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AMANGO GROUP MINING PLC REPORT

THE CFO JUNIOR CASE STUDY COMPETITION



by Team Evolution from waterstone college

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April 30, 2017





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# ***Introduction***

The mining industry is extremely volatile. This is observed through the continuous fluctuations in commodity prices. A trend of low prices has established several problems whilst heightening debt for Amango. Thus, it is imperative that unique, workable strategies are provided whilst simultaneously aiming to attain the key goals identified.

# ***Problem 1: Managing Divisional Performance Group-Wide***

**Issues:**

As Subsidiary Executive’s bonuses are based on Operating Profits, they are earning little to no bonuses as the company recorded an Operational Loss of US$5,842 billion in 2016. As a result, they are beginning to:

* Postpone standard service schedules for safety critical equipment which violates the Health and Safety Act, also violating Pillar A, which may lead to injuries and fatalities (socio-economic issues).
* Retrench workers even from mines that are still economically viable which decreases productivity and profitability, violating Pillar C (Socio-Political).
* Not record material financial transactions into the online financial accounting systems which violates the matching principle (GAAP).

**Solutions:**

The current system is not viable because Operational Loss degraded from US$39 million to US$5,611 billion because of a decrease in Group Revenue. Subsidiary executives are currently violating Pillar D (People) by not embracing operational discipline and maximised productivity.

The prices of mining industry products are not determined by the mine itself but by the open market, e.g. OPEC determines oil prices and LME determines Ni prices. Mines are therefore price takers and can only control their production costs. To re-evaluate the current system, bonuses for subsidiary executives should rather be linked to what they control, i.e. production volumes and costs. In addition, to ensure Executives take a holistic approach to responsibilities, the board should also add KPIs directly linked to SHEQ and the overall performance of the Group.

With production and costs being key KPIs, executive management should review their operations with specific interest in mechanised mining. Executives should partner with universities and other institutes to investigate how to optimise production.

To increase sales, the subsidiary executives should look at product beneficiation by aiming to enter the downstream sectors and produce value adding products or upgrading the standards of their current products. This could add onto production costs, but if the revenue for the beneficiated product is greater than the costs, it is justified. This could also provide an opportunity to reallocate and reskill excess staff.

The HR department should also update the company’s rules and procedures regarding retrenchments, scheduled services and not recording key data. Any violation of these and other procedures can result in immediate dismissal.

The current group structure means there is duplication across the various functions. In addition to costs, the more serious repercussion is that there is more bureaucracy in the system, which means the company is not fast and agile enough to tackle bottlenecks and/or changes (internal and external) in the system.

A flatter/horizontal structure is preferred as it eliminates big earners of no value. The company can consider a shared services department that can handle all common functions like HR, etc.

In summary, the following initiatives should be implemented:

1. Realignment of KPIs;
2. Bonuses to be based on point 1 above;
3. Invest in technology;
4. Updating company’s rules and procedures;
5. Reviewing of company structure.

# ***Problem 2: Strategic Joint Venture (JV) Decision in Canada***

**Issues:**

Amango wishes to resume coal mining in Canada but is unsure of what infrastructure to sink into the ground. The various designs are as follows:

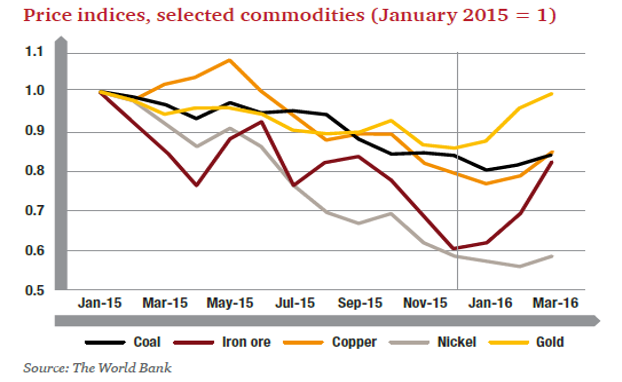
|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Fixed Costs (US$) | Fixed Costs (CAD) |
| Design 1 | Small & Shallow | 75 000 000 | 99 986 668.40 |
| Design 2 | Medium Size & Depth | 87 500 000 | 116 651 113 |
| Design 3 | Large & Deep | 100 000 000 | 133 315 558 |

Several factors need to be considered in order to make a decision. These factors relate to the demand of coal, predictions of which are displayed as follows[[1]](#footnote-1):

|  |  |  |  |
| --- | --- | --- | --- |
| Demand | Minimum | Median (35%↑) | Maximum (50%↑) |
| Quantity (In Tonnes) | 5 000 000 | 7 500 000 | 10 000 000 |
| Selling Price Per Tonne (US$) | 50.24 | 50.24 | 50.24 |
| Variable Cost Per Tonne (US$) | 26.38 | 35.61 | 39.57 |
| Profit Per Tonne (US$) | 23.86 | 14.63 | 10.67 |
| Maximum Sales (US$) | 251 200 000 | 376 800 000 | 502 400 000 |
| Total Cost of Mining (US$) | 131 900 000 | 267 075 000 | 395 700 000 |
| Maximum Total Profit (US$) | 119 300 000 | 109 725 000 | 106 700 000 |

From the table above, it can be determined that the minimum demand bears the most profit. This is purely because the trading price is fixed and variable costs increase to meet demand. However, it is important to look at figures from a Canadian point of view as per today’s spot rates depicted by the following table[[2]](#footnote-2):

|  |  |  |  |
| --- | --- | --- | --- |
| Demand | Minimum | Median (35%↑) | Maximum (50%↑) |
| Quantity (In Tonnes) | 5 000 000 | 7 500 000 | 10 000 000 |
| Selling Price Per Tonne (CAD) | 66.98 | 66.98 | 66.98 |
| Variable Cost Per Tonne (CAD) | 35.16 | 47.48 | 52.75 |
| Profit Per Tonne (CAD) | 31.82 | 19.50 | 14.23 |
| Maximum Sales (CAD) | 334 900 000 | 502 350 000 | 669 800 000 |
| Total Cost of Mining (CAD) | 175 800 000 | 356 025 000 | 527 500 000 |
| Maximum Total Profit (CAD) | 159 100 000 | 146 325 000 | 142 300 000 |



Based on the above graph, the price for coal began to gradually increase since January 2016, after a constant decline. It can be determined that the demand for coal is also gradually increasing or the supply is decreasing. This needs to be considered when deciding which infrastructure is most appropriate.

**Suggestions:**

Amango made an appropriate decision to resume coal mining as coal contributes significantly to operating profit, specifically US$457 million as of 2016. The Joint Venture strategy is also an appropriate corporate strategy as it provides the mine with its License to operate in an area that is very sensitive from a local community issue.

The wisest decision would be Design 1. Opening the mine would be classified as a Greenfield Project. After which, Amango would utilise the Fade Module Approach, starting off small yet including all infrastructure necessary for a bigger plant and as demand increases, additional modules may be constructed. This would fall under a Brownfield Project – an expansion project.

The reason for selecting Design 1 is simply because demand appears to be increasing, however, there is a history of a decline in demand. This would be a cautious approach, as the Fade Module Approach builds infrastructure in unused space during the initial construction phase, thus allowing for expansion upon an increase in demand. Based on the current variable costs, minimum demand would provide the most profit. Therefore, if demand increases and expansion is required, Amango needs to minimise variable costs to increase profit, as the trading price will always be fixed. Amango should also do more research in terms of beneficiating the coal and getting a higher price.

With overtime becoming a major cost as demand increases, Amango should consider reviewing their shift system using the current headcount. By working a 2 x 12-hour shift or 3 x 8-hour shift, they can offer staff a higher fixed salary (at a lower rate than overtime) and if demand reduces even further then the shift system can account for that scenario as well. More mechanical operations could also save costs and can be ramped up or down depending on demand.

In summary, the following initiatives should be implemented:

1. The minimum option (Design 1) should be chosen;
2. Consider a phased, module building option;
3. Review shift system;
4. Invest in technology.

# ***Problem 3: Strategic Disposal in Brazil***

**Issues:**

Amango wishes to dispose of its Niobium and Phosphates business (AMA-NP) for US$0,75 billion and use the proceeds to attempt to decrease its Net Debt to less than US$10 billion by the end of 2017. Net Debt is currently US$23,776 billion (Total Liabilities – Cash and Cash Equivalents). To make an appropriate decision, Amango needs to look at financial data from a US perspective, because all operations are in dollars. The following table provides financial information for AMA-NP:

|  |  |  |
| --- | --- | --- |
|  | Brazilian Real (BRL) (in millions) | US Dollars (US$) (in millions) |
| Sector Price to Earnings (P/E) Ratio | 13 | 13 |
| Non–Current Assets | 1 915 | 593,65 |
| Earnings (Profits after tax) | 110 | 34,1 |
| Net current assets | 775 | 240,25 |
| Long-term debt | 270 | 83,7 |
| Total long-term debt + Equity | 2 690 | 833,9 |
| Operating Profit (EBIT) | 157 | 48,67 |

From the table above, it can be determined that AMA-NP is a profitable business, with a net profit after tax of US$34,1 million. Aside from looking at the profitability of AMA-NP, it is necessary to analyse specific financial ratios of Amango as the Holding company. The following two ratios are important for decision-making regarding this asset disposal:

1. Solvency Ratio:

Total Assets**:** Total Liabilities

52 013 000 000**:** 30 671 000 000

1,7**:** 1

The ratio indicates that the company is still solvent, with Total Assets being almost double Total Liabilities. A good ratio would be 1,4:1, this suggests that Amango is able to pay off Liabilities with Assets and still have Assets remaining in the business.

# Debt to Equity Ratio:

Total Liabilities**:** Total Equity

30 671 000 000**:** 21 342 000 000

1,44**:** 1

This ratio indicates that the company uses a lot of debt to finance its assets, thus making the company high risk. This indicates that Amango is highly geared/levered and suggests that the company should decrease its debt.

Niobium and Phosphate contributes US$119 million towards operating profit as per 2016, however, Niobium and Phosphate is not the main source of income.

**Suggestion:**

Amango should dispose of AMA-NP. Even though Amango does not face any solvency problems, they would be able to save a lot of finance in regard to interest expense on medium and long-term borrowings. Currently, interest expense would be US$2,28452 billion (14% of US$16,318 billion)[[3]](#footnote-3). After disposal, interest expense incurred would be US$2,17952 billion [14% of (US$16,318 billion - US$0,75 billion)]. The difference is US$0,105 billion, which is not covered by AMA-NP’s net profit after tax of US$0,0341 billion. Therefore, disposal of AMA-NP would significantly reduce interest expense accumulated.

AMA-NP is a profitable company, contributing to operating profit, however, as stated, it is not the main source of income, therefore disposing the company would allow Amango to refocus resources (human, financial and physical) on other more profitable departments/businesses such as the coal venture as proposed in problem 2 or Iron Ore and Manganese mining as it would be the most profitable commodity.

Additionally, AMA-NP will only contribute enough profit to match the proceeds of US$750 million after 22 years (US$750 million ÷ US$34,1 million) of operation. Negating the disposal and simultaneously considering a potential significant change in net profit after tax, it would still take the company several years to accrue US$750 million. The disposal would also decrease the debt to equity ratio, thus decreasing the overall risk and gearing of Amango, which would attract more stakeholders and lead to an increase in demand for shares.

The new debt to equity ratio:

Total Liabilities**:** Total Equity

(30 671 000 000 – 750 000 000)**:** 21 342 000 000

29 921 000 000**:** 21 342 000 000

1,4**:** 1

Therefore, this disposal coupled with ongoing productivity and profit will decrease gearing and Net Debt.

For the above reasons, Amango should dispose of AMA-NP.

In summary, the following initiative should be implemented:

1. Amango should accept the offer and sell this business.

# ***Problem 4: Balance Sheet De-Leverage***

**Issues:**

Amango is looking to deleverage their balance sheet by either disposing of unprofitable mines or residential properties in a section of its property portfolio or by issuing new shares in order to increase equity. In order to make an appropriate decision, Amango needs to analyse the Property, Plant and Equipment note, the potential proceeds from sale of assets and the impact on the socio-economic environment (as enquired by PIC) – based on Pillar C (Socio-Political).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| US$ millions | Land and Buildings | Fixtures, fittings and equipment | Assets under construction | Total |
| Year end 2016 |  |  |  |  |
| At revaluation | 16 780 | 29 510 | 1 250 | 47 540 |
| Accumulated depreciation |  | (17 919) |  | (17 919) |
| Net book value | 16 780 | 11 591 | 1 250 | 29 621 |

Since all residential properties are in South Africa, it is important to analyse from a South African point of view, in terms of exchange rates on the last day of 2016 (December 31st) as well as today’s spot rates. The following tables depict the financial data respectively:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ZAR millions (31 Dec 2016) | Land and Buildings | Fixtures, fittings and equipment | Assets under construction | Total |
| Year end 2016 |  |  |  |  |
| At revaluation | 179 660 | 315 950 | 13 380 | 508 990 |
| Accumulated depreciation |  | (191 850) |  | (191 850) |
| Net book value | 179 660 | 124 100 | 13 380 | 317 140 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ZAR millions (Spot Rates) | Land and Buildings | Fixtures, fittings and equipment | Assets under construction | Total |
| Year end 2016 |  |  |  |  |
| At revaluation | 229 230 | 403 140 | 17 080 | 649 450 |
| Accumulated depreciation |  | (224 500) |  | (224 500) |
| Net book value | 229 230 | 158 350 | 17 080 | 404 660 |

Based on the tables above, it can be concluded that decisions should be based on today’s spot rate as that depicts the true value of the assets (The value of assets remain the same in this note because of the historical cost concept in GAAP, the only amount that varies is the exchange rate).

Proceeds will come from the sale of residential properties: 50% of property portfolio consists of residential apartments, of which 71% is up for sale, the other 29% will remain in the property portfolio. The following table provides the financial information:

|  |  |  |  |
| --- | --- | --- | --- |
| ZAR millions (Spot Rates) | Residential Property (50%) | Residential Property for Sale (71%) | Residential Property not for Sale (29%) |
| Land and Buildings | 114 615 | 81 376,65 | 33 238,35 |
| Assets under construction | 8 540 | 6 063,4 | 2 476,66 |
| Total | 123 155 | 87 440,05 | 35 715,01 |

Upon sale of assets, coupled with the reduction of debts using the respective proceeds from sale of assets, Amango needs to calculate the new debt to equity ratio to determine the effect the decision would have on gearing/leverage. In order to determine the debt reduction, proceeds need to be analysed in terms of US$ as well:

|  |  |  |  |
| --- | --- | --- | --- |
| US$ millions | Residential Property (50%) | Residential Property for Sale (71%) | Residential Property not for Sale (29%) |
| Land and Buildings | 8 390 | 5 956,9 | 2433,1 |
| Assets under construction | 625 | 443,75 | 181,25 |
| Total | 9 015 | 6 400,65 | 2614,35 |

Amango’s current debt to equity ratio and relevant commenting is provided in [Problem 3.](#_Debt_to_Equity)

The debt to equity ratio after the proceeds (from the sale of the residential properties) have been used to reduce debt is as follows:

Total Liabilities**:** Total Equity

(30 671 000 000 – 6 400 650 000)**:** 21 342 000 000

24 270 350 000**:** 21 342 000 000

1,14**:** 1

Thus, disposing of the residential properties has a significant positive effect on the gearing of Amango.

Upon disposal of unprofitable mines, Amango will leave over 100 000 people unemployed, thus negatively affecting the unemployment rate in the socio-economic environment.

Additionally, Amango needs to consider transferring 16% ownership onto Black South African employees coupled with paying 10% royalties to meet the requirements of the mooted Mining law and charter.

**Suggestion:**

Amango should dispose of the residential properties (selling them to BEEP) in order to improve the debt to equity ratio. This coupled with the disposal of AMA-NP in Problem 3, would de-leverage Amango further. The new debt to equity ratio would be:

Total Liabilities**:** Total Equity

(24 270 350 000 – 750 000 000)**:** 21 342 000 000

23 520 350 000**:** 21 342 000 000

1,1**:** 1

This indicates a significant improvement in Amango’s gearing and lowers their risk, attracting investors. Additionally, Amango would use the sale as part of its empowerment commitment to meet the targets set out in the mooted Mining law and charter, essentially transferring ownership to a BEE focused company.

Furthermore, Amango should dispose of unprofitable mines, unless the offer is for less than book value. These mines do not contribute significantly to operating profit and should be used to subsidise the deleveraging of Amango. Upon disposal of the unprofitable mines, the residential properties in the respective areas become irrelevant and redundant, thus further supporting the decision to dispose of the 71% of residential properties. Coupled with potentially selling shares to increase Equity, Amango can improve their debt to equity ratio to an acceptable point, where debt is less than equity. As profitability increases, Equity will also increase from the upsurge in retained income.

In terms of retrenching employees, Amango can alleviate the negative effects of this decision by transferring employees to the beneficiating processes, reskilling employees to work with the new technologies. Amango should also set up a SMME department to work with local communities to create long term viable opportunities that can be sustained even after the mine closes, e.g. farming.

Therefore, it can be determined that Amango needs to dispose of their residential properties and unprofitable mines in order to lower their gearing and risk.

In summary, the following initiatives should be implemented:

1. Dispose of unprofitable mines for more than Book Value;
2. Dispose of the residential property;
3. Meet BEE requirements;
4. Implement SMME initiatives.

# ***Problem 5: Operational Risk and Industrial Action in Australia***

**Issues:**

Amango faces numerous ethical and HR problems regarding the operation of a copper mine in relation to health and safety, which violates Pillar A (This negatively affects PR and decreases the share price). Specifically, infrastructure complications which may be as a result of postponing service schedules as identified and concurrently solved in Problem 1. As a result of which, the mine was shutdown. Amango is currently deliberating whether reopening the mine would be an astute decision or not, after the subsequent incidents involving the newly constructed mine shaft:

|  |  |
| --- | --- |
| Incident | Number of Individuals Affected |
| Evacuations due to safety concerns | 560 |
| Reported deaths | 6 |
| Trapped miners | 80 |
| Unreported deaths in 2016 | >10 |

In reference to the statement providing non-financial performance data, the number of work-related deaths seemed to have improved in comparison to previous years. However, it appears that the total number of deaths in 2016 exceed that of prior years’ considering that over 10 deaths were unreported. Aside from poor performance, this also suggests that Amango is not transparent and in accordance with IFRS (International Financial Reporting Standards), which stimulates doubt with regard to the reliability of information provided by Amango.

If the mine was immediately reopened, strike action would occur within 7 days and further degrade Amango’s public image and goodwill. Employees may resign due to volatile working conditions which would decrease productivity. Shareholders may disinvest which would lower equity and the share price thus increasing the gearing of Amango (which is presently unacceptable). Stakeholders will be repelled from establishing relations with Amango.

If the mine remained dormant, this would provide Amango with more time to appease Stakeholders, to investigate the circumstances, and thoroughly critique the mechanisms of the mine to resolve the issues. The lost time injury frequency rate would increase because of zero productivity. Amango would make a loss of US$250 000 or AUD346 745.83.

**Suggestion:**

Amango should not resume operation of the copper mine. They should immediately form a joint working committee with mine staff (including executive management, union, representatives from the design company and government officials). This committee’s mandate should be to fully investigate the reasons for the accidents and come up with solutions to prevent this from happening again. The company can also review its current safely procedures and rules and amend if required. Only when safe to do so, they should resume but with full support from all parties.

This would give Amango an opportunity to engage with the families of the deceased and injured and provide families with compensation packages including financial aid for funeral cover and a percentage of the remuneration package of the deceased (to sustain the family temporarily).

In order to pacify the situation regarding the 10 unreported deaths, Amango should make a public apology and assure the reliability and transparency of information published by the company. Amango management could also be liable for prosecution for not reporting fatalities and Amango should support any legal case against the employees found liable.

Considering that the failure resulted from a faulty architectural design, Amango should consider claiming from the company responsible for the design. This would partially substitute potential income that would be generated from the mine.

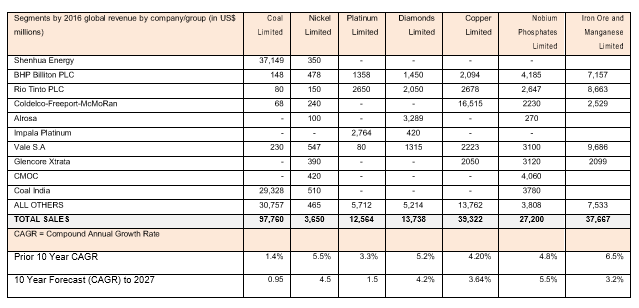
In summary, the following initiatives should be implemented:

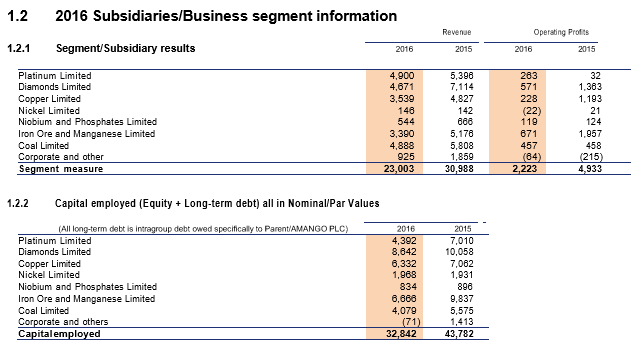
1. Amango should close the mine momentarily to rebuild relations and truly promote Pillar A;
2. Form a joint working committee.

# ***Problem 6: Corporate Reconstruction and Reorganisation***

**Issues:**

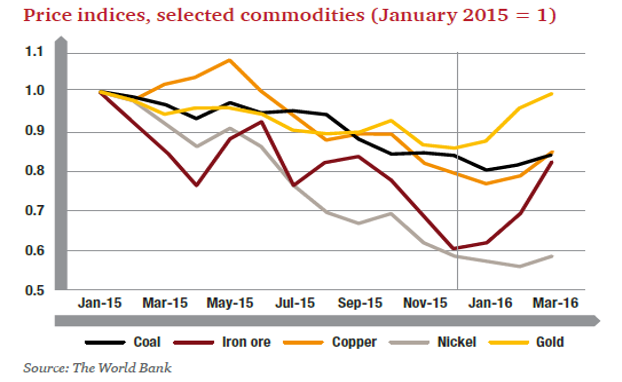
Amango is deciding on which subsidiary to sell to reduce debt. Essentialy this allows Amango to focus on satisfying shareholders whilst simultaneoulsy contributing towards the community, thus reassuring PIC that their investment is beneficial. To make an apporiate decision they should base their sale on which subsidary performs the poorest, after analysing the following table:



After interpreting the above table, it can be determined that Nickel generates the lowest revenue of US$3 650 million, but this figure is expected to rise by 4.5%. These figures need to be compared to Amango’s financial information to ensure that the correct subsidiary is sold.

It can once again be seen that Nickel provides the lowest revenue of US$146 million in 2016, coupled with an Operating Loss of US$22 million, yet it requires a massive capital investment, of US$1 968 million, in order to operate.

**Suggestion:**

Amango should sell their Nickel Ltd subsidiary as the graph below indicates the continuous fluctuations with a negative outlook.

Amango should sell the subsidiary at the amount of capital employed coupled with the goodwill factor or alternatively at the *in-situ* reserves multiplied by the forecast Ni price. This allows Amango to recover the money invested whilst generating finances to reduce debt and assist in achieving organisational objectives.

# ***Conclusion***

Amango wishes to achieve 3 key objectives over the next 3 years in order turn-around the business.

The first of which is the radical portfolio restructuring. Niobium and Phosphate should be sold entirely. Nickel Limited would also have been sold by year end. Based on current performance, Amango should sell Corporate and Other, Iron Ore and Manganese and Coal. Amango should keep Platinum, Diamonds and Copper as they have the largest share of the total market in these commodities. However, in these three commodities, Amango should focus on decreasing capital employed, improving efficiencies and lowering costs.

The second major challenge is operational discipline. Staff issues are going to be critical for Amango. They should consider reskilling and transferring staff were feasible. Where retrenchments are absolutely necessary, they should first consider natural attrition and voluntary packages.

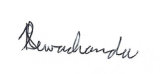
The third of which is protecting the balance sheet. This will be achieved through the asset disposal in Problem 3 coupled with the disposal of unprofitable mines, redundant residential property and the issue of shares (Increasing Equity) as addressed in Problem 4.

The suggestions provided to resolve the problems are interlinked allowing for the synchronised attainment of the overall vision statement with minimal expenses incurred.

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1. Based on the Trading Price remaining US$50.24 irrelevant of demand quantities, due to the Terminal Market. [↑](#footnote-ref-1)
2. Based on the Trading Price remaining CAD66.98 irrelevant of demand quantities, due to the Terminal Market. [↑](#footnote-ref-2)
3. Calculated on the basis that the current rate of interest incurred on borrowings is assumed to be 14%. [↑](#footnote-ref-3)