTAL		0	0	3,766	3,766	3,348	3,055	3,055	3,055	3,055	3,055	3,055	3,055	3,055	2,791	0	0	0	0				
NET OPERATING REVENUE (\$100	0)		0	0	189,566	189,566	125,240	96,238	96,238	96,238	96,238	96,238	96,238	96,238	96,238	109,060	0	0	0	0	0	0	0	0 1,383,336
CAPITAL COST SUMMARY (\$1000	n																							
Access and Site Prep	<i>'</i> )		300	150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				450
Surface Plant and Facilities			1,500	1,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				3,000
Site Infrastructure			1,150	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				1,650
Process Facilities			180,000	113,500	1,500	3,000	1,500	3,000	1,500	3,000	1,500	3,000	1,500	1,500	500	500	0	0	0	0				315,500
Tailings Disposal			10,000	5,470	0	10,000	5,000		10,000	5,000	0				0									45,470
Mine Development Mine Equipment			5,550 30,104	2,400 19,000	0	0 19,090	0	0 460	0 144	0 3.986	0	0 1,293	0 2,500	0 2,500	0	0	0	0	0	0				7,950 79,077
Working Capital			0,104	13,000	45,828	13,050	0	400	144	3,300	0	1,235	2,500	2,500	0	(45,828)	0	0	0	0				13,011
Permitting			1,000	500	10,020											(10,020)								1,500
Reclamation and Closure			0	0	0	0	0	0	0	0	0	0	0	0	2,000	7,000	29,270	0	0	0	0			38,270
Contingency (20%)			45,921	28,604	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				74,525
	TOTAL	1.0	275,525	171,624	47,328	32,090	6,500	3,460	11,644	11,986	1,500	4,293	4,000	4,000	2,500	-38,328	29,270	0	0	0	0			0 567,392
NET PRETAX CASH FLOW (\$1000)	)		(275,525)	(171,624)	142,238	157,476	118,740	92,778	84,594	84,252	94,738	91,945	92,238	92,238	93,738	147,388	(29,270)	0	0	0	0			0 815,944
					1																			
Economic Sun	nmary (US \$1000)	Gold	l Price (US \$/oz)	\$750																				
Startup Capita																								
NPV	(US \$1000)		rnal Rate of Return	20.4%																				
0%	815,944		back Period (Yrs)	3.3																				
5% 8%	446,645	From	start of Production																					
	302 153																							
10%	302,153 227,225																							

# 25.0 ILLUSTRATIONS

All of the illustrations used in the preparation of this report appear in each of their respective sections.