

**Notes for the person reading the sample report:**

- This is the result of an original study in June 2002, revised in Sept 2002, June & Dec 2003 and standardised in Nov 2004.
- Wherever possible, the identity of the client has been concealed. But all costs are actual. The report is not modified.
- The overall report is irrelevant today. It is presented merely to indicate our attention to detail.
- Many parameters used at that time are irrelevant today, so do not use the calculations except as a rough guideline.
- Ignore the formatting style – the report is more than one and a half decade old.

**Costing**

(All figures in UAE Dirhams)

[A] Absolute Figures

Particulars	Salaries	Repairs	Diesel	Others	Depre	Total	(Others)
Sales						4,430,400	
Total Income						<u>4,430,400</u>	
Blasting	169,242	50,000	245,230	621,647	529,167	1,615,286	Own Basts
Production	27,416	125,000	45,104	6,300	350,000	553,820	
Transportation	229,874	166,200	301,580	2,800	276,667	977,121	
Shipping	4,218	-	-	849,030	-	853,248	Port Chgs
Administration	53,251			158,333	6,334	217,918	Royalty, etc
Finance				100,000		100,000	Interest
Total Expenses	<u>484,001</u>	<u>341,200</u>	<u>591,914</u>	<u>1,738,110</u>	<u>1,162,168</u>	<u>4,317,393</u>	
Net Profit						113,007	

[B] Proportion to Sales

Particulars	Salaries	Repairs	Diesel	Others	Depre	Total	(Others)
Sales						100.00%	
Total Income						<u>100.00%</u>	
Blasting	3.82%	1.13%	5.54%	14.03%	11.94%	36.46%	Own Basts
Production	0.62%	2.82%	1.02%	0.14%	7.90%	12.50%	
Transportation	5.19%	3.75%	6.81%	0.06%	6.24%	22.05%	
Shipping	0.10%	0.00%	0.00%	19.16%		19.26%	Port Chgs
Administration	1.20%	0.00%	0.00%	3.57%	0.14%	4.92%	Royalty, etc
Finance	0.00%	0.00%	0.00%	2.26%		2.26%	Interest
Total Expenses	<u>10.93%</u>	<u>7.70%</u>	<u>13.37%</u>	<u>39.22%</u>	<u>26.22%</u>	<u>97.45%</u>	
Net Profit						2.55%	

[C] Per Ton, when actual output is taken

172,380 tons

Particulars	Salaries	Repairs	Diesel	Others	Depre	Total	(Others)
Sales						25.70	
Total Income						<u>25.70</u>	
Blasting	0.98	0.29	1.42	3.61	3.07	9.37	Own Basts
Production	0.16	0.73	0.26	0.04	2.03	3.21	
Transportation	1.33	0.96	1.75	0.02	1.60	5.67	
Shipping	0.02	-	-	4.93	-	4.95	Port Chgs
Administration	0.31	-	-	0.92	0.04	1.26	Royalty, etc
Finance	-	-	-	0.58	-	0.58	Interest
Total Expenses	<u>2.80</u>	<u>1.98</u>	<u>3.43</u>	<u>10.10</u>	<u>6.74</u>	<u>25.04</u>	
Net Profit						0.66	

Costing for new crusher operations of ABC International LLC.  
 Period beginning approximately July, 2003.  
 Figures in columns indicate monthly costs / revenues.

**Costing**

<u>Particulars</u>		<u>Projected</u>	<u>Variable</u>	<u>Fixed</u>	<u>Ratio to Sales</u>	<u>Per unit for 172,380</u>
Sales	(Working Note 1)	4,430,400	4,430,400	-	100.00%	25.70
<b>Total Income</b>		<b>4,430,400</b>	<b>4,430,400</b>	<b>-</b>		
Blasting	(Working Note 2)	1,615,286	848,331	766,955	36.46%	9.37
Production	(Working Note 3)	553,820	123,583	430,237	12.50%	3.21
Transportation	(Working Note 4A)	977,121	374,224	602,897	22.05%	5.67
Shipping	(Working Note 4B)	853,248	849,030	4,218	19.26%	4.95
Administration	(Working Note 5)	217,918	13,000	204,918	4.92%	1.26
Finance	(Working Note 6)	100,000		100,000	2.26%	0.58
<b>Total Expenses</b>		<b>4,317,393</b>	<b>2,208,168</b>	<b>2,109,225</b>	<b>97.45%</b>	<b>25.04</b>
Net Profit / (Loss)		113,007			2.55%	0.66
Contribution			2,222,232			
Production (Tons)			172,380			
Contribution Per Ton			12.89			
BEP				163,633		
Margin of Safety / (Production below BEP)				8,747		

**Accounting**

<u>Particulars</u>		<u>Projected</u>	<u>Variable</u>	<u>Fixed</u>	<u>Ratio to Sales</u>	<u>Per unit for 172,380</u>
Sales	(Working Note 1)	4,430,400	4,430,400	-	100.00%	25.70
<b>Total Income</b>		<b>4,430,400</b>	<b>4,430,400</b>	<b>-</b>		
Blasting	(Working Note 2)	617,147	617,147	-	13.93%	3.58
Salaries	(Working Note 7)	484,000		484,000	10.92%	2.81
Repairs & Maintenance	(Working Note 8)	341,200	255,460	85,740	7.70%	1.98
Diesel	(Working Note 9)	591,914	473,531	118,383	13.36%	3.43
Administration	(Working Note 11)	171,933	13,000	158,933	3.88%	1.00
Port Charges	(Working Note 10)	849,030	849,030	-	19.16%	4.93
Finance	(Working Note 6)	100,000		100,000	2.26%	0.58
Depreciation	(Working Note 12)	1,162,168		1,162,168	26.23%	6.74
<b>Total Expenses</b>	(1)	<b>4,317,392</b>	<b>2,208,168</b>	<b>2,109,224</b>	<b>97.44%</b>	<b>25.05</b>
Net Profit / (Loss)		113,008			2.55%	0.66
Contribution			2,222,232			
Production (Tons)			172,380			
Contribution Per Ton			12.89			
BEP				163,633		
Margin of Safety / (Production below BEP)				8,747		

There will not be cash loss, but loss due to depreciation.

**Working Notes:**

<u>Particulars</u>	<u>Achievable</u>	<u>Variable</u>	<u>Fixed</u>
<u>Working Note 1: Sales</u>			
Sales Quantity (10mm + 20mm)	172,380		
Rate per ton 20 Dhs.			
Sales Quantity (1-5mm)	70,200		
Rate per ton 14 Dhs.			
(Assuming sales to XYZ, 1,000 tons per day @ Dhs 17 & balance to Others @ Dhs 12)			
Total Sales	4,430,400	4,430,400	

Sales of 0-0.75mm dust and sales of oversized boulders not considered for this calculation. Sales of 0-0.75mm dust expected in the near future, but resultant fund flow cannot be anticipated at this stage. Boulder demand exists at Dhs 9 per ton. But we do not intend to consider that as a source of revenue. We earn revenues from renting of equipments like trucks and shovels. However, we are not considering the same in our calculation of income as it is a marginal amount. Again, as the main source of income is aggregate and not transport, we do not wish to lay any stress on the said source of income.

Sales of material purchased from other crushers is not considered. Similarly, procurement costs of material from other crushers is also not considered. These will be worked out at XYZ and directly transferred to ABC. The ability to make procurements from the point of view of infrastructure availability can be worked out from the calculations given in this report.

Working Note 2: Blasting Expenses

Blasting Cost	43,796	3	617,147	617,147	
Drilling Payment to Outside Party	-		-	-	
Total Costs	43,796	3	617,147	617,147	-
Salaries	60,500		169,242		169,242
Repairs	30,000		50,000	35,000	15,000
Diesel	183,922		245,230	196,184	49,046
Rent of Vehicles			4,500		4,500
Depreciation	529,167		529,167		529,167
Total Cost	547,385	36,811	1,615,286	848,331	766,955

Working Note 3: Production Expenses

Salaries	26,000		27,416		27,416
Repairs	90,000	63,000	125,000	87,500	37,500
Diesel	3,828	27,062	45,104	36,083	9,021
Rent of Vehicles (1 Pickups, 1x3ton)			6,300		6,300
Depreciation	1,000		350,000		350,000
Total	120,828	90,062	553,820	123,583	430,237

Working Note 4A: Transportation Expenses

Particulars	Achievable	Variable	Fixed
Salaries	229,874		229,874
Repairs	166,200	132,960	33,240
Diesel	301,580	241,264	60,316
Rent of Vehicles	2,800		2,800
Depreciation	276,667		276,667
<b>Total</b>	<b>977,121</b>	<b>374,224</b>	<b>602,897</b>

Working Note 4B: Shipping Expenses

Salaries	4,218		4,218
Port Charges	849,030	849,030	-
Depreciation	-		-
<b>Total</b>	<b>853,248</b>	<b>849,030</b>	<b>4,218</b>

Working Note 5: Administrative Expenses

Salaries		53,251	53,251
Royalty @ 1,000,000 pa		83,333	83,333
Sponsor @ 120,000 pa		10,000	10,000
Other Costs, as detailed later below		65,000	13,000
Depreciation	6,334		6,334
<b>Total</b>	<b>11,667</b>	<b>217,918</b>	<b>13,000</b>

Working Note 6: Financial Expenses

Loan amt is increased from Dhs 13m to Dhs 30m, for expansion, Dhs 5m added for working capital. To keep round figures, out of gross new investment of Dhs 14m + 10m (Plant & Equipment) and Working Capital Requirement of Dhs 10m, 50% (14+10+10=34; 34x50%=17) is contribute by promoters and balance Dhs 17m borrowed from bank.

Interest on Loan of Dhs 30,000,000 @ int rate of 4% works out to approx 1,200,000 pa.

It works out to Dhs 100,000.00 per month.

Bank Charges also work out to Dhs 1000 pm. These are taken in administrative expenses.

Working Note 7: Salaries

As per the supporting notes, salaries are expected to be as follows. Figures of monthly salaries are adjusted to include value of allowances and other benefits also. It includes value of overtime payments also.

Salaries & Wages	459,000
Labour Welfare	25,000
<b>Total pm</b>	<b>484,000</b>

Total Manpower	145
Average Emoluments	3,349

Distribution of Manpower

Section	Equiv Persons	Salary Allocation (Gross)	Labour Welfare Allocations	Total	
Quarry	47	160,500	8,742	169,242	
Crusher	Normal	6	15,000	817	15,817
	Maintenance	4	11,000	599	11,599
Transport	Drivers	61	174,000	9,477	183,477
	Maintenance	16	44,000	2,397	46,397
	Shipping	2	4,000	218	4,218
Administration	10	50,500	2,751	53,251	
<b>Total</b>	<b>145</b>	<b>459,000</b>	<b>25,001</b>	<b>484,001</b>	

<u>Section</u>	<u>Equivalent Persons</u>	<u>Designation</u>	<u>Monthly Sal</u>	<u>Total Salary</u>
Quarry Section:	3	Drillers	4,000	12,000
	2	Helpers	1,500	3,000
	1.5	Blasting Engineer	20,000	30,000
	8	Specialised Blasting Team	2,500	20,000
	6	Quarry Truck Drivers	3,000	18,000
	12	Shovel Operators	3,000	36,000
	4	Excavator Operators	3,000	12,000
	3	Bulldozer Operators	3,000	9,000
	1	Water Tanker Operator	2,500	2,500
	1	Equipment Maint Incharge	4,000	4,000
	3	Mechanics	3,000	9,000
	1	Assistant Mechanics	1,500	1,500
	0.5	Auto Electrician (50%)	3,000	1,500
	1	Contingent	2,000	2,000
	Sub Total	<u>47</u>		
Crusher Normal:	0.5	Mechanical Engr (50%)	5,000	2,500
	0.5	Electrical Engineer (50%)	5,000	2,500
	2	Plant Operators	2,500	5,000
	1	Helpers	1,500	1,500
	1	Control Helpers	1,500	1,500
	1	Contingent	2,000	2,000
	Sub Total	<u>6</u>		
Crusher Maintenance:	0.5	Mechanical Engr (50%)	5,000	2,500
	0.5	Electrical Engineer (50%)	5,000	2,500
	1	Plant Fitter	2,500	2,500
	1	Helpers	1,500	1,500
	1	Contingent	2,000	2,000
Sub Total	<u>4</u>			<u>11,000</u>
Transport Drivers:	38	Trailer Drivers	3,000	114,000
	16	6 Wheel Operators	2,750	44,000
	2	Shovel Operators	3,000	6,000
	1	Water Tanker Operator	2,500	2,500
	1	Weighbridge Operator	1,500	1,500
	0.5	Transport Incharge (50%)	5,000	2,500
	1	Port & Operating Assistants	1,500	1,500
	1	Contingent	2,000	2,000
	Sub Total	<u>61</u>		
Transport Maintenance:	1	Maintenance Incharge	5,000	5,000
	4	Mechanics	4,000	16,000
	4	Assistant	2,500	10,000
	3	Helpers	1,500	4,500
	0.5	Auto Electrician (50%)	3,000	1,500
	2	Tyreman	2,500	5,000
	1	Contingent	2,000	2,000
Sub Total	<u>16</u>			<u>44,000</u>
Shipping:	0.5	Transport Incharge (50%)	5,000	2,500
	1	Port & Operating Assistants	1,500	1,500
Sub Total	<u>2</u>			<u>4,000</u>
Administration:	1	Finance Head	15,000	15,000
	2	Accountants	4,000	8,000
	1	Purchase Head	10,000	10,000
	1	Purchase Assistant	4,500	4,500
	1	Receptionist / etc	2,000	2,000
	1	Office Assistant	1,500	1,500
	1	PRO	5,000	5,000
	1	Light Drivers	2,500	2,500
	1	Contingent	2,000	2,000
Sub Total	<u>10</u>			<u>50,500</u>

Working Note 8: Repairs & Maintenance

Quarry Equipment	50,000	35,000	15,000
Crusher	125,000	87,500	37,500
Trucks	166,200	132,960	33,240
<b>Total Expenses</b>	<b>341,200</b>	<b>255,460</b>	<b>85,740</b>

Total Trips per day 100 trips of 200 kms each.  
 Total Kms per day 20,000  
 There will be 2 serviceings every day.  
 F1 Service Required on Day 1 & Day 3 950 Cost at 475 Dhs per service.  
 F2 Service Required on Day 2 750  
 F3 Service Required on Day 4 1,850  
 Cost for 4 days for 1 service 3,550  
 Cost for 4 days for 2 serviceings 7,100  
 Cost for month 49,700

Note that workshop will be running for 26 days only, while trucks will be running for 30 days. Avg of 28 days taken.

Tyres	76,500	(85 tyres per month @ Dhs 900 per tyre)
Equipment Hire	15,000	(Taken as maint, as hiring done only in case of breakdown)
Other Maintenance per month	25,000	(Filters, Batteries, Repairs, Electricals, Brakes, Hydraulics, etc)
<b>Total Cost</b>	<b>166,200</b>	

It is expected that of the total expenses mentioned above,  
 80% will be incurred at minimum level and  
 100% will be incurred at achievable level.

Working Note 9: Diesel & Fuel

Diesel consumption can be precisely worked out from details available within this calculation for equipment running as well as truck movements. As per this calculation, the cost of diesel is worked out at approx 118,383 gallons pm at 5.00 Dhs per gallon.  
 Minimum level can be achieved at abt 88,787 gallons while achievable level will take 118,383 gallons.

Equivalent Equip Hrs per day = 16 Genset Hrs per day = 20

Equipments	Nos	Equiv Running	Glns / Hr	Parameters	Glns / Day
Excavators	2	1	7.30	117 glns / day / Excav	117
Rock Body Trucks	3	1	3.50	56 glns / day / Truck	56
Bulldozers	2	-	5.30	- glns / day / Bldzr	-
Shovels	7	4	2.70	173 glns / day / Shovel	691
Drill Machines	3	3	7.10	341 glns / day / Drill	1,022
Generators	3	1.1	13.70	308 glns / day / Generator	347
Trucks (Merc)	8	8	40	40 glns / day / Truck	320
Trucks (MAN)	30	25	10 km / gln	20,000 km / day	2,000
Sundry Equipments					-
<b>Total</b>					<b>4,553</b>

Consumption Parameters

Equipment	Consumption	Month	Hours /day	Days / month	Average	
Excavators	1,845.00	June 02	12	21	7.32	PC 750
Rock Body Trucks	697.50	June 02	18	11	3.52	No 2
Bulldozers	191.00	July 02	12	3	5.31	
Shovels	1,282.50	June 02	18	26	2.74	CAT 972G
Drill Machines	592.98	June 02	12	7	7.06	
Generators	7,628.95	Aug 02	18	31	13.67	CAT 2/3

Particulars	Minimum	Variable	Fixed	Achievable	Variable	Fixed
Cost of Diesel	443,725	55,148	88,787	591,914	473,531	118,383
Allocated as below:						
Quarry Equipment	41.43%	183,921	27,138	36,785	245,230	49,046
Crusher	7.62%	33,828	5,062	6,766	45,104	9,021
Trucks (Transport)	50.95%	225,976	22,948	45,236	301,580	60,316

Working Note 10: Port Charges

Expected Shipment (tons)		242,580		
Cost at Dhs 3.50 per ton, for Mina Saqr		849,030	849,030	-
Port Stockpile Lease pa	-	-	-	-
Total		849,030	849,030	-

Cost payable for material purchased from other crushers is not included here as it will be accounted for at the XYZ and transferred to ABC at the time of payment.

Cost from Port would be Dhs 5.50 per ton & Rent Dhs 90,000 pa. Stockpile charges are not retained for gabbro procurements. As other resource allocation for gabbro will be directly proportional, the same is not considered.

Working Note 11: Other Miscellaneous Administrative Expenses

Components of Administrative expenses would include:

Telephone expenses at various locations	15,000	
Rent of Office	-	
Rent of Fghijkl Residences	6,080	(35,000 + 38,200 pa)
Rent of Rstuvwx Residences	3,420	(20,000 + 12,000 + 9,000)
Rent of Defghij & Other Residences	2,000	(Approx 12,000 + 12,000)
Rent of Vehicles (Admin Component)	7,500	
Insurance of Site	-	
Insurance of Trucks	3,500	(Dhs 1,200 per truck - 30 MAN, 5 Merc)
Laboratory Tests	1,000	
Customs Duties	1,000	
Bank Charges	1,000	
Legal, Audit, etc.	2,000	
Electricity	5,000	
Printing & Stationery	1,000	
Directors & Management Travelling	5,000	
Consultants	1,000	
Traffic Regulations	1,000	
Donations & Publicity	1,500	
Miscellaneous	8,000	
Total	<u>65,000</u>	

Most of these costs are considered at variations with historical costs with due subjective deviation. The component of costs may individually vary, but the overall cost would be approximately as above.

Working Note 12: Depreciation

We are not considering repayment of loan as we do not want to arrive at the cash profit but rather the actual profit. However, we are considering selective depreciation. Though this will reflect the book profits, it will not reflect the true profits due to inflated value of capital outlay. The inflation in value being attributable to unused capital outlay and the inflation due to non-cost conscious erection and working on the same. Past depreciation is treated as unabsorbed till date and it is being absorbed in this calculation. Investment in Accommodation is expected to be about Dhs 150,000 and that for Visas, non depreciating, will be Dhs 700,000 atleast.

At present, we are assuming capital outlay to be written off over 5 years under SLM.

A rough calculation for the same is as follows:

<u>Section</u>	<u>Details</u>	<u>Cost</u>	<u>Depreciation</u>	<u>per month</u>
Quarry	Development	6,750,000	1,350,000	112,500
	Equipment	25,000,000	5,000,000	416,667
Crusher	Equipment	21,000,000	4,200,000	350,000
	Trucks	16,000,000	3,200,000	266,667
Admin	Equipment	600,000	120,000	10,000
	Development	25,000	5,000	417
	Equipment	55,000	11,000	917
	Others (Vehicles)	300,000	60,000	5,000
<b>Total</b>		<b>69,730,000</b>	<b>13,946,000</b>	<b>1,162,168</b>
Quarry Development	1 Development, Approx Cost	3,500,000		3,500,000
	1 Asphalt Road	250,000		250,000
	1 Waste Material Dumped (500,000 tons @ Dhs 6)	3,000,000		3,000,000
<b>Sub Total</b>				<b>6,750,000</b>
Quarry Equipment	2 Excavators	4,450,000		8,900,000
	1 Excavators	750,000		750,000
	1 Rock Breaker Hammer	140,000		140,000
	3 Rock Body Trucks	700,000		2,100,000
	1 Rock Body Trucks	320,000		320,000
	3 Rock Body Trucks	2,000,000		6,000,000
	6 Shovels	400,000		2,400,000
	2 Bulldozers	700,000		1,400,000
	1 Existing Drill Machine	150,000		150,000
	2 New Drill Machines	1,000,000		2,000,000
	Other Equipments	840,000		840,000
<b>Sub Total</b>				<b>25,000,000</b>
Crusher Equipment	2 Existing Crushers	Not Considered		Not Considered
	1 New Crusher	14,000,000		14,000,000
	1 Dust Control System	Included above		Included above
	1 Civil Works for Crusher	1,500,000		1,500,000
	1 Production Tunnels	2,100,000		2,100,000
	1 Civil Works for Tunnels	1,100,000		1,100,000
	2 1000KVA Generators	650,000		1,300,000
	1 800KVA Generators	350,000		350,000
	15 Portacabins	12,000		180,000
	Other Equipments	300,000		470,000
<b>Sub Total</b>				<b>21,000,000</b>
Transport Trucks	38 MAN Trucks	400,000		15,200,000
	8 Merc Trucks	100,000		800,000
	Other Equipments	100,000		-
<b>Sub Total</b>				<b>16,000,000</b>
Transport Equipment	1 Shovel	400,000		400,000
	1 Weighbridge	100,000		100,000
	Other Equipments	100,000		100,000
<b>Sub Total</b>				<b>600,000</b>

## Productivity Details

### Particulars

Achievable

No of days in month 26

### Primary Crusher

Processing capacity, tons per hour (See note below)				1,200
Capacity Utilisation				100.00%
No of hours per day				10
Daily Processing of Blasted Material	[A+B+C+D]	100.00%		12,000
Wastage @ 15% dust, etc	A	15.00%		1,800
Daily Production	c/f	85.00%		10,200
Production per month in tons				265,200
Input per month in tons				312,000

### Secondary Crusher

Wastage @ 35% (0-5mm), daily	c/f	29.75%		3,570
Output of Aggregate (10mm + 20mm), daily	B	55.25%		6,630
Basic Aggregate per month				172,380

### 0-5mm Screen

0-0.75mm@ 25% daily	C	7.44%		893
Output of 1-5mm per day	D	22.31%		2,678
Considered for this calculation				2,700
Secondary Aggregate per month				70,200

Total Aggregate, Basic + Secondary				
Per Day				9,330
Per Month				242,580

### Analysis

Hours per month				260
Output of Basic Aggregate per hour				663
Output of Secondary Aggregate per hour				270
Output of Total Aggregate per hour				933

Note that we have adjusted the input to primary crusher, i.e., 'Primary Crusher Processing Capacity' to achieve 'Output of Basic Aggregate per hour' at 600 tons per hour.

### Analysis of Production figures (in Tons)

Particulars	Basis for calculation	Absolute A	Absolute B	Per Month	Per Day	Per Hour
Blasted Material			100%	367,059	14,118	1,412
Wastage in Quarry	15%		15.00%	55,059	2,118	212
Input to Primary	85%		85.00%	312,000	12,000	1,200
Wastage in Primary	15%	15.00%	12.75%	46,800	1,800	180
Output from Primary	85%	85.00%	72.25%	265,200	10,200	1,020
Input to Secondary	Full as above	85.00%	72.25%	265,200	10,200	1,020
Wastage in Secondary (0-5mm)	35%	29.75%	25.29%	92,820	3,570	357
Output from Secondary (10mm+20mm)	65%	55.25%	46.96%	172,380	6,630	663
Input to 0-5mm Screen	Full as above	29.75%	25.29%	92,820	3,570	357
Wastage from Screen (0-0.75mm)	25%	7.44%	6.32%	23,205	893	89
Output from Screen (1-5mm)	75%	22.31%	18.97%	69,615	2,678	268
Total Wastages		NA	34.07%	125,064	4,810	481
Total Production (1-5mm+10mm+20mm)		77.56%	65.93%	241,995	9,308	931
Wastages of Basic Processes		NA	53.04%	194,679	7,488	749
Basic Production (10mm+20mm)		55.25%	46.96%	172,380	6,630	663

Note that Absolute A is ratio of further stages with input to primary while Absolute B is ratio with blasting quantities. Basis for calculation is taken with each previous stage. Therefore, cumulative percentages will be available in the Absolute columns.

<u>Particulars</u>	<u>Achievable</u>
<b>Blasting Schedule</b>	
Daily processing of blasted material, as above	2.60
Per month	12,000
Wastage @ 15% boulders, dust, etc.	312,000
Blasting needed per month (tons)	55,059
Blasting needed per month (cu m)	367,059
Explosives needed per ton of blasting, as below (kgs)	141,177
Explosives qty (kgs) required per month	0.1190
Explosives needed per cu.m. of blasting, as below	43,683
Explosives qty (kgs) required per month	0.31
@ 2 tons per blast, no of blasts needed (rounded up)	43,683
No of Blasting days required per month	22
Volume blasted per blast (average)	8
Qty blasted per blast (tons)	6,417
Costing:	16,685
Cost of Detonators per hole	10
Cost of Cordex per metre	4
Metres per hole	12
No of Holes per blast day	158
Cost of Detonators per blast day	1,580
Cost of Cordex per blast day	7,584
Cost of Detonators & Cordex for 1 blast	9,164
Cost per kg of explosives	1.67
For total explosives used	72,951
Explosives, 12.00 @ 10 + marginal amount for Slurry per kg + Dh 1 for Licence fee for explosives.	524,196
Amount	6
Delivery chgs @Dhs 1,250 per blast, reel, etc. at total Dhs 2,500 per blast.	20,000
Amount	67
Total Cost per Month	617,147
Total Blasted material per month	367,059
Cost per ton of blasted material	1.68
Aggregate quantity per month (10 + 20mm)	172,380
Cost per ton of crushed aggregate	3.58

**Drilling Schedule**

Burden	3.00	m		
Spacing	2.50	m		
Average depth of hole	15	m		
Stemming depth per hole	3.00	m	(Should be more than 2.5 m)	
Charge depth of hole	12	m		
Quantity of explosives per metre	2.90	kgs	(Should be 2.9 kgs/m - running metre)	
Quantity of explosives per hole	35	kgs		
Maximum quantity of explosives	5,500	kgs		
Holes Required per blast, approx	158	nos		
Average depth of hole	15	m		
Avg length of holes per blast	2,370	m		
Volume blasted per blast	17,775	cu m	say	17,800
Specific Gravity of our material	2.60			
Qty blasted per blast, tons	46,215	tons	say	46,200
Avg stone per metre drilled	20	tons		
Explosives per ton	0.1450	kgs	(Avg stone per metre / qty of expl per metre)	
Explosives per ton	0.1190	kgs	(Qty blasted per blast / max qty of explosives)	
Explosives per cu m	0.3094	kgs		
Blasting needed per month (tons) As above				367,059
Drilling required per month				18,353
Capacity of our drilling machine (existing):				
Metres per hour				15
Hours per day (See note 1)				18
Metres per day				270
Metres per month				7,020
Shortfall of drilling				11,333
Capacity of our drilling machine (new):				
Metres per hour				30
Hours per day (See note 1)				18
Metres per day				540
Metres per month				14,040
Shortfall of drilling				-
Rate of MNOP, per metre	16.50		inclusive of mobilisation, Dhs 1,500 per trip and 25% extra for horizontal holes.	
Cost of drilling by MNOP,	17		, taken for convenience	
Drilling cost (Hired drills)				-

Particulars

Achievable

**Transportation Schedule**

Aggregate for transportation	242,580
Trucks available for transportation (Ref Note 3)	33
Trips per day (Ref Note 3)	132
Haulage capacity per trip in tons	65
Haulage per day	8,580
No of days of haulage	26
Haulage per month	223,080
Excess capacity than requirements (actual)	-
Shortfall in requirements (actual)	19,500
Requirement satisfaction level	91.96%

**Quarry Limiting Factor: Rock Body Trucks**

No of Trucks	7	
Haulage Capacity (tons) per truck		35
Time required for 1 round trip in minutes		25
Trips per hour		2.40
Haulage per hour per truck		84
Working hours per day (Ref Note 1)		20
Haulage per truck per day		1,680
Haulage per day, all trucks		11,760
Haulage per month		305,760
Haulage of material required for feeding		312,000
Excess capacity over requirements		-
Shortfall in capacity over requirements		6,240
Requirement satisfaction level		98.00%
Blasted Material per month		367,059
Feeding into Primary per month		312,000

Notes

Note 1 We intentionally propose working all 30 days in a month. It would be sometimes essential to close down total operations of the crusher due to some major maintenance. However, we do not intend to keep a day off for maintenance. The Fghijklm Authority requires all production operations to be halted between 1800 to 0200 hrs every day. During this time, the maintenance staff is expected to carry out the routine maintenance of all the equipment. However, some breakdown cannot be ignored. Instead of reducing the days of operations, we have reduced the daily hours of operation for this purpose.

Note 2 We can take 3 blasts on one day of 2 tons of explosives at the most. The police are comfortable with this as long as we do not cancell blasts after booking them in advance.

Note 3	Trucks in ownership	38
	Serviceing per day	2
	Major Repairs in progress	2
	Gross working trucks	34
	Contingency factor	1
	Net working trucks	33
	Trips per day	4
	Total Trips, daily	132

Notes on Report dated 25.11.2004 as against the Report dated 17.07.2003.

- Note 1 In sales, 0-5mm (output of rejection material) was taken @ 30% of secondary feeding. This now seems unrealistic. We have now considered 0-5mm output @ 35% of secondary feeding, effectively making output of 10mm & 20mm @ 65% of secondary feeding. It also keeps 10mm & 20mm output @ approximately 50% of blasting. Due to this, the sales quantity has gone down from 185,000 tpm to 172,380 tpm.
- Note 2 This 0-5mm was considered as waste. We have now erected a plant to separate the -0.75mm material. We assume we will sell all this 1-5mm product. It has generated additional sales quantity of 70,000 tpm. One may argue that we may not find a market for the whole of this 1-5mm production, but it is imperative for us to look for markets for not only the 1-5mm, but also the -0.75mm material and the 0-10mm material that forms 15% of rejection from the Primary Crusher.
- Note 3 We had assumed that the increasing costs will push the sale price of aggregate to Dhs 22 per ton. However, the price is not moving. So we have now considered the realistic price of Dhs 20 FAS (Free Along Side).
- Note 4 No change in most of the other expenses. But we can expect some increase on account of normal inflation. Examples of this could be increase in the sponsor's fee, spares cost due to increase in Euro valuation, rents, electricity, etc.
- Note 5 Interest cost was previously taken @ 8%. It has been reduced to 4%. Loan amount is retained as it is.
- Note 6 Salaries are marginally increased. However, considering that we are operating at the same salary levels for the past 4 years, we have to reconsider our emoluments level on the whole. This would cause some increase in the costs. We assume it will be absorbed, so not considered here.
- Note 7 Tyre price has increased from Dhs 800 to Dhs 900 per tyre.
- Note 8 Diesel price has gone up from Dhs 3.50 / IG to Dhs 6.00 / IG. We have assumed Dhs 5.00 / IG as we take a part of our supply from XYZ.
- Note 9 Quarry Development cost has increased on account of Asphalt Road and Waste Material (Shale) found in the secondary crusher erection location. We expected this to be stone. We expected to make a normal road as against the present municipality requirement of a proper high grade road.
- Note 10 We expected to buy used equipments at low values. The assumption has gone wrong. Instead of having a total of 3 excavators at Dhs 800,000 each, we now have 2 exceeding Dhs 2,000,000 each. 3 used Rock Body Trucks have cost Dhs 2,000,000 in total. Instead of 1 Drilling Machine of Dhs 300,000, we have bought 2 for Dhs 2,000,000 together. So capital outlay has increased.
- Note 11 Cost of civil works for existing crusher, production tunnels and the civil works for the same was not considered. Overall, the price has gone up by almost Dhs 4,700,000.
- Note 12 Number of trucks has gone down from 40 to 38.
- Note 13 We need to work on obtaining Electricity Connection to reduce the cost of Diesel used for power generation. We request the management to put in a word with the higher government officials for this. We are trying at our level to get things done, but it seems this will take longer.
- Note 14 Sale of -0.75mm material, boulders, 0-10mm rescreened material, 1-5mm material (to full potential) will boost our revenues. This will need special focus on our part as these are abnormal products and will need to be pushed with additional effort. We might need management support for this.
- Note 15 The management needs to seriously think about putting up our own jetty between Defgh and Fghijkl, if we wish to have regular shipments of both ABC and PQR material. Port of Fghijkl has a maximum capacity of 900,000 tpm. Mnopqrs cannot exceed 700,000 tpm. Abcdefgh is developing. No other port gives aggregate shipment facility. Our own shiploader can only load about 200,000 tpm, if allowed. And about 60 crushers have started producing aggregate in the area.
- Note 16 We have a 'T' junction connecting us to the North (Defghij to Ijklmnop) lane of the new highway. At present the next 'Baloon U' turn for trucks returning from Stuvwx is 11 kms away. Approval is pending for our request for a 'Baloon U' turn 2.5 kms away. Even if this is approved, our cost of diesel would be atleast 2 IG per trip, for 100 trips per day, at Dhs 5 per IG (ignoring all other costs) which comes to Dhs 1,000 per day. If we get a roundabout at this 'T' junction, we could recover the expected cost of Dhs 100,000 within 6 months! But, this requires intervention on the Government level. Again, we are trying at our end to get this done, but we will seek your assistance when we feel the time is appropriate. Management is requested to assist.
- Note 17 We are trying to introduce the concept of SMS (Site Mix Slurry), which will reduce blasting costs further, for the whole crusher industry. But this will take time as it has to be done at the Government level.
- Note 18 Purchasing our own cars would definitely make a small difference in administration costs.

(Note: This table is carried forward from the original report of 17.07.2003, it is not modified to suit to the present report.)

Details of past investment and proposed outlay.

Equipment Details	Numbers			Existing	Investment Dhs		
	Existing	Addition	Total		Cost/Unit	Addition	Total
Crusher Plants	-	1	1	-	14,000,000	14,000,000	14,000,000
Excavators	2	-	2	2,868,100	4,450,000	-	2,868,100
Wheel Loaders (Shovels)	5	3	8	3,306,480	400,000	1,200,000	4,506,480
Bulldozers	1	1	2	444,730	700,000	700,000	1,144,730
Rock Body Trucks	3	-	3	1,710,000	700,000	-	1,710,000
Trucks (MNOP)	20	18	38	8,000,000	400,000	7,200,000	15,200,000
Trucks (MLKJ)	5	3	8	750,000	100,000	300,000	1,050,000
Tankers	Various	1	1	134,250	25,000	25,000	159,250
Other Vehicles	1	4	5	104,640	25,000	100,000	204,640
Shiploader	1	-	1	1,214,410	-	-	1,214,410
Equipments, Machi, Tools	Various	1	1	1,106,660	200,000	200,000	1,306,660
Sheds, Portacabins	Various	12	12	133,600	12,500	150,000	283,600
Furni, Equip, etc.	Various	25	25	106,340	1,000	25,000	131,340
Acs, W M/cs, WCs	Various	20	20	58,420	1,200	24,000	82,420
Site Developments	Various	1	1	1,037,560	500,000	500,000	1,537,560
Deposits	40	100	140	120,000	4,700	470,000	590,000
Working Capital				-	-	12,618,220	12,618,220
<b>Total</b>	<b>78</b>	<b>190</b>	<b>268</b>	<b>21,095,190</b>		<b>37,512,220</b>	<b>58,607,410</b>

Site development is to be incurred till the stage of reaching main reserve. The above addition figure is ad-hoc.

Trucks & Tankers as per Accounts						7,444,249
MNOP Trucks				11.00	400,000	4,400,000
MLKJ Trucks				8.00	150,000	1,200,000
Rock Body Trucks				3.00	570,000	1,710,000
Tanker Attachments, etc. (Balancing Figure with above)						134,249
New MNOP Trucks				9.00	400,000	3,600,000
Existing Total						11,044,249
Total MNOP						8,000,000
Deposits (Existing)						65,800
Visa persons, 40 @ Dhs 3,000 per head						120,000
Taken for above calculations						120,000
Additional exps for visas, per head 1,700						
Working Capital Requirements						
Production in Tons						172,380
Sales Value of Aggregate				25.70		
Depreciation per unit				(6.74)		
Profit per unit				(0.66)		
Cost per Ton				18.30		
Cost for the whole month						3,154,554
Cost for 4 months						12,618,216