

PROJECT REPORT

Of

Re Refined Lubricant Oil

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding **Re Refined Lubricant Oil Unit**.

The objective of the pre-feasibility report is primarily to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]



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PROJECT AT A GLANCE

- 1 Name of the Entrepreneurer : XXXXXXXX
- 2 Constitution (legal Status) : XXXXXXXX
- 3 Father's/Spouce's Name : XXXXXXXX
- 4 Unit Address : XXXXXXXX
- Taluk/Block: XXXXX
- District : XXXXX State:
- Pin: XXXXX
- E-Mail : XXXXX
- Mobile : XXXXX
- 5 Product and By Product : **Re Refined Lubricant Oil**
- 6 Name of the project / business activity proposed : **Re Refined Lubricant Oil**
- 7 Cost of Project : Rs25.00lac
- 8 Means of Finance
- Term Loan Rs.15.24 Lacs
- KVIC Margin Money - As per Project Eligibility
- Own Capital Rs.2.5 Lacs
- Working Capital Rs.7.27 Lacs
- 9 Debt Service Coverage Ratio : - 1.65
- 10 Pay Back Period : 5 Years
- 11 Project Implementation Period : 8 Months
- 12 Break Even Point : 188%
- 13 Employment : 11 Persons
- 14 Power Requirement : 26.00 HP
- 15 Major Raw materials : Used and Contaminated Lubricating Oil
- 16 Estimated Annual Sales Turnover : 43.74 Lacs
- 16 Detailed Cost of Project & Means of Finance

COST OF PROJECT

(Rs. In Lacs)

Particulars	Amount
Land	Rented/Owned
Building & Civil Work (3000 Sq Ft)	4.00
Plant & Machinery	11.60
Furniture & Fixtures	0.83
Pre-operative Expenses	0.50
Working Capital Requirement	8.07
Total	25.00

MEANS OF FINANCE

Particulars	Amount
Own Contribution @10%	2.50
Term Loan	15.24
Workign Capital Finance	7.27
Total	25.00

	General	Special
Beneficiary's Margin Money (% of Project Cost)	10%	5%

**PROJECT REPORT
ON
RE-REFINING OF USED LUBRICANTS**



Introduction: Indian crude oil normally contains a higher percentage of wax and hence extraction of Lubricants oil from Indian Crude oil is uneconomic. Thus Lubricants Oils are imported to India either as finished product or as Crude Oil. Lubricants Oils are never destroyed. They only get contaminated by dust, dirt, carbon particles, moisture, etc. Such contaminated Lubricating oils can be refined and hence made equivalent or better than original Lubricants oil. Re-refined Lubricants Oils are prone to oxidation. Otherwise these are better than original Lubricants. Re-refining of Lubricants can also reduce the pressure on the Country by way of import of Lubricants either as finished goods or as Crude Oil. Bureau of Indian standards has IS:9048 for re-refined automotive internal combustion engine lubricants oil. Lubricants & Grease are not destroyed in nature and hence reprocessing of contaminated oil helps in reducing water pollution.

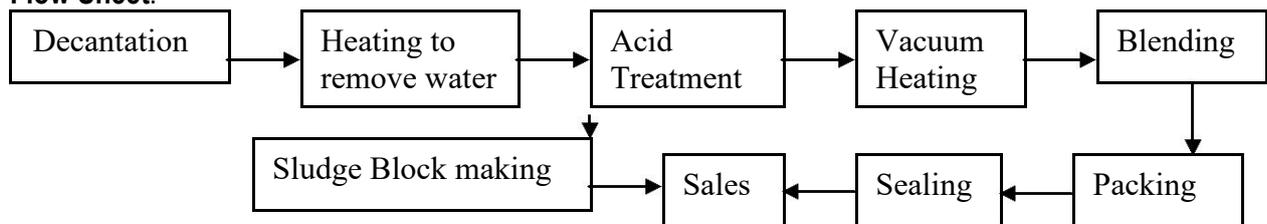
Market: Refined Lubricating oil shows almost the same properties as original Lubricants. Its colour is better than original Lubricants. With proper additives Refined Lubricants show better properties than original Lubricants. Refined Lubricants are normally blended with Original Lubricants and as base material for Grease manufacturing. Low viscosity & pour-point refined oils are used as transformer oil, Axle oil, Spindle oil, Hydraulic oil, etc. refined oils are by far cheaper than Original Lubricants as these are derived from used Lubricants. Lubricating oil manufacturing companies purchase quality Refined oils for blending in their factories. This is the best avenue for selling Refined Lubricants. Grease manufacturers & transformer industry also purchase refined lubricants. Thus there is good marketing scope for Refined Lubricants.

Installed Capacity: It is assumed that the unit will operate for single shift of 8

hours per day for 300 working days per annum. Based on this assumption the annual installed capacity is estimated at 90,000 liters (60%) of Refined Lubricating oil by refining 1,50,000 Liters of contaminated Lubricants.

Process of Manufacture: Used lubricating oil obtained in 200 Liter capacity Drum contain water and moisture. These are transferred by pump into a shallow dehydration vessel. The vessel is heated to remove water and moisture from oil. The moisture free oil is transferred to Lead Lined Acid treatment plant. Here ileum is sprayed on oil so that contaminants form a sludge and sink below the oil. Oil is drained from the Tap in the side of the plant while sludge is removed from the opening at the bottom of the plant. The sludge is treated with lime and placed inside moulds to form fuel bricks. The oil is mixed with Fullers earth and heated under vacuum. It is then allowed to settle for about four hours. The oil is then filtered in a Filter Press to separate activated clay from oil. The refined oil is prone to oxidation and discoloration and hence mixed with Antioxidant.

Flow Sheet:



Raw Materials: Used and Contaminated Lubricating Oil shall be the principal raw-material of the unit. Oil & Natural Gas Commission and Indian Oil Corporation are the principal generator of such Lubricating Oils. They sell their contaminated oil against tender. Various automobile repairing and servicing units also remove contaminated oils from vehicles. These are also available, through in smaller quantities. Other raw materials like 98% ileum, Fullers earth & Lime are to be purchased from sources outside the state. Chinabazar in Kolkata have a large number of suppliers of these chemicals. The requirement at the installed capacity and annual costs of raw materials are shown below:

	Item Name	UOM	Quantity of Raw Material	Unit Rate	Total Cost Per Annum (100%)
1	Contaminated Lubricants	Liters	1,50,000.00	10.00	15,00,000.00
2	98% Ileum	Liters	14,000.00	30.00	4,20,000.00
3	Fullers earth	Kilograms	9,000.00	50.00	4,50,000.00

4	Lime	Kilograms	900.00	15.00	13,500.00
5	Antioxidants	Liters	900.00	200.00	1,80,000.00
6	Seals for Drums	Nos	460.00	20.00	9,200.00
				Total (Rounded off in lacs)	25,72,700.00

Power: The unit will need 26 KW of total connected load at 40/440 volts 50 Hz, AC, 3 phase & 4 wire. The annual consumption of power is estimated at 39600 KW Hrs costing Rs. 87,318/- at the installed capacity.

Fuel: The unit will use its own production of sludge Bricks as fuel. For better results annually 30,000 kilograms of coal shall be mixed with sludge Bricks.

Water: The unit will need 1000 Liters of water per day. The cost of drawing the required water is shown with power cost.

Manpower: The unit will need the manpower (table below). The chemist of the unit needs to be well experienced in Lubricating oil testing.

FINANCIAL ASPECTS :

PROJECTED BALANCE SHEET

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
<u>SOURCES OF FUND</u>					
Capital Account	2.50	2.50	2.50	2.50	2.50
Retained Profit	- 12.07 -	23.41 -	32.59 -	41.19 -	49.57
Term Loan	15.24	11.43	7.62	3.81	0.80
Cash Credit	7.27	7.27	7.27	7.27	7.27
Sundry Creditors	0.36	0.42	0.48	0.54	0.60
Provisions & Other Liab	0.36	0.40	0.44	0.48	0.53
TOTAL :	13.66 -	1.40 -	14.29 -	26.59 -	37.87
<u>APPLICATION OF FUND</u>					
Fixed Assets (Gross)	16.43	16.43	16.43	16.43	16.43
Gross Dep.	2.18	4.10	5.75	7.18	8.40
Net Fixed Assets	14.25	12.33	10.68	9.25	8.03
Current Assets					
Sundry Debtors	1.46	1.86	2.13	2.40	2.67
Stock in Hand	6.98	8.14	9.30	10.46	11.63
Cash and Bank	- 11.53 -	26.48 -	39.42 -	52.04 -	63.86
Deposits & Advances	2.50	2.75	3.03	3.33	3.66
TOTAL :	13.66 -	1.40 -	14.29 -	26.59 -	37.87
	- -	0.00 -	0.00	-	-

PROJECTED CASH FLOW STATEMENT

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
<u>SOURCES OF FUND</u>					
Share Capital	2.50	-	-	-	-
Reserve & Surplus	- 13.41 -	12.60 -	11.47 -	10.75 -	10.48
Depreciation & Exp. W/off	2.18	1.92	1.65	1.42	1.23
Increase in Cash Credit	7.27	-	-	-	-
Increase In Term Loan	15.24	-	-	-	-
Increase in Creditors	0.36	0.06	0.06	0.06	0.06
Increase in Provisions	0.36	0.04	0.04	0.04	0.05
TOTAL :	14.50 -	10.59 -	9.72 -	9.22 -	9.14
<u>APPLICATION OF FUND</u>					
Increase in Fixed Assets	16.43	-	-	-	-
Increase in Stock	6.98	1.16	1.16	1.16	1.16
Increase in Debtors	1.46	0.41	0.27	0.27	0.27
Increase in Deposits & Adv	2.50	0.25	0.28	0.30	0.33
Repayment of Term Loan	-	3.81	3.81	3.81	3.00
Taxation	- 1.34 -	1.26 -	2.29 -	2.15 -	2.10
TOTAL :	26.02	4.37	3.22	3.39	2.67
Opening Cash & Bank Balance	- -	11.53 -	26.48 -	39.42 -	52.04
Add : Surplus	- 11.53 -	14.96 -	12.94 -	12.62 -	11.82
Closing Cash & Bank Balance	- 11.53 -	26.48 -	39.42 -	52.04 -	63.86

PROJECTED PROFITABILITY STATEMENT

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
<u>A) SALES</u>					
Gross Sale	43.74	55.89	63.99	72.09	80.19
Total (A)	43.74	55.89	63.99	72.09	80.19
<u>B) COST OF SALES</u>					
Raw Mateiral Consumed	15.44	18.01	20.58	23.15	25.73
Elecricity Expenses	4.39	5.12	5.85	6.58	7.31
Repair & Maintenance	-	0.56	0.64	0.72	0.80
Labour & Wages	6.73	7.41	8.15	8.96	9.86
Depreciation	2.18	1.92	1.65	1.42	1.23
Consumables and Other Expenses	2.19	2.79	3.20	3.60	4.01
Cost of Production	30.92	35.80	40.07	44.44	48.94
Add: Opening Stock /WIP	-	3.89	4.54	5.18	5.83
Less: Closing Stock /WIP	3.89	4.54	5.18	5.83	6.48
Cost of Sales (B)	27.04	35.16	39.42	43.80	48.29
C) GROSS PROFIT (A-B)	16.70	20.73	24.57	28.29	31.90
	38%	37%	38%	39%	40%
D) Bank Interest (Term Loan)	1.31	1.59	1.15	0.71	0.29
Bank Interest (C.C. Limit)	0.84	0.84	0.84	0.84	0.84
E) Salary to Staff	27.09	29.80	32.78	36.05	39.66
F) Selling & Adm Expenses Exp.	0.87	1.12	1.28	1.44	1.60
TOTAL (D+E)	30.11	33.34	36.04	39.04	42.38
H) NET PROFIT	- 13.41 -	12.60 -	11.47 -	10.75 -	10.48
I) Taxation	- 1.34 -	1.26 -	2.29 -	2.15 -	2.10
J) PROFIT (After Tax)	- 12.07 -	11.34 -	9.18 -	8.60 -	8.38

COMPUTATION OF MANUFACTURING OF Re Refining of Used Lubricant**Items to be Manufactured Re Refining of Used Lubricant**

Manufacturing Capacity per day	-	500.00	Lts		
	-				
No. of Working Hour		8			
No of Working Days per month		25			
No. of Working Day per annum		300			
Total Production per Annum		1,50,000.00	Lts		
Year		Capacity	Lts		
		Utilisation			
				Final Production excluding waste@ 40%	Final Production
IST YEAR		60%	90,000	60%	54,000.00
IIND YEAR		70%	1,05,000	60%	63,000.00
IIIRD YEAR		80%	1,20,000	60%	72,000.00
IVTH YEAR		90%	1,35,000	60%	81,000.00
VTH YEAR		100%	1,50,000	60%	90,000.00

COMPUTATION OF RAW MATERIAL

Item Name	UOM	Quantity of Raw Material	Unit Rate	Total Cost Per Annum (100%)
Contaminated Lubricants	Liters	1,50,000.00	10.00	15,00,000.00
98% Ileum	Liters	14,000.00	30.00	4,20,000.00
Fullers earth	Kilograms	9,000.00	50.00	4,50,000.00
Lime	Kilograms	900.00	15.00	13,500.00
Antioxidants	Liters	900.00	200.00	1,80,000.00
Seals for Drums	Nos	460.00	20.00	9,200.00
Total (Rounded off in lacs)				25,72,700.00

Annual Consumption cost (In Lacs) 25.73

Raw Material Consumed	Capacity Utilisation	Amount (Rs.)
IST YEAR	60%	15.44
IIND YEAR	70%	18.01
IIIRD YEAR	80%	20.58
IVTH YEAR	90%	23.15
VTH YEAR	100%	25.73

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
<u>Finished Goods</u>					
(30 Days requirement)	3.89	4.54	5.18	5.83	6.48
<u>Raw Material</u>					
(60Days requirement)	3.09	3.60	4.12	4.63	5.15
Closing Stock	6.98	8.14	9.30	10.46	11.63

COMPUTATION OF WORKING CAPITAL REQUIREMENT

Particulars			Total
			Amount
Stock in Hand			6.98
Sundry Debtors			1.46
		Total	8.43
Sundry Creditors			0.36
Working Capital Requirement			8.07
Margin			0.81
Working Capital Finance			7.27

BREAK UP OF LABOUR

Particulars	Wages	No of	Total
	Per Month	Employees	Salary
Chemist	12,000.00	1	12,000.00
Skilled Worker	9,000.00	3	27,000.00
Unskilled Worker	6,000.00	4	24,000.00
			51,000.00
Add: 10% Fringe Benefit			5,100.00
Total Labour Cost Per Month			56,100.00
Total Labour Cost for the year (In Rs. Lakhs)		8	6.73

BREAK UP OF SALARY

Particulars	Salary	No of	Total
	Per Month	Employees	Salary
Manager	12,000.00	1	12,000.00
Accountant	8,000.00	1	8,000.00
Sales	10,000.00	1	10,000.00
Total Salary Per Month			2,05,206.73
Add: 10% Fringe Benefit			20,520.67
Total Salary for the month			2,25,727.41
Total Salary for the year (In Rs. Lakhs)		3	27.09

COMPUTATION OF DEPRECIATION

Description	Land	Building/shed	Plant & Machinery	Furniture	TOTAL
Rate of Depreciation		10.00%	15.00%	10.00%	
Opening Balance	Leased	-	-	-	-
Addition	-	4.00	11.60	0.83	16.43
	-	4.00	11.60	0.83	16.43
Less : Depreciation	-	0.40	1.74	0.04	2.18
WDV at end of Ist year	-	3.60	9.86	0.79	14.25
Additions During The Year	-	-	-	-	-
	-	3.60	9.86	0.79	14.25
Less : Depreciation	-	0.36	1.48	0.08	1.92
WDV at end of IIInd Year	-	3.24	8.38	0.71	12.33
Additions During The Year	-	-	-	-	-
	-	3.24	8.38	0.71	12.33
Less : Depreciation	-	0.32	1.26	0.07	1.65
WDV at end of IIIrd year	-	2.92	7.12	0.64	10.68
Additions During The Year	-	-	-	-	-
	-	2.92	7.12	0.64	10.68
Less : Depreciation	-	0.29	1.07	0.06	1.42
WDV at end of IV year	-	2.62	6.06	0.57	9.25
Additions During The Year	-	-	-	-	-
	-	2.62	6.06	0.57	9.25
Less : Depreciation	-	0.26	0.91	0.06	1.23
WDV at end of Vth year	-	2.36	5.15	0.52	8.03

REPAYMENT SCHEDULE OF TERM LOAN

11.5%

Year	Particulars	Amount	Addition	Total	Interest	Repayment	CI Balance
IST YEAR	Opening Balance						
	Ist Quarter	-	15.24	15.24	-	-	15.24
	Iind Quarter	15.24	-	15.24	0.44	-	15.24
	IIIrd Quarter	15.24	-	15.24	0.44	-	15.24
	Ivth Quarter	15.24	-	15.24	0.44	-	15.24
					1.31	-	
IIND YEAR	Opening Balance						
	Ist Quarter	15.24	-	15.24	0.44	0.95	14.28
	Iind Quarter	14.28	-	14.28	0.41	0.95	13.33
	IIIrd Quarter	13.33	-	13.33	0.38	0.95	12.38
	Ivth Quarter	12.38		12.38	0.36	0.95	11.43
					1.59	3.81	
IIIRD YEAR	Opening Balance						
	Ist Quarter	11.43	-	11.43	0.33	0.95	10.48
	Iind Quarter	10.48	-	10.48	0.30	0.95	9.52
	IIIrd Quarter	9.52	-	9.52	0.27	0.95	8.57
	Ivth Quarter	8.57		8.57	0.25	0.95	7.62
					1.15	3.81	
IVTH YEAR	Opening Balance						
	Ist Quarter	7.62	-	7.62	0.22	0.95	6.67
	Iind Quarter	6.67	-	6.67	0.19	0.95	5.71
	IIIrd Quarter	5.71	-	5.71	0.16	0.95	4.76
	Ivth Quarter	4.76		4.76	0.14	0.95	3.81
					0.71	3.81	
VTH YEAR	Opening Balance						
	Ist Quarter	3.81	-	3.81	0.11	0.95	2.86
	Iind Quarter	2.86	-	2.86	0.08	0.95	1.90
	IIIrd Quarter	1.90	-	1.90	0.05	0.55	1.35
	Ivth Quarter	1.35		1.35	0.04	0.55	0.80
					0.29	3.00	

CALCULATION OF D.S.C.R

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
<u>CASH ACCRUALS</u>	- 9.89	- 9.42	- 7.52	- 7.18	- 7.16
Interest on Term Loan	1.31	1.59	1.15	0.71	0.29
Total	- 8.57	- 7.84	- 6.38	- 6.46	- 6.87
<u>REPAYMENT</u>					
Instalment of Term Loan	3.81	3.81	3.81	3.00	3.00
Interest on Term Loan	1.31	1.59	1.15	0.71	0.29
Total	5.12	5.40	4.96	3.72	3.29
DEBT SERVICE COVERAGE R	-1.67	-1.45	-1.29	-1.74	-2.09
AVERAGE D.S.C.R.			- 1.65		

COMPUTATION OF SALE

Particulars	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
Op Stock	-	5,400.00	6,300.00	7,200.00	8,100.00
Production	54,000.00	63,000.00	72,000.00	81,000.00	90,000.00
	54,000.00	68,400.00	78,300.00	88,200.00	98,100.00
Less : Closing Stock	5,400.00	6,300.00	7,200.00	8,100.00	9,000.00
Net Sale	48,600.00	62,100.00	71,100.00	80,100.00	89,100.00
Sale Price per Average	90.00	90.00	90.00	90.00	90.00
Sale (in Lacs)	43.74	55.89	63.99	72.09	80.19

COMPUTATION OF ELECTRICITY

(A) POWER CONNECTION				
Total Working Hour per day		Hours	8	
Electric Load Required		HP	26	
Load Factor			0.7460	
Electricity Charges		per unit	8.00	
Total Working Days			300	
Electricity Charges (8 Hrs Per day)				3,72,403.20
Add : Minimim Charges (@ 10%)				
(B) D.G. SET /Coal Fired				
No. of Working Days			300	days
No of Working Hours			2	Hour per day
Total no of Hour			600	
Diesel Consumption per Hour			8	
Total Consumption of Diesel			4,800	
Cost of Diesel			65.00	Rs. /Ltr
Total cost of Diesel			3.12	
Add : Lube Cost @15%			0.47	
Total			3.59	
Total cost of Power & Fuel at 100%				7.31
Year		Capacity		Amount (in Lacs)
IST YEAR		60%		4.39
IIND YEAR		70%		5.12
IIIRD YEAR		80%		5.85
IVTH YEAR		90%		6.58
VTH YEAR		100%		7.31

BREAK EVEN POINT ANALYSIS

Year	I	II	III	IV	V
Net Sales & Other Income	43.74	55.89	63.99	72.09	80.19
Less : Op. WIP Goods	-	3.89	4.54	5.18	5.83
Add : Cl. WIP Goods	3.89	4.54	5.18	5.83	6.48
Total Sales	47.63	56.54	64.64	72.74	80.84
Variable & Semi Variable Exp.					
Raw Material & Tax	15.44	18.01	20.58	23.15	25.73
Electricity Exp/Coal Consumption at 85%	3.73	4.35	4.97	5.59	6.22
Manufacturing Expenses 80%	1.75	2.68	3.07	3.46	3.85
Wages & Salary at 60%	20.29	22.32	24.55	27.01	29.71
Selling & administrative Expenses 80%	0.70	0.89	1.02	1.15	1.28
Intt. On Working Capital Loan	0.84	0.84	0.84	0.84	0.84
Total Variable & Semi Variable Exp	42.74	49.09	55.04	61.21	67.62
Contribution	4.89	7.45	9.60	11.53	13.22
Fixed & Semi Fixed Expenses					
Manufacturing Expenses 20%	0.44	0.67	0.77	0.87	0.96
Electricity Exp/Coal Consumption at 15%	0.66	0.77	0.88	0.99	1.10
Wages & Salary at 40%	13.53	14.88	16.37	18.01	19.81
Interest on Term Loan	1.31	1.59	1.15	0.71	0.29
Depreciation	2.18	1.92	1.65	1.42	1.23
Selling & administrative Expenses 20%	0.17	0.22	0.26	0.29	0.32
Total Fixed Expenses	18.29	20.05	21.07	22.28	23.70
Capacity Utilization	60%	70%	80%	90%	100%
OPERATING PROFIT	-13.41	-12.60	-11.47	-10.75	-10.48
BREAK EVEN POINT	225%	188%	176%	174%	179%
BREAK EVEN SALES	178.32	152.25	141.87	140.54	144.93

PLANT & MACHINERY

PARTICULARS	QTY.	RATE	AMOUNT IN RS.
One 200 Ltr. Capacity Decantation tank			60,000.00
One 800 Ltr. Capacity Dehydration vessel			30,000.00
One 800 Ltr. Capacity Lead-lined Acid Treatment Plant			2,70,000.00
One 500 Ltr capacity vacuum heating plant			3,00,000.00
One 24 Plate Oil Filter Press			90,000.00
One 500 Ltr capacity blending plant			60,000.00
Testing equipments			90,000.00
Coal/ sludge fired furnace			60,000.00
Electrical and water Installation			2,00,000.00
Total			11,60,000.00

DISCLAIMER

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