



Pre-feasibility Study

QUARTZ POWDER BALL MILL

April 2023

“The figures and financial projections are approximate due to fluctuations in exchange rates, energy costs, and fuel prices etc. Users are advised to focus on understanding essential elements such as production processes and capacities, space, machinery, human resources, and raw material etc. requirements. Project investment, operating costs, and revenues can change daily. For accurate financial calculations, utilize financial calculators on SMEDA’s website and consult financial experts to stay current with market conditions.”

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1. DISCLAIMER

This information memorandum is to introduce the subject matter and provide a general idea and information on the said matter. Although, the material included in this document is based on data/information gathered from various reliable sources; however, it is based upon certain assumptions which may differ from case to case. The information has been provided on as is where is basis without any warranties or assertions as to the correctness or soundness thereof. Although, due care and diligence has been taken to compile this document, the contained information may vary due to any change in any of the concerned factors, and the actual results may differ substantially from the presented information. SMEDA, its employees or agents do not assume any liability for any financial or other loss resulting from this memorandum in consequence of undertaking this activity. The contained information does not preclude any further professional advice. The prospective user of this memorandum is encouraged to carry out additional diligence and gather any information which is necessary for making an informed decision; including taking professional advice from a qualified consultant/technical expert before taking any decision to act upon the information.

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2. EXECUTIVE SUMMARY

Quartz Powder Ball Mill is proposed to be located at areas having access to quartz stone and end market. These may include, Charsada, Chitral, Gilgit, Hub, Hunza, Karachi, Mohmand, Peshawar, Rawalpindi, and Lahore.

The proposed project will have an installed capacity of the 22,440 Tons per year with the initial capacity utilization of 13,478 Tons per year while reaching an optimum capacity of 21,318 Tons per year.

The total Project Cost is **Rs. 80,439,581**, including the Capital Cost of **Rs. 66,060,000**, and the Working Capital of **Rs. 14,379,581**. Given the cost assumptions the IRR and payback are 63%, and 1.96 years respectively, hence making the project viable.

The most critical consideration or factors for success of the project are:

- Sufficient Electricity.
- Proximity to either Raw material or End Market

3. PURPOSE OF THE DOCUMENT

The objective of the pre-feasibility study is primarily to facilitate potential entrepreneurs in project identification for investment. The project pre-feasibility may form the basis of an important investment decision and in order to serve this objective, the document/study covers various aspects of project concept development, start-up, and production, marketing, finance and business management.

The purpose of this document is to facilitate potential investors in Minerals (Quartz) by providing them with a general understanding of the business with the intention of supporting potential investors in crucial investment decisions.

The need to come up with pre-feasibility reports for undocumented or minimally documented sectors attains greater imminence as the research that precedes such reports reveal certain thumb rules; best practices developed by existing enterprises by trial and error, and certain industrial norms that become a guiding source regarding various aspects of business set-up and its successful management.

Apart from carefully studying the whole document one must consider critical aspects provided later on, which form basis of any Investment Decision.

4. INTRODUCTION TO SMEDA

The Small and Medium Enterprises Development Authority (SMEDA) was established in October 1998 with an objective to provide fresh impetus to the economy through development of Small and Medium Enterprises (SMEs).

With a mission "to assist in employment generation and value addition to the national income, through development of the SME sector, by helping increase the number, scale and competitiveness of SMEs", SMEDA has carried out 'sectoral research' to identify policy, access to finance, business development services, strategic initiatives and institutional collaboration and networking initiatives.

Preparation and dissemination of prefeasibility studies in key areas of investment has been a successful hallmark of SME facilitation by SMEDA.

Concurrent to the prefeasibility studies, a broad spectrum of business development services is also offered to the SMEs by SMEDA. These services include identification of experts and consultants and delivery of need based capacity building programs of different types in addition to business guidance through help desk services.

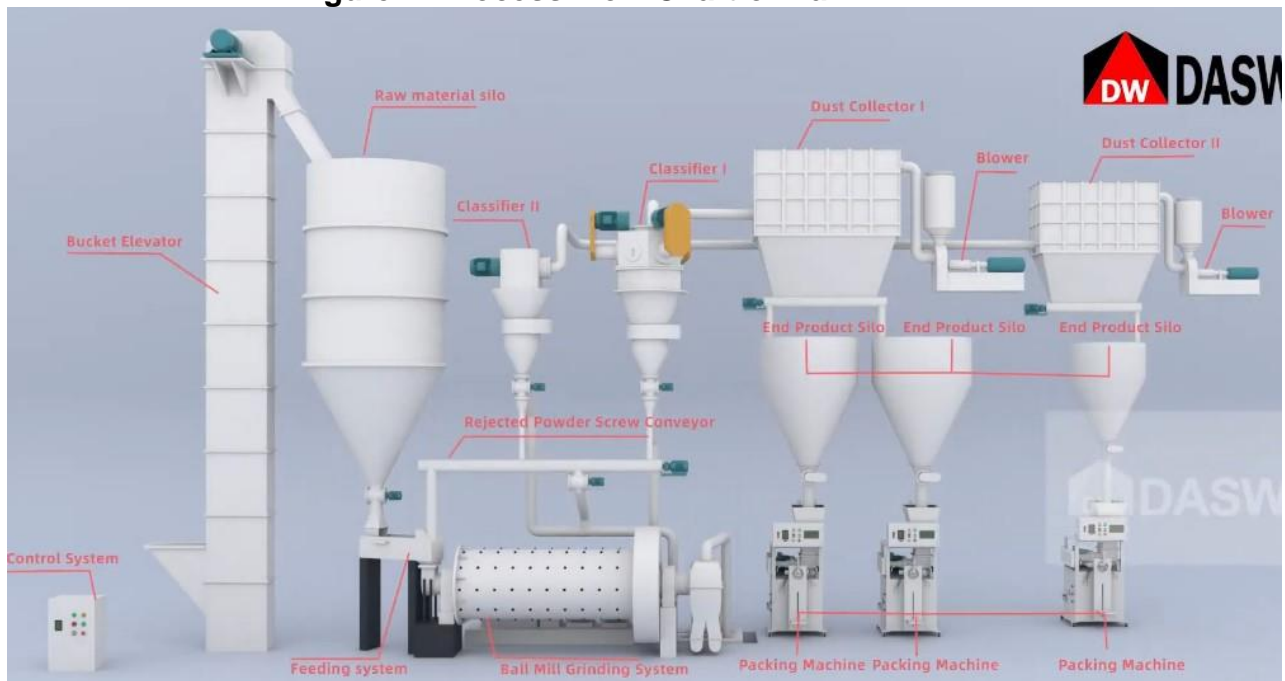
5. BRIEF DESCRIPTION OF PROJECT AND PRODUCT

The project is related to setting up Quartz Powder Ball Mill with following detail:

- **Technology:** The proposed ball mill will use the Chinese machinery.
- **Location:** The mill may be established within (preferably marble cities) and mineral processing clusters of Baluchistan, GB, KP, Punjab, and Sind
- **Product:** The mill will produce quartz sand of sizes; 2.5mm, 20 to 50 mesh, 50 to 70 mesh, 70 to 120 mesh, and fine powder of 121 to 315 mesh.
- **Target Market:** The main target market is manufacturers of Cultured Marble, Glass and Solar panels. abrasive industry, glass industry, ceramic industry, paint manufacturing industry, rubber and plastic industry, coating industry, refractory materials, microporous calcium silicate insulation materials.
- **Employment Generation:** The proposed project will initially provide direct employment to 07 persons.
- **Profitability:** The Financial Analysis shows the farm will be profitable from the very first year of the operation.

5.1) Production Process Flow

The quartz stone is crushed into lumps of size less than 25 mm. This may be done in two stages that is the first jaw crusher and then the second impact crusher. After this, the elevator takes quartz lumps to the hopper for storage. From hopper, these lumps are dropped into the ball mill containing quartz balls. After grinding, the powder is sorted into different sizes with the help of various cyclone classifiers. After classification, the fine powder is sent to dust collector. Finally the required mesh size powder is packed in bags by bag filter. The coarse powder returns to the ball mill along with the lumps and grind further until it becomes fine for packing.

Figure 1: Process Flow Chart of Ball Mill¹

5.2) Installed and Operational Capacities

The processing unit will have an installed capacity of 22,440 Tons per year. Initially it will start with 13,478 Tons per year while reaching an optimum capacity of 21,318 Tons per year.

6. CRITICAL FACTORS

The following factors should be considered thoroughly:

- Selection of site with sufficient supply of electricity
- Proximity to either raw material source or the target market
- High quality energy efficient machinery

¹ Source: Henan Daswel machinery website

7. GEOGRAPHICAL POTENTIAL FOR INVESTMENT

The ball mill may be established in quartz producing mining areas and major mineral specific industrial estates of:

- Baluchistan: Marble City Gadani (Lasbela)
- Gilgit Baltistan: Hunza, Shigar, Nagar, and Skardu
- Khyber Pakhtunkhwa: Hattar (Haripur), and Risaplur (Nowshehra),
- Punjab: Lahore
- Sind: Manghopir (Karachi)

8. POTENTIAL TARGET CUSTOMER/MARKETS

Target customers are the industries using quartz powder in their products. These mainly include manufacturers of Abrasives, Ceramics, Coating, Cultured Marble, Glass, Microporous Calcium Silicate Insulation Materials, Paint, Plastic, Refractory materials, Rubber, and Solar panels.

9. PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of the Quartz Ball Mill. Various cost and revenue related assumptions along with results of the analysis are outlined in this section.

9.1) Project Economics

All the figures in this financial model have been calculated for installed input capacity of 22,440 Tons/Year with initial capacity utilization at 13,478 Tons/Year.

The following table shows internal rates of return and payback period.

Table 1 - Project Economics

Description	Details
Internal Rate of Return (IRR)	63%
Payback Period (Yrs)	1.96
Net Present Value (NPV)	166,486,737

9.2) Project Financing

Following table provides details of the equity required and variables related to bank loan;

Table 2 - Project Financing

Description	Details
Total Equity (60%)	48,263,748
Debt (40%)	32,175,832

9.3) Project Cost

Following requirements have been identified for operations of the proposed business.

Table 3: Project Cost

Description	Amount Rs.
Capital Cost	
Land (04 Kanal)	32,000,000
Infrastructure Development	6,460,000
Machinery and Equipment	26,150,000
Furniture and Fixtures	420,000
Office Equipment	680,000
Pre-operating Cost	350,000
Total Capital Cost	66,060,000
Working Capital	
Raw Material Inventory	13,140,914
Cash	1,238,667
Total Working Capital	14,379,581
Total Project Cost	80,439,581

9.4) Space Requirement

This proposed project will be established on own land measuring 04 Kanal with value of about Rs. 8,000,000/ per kanal. (Exceptions: 1. the cost of land may be far lower in Baluchistan. 2. Rented building may also be considered).

Table 4: Space Requirement

Space Requirement (in ft.)	Rs/Unit	Units (Sq. Ft)	Amount (Rs.)
Production Area (Open Shed)	1,000	1,200	1,200,000
Store for Finished Goods	4,000	400	1,600,000
Management Building	4,000	300	1,200,000
Rooms for Labor	4,000	400	1,600,000
Wash Rooms	2,000	200	400,000
Kitchen	3,000	100	300,000
Boundary Wall (1,600 R. Ft)	100	1,600	160,000
Total Cost of Space Development			6,460,000

The decision about the opportunity cost of land is at the discretion of the owner of the project and the prevailing rates of land varying from area to area. Though the raceway is measured in cubic feet but for ease of calculation the working is done in square feet.

9.5) Machinery and Equipment

Following table provides list of machinery and equipment. The cost includes installation and commission at site.

Table 5: List of Machinery and Equipment

Description	Units	Cost Rs/unit	Total Rs.
Quartz Processing Line Complete	01	15,650,000	15,650,000
Pneumatic- Screw Air Compressor	01	1,000,000	1,000,000
Quartz Balls (Tons)	10	500,000	5,000,000
Magnetic Separator	01	4,500,000	4,500,000
Total Cost of Machinery and Equipment			26,150,000

9.6) Office Equipment

Following table provides list of office equipment:

Table 6: List of Office Equipment

Description	Units	Cost Rs/unit	Total Rs.
PC with UPS and Printer	01	250,000	250,000
Ceiling Fans	06	5,000	30,000
Split Ac	02	200,000	400,000
Miscellaneous		50,000	50,000
Total Cost of Office Equipment			680,000

9.7) Furniture and Fixtures

Table 6: List of Furniture and Fixtures

Description	Units	Cost Rs/unit	Total Rs.
Tables	04	30,000	120,000
Chairs	10	5,000	50,000
Cupboards	04	50,000	200,000
Miscellaneous		50,000	50,000
Total Cost of Furniture and Fixtures			420,000

9.8) Human Resource Requirement

Table 8: Payroll For Financial Analysis

Description	Unit	Monthly Salary/ Person	Months	First Year Salaries (Rs)
Chowkidaar	02	25,000	12	600,000
Labor	04	25,000	12	1,200,000
Manager	01	80,000	12	960,000
Total Cost				2,760,000

9.9) Utilities and Other Costs

Following table shows raw material requirement:

Table 6: Cost of Material			
Description	Unit (Tons)	Rs. Per Ton	Total Annual Cost (Rs.)
Quartz Stone	13,478	24,000	323,472,000
Packing	13,478	2,000	26,956,000
Total			350,428,000

Table 8: Miscellaneous	
Description	Rs./Year
Electricity	6,000,000
Consumables/Maintenance	5,000,000
Others	1,140,000

9.10) Revenue Generation

The selling price vary between Rs. 28,000 to Rs. 35,000 per ton as per mesh size. This specific study assumes average rate of Rs. 31,500 per Ton.

Table 9: Revenue Generation				
Product	Unit	Sales Price (Rs./Unit)	First Year Production	First Year Sales Revenue (Rs)
Quartz Powder	Ton	31,500	13,478	424,557,000
Total Revenue				424,557,000

10. CONTACTS

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11. USEFUL WEB LINKS

Small & Medium Enterprises Development Authority (SMEDA)	www.smeda.org.pk
Government of Pakistan	www.pakistan.gov.pk
Government of Punjab	www.punjab.gov.pk
Government of Sindh	www.sindh.gov.pk
Government of Khyber Pakhtunkhwa	www.khyberpakhtunkhwa.gov.pk
Government of Baluchistan	www.balochistan.gov.pk
Government of Gilgit Baltistan	www.gilgitbaltistan.gov.pk
Government of Azad Jamu Kashmir	www.ajk.gov.pk
Security Commission of Pakistan (SECP)	www.secp.gov.pk
Federation of Pakistan Chambers of Commerce and Industry (FPCCI)	www.fpcci.com.pk
State Bank of Pakistan (SBP)	www.sbp.org.pk

12. ANNEXURES

12.1) Income Statement (With 10 Years Projections)²

	Year 1	Monthly	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	424,552,590	35,379,383	505,925,170	599,326,740	706,349,372	828,783,263	968,640,438	1,128,181,216	1,309,943,746	1,440,938,120	1,585,031,932
<i>Cost of sales</i>		-									
Cost of goods sold 1	323,468,640	26,955,720	385,466,796	456,629,897	538,170,950	631,453,914	738,011,762	859,566,641	998,052,378	1,097,857,615	1,207,643,377
Cost of goods sold 2	26,955,720	2,246,310	32,122,233	38,052,491	44,847,579	52,621,160	61,500,980	71,630,553	83,171,031	91,488,135	100,636,948
Cost of goods sold 3	-	-	-	-	-	-	-	-	-	-	-
Operation costs 1 (direct labor)	1,200,000	100,000	1,320,000	1,452,000	1,597,200	1,756,920	1,932,612	2,125,873	2,338,461	2,572,307	2,829,537
Operating costs 2 (machinery maintenance)	5,000,004	416,667	5,500,004	6,050,005	6,655,005	7,320,506	8,052,556	8,857,812	9,743,593	10,717,953	11,789,748
Total Cost of Sales	356,624,364	29,718,697	424,409,033	502,184,393	591,270,734	693,152,500	809,497,911	942,180,880	1,093,305,463	1,202,636,009	1,322,899,610
Gross Profit	67,928,226	5,660,686	81,516,136	97,142,347	115,078,637	135,630,763	159,142,527	186,000,337	216,638,283	238,302,111	262,132,322
<i>General administration & selling expenses</i>		-									
Administration expense	1,560,000	130,000	1,716,000	1,887,600	2,076,360	2,283,996	2,512,396	2,763,635	3,039,999	3,343,999	3,678,398
Building rental expense	-	-	-	-	-	-	-	-	-	-	-
Electricity expense	6,000,000	500,000	6,600,000	7,260,000	7,986,000	8,784,600	9,663,060	10,629,366	11,692,303	12,861,533	14,147,686
Water expense	120,000	10,000	132,000	145,200	159,720	175,692	193,261	212,587	233,846	257,231	282,954
Gas expense	24,000	2,000	26,400	29,040	31,944	35,138	38,652	42,517	46,769	51,446	56,591
Travelling expense	240,000	20,000	264,000	290,400	319,440	351,384	386,522	425,175	467,692	514,461	565,907
Communications expense (phone, internet, etc.)	60,000	5,000	66,000	72,600	79,860	87,846	96,631	106,294	116,923	128,615	141,477
Office vehicles running expense	-	-	-	-	-	-	-	-	-	-	-
Office expenses (stationary, janitorial, etc.)	360,000	30,000	396,000	435,600	479,160	527,076	579,784	637,762	701,538	771,692	848,861
Promotional expense	240,000	20,000	264,000	290,400	319,440	351,384	386,522	425,175	467,692	514,461	565,907
Insurance expense	-	-	-	-	-	-	-	-	-	-	-
Professional fees (legal, audit, consultants, etc.)	60,000	5,000	66,000	72,600	79,860	87,846	96,631	106,294	116,923	128,615	141,477
Depreciation and amortization expense	4,905,500	-	4,181,875	3,572,744	3,058,501	2,623,277	2,184,130	1,870,441	1,603,440	1,375,853	1,181,615
Subtotal	13,569,500	722,000	13,712,275	14,056,184	14,590,285	15,308,239	16,137,589	17,219,245	18,487,125	19,947,906	21,610,874
Operating Income	54,358,726	4,938,686	67,803,861	83,086,163	100,488,352	120,322,524	143,004,938	168,781,091	198,151,158	218,354,205	240,521,448
<i>Other Income</i>		-									
Earnings Before Interest & Taxes	54,358,726	4,938,686	67,803,861	83,086,163	100,488,352	120,322,524	143,004,938	168,781,091	198,151,158	218,354,205	240,521,448
<i>Interest on Bank Overdraft</i>		-									
Interest expense on Project Loan	6,606,000	550,500	6,606,000	6,349,977	6,029,947	5,629,911	5,129,865	4,504,807	3,723,486	2,746,834	1,526,019
Interest expense on Working Capital Loan	119,830	9,986	110,937	101,859	92,592	83,132	73,475	63,616	53,553	43,279	32,792
Subtotal	6,725,830	560,486	6,716,937	6,451,836	6,122,539	5,713,043	5,203,340	4,568,424	3,777,038	2,790,113	1,558,810
Earnings Before Tax	47,632,896	4,378,200	61,086,924	76,634,327	94,365,813	114,609,481	137,801,599	164,212,668	194,374,119	215,564,092	238,962,638
<i>Tax</i>		-									
Tax	15,791,513	1,315,959	20,500,423	25,942,014	32,148,034	39,233,318	47,350,559	56,594,433	67,150,941	74,567,432	82,756,923
NET PROFIT/(LOSS) AFTER TAX	31,841,383	3,062,240	40,586,501	50,692,313	62,217,779	75,376,163	90,451,039	107,618,234	127,223,178	140,996,660	156,205,715

² Amount in Pak Rs.

12.2) Balance Sheet (With 10 Years Projections)³

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets											
<i>Current assets</i>											
Cash & Bank	1,238,667	17,040,676	36,973,789	60,143,518	87,836,232	120,661,052	159,266,517	204,378,093	258,953,778	317,724,263	443,170,429
Accounts receivable	-	17,447,367	19,119,406	22,710,656	26,828,961	31,543,821	36,933,364	43,085,376	50,098,458	56,524,970	62,177,467
Finished goods inventory	-	-	-	-	-	-	-	-	-	-	-
Equipment spare part inventory	-	-	-	-	-	-	-	-	-	-	-
Raw material inventory	13,140,914	15,659,589	20,405,649	26,454,466	34,143,897	43,896,248	56,238,840	71,829,496	86,913,690	105,165,565	-
Pre-paid building rent	-	-	-	-	-	-	-	-	-	-	-
Total Current Assets	14,379,581	50,147,631	76,498,843	109,308,639	148,809,091	196,101,121	252,438,721	319,292,966	395,965,926	479,414,798	505,347,896
<i>Fixed assets</i>											
Land	32,000,000	32,000,000	32,000,000	32,000,000	32,000,000	32,000,000	32,000,000	32,000,000	32,000,000	32,000,000	32,000,000
Building/Infrastructure	6,460,000	5,814,000	5,232,600	4,709,340	4,238,406	3,814,565	3,433,109	3,089,798	2,780,818	2,502,736	2,252,463
Machinery & equipment	26,150,000	22,227,500	18,893,375	16,059,369	13,650,463	11,602,894	9,862,460	8,383,091	7,125,627	6,056,783	5,148,266
Furniture & fixtures	420,000	357,000	303,450	257,933	219,243	186,356	158,403	134,642	114,446	97,279	82,687
Office vehicles	-	-	-	-	-	-	-	-	-	-	-
Office equipment	680,000	476,000	333,200	233,240	163,268	114,288	80,001	56,001	39,201	27,440	19,208
Total Fixed Assets	65,710,000	60,874,500	56,762,625	53,259,881	50,271,380	47,718,103	45,533,973	43,663,532	42,060,092	40,684,239	39,502,624
<i>Intangible assets</i>											
Pre-operation costs	350,000	280,000	210,000	140,000	70,000	-	-	-	-	-	-
Legal, licensing, & pre-training costs	-	-	-	-	-	-	-	-	-	-	-
Total Intangible Assets	350,000	280,000	210,000	140,000	70,000	-	-	-	-	-	-
TOTAL ASSETS	#####	111,302,131	133,471,468	162,708,520	199,150,471	243,819,224	297,972,693	362,956,498	438,026,018	520,099,037	544,850,520
Liabilities & Shareholders' Equity											
<i>Current liabilities</i>											
Accounts payable	-	15,250,025	18,225,809	21,665,213	25,636,333	30,217,472	35,498,800	41,584,295	48,406,056	53,639,559	54,249,455
Bank Overdraft	-	-	-	-	-	-	-	-	-	-	-
Total Current Liabilities	-	15,250,025	18,225,809	21,665,213	25,636,333	30,217,472	35,498,800	41,584,295	48,406,056	53,639,559	54,249,455
<i>Other liabilities</i>											
Project Loan	26,424,000	26,424,000	25,399,906	24,119,789	22,519,642	20,519,459	18,019,230	14,893,943	10,987,335	6,104,075	(0)
Working Capital Loan	5,751,832	5,324,984	4,889,243	4,444,423	3,990,337	3,526,791	3,053,588	2,570,526	2,077,400	1,574,001	1,060,114
Total Long Term Liabilities	32,175,832	31,748,984	30,289,149	28,564,212	26,509,979	24,046,250	21,072,817	17,464,469	13,064,735	7,678,076	1,060,114
<i>Shareholders' equity</i>											
Paid-up capital	48,263,748	48,263,748	48,263,748	48,263,748	48,263,748	48,263,748	48,263,748	48,263,748	48,263,748	48,263,748	48,263,748
Retained earnings	-	16,039,374	36,692,762	64,215,346	98,740,410	141,291,754	193,137,328	255,643,986	328,291,479	410,517,654	441,277,203
Total Equity	48,263,748	64,303,122	84,956,511	112,479,095	147,004,158	189,555,502	241,401,076	303,907,734	376,555,227	458,781,402	489,540,951
TOTAL CAPITAL AND LIABILITIES	#####	111,302,131	133,471,468	162,708,520	199,150,471	243,819,224	297,972,693	362,956,498	438,026,018	520,099,037	544,850,520

³ Amount in Pak Rs.

12.3) Cash Flow Statement (With 10 Years Projections)⁴

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Operating Activities											
Net profit	-	31,841,383	40,586,501	50,692,313	62,217,779	75,376,163	90,451,039	107,618,234	127,223,178	140,996,660	156,205,715
Add: depreciation and amortization expense	-	4,905,500	4,181,875	3,572,744	3,058,501	2,623,277	2,184,130	1,870,441	1,603,440	1,375,853	1,181,615
Accounts receivable	-	(17,447,367)	(1,672,039)	(3,591,250)	(4,118,306)	(4,714,860)	(5,389,542)	(6,152,013)	(7,013,082)	(6,426,512)	(5,652,497)
Finished goods inventory	-	-	-	-	-	-	-	-	-	-	-
Equipment inventory	-	-	-	-	-	-	-	-	-	-	-
Raw material inventory	(13,140,914)	(2,518,675)	(4,746,060)	(6,048,817)	(7,689,431)	(9,752,351)	(12,342,592)	(15,590,656)	(15,084,194)	(18,251,875)	105,165,565
Pre-paid building rent	-	-	-	-	-	-	-	-	-	-	-
Accounts payable	-	15,250,025	2,975,783	3,439,405	3,971,119	4,581,140	5,281,328	6,085,494	6,821,761	5,233,503	609,896
Cash provided by operations	(13,140,914)	32,030,867	41,326,060	48,064,394	57,439,662	68,113,369	80,184,363	93,831,500	113,551,103	122,927,629	257,510,294
Financing Activities											
Project Loan - principal repayment	-	-	(1,024,094)	(1,280,117)	(1,600,147)	(2,000,183)	(2,500,229)	(3,125,286)	(3,906,608)	(4,883,260)	(6,104,075)
Working Capital Loan - principal repayment	-	(426,848)	(435,741)	(444,819)	(454,086)	(463,546)	(473,203)	(483,062)	(493,126)	(503,399)	(513,887)
Bank overdraft repayment	-	-	-	-	-	-	-	-	-	-	-
Additions to Project Loan	26,424,000	-	-	-	-	-	-	-	-	-	-
Additions to Working Capital Loan	5,751,832	-	-	-	-	-	-	-	-	-	-
Issuance of shares	48,263,748	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financing activities	80,439,581	(426,848)	(1,459,835)	(1,724,936)	(2,054,233)	(2,463,730)	(2,973,433)	(3,608,348)	(4,399,734)	(5,386,659)	(6,617,962)
Investing Activities											
Capital expenditure	(66,060,000)	-	-	-	-	-	-	-	-	-	-
Cash (used for) / provided by investing activities	(66,060,000)	-	-	-	-	-	-	-	-	-	-
Net Cash	1,238,667	31,604,018	39,866,225	46,339,458	55,385,430	65,649,639	77,210,931	90,223,152	109,151,370	117,540,970	250,892,332
Cash balance brought forward	-	1,238,667	17,040,676	36,973,789	60,143,518	87,836,232	120,661,052	159,266,517	204,378,093	258,953,778	317,724,263
NET CASH (available for appropriation)	1,238,667	17,040,676	36,973,789	60,143,518	87,836,232	120,661,052	159,266,517	204,378,093	258,953,778	317,724,263	443,170,429
CASH CARRIED FORWARD	1,238,667	17,040,676	36,973,789	60,143,518	87,836,232	120,661,052	159,266,517	204,378,093	258,953,778	317,724,263	443,170,429

⁴ Amount in Pak Rs.

13. KEY ASSUMPTIONS

13.1) Operating Cost Assumptions

Description	Details
Hours Operational Per Day	12
Days Operational Per Year	330
Operating Cost Growth Rate	5%

13.2) Production Cost Assumptions

Description	Details
COGS Annual Growth Rate	5%

13.3) Revenue Assumptions

Description	Details
Sales Price Growth Rate	10%
Maximum Capacity Utilization	95%
Initial Capacity Utilization	60%

13.4) Economy Related Assumptions

Description	Details
Inflation Rate	10%
Electricity Price Growth Rate	10%
Wage Growth Rate	10%

Small and Medium Enterprises Development Authority

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