

**FEASIBILITY STUDY**

**FOR**

**MANUFACTURING & DISTRIBUTION**

**OF**

**VARIOUS LUBRICANTS**

**Prepared by:**

**Yamuna Petroleum Limited**

**P.O. Box 40272**

**DAR ES SALAAM**

## **1.0 EXECUTIVE SUMMARY**

Lubrication is the control of friction and wear by the introduction of a friction-reducing film between moving surfaces in contact. The primary functions of a lubricant are to reduce friction, prevent wear, protect the equipment from corrosion, control temperature (dissipate heat), Control contamination (carry contaminants to a filter or sump) and Transmit power (hydraulics). M/S Yamuna petroleum limited is now seeking to capitalize on its sustained market growth of which it has already established itself in the industry by setting up a Lubricants Plant with an estimated annual production capacity to produce **10 million litres annually**.

### **1.1 The Project:**

The main aim of a project is the establishment of a manufacturing plant of which will entails importation of Lubricants plant with an installed capacity to manufacture 10 million litres P.A. Other activities will include importation of trucks, and 4WD cars for administrative and sales supervision operations. The aim is to produce quality Lubricant's products for sale to local and for export to the regional market.

### **1.2 The Sponsors:**

The project is sponsored Yamuna Petroleum Limited

of Dar es Salaam. The establishment programme will be carried by Yamuna Petroleum Limited which is a registered company registered under the Tanzania Companies Ordinance vide Certificate of Incorporation No. 118297 dated 24th June 2015

<b>Shareholder</b>	<b>Shares</b>
1)PRATIK JAYANT MASRANI	99
2) KRUPA PRATIK MASRANI	1

### **1.3 Capital Investment Plan and Sourcing of Funds**

Yamuna Petroleum Limited proposes to invest US\$2.1 Million for the establishment of processing facilities for various lubricants. It is planned that some investment cost will be financed by personal shareholder's contribution and loan which will be sought from various Banks.

### **1.4 Financial Profitability:**

Based on a set of assumptions given here-in the projects demonstrates a profitable trend in its future operations. The project's Income Statement and Cash flow indicate the Yamuna Petroleum limited would be able to recoup the planned investment funds within the first four years. This indicates that the project is financially and economically viable.

### **1.5 The Implementation Plan:**

It is planned that the project will take 3 years from the time Yamuna Petroleum Limited commences implementation of the project to the time the plant commences commercial services. Yamuna Petroleum Limited shall appoint a team comprising of a competent building contractor, and engineers in order to achieve the set implementation time.

### **1.6 Developmental Linkages:**

Upon completion of the Lubricants Products manufacturing plant shall be capable of creating the following:

- ◆ Promote increased availability of quality various Lubricant's product for the local and foreign markets,
- ◆ Generating foreign exchange through import substitution
- ◆ Create employment for local indigenous people;

- ◆ Promote inter-regional trade through exports to neighbouring Democratic Republic of Congo, Uganda and Burundi just to mention a few.
- ◆ It will reduce number of dishonest people who are illegally producing lubricants and hence there will be a reduction of proliferation of trashy lubricants in the market,

## **2.0 THE SPONSORS**

### **2.1 Introduction**

The lubricant manufacturing plant is promoted by Yamuna Petroleum Limited of Dar es Salaam. This is a limited liability company that was incorporated and registered in Tanzania under the Companies Act 2002 vide with a Certificate of Registration No 118297 dated 24<sup>th</sup> June 2015.

<b>Shareholder</b>	<b>Shares</b>
1) PRATIK JAYANT MASRANI	99
2) KRUPA PRATIK MASRANI	1

The shareholders have proven performance in managing a similar range of products in Dar es Salaam Region. Yamuna Petroleum Limited mission is to operate its dedicated assets and capabilities as a moving pipeline and to offer a safe, reliable and cost-efficient source of quality Lubricant's products to both its corporate and retail customers. In this case business development would focus on growing with these clients by providing active participation into planning and distribution strategies of the clients mainly corporate clients.

### **3.0 THE PROJECT**

#### **3.1 Project Description**

The project aims at manufacturing of quality Lubricant's products estimated at 10 million litres p.a. for sale to local market and for export to the regional market. In summary the project entails the following:

- ◆ Construction of a factory building;
- ◆ Importation of lubricant making plant
- ◆ Importation of trucks, and 4WD motor vehicles for administrative and sales supervision operations.

#### **3.2 Location**

The project will be located at, Plot no P49046 Kisarawe II Kigamboni Municipality, Dar- es-salaam. The site is served with electricity, water and telephone. It has a large compound that can allow extensive future expansion of factory buildings.

#### **3.3 Plant Production Capacity**

On completion the project shall be able to produce Lubricant's products of about **10 million litres P.A.**

#### **3.4 The product**

Lubricating oil, or lube oil, is the most commonly used lubricant because of its wide range of possible applications. Lubricants are meant to help relieve machinery or engines of friction which occurs due to the intense movement of various parts. Lubricants are classified into four types: **oil, grease, penetrating lubricants, and dry lubricants.** The two most common lubricants on our daily basis are oil and grease, but some facility will still use dry and penetrating lubricants. **Grease** is composed of oil and a thickening agent to obtain its consistency, while the oil is what actually lubricates.

**Oils** can be synthetic, vegetable or mineral-based as well as a combination of these. Motor Oil is the most common and popular form of lubricant and a massive industry is run on it. Motor oil is used for all engines and different kinds of machinery and it helps to preserve engine performance and aids the excessively strenuous conditions faced during functionality. This reduces the wear and tear while prolonging life with consistent use.

Gear Lubricants are Used typically in bigger machinery and heavy-duty lifting machinery where parts mesh with gears creating lifting thrust. This has direct effects on their performance and quality.

### **3.5 PRODUCTION PROCESS**

Lubricating oil is refined from crude oil. The first process is a purifying process called sedimentation. In sedimentation Lube oil is extracted from crude oil, which undergoes a preliminary purification process. This is followed by a process called *fractional distillation*. Here thousands of hydrocarbons in crude oil are separated from each other. In this process the crude oil is heated to about 700 degrees Fahrenheit (371 degrees Celsius). At this temperature it breaks down into a mixture of hot vapor and liquid that is then pumped into the bottom of the first of two fractionating towers.

As the vapours rise up through the tower, the various fractions cool, condense, and return to liquid form at different rates determined by their respective boiling points (the lower the boiling point of the fraction, the higher it rises before condensing). Natural gas reaches its boiling point first, followed by gasoline, kerosene, fuel oil, lubricants, and tars.

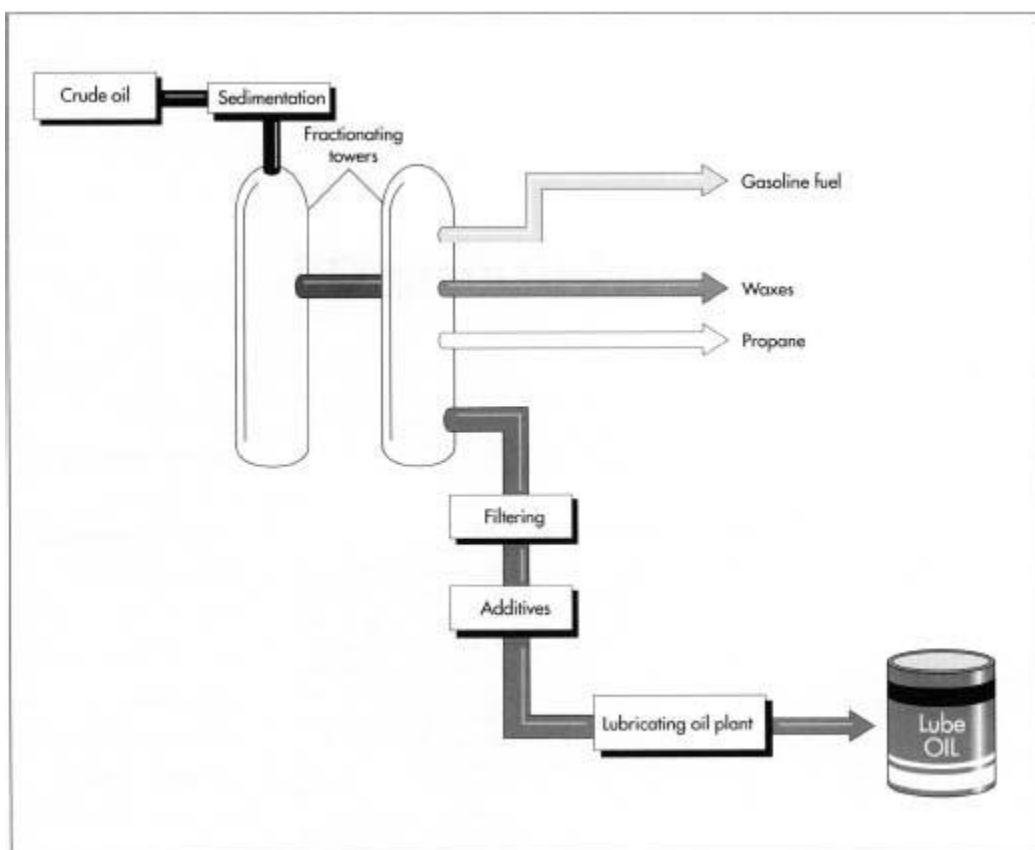
Finally, the oil is mixed with additives to give it the desired physical properties (such as the ability to withstand low temperatures). At this

point, the lube oil is subjected to a variety of quality control tests that assess its viscosity, specific gravity, color, flash, and fire points. Oil that meets quality standards is then packaged for sale and distribution.

Common additives include metals such as lead or metal sulphide, which enhance lube oil's ability to prevent galling and scoring when metal surfaces come in contact under extremely high pressures. Another additive is High-molecular weight polymerics which improve viscosity, counteracting the tendency of oils to thin at high temperatures.

Furthermore, Nitrosamines are employed as antioxidants and corrosion inhibitors because they neutralize acids and form protective films on metal surfaces.

## THE DIAGRAM SHOWING THE MANUFACTURING PROCESS



## **4.0 MARKETING ASPECTS;**

### **4.1 Enabling Environment**

Tanzania has fared relatively well compared to its regional peers, but economic growth has slowed significantly due to the recent Pandemic-induced shocks which slowed Tanzania's GDP growth rate from 5.8 percent in 2019 to an estimated 2.0 percent in 2020. In spite of that Tanzania reached an important milestone in July 2020, when it formally graduated from low-income country to lower-middle-income country status. Tanzania's achievement reflects sustained macroeconomic stability that has supported growth, in addition to the country's rich natural endowments and strategic geographic position Tanzania.

Furthermore, Tanzania is considered to be one of the successful reformers in recent times with a unique position in that it has vast natural resources, sound economic fundamentals for developing its industries and a strategic position between three regional enclaves southern Africa (where the economic co-operation of SADC exists), Eastern Africa (where the economic co-operation of East Africa Co-operation exists) and the Great Lakes region of central Africa.

M/s Yamuna Petroleum Limited considers itself to be in a unique position in that it could service a sizeable proportion of Tanzania's main economic sectors and that of the neighbouring countries. The Tanzania's economic political and social environment is thus of crucial importance to the company.

### **4.2 The overall Market**

The demand for lubricant oil such as blended motor oil, brake fluids lubricating greases, and other oil-based additives is huge in Tanzania.

Lubricant's products are consumed by almost all sectors of the economy. The fact that vehicle owners subject their vehicles to servicing at regular intervals creates a market for lubrication oil products. The various needs of lube oils in homes, organizations, factories, and industries just cannot be overemphasized because the population of people who have mechanical need for oil has continued to increase over the years.

#### **4.2.1 Supply of Lubricants Products:**

Tanzania consumes 30 million litres of lubricants annually, with 20 million litres produced in the country and the remaining 10 million litres imported. There are few manufactures of lubricants in Tanzania and most of the lubricant's needs are satisfied by imports. So far EWURA has licensed only few local firms, including Oryx Energies, Petro lube, General Petroleum and Tanzania Mineral Oil, to produce lubricants

The main markets for this product are all the sectors including mining, construction, Aviation, Agricultural, Industrial, Marine and transportation. To date Tanzania imports various Lubricant's products. The Government appears to be committed to creating an enabling environment for private sector investment to support this development.

#### **4.2.2 Demand for Lubricants products**

Lubricant's products market is driven by demand from various key growth sectors in Tanzania. Industry estimates that market demand is currently growing on average, at a rate of over 10% annually, largely fuelled by growth in the economic activities. The Lubricants products industry is strategically well placed as its growth can be directly correlated with growth in key sectors of the Tanzanian economy. Analysts contend that growth in Tanzania is likely to come from the agro-processing, agricultural,

manufacturing, construction, service and mining industries. The Lubricants products market is expected to mirror the expected growth in these sectors. Therefore, the demand for lubricant oil such as blended motor oil, brake fluids lubricating greases, and other oil-based additives is huge in Tanzania. That's why the biggest marketers like Total and Lake oil recently have set up their own lubricant manufacturing facility. Although there are several lubricant oil manufacturing companies in Tanzania, but with a good distribution network, quality products, good marketing strategies, and sufficient start-up a new lubricant trading company can win a competition

#### **4.2.3 Demand Supply Gap**

If Demand for Lubricants products is not met, the gap will increase tremendously especially if the entire product is imported. Assuming the various activities will continue to increase and supply will increase at the slow rate annually, the demand-supply gap in the next 10 years will not be met.

#### **4.2.4 Distribution**

Production will be sold at the factory, where both wholesale and retail customers would be served. The company will also have distribution trucks, which would carry the product to various depots, especially in Dar es Salaam where the market is concentrated. This would be a strategy to increase sales.

#### **4.2.5 Marketing Strategies:**

Yamuna Petroleum Limited Management Team shall take proactive marketing and promotional strategy to ensure that the company achieves high turnover of sales through sales made to corporate customers. In

order to achieve optimal business turnover management shall design and implement the following strategies;

**i) Distribution of Sales**

Distribution of brochures to wholesale agents.

**ii) Door to Door Sales**

Senior marketing staff of the company shall physically visit offices.

**iii) Advertisement**

These would include the local media namely; local television, Radio commercials and Newspaper advertisements etc.

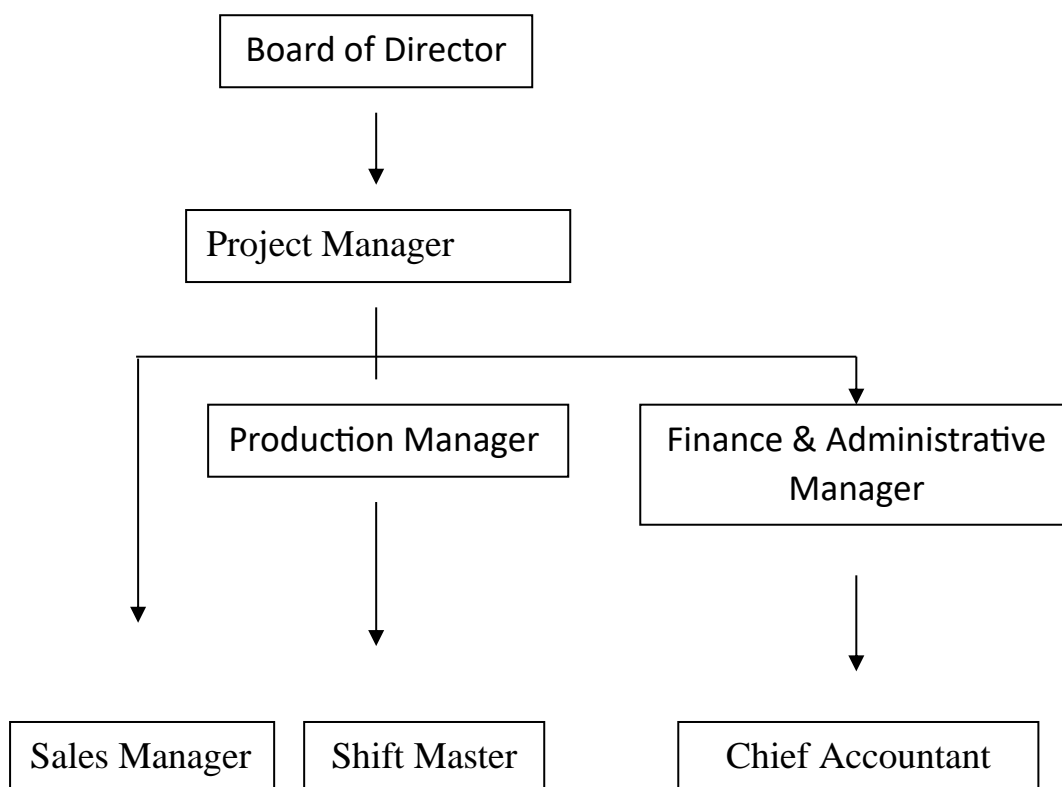
## 5.0 MANAGEMENT

### 5.1 Staff Recruitment Strategy

The strategy shall be to fill in key managerial positions with people who have extensive experience and sound qualifications in managing companies that produce Lubricant products. The staff would include a General Manager who will be assisted by 3 departmental managers namely the Finance and Administration Manager Production Manager and Marketing Manager.

### 5.2 Organisation Structure

The organisation structure of the project is proposal to be as follows:



### 5.3 Manpower Requirement

The company will employ 25 persons. The company will need to recruit expatriate personnel for the positions of General Manager, Engineers, Foreman, Maintenance Technician, lubricant Processing Technician,

Laboratory Technician etc. Other positions will be allocated to Tanzanian nationals based on skills and experience in the lubricant activities

## 6.0 CAPITAL INVESTMENT COSTS USD

	Foreign	Total
Land & Buildings	900,000	900,000
Plant, Machinery & Equipment	400,000	400,000
Vehicles	200,000	200,000
Furniture & Fittings	100,000	100,000
Others	-	-
Pre operational Expenses	10,000	10,000
Initial Working Capital	500,000	500,000
<b>Grand Total</b>	<b>2,110,000</b>	<b>2,110,000</b>

Yamuna Petroleum Limited proposes to invest **US\$ 2.11 Million** for developing this project. It is planned that some investment cost will be financed by personal shareholders' contribution and the term loan which will be sought from Bank. Furthermore, the sister company's Self-Generated Funds shall be utilized at a later stage for working capital funds. Following is the projects investment plan and sources of financing:

### 6.2 Financing

The total investment cost of the project is planned to be financed by the shareholders equity and loan from various banks both local or foreign.

#### USD

	Local	Total
Owners' Equity	400,000	400,000
Loan	1,710,000	1,710,000
<b>Grand Total</b>	<b>2,110,000</b>	<b>2,110,000</b>

## **7.0 PROJECT FINANCIAL VIABILITY**

### **Assumptions and considerations**

The financial analysis indicates that the proposed project would be a profitable venture;

### **7.1 Projected Profit and Loss Accounts**

The project is expected to make a post-tax profit of US\$0.046M during its first year of operation rising to USD 0239M at the end of the 5<sup>th</sup> year.

### **7.2 Projected Cash flows**

The projected cash flows show that the project would be able to honour its financial obligations as they fall due throughout the project's economic life and still remain with reserve of cumulative cash that could be re-invested in the project.

## **8.0 CONCLUSION AND RECOMMENDATION.**

### **8.1 Conclusion**

Results of the analysis of the proposed venture indicate that: -The venture is expected to be commercially viable;

- The venture will create job opportunities.
- The venture will benefit the Government through several taxes both direct.
- The project will have import substitution effect and hence will save the much-needed foreign exchange
- The project will have economies of scales effects
- Promote increased availability of quality various Lubricant's product for the local and foreign markets,
- Promote inter-regional trade through exports to neighbouring Democratic Republic of Congo, Uganda and Burundi just to mention a few.
- It will reduce number of dishonest people who are illegal produce lubricants and hence there will be a reduction of proliferation of trashy lubricants in the market,

### **8.2 RECOMMENDATIONS:**

We recommend that the government take the following actions to support the manufacturing activities proposed by M/S Yamuna Petroleum Limited in order to benefit from the positive effects this feasibility study has pointed out:

- ✓ To give sufficient incentives
- ✓ Assuring that the incentives are stable and remain unchanged for at least five years. This will allow necessary investment decisions to be taken.
- ✓ Every assistance from concerned parties is expected to make this venture a success. The sponsor desire is to start immediately to avoid cost escalations.

# YAMUNA PETROLEUM LIMITED

## CAPITAL INVESTMENT COST      USD

	Foreign	Total
Land & Buildings	900,000	900,000
Plant, Machinery & Equipment	400,000	400,000
Vehicles	200,000	200,000
Furniture & Fittings	100,000	100,000
Others	-	-
Pre operational Expenses	10,000	10,000
Initial Working Capital	500,000	500,000
<b>Grand Total</b>	<b>2,110,000</b>	<b>2,110,000</b>

# **YAMUNA PETROLEUM LIMITED**

## **PROPOSED FINANCING PLAN**

**USD**

<b>S.No.</b>	<b>ITEMS</b>	<b>AMOUT</b>	<b>TOTAL</b>
1.	Shareholders' Equity	400,000	400,000
2.	Term loan	1,711,000	1,711,000
	Total	2,110,000	2,110,000

## YAMUNA PETROLEUM LIMITED

### DEPRECIATION SCHEDULE

SN ITEM	Open ing Bal ance		1	2	3	4	5	6	7	8	9	10
Building and Civil Works	900,000	5%	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000
Machinery & Equipment	400,000	12.5 %	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	-	-
Furniture and Fittings	100,000	12.5 %	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	-	-
Motor Vehicles	200,000	25%	50,000	50,000	50,000	50,000	-	-	-	-	-	-
Pre-Operational Expenses	10,000	20%	2,000	2,000	2,000	2,000	2,000	-	-	-	-	-
<b>Total</b>			<b>159,500</b>	<b>159,500</b>	<b>159,500</b>	<b>159,500</b>	<b>109,500</b>	<b>107,500</b>	<b>107,500</b>	<b>107,500</b>	45,000	45,000

**YAMUNA PETROLEUM LIMITED**  
**Working capital USD**

<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
<b>CURRENT ASSETS</b>									
<i>Stocks</i>	<i>241,200.00</i>	<i>273,360.00</i>	<i>514,560.00</i>	<i>514,560.00</i>	<i>514,560.00</i>	<i>514,560.00</i>	<i>514,560.00</i>	<i>514,560.00</i>	<i>514,560.00</i>
Sundry Debtors	<i>434,712.00</i>	<i>521,654.40</i>	<i>652,068.00</i>	<i>796,972.00</i>	<i>869,424.00</i>	<i>869,424.00</i>	<i>869,424.00</i>	<i>869,424.00</i>	<i>869,424.00</i>
Cash-in-hand	-	-	-	-	-	-	-	-	-
Bank Accounts	<i>33,992.97</i>	<i>119,310.45</i>	<i>17,804.58</i>	<i>267,761.58</i>	<i>923,168.87</i>	<i>923,168.87</i>	<i>923,168.87</i>	<i>923,168.87</i>	<i>923,168.87</i>
<b>TOTAL CURRENT ASSETS</b>	<b>709,904.97</b>	<b>914,324.85</b>	<b>1,184,432.58</b>	<b>1,579,293.58</b>	<b>2,307,152.87</b>	<b>2,307,152.87</b>	<b>2,307,152.87</b>	<b>2,307,152.87</b>	<b>2,307,152.87</b>
<b>LESS: CURRENT LIABILITIES</b>									
Duties & Taxes	<i>46,059</i>	<i>133,617</i>	<i>175,289</i>	<i>196,841</i>	<i>239,219</i>	<i>242,775</i>	<i>242,775</i>	<i>242,775</i>	<i>258,443</i>
Sundry Creditors	<i>142,308.00</i>	<i>189,744.00</i>	<i>237,180.00</i>	<i>237,180.00</i>	<i>284,616.00</i>	<i>284,616.00</i>	<i>284,616.00</i>	<i>284,616.00</i>	<i>284,616.00</i>
Total liabilities	<i>188,367</i>	<b>323,361</b>	<b>412,469</b>	<b>434,021</b>	<b>523,835</b>	<b>527,391</b>	<b>527,391</b>	<b>527,391</b>	<b>527,391</b>
<b>NET WORKING CAPITAL</b>	<b>521,537</b>	<b>590,964</b>	<b>771,963</b>	<b>1,145,272</b>	<b>1,783,318</b>	<b>1,779,762</b>	<b>1,779,762</b>	<b>1,779,762</b>	<b>1,779,762</b>

# YAMUNA PETROLEUM LIMITED

## PROJECTED PROFIT AND LOSS STATEMENT

(USD)

ITEM/YEAR	1	2	3	4	5	6	7	8	9	10
Revenue from Operations	2,210,400	2,652,480	3,315,600	4,052,400	4,420,800	4,420,800	4,420,800	4,420,800	4,420,800	4,420,800
Cost of goods sold	1,613,520	1,916,600	2,424,000	2,942,940	3,220,200	3,220,200	3,220,200	3,220,200	3,220,200	3,220,200
<b>Gross Profit</b>	<b>596,880</b>	<b>735,880</b>	<b>891,600</b>	<b>1,109,460</b>	<b>1,200,600</b>	<b>1,200,600</b>	<b>1,200,600</b>	<b>1,200,600</b>	<b>1,200,600</b>	<b>1,200,600</b>
Operating Profit	596,880	735,880	891,600	1,109,460	1,200,600	1,200,600	1,200,600	1,200,600	1,200,600	1,200,600
Less: Depreciation	159,500	159,500	159,500	159,500	109,500	107,500	107,500	107,500	45,000	45,000
Indirect costs	283849	290,331	291402	294,123	293,701	283849	290,331	291402	294,123	293,701
<b>Profit Before Tax</b>	<b>153,531</b>	<b>445,390</b>	<b>584298</b>	<b>656,137</b>	<b>797,399</b>	<b>809,251</b>	<b>809,251</b>	<b>809,251</b>	<b>861477</b>	<b>861,899</b>
Taxable Income	153,531	445,390	584298	656,137	797,399	809,251	809,251	809,251	861477	861,899
Corporation Tax – 30%	46,059	133,617	175,289	196,841	239219	242,775	242,775	242,775	258,443	258570
<b>Net Profit After Tax</b>	<b>107,472</b>	<b>311,773</b>	<b>409,009</b>	<b>459,296</b>	<b>566,180</b>	<b>566,476</b>	<b>566476</b>	<b>566476</b>	<b>603,034</b>	<b>603,329</b>
<b>Revenue Reserves</b>	<b>107,472</b>	<b>419245</b>	<b>828,541</b>	<b>1,287,837</b>	<b>1,854,017</b>	<b>2,420,493</b>	<b>2,986,969</b>	<b>3,553,445</b>	<b>4,156,479</b>	<b>4,759,808</b>

# YAMUNA PETROLEUM LIMITED

## PROJECTED CASH FLOWS STATEMENT

**(USD)**

ITEM/YEAR	0	1	2	3	4	5	6	7	8	9	10
<b>INFLOWS</b>											
Equity & term loan	2,110,000		-	-	-	-	-	-	-	-	-
	-										
<b>PROFIT BEFORE TAX</b>	-	153,531	445,390	584,298	656,137	797,399	809,251	809,251	809,251	861,477	861,899
<b>Depreciation</b>	-	159,500	159,500	159,500	159,500	109,500	107,500	107,500	107,500	45,000	45,000
<b>TOTAL INFLOWS</b>	2,110,000	313,031	604,890	743,798	815,637	906,899	916,751	916,751	916,751	906,477	906,477
<b>OUTFLOWS</b>											
Investment & Reinvestment	2,110,000	46,059	133,617	175,289	196,841	239,219	242,775	242,775	242,775	258,443	258,570
Taxation											
<b>TOTAL OUTFLOW</b>	2,110,000	46,059	133,617	175,289	196,841	239,219	242,775	242,775	242,775	258,443	258,570
<b>NET OUTFLOW</b>	-	266,972	471,273	568,509	618,796	667,680	673,976	673,976	673,976	648,034	647,907
<b>CUMMULATIVE</b>		266,972	738,245	1,306,754	1,925,550	2,593,230	3,267,206	3,941,182	4,615,158	5,263,192	5,911,099