



**NAVIGATOR**  
RESOURCES LIMITED

**ASX ANNOUNCEMENT & MEDIA RELEASE**

25 March 2009

**POSITIVE PRE-FEASIBILITY RESULT FOR  
LEONORA GOLD PROJECT**

- ◆ The Pre-Feasibility Study ("PFS") for Navigator's Leonora Gold Project demonstrates an economically and technically viable project with considerable upside.
- ◆ At the average March gold price (1-24 March) of ~A\$1,400/oz, the after tax NPV of the Leonora project is A\$66M. Net operating revenue of the project is A\$436M (cash operating margin A\$176M) with an Internal Rate of Return (IRR) of 44%.
- ◆ At a conservative A\$1,250/oz base case, the after tax NPV is A\$43M, and net operating revenue is A\$389M (cash operating margin A\$129M) with an IRR of 32%.
- ◆ Independent estimates of the mineral resources at Leonora total 12.2Mt at 1.9g/t for 742,000oz of contained gold. The models on which this estimate is based indicate that a further 282,000oz is contained in mineralisation that falls outside the current resource criteria<sup>1</sup>.
- ◆ The base case development scenario for the PFS is an open cut mine delivering 1Mtpa at 1.8g/t average gold grade to a standalone CIL plant over a 6 year mine life. The average production rate is 53,000oz pa (320,000oz) assuming a conservative 90% metallurgical recovery.
- ◆ Average life-of-mine Net Cash Cost (C1) is A\$813/oz (US\$566/oz) for the A\$1,250/oz base case. Standalone project development cost is estimated at A\$45M including a A\$5M contingency.
- ◆ Navigator is targeting production in Q4/2010 and has approved moving to the Bankable Feasibility Study (BFS) stage of the project which is expected to be completed in Q4/2009.

<sup>1</sup> Mineralisation within open pit optimisations constrained by a gold price of A\$2,000/oz.





Navigator Resources Limited (ASX: NAV – “Navigator”) is pleased to announce the results of a positive Pre-Feasibility Study (PFS) on its Leonora Gold Project, north of Kalgoorlie in Western Australia’s eastern goldfields.



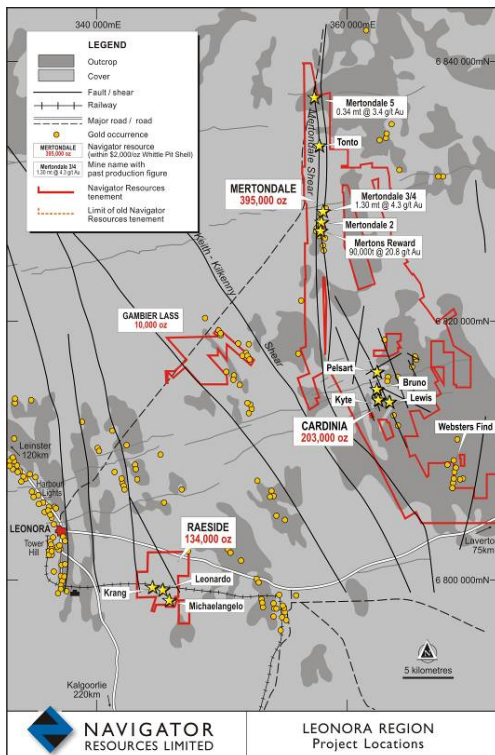
The PFS marks a significant milestone for the Company and follows a four year period of successful exploration that has resulted in the discovery of three 2km-long gold systems at Cardinia, Mertondale and Tonto-Eclipse.

Managing Director Tom Sanders commented that “The base case PFS demonstrates that the Leonora Gold Project can deliver an excellent investment return and add significant value to Navigator. Successful development of gold production at Leonora as proposed in the PFS will also enable the Company to complete the exploration of the remaining prospective areas at Leonora with a view to expanding throughput or lengthening the life of mining operations”. Navigator Chairman Dr Allan Trench added “This is a positive outcome for Navigator – with well over A\$100 million in free cash flow readily apparent in the base case”.

## PROJECT OVERVIEW – LOCATED IN AN ESTABLISHED GOLD PROVINCE

The 249km<sup>2</sup> Leonora Gold Project is located 30km northeast of the mining town of Leonora, and approximately 250km NNE of Kalgoorlie, Western Australia. Favourable infrastructure includes a network of high quality roads, an airstrip with regular services to Perth and proximity to an established mining supply network.

Independent estimates of the mineral resources at Leonora total 12.2Mt at 1.9g/t for 742,000oz of contained gold using revised resource criteria\*.



The resource profile has good leverage to the gold price and a significant component of the resource not included in the base case PFS mining inventory will become profitable with any increase in the gold price.

Based on work completed, a base case open pit PFS mining inventory totals 6Mt at 1.8g/t gold for 358,000oz, assuming a gold price of A\$1,250.

The PFS envisages larger oxide-dominant open pit mines at Mertondale, Cardinia, Tonto-Eclipse and Raeside (Figure 1) that deliver 1Mtpa ore to a centrally located carbon-in-leach (CIL) gold treatment facility at Merton’s Reward. All open pits will be mined via conventional benching with a hydraulic excavator and dump trucks.

\* Mineralisation within open pit optimisations constrained by a gold price of A\$2,000/oz



Most of the waste will be tipped on surface waste dumps but in-pit backfilling is likely at Cardinia and is expected to reduce costs.

A standalone conventional CIL treatment plant is proposed. This has the advantage of maximising the overall resource recovery, whilst providing the flexibility to process a full range of high clay and harder ores. The proposed plant incorporates a two stage crushing circuit that feeds a ball mill with an in-circuit MMD sizer. Wet tailings deposition into completed pits is planned to minimise establishment costs.

The Leonora Gold Project is expected to directly employ in excess of 100 people as both residential staff and on Fly-In-Fly-Out arrangements. Local contractors will be utilised during both the construction and operational stages of the Project. Production is targeted in the fourth quarter of 2010.

## RESOURCES – MULTIPLE OPEN PITABLE SOURCES

Gold deposits in the project area are hosted by a series of shear zones that are subsidiary structures of the Keith Kilkenny lineament, and which extend over a 35km strike length from Mertondale 5 in the north to Cardinia in the south.



Mertondale Prospect

Cardinia Prospect

Raeside Prospect

Independent reviews of mineral resources have been completed by consultants McDonald Speijers (Mertondale and Raeside) and Runge Limited (Cardinia) following revised geological interpretation.

The resource estimate at Cardinia takes into account drilling information available to the end of October 2008 and does not include mineralisation intersected in the drilling program in the final two months of 2008 (eg. 5m at 11.9g/t gold from 31m, 6m at 4.8g/t gold from 28m, NAV December 2008 quarterly). Resource estimates at Mertondale and Raeside incorporate all data available at this time.

The resource estimates for Mertondale, Cardinia, and Raeside are summarised in Table 1. The new estimates use different cut-off grades compared to earlier resource estimates at Leonora, and are constrained by optimised pit shells to provide an indication of reasonable likelihood for eventual economic extraction.

Table 2 below provides a comparison between old and new global resource estimates and demonstrates that the gold mineralisation inventory remains largely unchanged.

A description of resource estimation methodologies and parameters is given in “Notes to Resource Estimations” later in this report. Mineralisation is constrained by a lack of drilling and remains open along strike and at depth at many prospects.



**TABLE 1: LEONORA GOLD PROJECT RESOURCE SUMMARY – MARCH 2009**

Project Area	Lower cut-off grade	Indicated Resources			Inferred Resources			Total Resources		
	g/t Au	Mt	g/t Au	koz	Mt	g/t Au	koz	Mt	g/t Au	koz
<b>Mertondale*</b>										
Mertondale 3-4	0.7	0.87	2.3	65	0.66	2.1	45	1.53	2.2	110
Merton's Reward	0.7	1.02	2.7	89	0.07	1.7	4	1.09	2.7	93
Tonto	0.7	0.97	1.9	60				0.97	1.9	60
Eclipse (Tonto North)	0.7	0.62	1.8	35	0.25	1.7	14	0.87	1.8	49
Mertondale 5	0.7	0.32	3.2	33	0.16	2.7	13	0.48	3.0	46
Quicksilver (Tonto South)	0.7	0.55	1.8	31	0.11	2.1	8	0.66	1.8	39
<b>Subtotal</b>		<b>4.35</b>	<b>2.2</b>	<b>312</b>	<b>1.25</b>	<b>2.1</b>	<b>83</b>	<b>5.60</b>	<b>2.2</b>	<b>395</b>
<b>Cardinia**</b>										
Bruno-Lewis Exploration	0.7	1.04	1.1	37	1.52	1.3	63	2.56	1.2	100
Helen's North	0.7	0.63	1.2	24	0.13	1.1	5	0.76	1.2	29
Kyte	0.7				0.31	1.6	16	0.31	1.6	16
Rangoon	0.7	0.09	1.8	5	0.23	1.3	9	0.31	1.4	14
Lewis Grade Control	0.7	0.29	1.4	13				0.29	1.4	13
Bruno Grade Control	0.7	0.22	1.5	11	0.04	1.1	1	0.26	1.4	12
Helen's South	0.7	0.19	1.8	11	0.01	1.3	0	0.20	1.7	11
Lewis South	0.7				0.10	1.3	4	0.10	1.3	4
Black Chief***	1.0				0.06	2.3	4	0.06	2.3	4
<b>Subtotal</b>		<b>2.45</b>	<b>1.3</b>	<b>100</b>	<b>2.38</b>	<b>1.3</b>	<b>103</b>	<b>4.84</b>	<b>1.3</b>	<b>203</b>
<b>Raeside*</b>										
Michelangelo - Leonardo	0.7	1.28	2.7	111				1.28	2.7	111
Forgotten Four	0.7	0.07	3.0	7	0.10	2.1	7	0.17	2.5	14
Krang	0.7	0.11	2.6	9				0.11	2.6	9
<b>Subtotal</b>		<b>1.47</b>	<b>2.7</b>	<b>127</b>	<b>0.10</b>	<b>2.1</b>	<b>7</b>	<b>1.57</b>	<b>2.6</b>	<b>134</b>
Gambier Lass****	1.0				0.18	1.8	10	0.18	1.8	10
<b>TOTAL</b>		<b>8.27</b>	<b>2.0</b>	<b>539</b>	<b>3.91</b>	<b>1.6</b>	<b>203</b>	<b>12.19</b>	<b>1.9</b>	<b>742</b>

Notes: Assay top cuts for Mertondale and Raeside are variable but generally between 10-20g/t Au and are 15g/t Au at Cardinia with no top cuts at Black Chief and Gambier Lass. No allowance has been made for dilution or ore loss. All resources (except Black Chief and Gambier Lass) are constrained by open pit shells optimised at A\$2,000/oz.

\* Resource estimate by McDonald Speijers

\*\* Resource estimate by Runge Limited

\*\*\* Resource estimate by Navigator, 2005

\*\*\*\* Resource estimate by Navigator, 2006

**TABLE 2: RESOURCE COMPARISON TABLE**

Mineralisation Type	New Models (March 2009)	Navigator (2005 to 2008)
	Gold (koz)	Gold (koz)
Measured Resource*		73
Indicated Resource*	539	510
Inferred Resource*	203	367
<b>Subtotal Resource</b>	<b>742</b>	<b>950</b>
Excluded Mineralisation – Mertondale**	151	
– Cardinia**	33	
– Raeside**	98	
<b>Subtotal Excluded Mineralisation</b>	<b>282</b>	
<b>Total</b>	<b>1,024</b>	<b>950</b>

\* Resource defined to be mineralisation with reasonable prospects for economic extraction (in this case, mineralisation that occurs within open pit optimisations constrained by a gold price of A\$2,000/oz).

\*\* Mineralisation that was modelled but is currently excluded from the resource estimate.



## MINING INVENTORY – LEVERAGED TO GOLD PRICE

Based on work completed, the current PFS mining inventory totals 6Mt at 1.8g/t gold for 358,000oz assuming a gold price of A\$1,250.

Mining schedules used for the PFS are derived from recoverable resource estimates obtained from open pit optimisations with allowance for open pit design elements such as ramps and berms.

Infill drilling, bulk density measurements and selective twinning of historical drill holes, are planned for the BFS to upgrade the Inferred component of the recoverable resource (~40%) to Indicated and Measured Resource categories for later reserve estimation.

Dilution and ore loss were incorporated prior to modelling and optimisation for the Mertondale and Raeside deposits. Down-hole dilution skins were set at 0.5m for oxide material and 0.8m for transition and primary material at Mertondale, and at 0.4m and 0.7m respectively at Raeside. Down-hole ore loss skins for all models were set at 0.2m in the oxide zone and 0.3m in transition and primary zones.

For the Cardinia deposits, an unspecified amount of low grade dilution was incorporated into the interpretation of the mineralisation envelope to reflect the likely situation in a mining scenario. A further 5% dilution and 5% ore loss were included in the optimisation process.

The resource profile provides excellent leverage to the gold price and a significant component of the resource not included in current PFS mining inventory would become economic with an increase in the gold price. This is illustrated in Figure 2 which compares the PFS mining inventory (in recovered ounces) and the Cash Operating Margin from Whittle optimisations at various gold price increments.

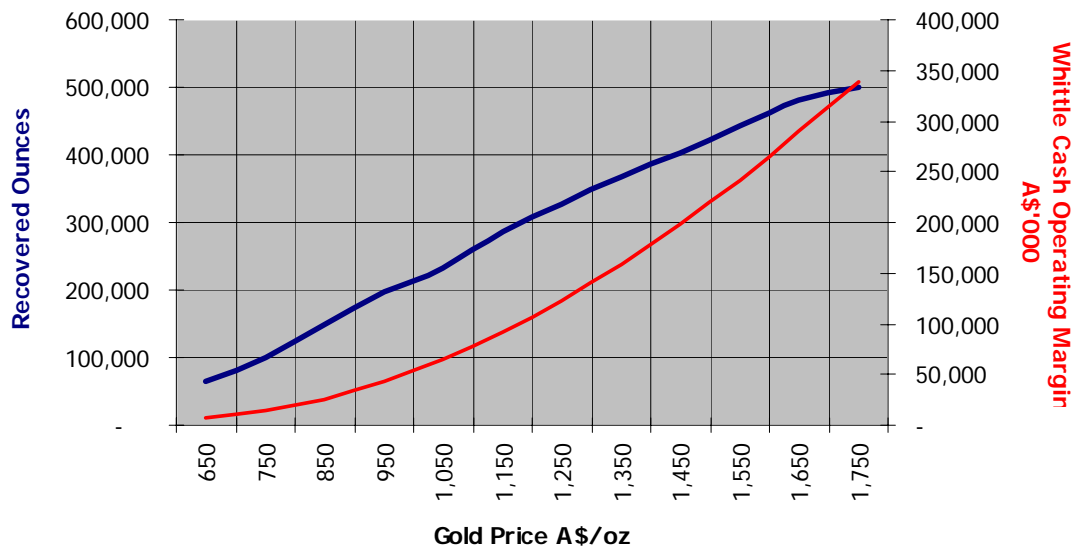


Figure 2: PFS Mining Inventory and Whittle Cash Operating Margin at Various Gold Price Scenarios



## **MINING – CONVENTIONAL OPEN PIT BENCHING**

The PFS envisages open pit mining at Mertondale, Cardinia, Tonto-Eclipse and Raeside to deliver 1Mtpa ore to a centrally located treatment facility at Merton's Reward. Estimated plant feed within the base case A\$1,250 pit shell is 6Mt at 1.8g/t gold with average production of 53,000oz of gold per annum recovered over a 6 year mine life.

Larger open pits will be located at Mertondale (107,000oz), Cardinia (101,000oz), Tonto-Eclipse (34,000oz) and Michelangelo-Leonardo (34,000oz). The average value per tonne of ore is A\$65/tonne ore, assuming a conservative 90% recovery.

All open pits will be mined via conventional benching using a hydraulic excavator and 100t dump trucks. A 180t excavator is planned for mining in the Mertondale area and will operate in tandem with a 100t excavator at Cardinia and later at Raeside.

All open pits will be mined via conventional benching using a hydraulic excavator and 100t dump trucks. A 180t excavator is planned for mining in the Mertondale, Cardinia and Raeside areas. A 100t excavator will be used to cover service intervals and miscellaneous pit works.

The PFS assumes all waste will be tipped on surface waste dumps. Significant potential exists to develop an in-pit backfilling mining sequence to minimise truck overhaul and the size of the truck fleet and reduce tyre exposure to excessive tyre heat loadings. The Cardinia pits are characterised by their extended strike lengths and significant opportunity exists to develop ramps within the optimum pit shell and along the strike of mineralisation. Designing for starter ramps and final ramps on in-pit fill will allow final designs that reduce the strip ratio below the currently planned maximum of 7.1 to 1.

Mining costs are based on independent mining contractor estimates that are in line with contract mining benchmark figures. Average mining costs equate to A\$18.00 per tonne of ore treated.

No allowance for underground mining has been made in the PFS.

## **PROCESSING – 1 MILLION TONNE FACILITY ENVISAGED**

Three processing alternatives were considered in the PFS, ie. a standalone carbon-in-leach (CIL) processing facility, a heap leach option and a toll treatment option. Selection of the base case processing option included consideration of capital cost and operating costs as well as operability, maintainability, technology and process risk.

A standalone CIL treatment plant has the advantage of maximising gold recovery from the resource, and will produce the optimum return in an escalating gold price environment. The main disadvantage is a higher start-up capital expenditure.

The standalone 1Mtpa CIL option adopted for the PFS base case model assumes a centrally located facility at Merton's Reward, adjacent to the well formed gravel road 30km from Leonora. The proposed plant incorporates a conventional two stage crushing circuit that feeds a ball mill with an in-circuit MMD sizer which will provide for the long term flexibility to process a full range of high clay and harder ores.



Capital and operating costs used for the PFS are based on the purchase and re-location of an unspecified second hand treatment plant. The capital cost of the treatment plant has been estimated on the basis that it will require additional equipment in order to ensure that the metallurgical recovery from the plant is maximised. This equipment will include a Falcon gravity concentrator and Gekko intensive leach reactor to maximise gold extraction prior to the CIL process. In addition, the residence time within the CIL circuit will be optimised (as required) by the inclusion of additional leach capacity to ensure sufficient leach residence time to achieve target gold recovery.

The proposed Merton's Reward plant site is located 15km north of the Cardinia gold system, and 6km south of the Tonto-Eclipse gold system. Ore mined from the Cardinia and Tonto gold systems will be trucked to the Merton's Reward treatment facility. The location of the proposed plant at Merton's Reward is also relatively close to long-term resource growth targets identified along the Mertondale Shear.

The planned BFS will remain flexible enough in scope to adjust throughput rates in response to variations in the gold price or operating efficiencies. Consideration will also be given to a comminution circuit utilising an MMD mineral sizer feeding a scrubber or small ball mill to facilitate the processing of high clay content ores which will present difficulties for the conventional crushing plant proposed for the competent ore types.

The PFS design assumes conventional wet tailings deposition into completed pits with pit wall spigots and liquor recovery from in-pit pontoons. Investigations will continue into the potential value-add of the application of thickening of the tailings stream, and consequent solution recovery, during the BFS.

Navigator plans to undertake a cost-benefit analysis of alternative low capital expenditure processing options using established treatment facilities in the Leonora area during the BFS stage to retain flexibility in its development options. Higher grade mineralisation within the PFS mining inventory, including 2.4Mt at 2.4g/t gold (diluted) for 165,500oz gold (recovered), provides the basis to assess this possibility.

## **METALLURGY – 90% RECOVERY PENDING FURTHER TESTWORK**

A number of metallurgical test programs were conducted for Navigator on all larger deposits by AMMTEC under the supervision of Metallurgical Design. Detailed metallurgical testwork will continue during the BFS to more closely quantify capital and operating costs and will be extended to include the remaining satellite deposits.

The ores are predominantly oxide (62%) and generally soft with respect to the Bond ball mill work index (BWi) with the exception of some primary ores in the Mertondale area. Metallurgical testwork indicates that process throughput rates will be optimised if the clay-rich oxide ores are blended with harder ores from Mertondale and other areas. The plant design will allow for flexibility in this approach, with separate clay and competent ore circuits included in the comminution circuit design.

The PFS assumes a 90% metallurgical recovery, which is conservative given the metallurgical testwork in the oxide zones at Mertondale, Cardinia and Raeside indicates high (plus 95%) metallurgical recoveries as well as a significant gravity gold fraction (up to 30%). The understanding of the grade recovery relationship at the target grade of 1.8g/t Au for these ores will be investigated further during the BFS.



Metallurgical recoveries of ~80% from deeper transition and primary ores in the Mertondale areas are attributed to the presence of high levels of sulphides (up to 3.08% sulphur as sulphide). In some cases the mineralogical evaluation found that the fine gold was associated with pyrite and arsenopyrite. Further metallurgical and mineralogical evaluation of the deeper Mertondale ores will be undertaken during the BFS stage. This is expected to optimise the process recovery by evaluating fine grinding, the use of lead nitrate and gravity concentration in a Falcon concentrator with intensive leaching of concentrates to maximise the recovery of any fine free gold.

In addition, metallurgical evaluation of kerosene based additives as a method of organic carbon management is scheduled during the BFS, and is expected to permit the inclusion of some additional material (~5%) containing preg robbing graphitic carbon into the ore reserve. These materials are currently excluded from the estimate due to low recoveries and historic evidence which suggests they can be visually identified and selectively excluded from the processing plant feed.

## **INFRASTRUCTURE – PROJECT BENEFITS FROM FAVOURABLE LOCATION**

### **Power Supply**

Navigator has estimated that the Project will require an installed power capacity to 5MW with the plant requirement expected to be 3MW. A more detailed study of power requirements will be carried out during the BFS.

### **Water Supply**

The PFS is based on sourcing of all water required for the Project from known underground aquifers and from the current storage contained within the existing open pits, until such time as on site (in-pit) tails dams are created and harvesting can occur to supplement bore water.



Capital and operating costs for a reverse osmosis plant have been included in the plant costs. The capital cost estimate has taken into consideration the necessity to pump water from the furthest pit at Mertondale 5 to the proposed mine site. Further extensive and in-depth water exploration studies will be undertaken during the BFS to confirm water supplies.

### **Roads**

The national road between Kalgoorlie and Leonora forms the backbone of all road transportation in the area. Access to the Project from the town of Leonora is by an existing well-formed existing gravel (Nambi Road). Capital cost has been allocated for the construction of new gravel roads for ore haulage within the Project site.

### **Accommodation**

The PFS anticipates accommodation of the work force either by the establishment of a separate accommodation village on the minesite, or by the use of existing facilities in the town of Leonora.

## **STATUTORY APPROVALS – WELL ADVANCED**

All known resources are on granted mining leases with the exception of Merton's Reward, which is recommended for approval and will be granted in the coming month.



Navigator's environmental consultants are well advanced with the statutory approvals process. All environmental fauna, flora and stygofauna impact assessments are nearing completion and submission of applications for clearing and works permits are anticipated in the third quarter of 2009.



PFS environmental studies

There are no active Native Title claims over the Project area. Former Native Title claimants in the region have been consulted and this resulted in heritage surveys being conducted over areas potentially impacted by a project development with no adverse findings. A detailed archaeological survey is planned in consultation with the Department of Indigenous Affairs (DIA) in a spirit of compliance with the Heritage Act.

### CAPITAL COSTS – SECOND HAND PLANT TO BE SOURCED

The total capital cost is estimated at approximately A\$44.8M (Table 3) which includes a contingency of A\$5M, and allowance for environmental bonds of A\$2M. The costs for key components have been determined through a combination of formal budget quotes, consultant advice and market prices. The costs are considered to have an accuracy of  $\pm 20\%$  and are consistent with a number of industry benchmarks. Major equipment costs are based on budget quotes and estimates received from vendors. Other items are based on information obtained from suppliers or in-house database information.

TABLE 3: CAPITAL COSTS	
Estimated Capital Costs Item	Cost (A\$'000)
Process Plant*, Mobilisation & Construction	32,500
Fuel Farm, Fuel, Power & Tailings	950
First Fill, Critical Spares & Other	1,000
Infrastructure (Equipment & Pipeline)	1,700
Open Pit Mobilisation & Establishment	850
Administration (Camp & Communications)	750
Bonds	2,000
Subtotal	39,750
Contingency (15%)	5,000
<b>Total Estimated Capital Costs</b>	<b>44,750</b>

\* Subject to availability and suitability of a second hand process plant

The PFS assumes contract mining and thus no capital provision exists for mining fleet. The required level of pre-strip for the Project is small and no separate pre-strip capital allocation has been made in the PFS. The Company will assess the impact of increasing process throughput during the BFS.



## ECONOMIC EVALUATION

Summary economic information for the proposed Leonora Gold Project development is provided in the following table:

<b>TABLE 4: ECONOMIC EVALUATION</b>			
<b>Project Analysis</b>	<b>NAV Base Case</b>	<b>Current A\$ Spot Scenario</b>	<b>Scenario</b>
	<b>A\$1,250</b>	<b>A\$1,400</b>	<b>A\$1,500</b>
Project NPV (8%pa)	A\$43M	A\$66M	A\$82M
IRR	32% pa	44% pa	51% pa
Total Revenue	A\$389M	A\$436M	A\$467M
Total Operating Expenditure	A\$260M	A\$260M	A\$260M
Net Operating Cash Margin	A\$129M	A\$176M	A\$207M
Total Capital Expenditure	A\$45M	A\$45M	A\$45M
EBIT	A\$83M	A\$130M	A\$162M
NPAT	A\$58M	A\$91M	A\$113M
Payback	3.1 years	2.4 years	2.3 years
Mine Life	6 years	6 years	6 years

## PROJECT UPSIDE

### Growth Potential

Navigator has identified three 2km-long gold systems in successive years over its 35km Mertondale-Cardinia greenstone belt, an aspect that highlights the exploration potential of the Leonora Gold Project. These systems have good scope for strike and depth extensions and, due to the focus to date on identifying sufficient near-surface, open pitable resources to trigger development, large portions of the Mertondale Shear and other areas are inadequately explored.

### Existing Resources

The current resource provides excellent leverage to the gold price and creates scope for a significant increase in throughput or mining longevity. The supergene nature of the main Bruno-Lewis-Kyte deposits in the Cardinia resource has good potential for positive mill reconciliation based on the similarity with other mined supergene deposits.

### Mining/Processing Options

Reductions in mining costs are expected to result from the use of in-pit waste dumping and internal ramps where appropriate at Cardinia.

Final throughput capacity of the treatment facility at Merton's Reward will be decided during the BFS. An increase in processing throughput has the potential to lower processing costs and increase the amount of resource that can be profitably mined.

There is excellent scope to improve profitability by increasing metallurgical recovery (eg. a 4% improvement in recovery increases the base case NPV by \$10M and reduces the cash operating cost to A\$775/oz).



## CONCLUSION

Navigator has approved moving to Bankable Feasibility Study (BFS) stage of the project and is targeting production in Q4/2010. The BFS is expected to be completed in Q4/2009 and a more detailed timetable for the key components of the BFS will be released shortly.

## NOTES TO RESOURCE ESTIMATIONS

### Mertondale & Raeside

Resource estimates at Mertondale and Raeside were completed by McDonald Speijers. The estimates are based on extensive drilling programs carried out over many years by various mining companies and more recently by Navigator Resources Limited. A total of 330,385m of drilling, completed over the last 27 years, exists in the Mertondale database of which about 42% has been completed by Navigator. At Raeside a total of 153,100m of drilling exists, completed over the last 20 years, of which only 1% has been completed by Navigator.

McDonald Speijers has used a "Recovered Fraction" (RF) technique of resource estimation. This process is a probabilistic technique that estimates the volumetric proportion of each block likely to be above a particular cut-off grade and what the average grade of that proportion is likely to be. Resource estimates are derived by applying the RF technique without any ore loss or dilution allowances. Similar estimates that include such allowances are made for mine planning and design purposes including pit optimisation and the estimation of potential ore reserves.

The following comments are relevant to the Mertondale and Raeside resource assessments:

- ◆ Drilling techniques – only diamond core samples, RC chip samples and aircore samples were used for estimation purposes. No data from RAB drilling was included in the estimates.
- ◆ Estimation and modelling techniques – model interpolations were by anisotropic inverse distance smoothing using dynamic zonal control within appropriately dimensioned block models.
- ◆ Cut-off grades used for resource estimation were set at or just below values estimated by concurrent economic studies by Navigator.
- ◆ Metallurgical factors – ores from Mertondale and Raeside have been successfully processed previously from both underground and open pits and this has been supported by more recent metallurgical testwork. The presence of graphite in the primary zone in some of the Mertondale deposits is known to reduce metallurgical recoveries and further testwork is planned to further define this issue and its relevance.
- ◆ Bulk density data values have been estimated from a combination of historical testwork and relevant experience based on mining history in the area.

### Cardinia

Resource estimates at Cardinia were completed by Runge Limited. The estimates are based on extensive drilling programs carried out over many years by various mining companies and more recently by Navigator Resources Limited. A total of 315,088m of drilling, completed over the last 25 years, exists in the Cardinia database of which about 44% has been completed by Navigator. At Helen's and Rangoon a total of 40,164m of drilling exists, completed over the last 20 years, of which 13% has been completed by Navigator.

The following comments are relevant to the Cardinia and Helen's and Rangoon resource assessments:

- ◆ Drilling techniques – at Cardinia, the Bruno and Lewis grade control areas and the Bruno-Lewis exploration area were estimated using only recent Navigator RC drilling and diamond drilling. For a limited area beneath the Lewis grade control area historic RC, aircore and RAB holes were used. Other areas including Helen's and Rangoon were estimated using diamond holes, RC and aircore holes.
- ◆ Estimation and modelling techniques – grade interpolations by Ordinary Kriging using orientated anisotropic ellipsoid searches within appropriately dimensioned block models.
- ◆ Cut-off grades used for resource estimation were set at or just below values estimated by concurrent economic studies by Navigator.



- ◆ Metallurgical factors – recent metallurgical testwork has shown the Cardinia mineralisation to be amenable to CIL processing.
- ◆ Bulk density values used were conservative estimates based on general observations of the various material types.

## Further Information

Please direct any queries, or requests for further information, to:

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**Managing Director**  
**NAVIGATOR RESOURCES LIMITED**

*This report contains forward looking statements that are subject to risk factors associated with resource businesses. It is believed that the expectations reflected in these statements are reasonable but they may be affected by a variety of variables and changes in underlying assumptions which could cause actual results or trends to differ materially, including but not limited to: price fluctuations, actual demand, currency fluctuations, drilling and production results, reserve estimates, loss of market, industry competition, environmental risks, physical risks, legislative, fiscal and regulatory developments, economic and financial market conditions in various countries and regions, political risks, project delay or advancement, approvals and cost estimates.*

*Sections of information contained within this report that relate to Mineral Resources at Mertondale and Raeside are based on information compiled by Diederik Speijers and John McDonald, who are both Fellows of the Australasian Institute of Mining and Metallurgy. Diederik Speijers and John McDonald are employed by McDonald Speijers and both have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Diederik Speijers and John McDonald consent to the inclusion in this report of the matters based on their information in the form and context in which it appears.*

*Sections of information contained within this report that relate to Mineral Resources at Cardinia and Helen's and Rangoon are based on information compiled by Paul Payne, who is a full-time employee of Runge Limited and a Member of the Australasian Institute of Mining and Metallurgy. Paul Payne has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he has undertaken to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Paul Payne consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.*

*Sections of information contained within this report that relate to Exploration Results or Mineral Resources at Black Chief and Gambier Lass are based on information compiled by Bernard Kirkpatrick and Tom Sanders, who are full-time employees or consultants to Navigator Resources Limited and are Members of the Australasian Institute of Mining and Metallurgy. Bernard Kirkpatrick and Tom Sanders have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they have undertaken to qualify as Competent Persons as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Bernard Kirkpatrick and Tom Sanders consent to the inclusion in this report of the matters based on their information in the form and context in which it appears. Tom Sanders is a shareholder of Navigator Resources Limited.*