A STUDY ON THE WORKING CAPITAL MANAGEMENT OF KOCHI REFINERIES LTD, KOCHI

SUMMER PROJECT REPORT

Submitted to the

Faculty of Management Sciences, Anna University

In partial fulfillment of the requirement

for the award of the degree of

MASTER OF BUSINESS ADMINISTRATION

BY

BEENU.K.B

Reg No: 71205631006

OCTOBER, 2006

DEPARTMENT OF MANAGEMENT STUDIES

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DEPARTMENT OF MANAGEMENT STUDIES

KUMARAGURU COLLEGE OF TECHNOLOGY

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BONAFIDE CERTIFICATE

Certified that, this project titled "A STUDY ON THE WORKING CAPITAL MANAGEMENT OF KOCHI REFINERIES LTD, KOCHI" is a bonafide work of **BEENU.K.B (Reg No. 71205631006)** who carried this research under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other project or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

....
Faculty Guide

Prof. S. Ganesan
Director

Evaluated and viva-voce conducted on 17.11.06

Examiner I

Examiner II

DECLARATION

I hereby declare that this project report entitled **'A STUDY ON THE WORKING CAPITAL MANAGEMENT OF KOCHI REFINERIES LTD'** submitted in partial fulfillment of the requirement for the award of the degree of Master of Business Administration is my original work and not submitted for award for any other degree, diploma, associate ship or fellowship under similar title to any other university of the society.

Beenu

Place: Coimbatore BEENU.K.B

Date:

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CERTIFICATE

This is to certify that **Ms Beenu KB, MBA** student from **Kumaraguru College of Technology, Coimbatore** has undertaken her Project Work titled **'Analysis of Working Capital Management of Kochi Refineries Ltd'** in our **Finance and Accounts Department** from **04.07.2006 to 13-08-2006** as part of curriculum.

We have noticed that, during the period, she has shown keen interest in her assignments and was also regular in attendance.

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ACKNOWLEDGEMENT

I take this opportunity in acknowledging some noble hearts for lending their helping hands in the successful completion of the project.

I extend my heartfelt thanks to Principal **Dr.Joseph.V.Thanikal**, Kumaraguru College Of Technology, for providing the facilities to do the project.

I acknowledge deep sense of gratitude for constant encouragement of our Director Professor **S.Ganeshan**, KCT Business School for his guidance and counseling.

I would be failing in my duty if I do not extent my gratitude to my institution guide Mr.**A.Sentilkumar** without whose help the project would not have been finalized.

I would like to express thanks to all staff working in KRL, Kochi for their cooperation in this project. I would like to acknowledge deep sense of gratitude especially to Mr. **Babu Arjun**, Secretary, F&A Department, Mr.**J.Rajesh**, Deputy Manager, F&A Department who helped us for the successful completion of the project.

I thank my parents and family members for the moral support extended which was a great help in project completion.

I am also thankful to all respondents for their kind cooperation.

Last but not least, I thank god for enabling me to complete the project and fulfill the requirements of all my superiors.

BEENU.K.B

EXECUTIVE SUMMARY

The petroleum sector plays an important role in economic development of the country. The Indian petroleum industry stands out as an example of strides made by the country in its march towards economic self reliance. The working capital management of Kochi Refineries Ltd, which is one of the leading crude oil refining and processing company, has been studied in detail.

A descriptive cum analytical study have been performed to comment on the working capital management of the concern. Annual records of 5 years(2000-01 to 2004-05) forms the secondary source of data for the study. The collected data is collated and analyzed. Ratio analysis a vibrant tool for the financial statement analysis is used to explore the dimension of Working capital management of the concern. Cash flow analysis a tool to track the cash movement has also been used with. Major elements representing the working capital position were projected for future years. Suitable recommendations were made for further improvement of the working capital position.

The study enabled the researcher to conclude that Kochi Refineries Ltd is comfortable with its short term liquidity position and working capital management is found to be satisfactory.

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INTRODUCTION TO THE STUDY

1 INTRODUCTION

Oil is normally extracted from the ground by drilling a well into a reservoir. When a well is bored the pressure from the gas or water forces the oil to surface spontaneously. Oil from such wells is sent through 'flow lines' to a 'gathering center' generally, where water and gas are separated from oil. Once oil has been through the gathering center and has been purified min the separators and stripping towels, it is transported by pipelines, to costal loading terminals, where it is transferred into bulk oil-carriers for shipment to refineries both inland and abroad. At the refinery the oil is unloaded for distillation into a furnace from which it's split into the various products.

A modern refinery is a large compiler encompassing many units operations and process for converting crude oil to fuels, lubricating oils and other derivatives. These products range from liquefied petroleum gas to asphalts. Petroleum is not used in its original form as it contains many impurities. Also the dissolved gases in the petroleum are highly explosive when it mixes with air. The more complex compounds of the crude oil however volatilize only at relatively high temperature. Refining operations include process such as distillation, crystallization, solvent extraction, adsorption, absorption and several conversion processes such as 'thermal' and 'catalytic' cracking, polymerization, alkylation's, dehydrogenation, isomerization, cyclazation, thermal reforming, catalytic reforming and asphalt blowine.

When these processes are integrated in the refinery plant, they constitute an operation that can be large indeed. Refining of crude process unlike earlier pattern of the industry having many smaller capacity units, which tend to employ more labour, the present trend is to plan for larger capacity units, well automated, thus making the industry even more capital intensive and requiring lesser manpower compared to earlier plants. The success of refining industry in improving its level of productivity is mainly attributed to the technological innovations and applied research.

1.1 BACKGROUND OF STUDY

Oil industry has occupied one of the most important positions in the Indian economy. Here the background of study is KRL which is one of the leading crude oil refining and processing company. The company's working capital position is being analyzed for which informations have been collected from the finance department.

1.2 OBJECTIVES OF STUDY

* To determine the working capital of KRL.
* To determine efficiency in cash, inventories, debtors and creditors.
* To understand the liquidity and profitability position of the firm.
* To conduct a time series analysis to understand the efficiency/ inefficiency in the use of working capital.

1.3 PROBLEM OF STUDY

In the study the working capital of Kochi Refineries Ltd has been analyzed and projected working capital of the years 2006 and 2007 has been worked out using trend analysis.

1.4 SCOPE OF STUDY

The scope of study is to determine the Working Capital Management of KRL. The study will be useful for improvement in the performance of the firm. The study covers a period of 5 years from 2000-2005.

1.5 RESEARCH METHODOLOGY

1.5.1 TYPE OF STUDY

The analysis has been done by using descriptive analysis and analytical study. Descriptive analysis is the phase of statistics that seeks only to describe and analyze a given group without drawing any conclusions or inferences about a large group. Analytical study is the analysis of the figures of the organization.

1.5.2 DATA COLLECTION

Both primary data and secondary data have been used for the study. Primary data was collected by interviewing the officers and managers. Sources of secondary data were Annual Reports of KRL for the year ended 2000 March to 2005 March. Secondary data is also collected from journals like petroleum updates, Oil&Gas. The company's official website kochirefineries.com was also useful in collecting information.

1.5.3 TOOLS OF ANALYSIS

Two tools have been used for analysis. They are

1. Ratio Analysis
2. Trend Analysis
3. Cash flow Analysis

In the ratio analysis, the ratios relating to working capital management has been calculated. In the trend analysis, the Method of Least Squares has been used to project the trend for the next two years i.e. 2006 and 2007. Projections have been made for sales, expenses, current assets, current liabilities and cash and the graphs have been also plotted for the same.

1.6 LIMITATIONS OF STUDY

- Current ratio considers only the quantity of current assets and ignored the quality of current asset. The Current asset may consist of obsolete stock or defaulting debtors.

- Price level changes may make the interpretation of ratios invalid.

- The period of study is limited to 5 years from 2000 to 2005.

- The project duration of 6 weeks doesn't enable a broad level study.

- In the year 2000-01 the credit period was 3 days and after that it has increased to 20 days. So there occurred high fluctuations in values.

1.7 CHAPTER SCHEME

CHAPTER 1

Chapter 1 consists of a general introduction about the company and its operations. In this chapter the background of study, the objectives of study, scope of study, methodology and limitations are described.

CHAPTER 2

Chapter 2 consists of the organization profile in which the history of the organization, Management of the organization, organization structure, Product profile and market potential, competitive strength and future plans have been described.

CHAPTER 3

Chapter 3 consists of the prevailing economic scenario with respect to the industry selected for study i.e. the industry profile. The macro and micro economic analysis has been done in this chapter.

CHAPTER 4

Chapter 4 consists of data analysis and interpretation. The analysis of working capital has been done using ratio analysis and trend analysis. The cash flow statement has also been prepared and analysis has been done.

CHAPTER 5

Chapter 5 consist of the conclusion, suggestions and recommendations

CHAPTER 2

ORGANIZATION PROFILE

2. ORGANIZATION PROFILE

KRL at a glance

Location: Ambalamugal in Kochi

Refining capacity: 7.5 million metric tonnes per annum

Products: LPG, petrol, diesel, kerosene, naphtha, benzene, toluene, LSHS, furnace oil, ATF, speciality solvents, bitumen, rubberized bitumen.

Turnover: Rs. 9858 crores (2004-2005)

Profit before tax: Rs. 910 crores (2004-2005)

2.1 HISTORY OF THE ORGANIZATION

Cochin Refineries Limited was incorporated in the joint sector as a public limited company in september1963 with technical collaboration and financial participation of Philips Petroleum Company of USA and Duncan Brothers of Calcutta.
The refinery was commissioned in1966 with a crude processing capacity of 2.5 million metric tones per annum (MMTPA). The name of the company was changed to Kochi Refineries Ltd in May2000.

From the date of commissioning to the date refinery undertook 3 expansions in refining capacity and installation of several new processes, units and other facilities. Many of the facilities have undergone modernization at various stages. The refining capacity was first expanded from2.5 to 3.3 MMTPA in september1973. The production of Liquefied Petroleum Gas (LPG) and Aviation Turbine Fuel (ATF) were commenced after expansion. The capacity was further increased to 4.5 MMTPA in November 1984 along with addition of 1.0 MMTPA capacity Fluid Catalytic Cracking (FCC) unit. The crude processing capacity was finally expanded to7.5 MMTPA in December 1994 with the installation of second crude distillation unit and associated facilities. Along with this expansion the capacity of secondary processing was enhanced to1.4 MMTPA. A fuel gas de-sulphurisation was also installed as a part of the expansion project as an environmental protection measure to minimize sulphur dioxide emission from the refinery.

During the year 1989, the company commissions an Aromatics Recovery Unit (ARU) with a design capacity of 7200 tonnes per annum of Benzene and 12000 tonnes per annum of toluene marking KRLs entry into the field of Petrochemical Distributed Digital Control Systems (DCS) were installed for the process units in the same year.

A captive power plant of 26.3 MW ISO rating was commissioned in March 1991 to meet the power requirement of KRL and to safeguard the operations against the power supply fluctuations in the state grid. During the year 1998 an additional captive power plant of 17.8 MW capacity was commissioned, making KRL self sufficient in power.

Advanced Process Control (APC) technology was first installed in the Crude Distillation Unit 1(CDU1) in March 1992 and subsequently the technology was implemented in FCC unit and CDU2. The benefits arising out of implementation of APC and increased safety, enhanced yields, increased thru put, reduced energy consumption etc. A plant wide computer network connected to the DCS's of all the process units, utilities and tank farm areas along with a real time database for storage and retrieval of process information, was commissioned in the year 2001.

A Light Ends Feeds Preparation Unit (LEPPU) to supply poly butanes feed stock to Cochin Refineries Balmer Lawrie Ltd (CRBL), a joint venture company was commissioned in 1993. CRBL was later merged with KRL in April 2001. KRL also commissioned Raffinate Purification Unit (RPU) for the manufacture of 10000 TPA of Petroleum Hydrocarbon Solvent in January 1994, with the technology developed by the in house R& D center. KRL started commercial production of Mineral Turpentine Oil (MTO) in March 1995, utilizing the existing facilities of the refinery. Natural Rubber Modified Bitumen another in house R&D product started commercial production in September 1999.

A Diesel Hydro De-sulphurisation (DHDS) plant with capacity of 2.0 MMTPA was commissioned in March 2000 in order o reduce sulphur content in diesels. In 2001 the entire tank farm operations were automated with installation of Automatic Tank Gauging (ATG), DCS and online product branding systems.

KRL has subscribed to 23% equity capital of Petronet CCK ltd (PCCKL), a joint venture company promoted by Petronet India Ltd at a cost of Rs.23 crores. PCCKL has completed the implementation of 292km Cochin- Coimbatore –Karur Multi product pipeline (18"Cochin-Coimbatore-183km and14"Coimbatore-Karur-109km) designed to transport3.3 MMTPA (4.5 MMTPA with booster pumps) in the year 2002.

All major business management functions in KRL are non driven by an integrated ERP system. Project MANTRA which went live on July1 2003 is the business transformation initiative embarked upon by KRL by implementation of SAP R/3 software to revitalize its functioning with state of the art information technology tools.

An LPG bottling plant of nameplate capacity 44000 TPA was commissioned in August 2003.

KRL started producing auto fuels MS & HSO confirming to Bharat stage II norms from January2005, well ahead of the implementation of new fuel quality norms in the region. This was achieved by revamping of the DHDS unit for capacity enhancement to 2.6 MMTPA processing of the FCC unit feed (VGO) and diesel in block out mode of operation in the DHDS unit. The FCC unit capacity has also been enhanced to 1.75 MMTPA by revamping in May 2005 along with enrichment of oxygen enrichment facilities.

KRL is presently an ISO14001 certified company. KRL has been accorded ISO9001-2000certification in October2004 by M/S Det Norkse Veritas (DNV) is recognition of KRLs Quality Management System initiatives? KRL achieved Level8 in the International Safety Rating System (ISRS), after the audit held in December 2004.

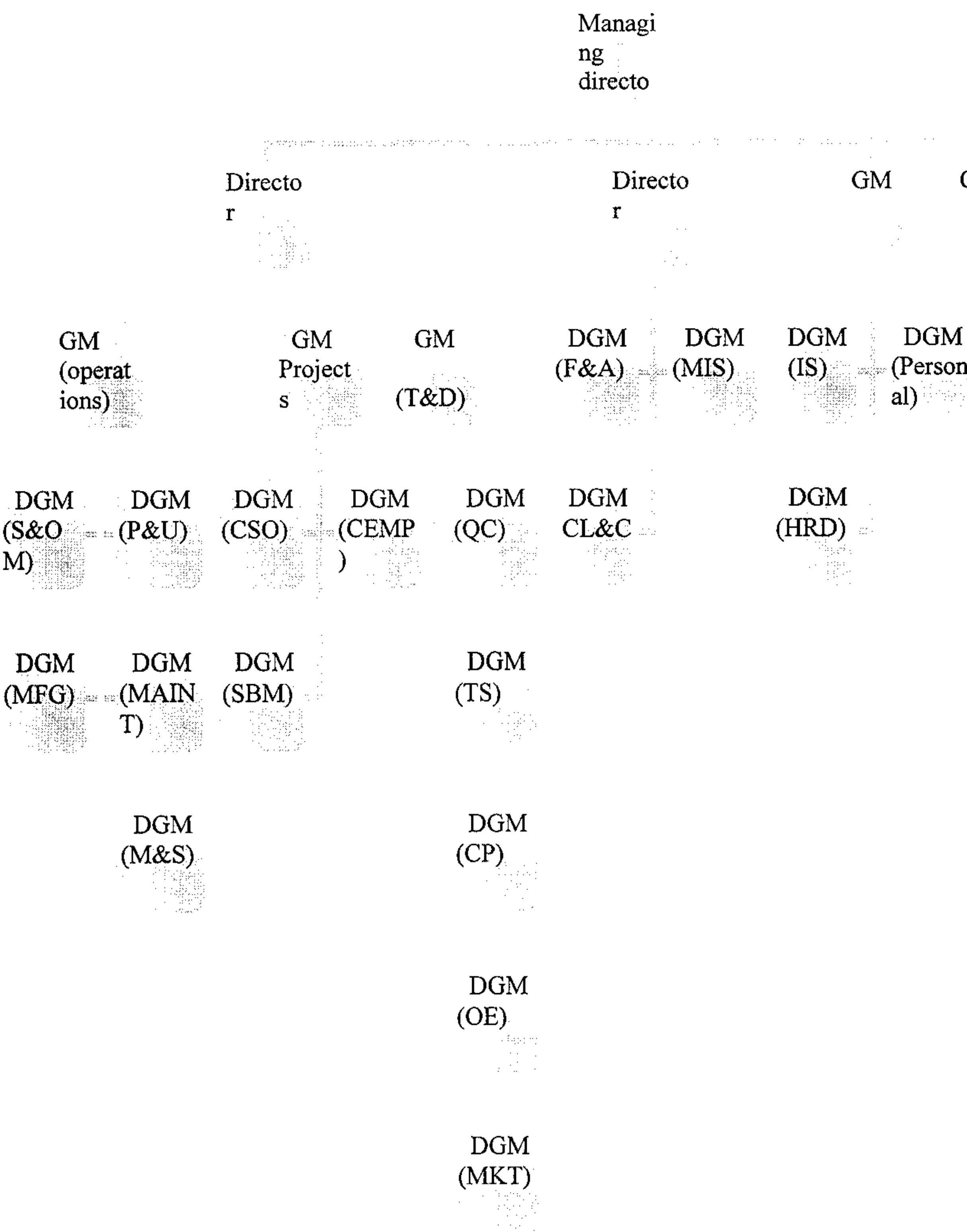
M/S BPCL acquired Government Of India (GOI) entire majority equity holding in KRL in March 2001.

2.2 MANAGEMENT

The management of the company vested upon the board of directors. The board of directors consists of

1. Shri.Ashok Sinha (Chairman & MD)
2. Shri. B.K.Menon, Managing Director
3. Shri. Cherian N Punnose, (Director Finance)
4. Shri M.A.Mohammadali (Director Refineries)
5. Shri V.P.Joy (Director, Ministry of Petroleum&Gas, GOI)
6. Shri. John Mathai (principal Secretary(Industries) Govt of Kerala)
7. Shri. S.A.Narayanan (Director HR, BPCL)
8. Shri. S.Radhakrishnan (Director, Marketing)
9. Shri. B.K.Das(MD Numaligarh Refineries Ltd)

2.3 ORGANIZATION CHART



2.4 PRODUCT PROFILE AND MARKET POTENTIAL

KRL produces a wide range of petroleum products .The products include:

- Natural Rubber Modified Bitumen
- Liquefied Petroleum Gas and Kerosene for households and industrial uses.
- Petrol and Diesel for automobiles.
- Naphtha the major raw material for fertilizer and petrochemical industries.
- Benzene for manufacture of Caprolactum, phenol, insecticides and other chemicals.
- Furnace oil and low sulphur heavy stock for fuel in the industry.
- Aviation Turbine Fuel (ATF) for aircrafts.
- Bitumen and Natural Rubber Modified Bitumen (NRMB) for road paving.
- Special Boiling Point Spirit used as a solvent in tyre industry.
- Toluene for manufacture of solvents and insecticides, pharmaceuticals and paints.
- MTO (textile grade) MTO (paint grade) for use in textile and Paint industry.

2.5 MARKETING ACTIVITIES

The products from KRL were marketed by IOC till 1993 except supply of LPG to HOC through pipeline. KRL has been pursuing with the government from time to time to market free trade products and other products transferred through pipeline to bulk consumers directly. Permission to market Mineral Turpentine Oil was granted in 1994.

KRL has opened marketing offices in Chennai and Mumbai for marketing free trade products like Benzene, toluene etc. consequent to BPCL acquiring GOIs stake in KRL, the controlled and de controlled product are used mainly by BPCL. The free trade products mainly Benzene, Toluene, SBPS, Mineral Turpentine Oil re marketed directly by KRL. Also a part of de controlled KRL products such as FO, LSHS, Naphtha and Bitumen re sold to designated consumers since September2003.

Presently KRL do not have retail marketing rights. KRL is in retail business only as BPCLs co operator. Two retail outlets under BPCL banner and operated by KRL is already functioning one at Ambalamugal and other at pannancherry (Trissur). The RO at Ambalamugal which charted a total sales of 750kl (MS&HSD) during January 2005, became one of the largest selling plants in Kerala among all oil marketing companies.

2.6 VARIOUS FUNCTIONAL AREAS

The various departments functioning in KRL are as follows:-

- Human Resource Development & Industrial relations
  - Industrial Relations
  - ESI
  - Medical
  - Human Resource Development

- Information Services (IS)

- Personal
  - Benefits
  - Payroll
  - Sports
  - Personal

- Technical Services Department
  - Fire and Safety (F&S)
  - Process Engineering
  - Inspection
  - Energy and Environment (E&E)
  - Research and Development (R&D)

- Oil Economics
- Quality Control
- Security
- Corporate Planning
- Marketing Department

    - Market Development
    - Operations

- Operations
    - Stock and Oil Movement (S&OM)
    - Customer Order Fulfillment
    - Common Services

- Power and Utility (P&U)
    - Electrical
    - Utility

- Manufacturing
    - Crude Distillation Unit1 (CDU1)
    - Fluid Catalytic Cracking Unit (FCCU)
    - Crude Distillation Unit2 (CDU2)
    - Diesel Hydro De-Sulfuration (DHDS)
    - Process Optimization

- Maintenance

- Materials and Services
    - Materials
    - Services
    - Inventory and Warehouse

- Finance and Accounts

- Management Information Service and Internal Audit (MIS&IA)

- Corporate Learning and Communication Department
    - Corporate Learning (CL)
    - Training
    - Administration
    - Public Relations (PR)
    - Official Language (OL)

- Projects
    - Capacity Expansion cum Modernization Phase (CEMP)
    - Single Buoy Mooring (SBM)
    - Non-Plan Capital Jobs

2.7 FUTURE PLANS

Project proposals have been made for Capacity Expansion cum Modernization Project (CEMP) Phase II. The second proposal is the Natural Gas Business. In the context of Petronet LNG Limited (PLL) setting up the LNG terminal in Kochi, company has plans to take advantage of this emerging scenario by diversifying into Natural Gas Business, the new growth sector. The other project is the bitumen revamp project. The project involves revamp of existing bitumen blowing unit incorporating Biturox process for making special grade bitumen in line with the new specifications.

CHAPTER 3

MACRO- MICRO ECONOMIC ANALYSIS

Origin of petroleum

Various theories have attempted to explain the origin of petroleum and natural gas, but the origin remains a mystery to science and technology. Early scientist's classified petroleum as a mineral, produces within earth, or a residue somehow transmitter to this planet from outer space. Two major theories have prevailed, 'The Organic Theory' and 'The Inorganic Theory', the most popular one being the organic theory.

The organic theory, as adopted by most scientists and engineers postulates that animal or vegetable matter accumulated in some favorable locations millions of years ago and the decomposition of such organic matter led to the formation of petroleum. Petroleum deposits usually have been found in sedimentary rocks formed millions of years ago from a consolidation of sand other minerals and water. Often petroleum is found associated with natural gas and salt water in solidified or loose sand. According to the inorganic theory, oil and gas were formed from a combined action. Hydrogen and carbon reacted together under the influence of high temperature and pressure beneath the surface of the earth. The product of the reaction was oil and gas, which seeped through the porous rocks and collected in various underground reservoirs.

Introduction to refining operations

Oil is normally extracted from the ground by drilling a well into a reservoir. When a well is bored the pressure from the gas or water forces the oil to surface spontaneously. Oil from such wells are sent through 'flow lines' to a 'gathering center' generally, where water and gas are separated from oil. Once oil has been through the gathering center and has been purified min the separators and stripping towels, it is transported by pipelines, to costal loading terminals, where it is transferred into bulk oil-carriers for shipment to refineries both inland and abroad. At the refinery the oil is unloaded for distillation into a furnace from which it's split into the various products.

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When these processes are integrated in the refinery plant, they constitute an operation that can be large indeed. Refining of crude process unlike earlier pattern of the industry having many smaller capacity units, which tend to employ more labour, the present trend is to plan for larger capacity units, well automated, thus making the industry even more capital intensive and requiring lesser manpower compared to earlier plants. The success of refining industry in improving its level of productivity is mainly attributed to the technological innovations and applied research.

Oil Refineries in India

Name of the Oil company	**Principal Shareholders**	**Location of Refineries**	**Capacity (million tons/year)**	**Age of Refineries (years)**
Indian Oil	Government of India (82%)	Gujarat	12.5	36
		Matura	7.5	19
		Panipat	6.0	3
		Barauni	4.2	37
		Haldia	3.8	27
		Guwahati	1.0	39
		Digboi	0.7	100
Reliance Petroleum	Reliance Industries, its subsidiaries and associates (65.8%)	Jamnagar	27.0	2

Hindustan Petroleum	Government of India (51%)	Vizag	7.5	44
		Mahul	5.5	47
Mangalore Refineries and Petrochemicals Limited	Hindustan Petroleum (37%)/Aditya Birla Group (37%)	Mangalore	9.6	5
Kochi Refineries	Bharat Petroleum (55%)	Kochi	7.5	35
Chennai Petroleum	Indian Oil Corporation (52%)	Chennai	6.5	32
		Narimanam	0.5	7
Bharat Petroleum	Government of India (66%)	Mahul	6.9	46
Bongaigaon Refineries	Indian Oil Corporation (75%)	Bongaigaon	2.4	22
Numaligarh Refineries	Bharat Petroleum (51%)	Numaligarh	3.0	2
Total			112.1	

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

WORKING CAPITAL MANAGEMENT OF KRL

Working capital analysis is an important field of financial management. This analysis will provide a base to judge whether the practice and prevailing policies of management with regard to working capital is good enough or an improvement is required for managing the working capital funds. Working capital analysis of KRL is an unavoidable factor as it displays the present financial position of this petroleum industry. The present study involves ratio analysis and cash flow analysis in order to analyze the working capital position of the company.

COMPONENTS OF CURRENT ASSETS AND CURRENT LIABILITIES

Current assets of KRL involve inventories, sundry debtors, cash/bank balances and other current assets and loans and advances. Current liabilities involve liabilities and provisions. Working capital is the excess of current assets over current liabilities. Higher the working capital, the more liquidity and satisfactory position. Similarly lower working capital leads to less liquidity and unsatisfactory position.

STATEMENT SHOWING CHANGES IN WORKING CAPITAL

Table 4.1 (Rs. In million)

components	2000-01	2001-02	2002-03	2003-04	2004-05
A. Current Assets					
Inventories	6064	6112.9	8373.9	8710.24	13830.84
Debtors	743.992	4440.474	8832.73	8220.78	11058.4
Cash/Bank balances	163.741	1247.63	2839.89	3053.04	3120.21
Other Current Assets	69.662	100.72	112.6	135.94	162.27
Loans & Advances	28649.76	2893.1	3625.99	3512.83	5345.79
Total	35691.162	14794.84	23785.11	23632.83	33517.51
B. Current Liabilities					
Liabilities	28267.44	6450.42	9551.55	9174.4	12058.7
Provisions	388.1	389.87	1674.77	2219.12	1016.94
Total	28655.55	6840.29	11226.32	11393.52	13075.64
Net Working Capital	7035.61	7954.54	12558.79	12239.31	20441.87

Source: Annual Report

NET WORKING CAPITAL POSITION

The table showing the net working capital position of KRL is shown below.

Table showing Net Working Capital Position

Table 4.2 (Rs. In millions)

year	Net working capital	%change over previous year
2000-01	7035.61	-
2001-02	79545.44	13.06%
2002-03	12558.79	57.88%
2003-04	12239.31	-2.54%
2004-05	20441.82	67.01%

Source: Annual Report

INTERPRETATION

The table 4.2 shows that during the year 2000-01 the working capital position of KRL was 70356.14 and there was an increase of 13.06%. There was a tremendous increase of 57.88% during 2002-03. It was due to increase in production compared to previous year. In spite of shutdown there was increased working capital in the year 2001-02. But in 2003-04 it has decreased to -2.54.

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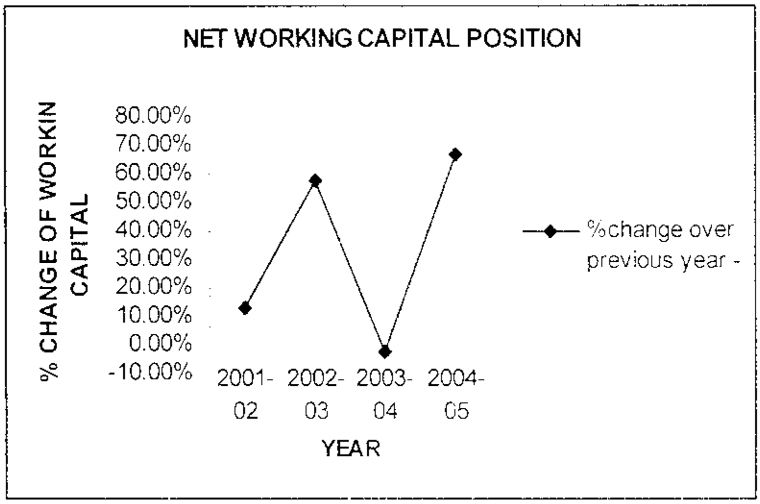
Source: Annual Report

INTERPRETATION

The table 4.2 shows that during the year 2000-01 the working capital position of KRL was 70356.14 and there was an increase of 13.06%. There was a tremendous increase of 57.88% during 2002-03. It was due to increase in production compared to previous year. In spite of shutdown there was increased working capital in the year 2001-02. But in 2003-04 it has decreased to -2.54.

Chart 4.1

Chart showing Net Working Capital Position



INFERENCE

From table 4.2 we can infer that the working capital position has decreased due to slow collection of debts.

1. RATIO ANALYSIS

1. WORKING CAPITAL TURNOVER RATIO

Working Capital Turnover ratio is calculated in order to analyze how working capital has been effectively utilized in making sales. This ratio indicates how many times during a given period, the average working capital has been utilized by the company to increase its sales. The higher the ratio the lower the investment in working capital and greater the profit or vice versa.

Table 4.1.1

Table showing Working Capital Turnover Ratio

(Rs. In millions)

Year	Sales	Net Working Capital	Ratio
2000-01	71366.04	7035.61	10.14
2001-02	67620.79	79545.44	8.5
2002-03	104895.03	12558.79	8.35
2003-04	98639.05	12239.31	8.05
2004-05	131450.64	20441.82	6.43

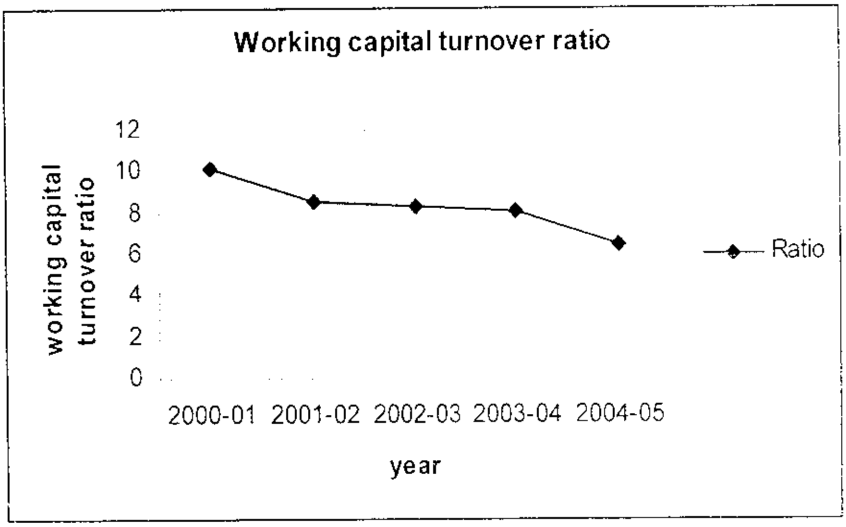
Source: Annual Report

INTERPRETATION

The Working Capital Turnover ratio of KRL during 2000-01 was 10.14 that of 2001-02 were 8.50 and 2002-03 was 8.35.Lowest was recorded in the year 2002-03, the year in which the net working capital was highest. The ratio shows a decreasing trend from 2000-01 to 2002-03. In 2004-05, the turnover has decreased to 8.05 and again a sharp decline to 6.43.

Chart 4.1.1

Chart Showing Working Capital Turnover Ratio



INFERENCE

From table 4.1.1 we can infer that the sales have increased but at the same time working capital is also increased, so better management of working capital should be done.

2. CURRENT RATIO

Current ratio may be defined as the relationship between current asset and current liabilities. This ratio is known as working capital ratio and is a measure of general liquidity. Desirable current ratio is 2:1. Current ratio of a firm represents the assets which can be converted into cash within a short period of time, not exceeding one year. The higher the current ratio, the more the firms ability to meet current obligations and greater the safety of funds of short term creditors. The lower the ratio, the lesser the firms ability to meet current obligations and lower the safety of funds of short term creditors.

Table 4.1.2

Table showing Current Ratio

(Rs. In millions)

Year	Current Assets	Current Liabilities	Ratio
2000-01	35691.16	28655.55	1.24
2001-02	14794.84	6840.29	2.16
2002-03	23785.1	11226.32	2.11
2003-04	23632.83	11393.52	2.07
2004-05	33517.51	13075.64	2.56

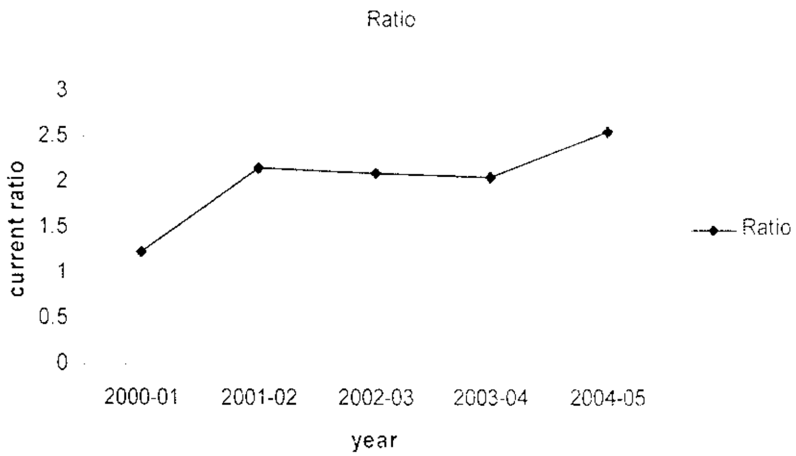
Source: Annual Report

INTERPRETATION

During the year 2000-01, the current ratio was 1.25 which is increased to 2.16 and 2.12 during 2001-02 and 2002-03. During 2003-04 it has decreased to 2.074 and during 2004-05 it has increased to 2.563.

Chart 4.1.2

Chart showing Current Ratio



INFERENCE

From table 4.1.2 we can infer that the ratio shows a slight decrease in the year 2002-03 because of increased current liabilities due to increase in the income tax payment, higher crude credit, sales tax and excise liability.

3. QUICK RATIO

Quick ratio can be defined as the relationship between quick assets and current liabilities. Quick assets are cash like assets representing all current assets other than inventory. It is more severe and stringent test of a firm's ability to meet current obligations assessing how liquid the firm would be if the business operations come to an abrupt halt. A quick ratio of 1:1 is considered as a fair indication of the good financial condition of a business concern.

Table 4.1.3

Table showing Quick Ratio

(Rs. In millions)

Year	Quick Assets	Current Liabilities	Ratio
2000-01	29627.16	28655.55	1.03
2001-02	8681.93	6840.29	1.27
2002-03	15411.21	11226.32	1.37
2003-04	14922.59	11393.52	1.31
2004-05	19686.64	13075.64	1.5

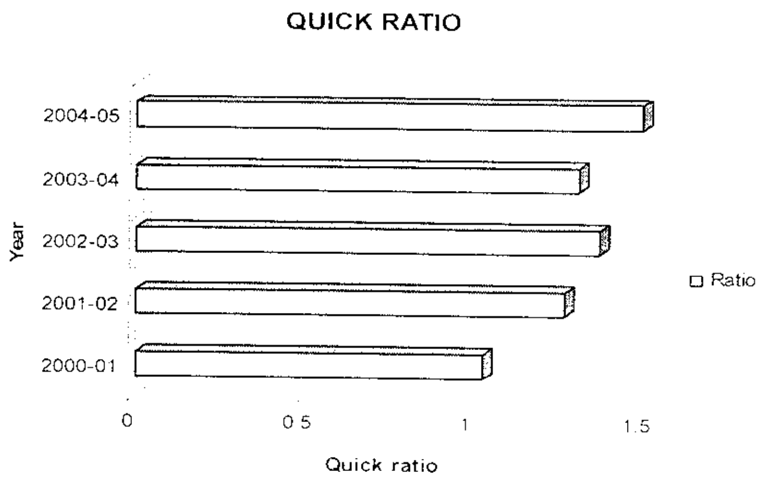
Source: Annual Report

INTERPRETATION

Quick ratio of KRL during 2000-01 was 1.03 and it has increased to 1.27 and 1.37 in 2001-02 and 2002-03 respectively. In 2003-04 the ratio has decreased to 1.30 because of increase in current liability. In 2004-05 again it was increased to 1.505.

Chart 4.1.3

Chart showing Quick Ratio



INFERENCE

From table 4.1.3 we can infer that the increasing trend was due to increased quick assets because of increase in price of products, cash credit balance, amount to be received from PPAC or OCC, higher income tax payment, increased crude credit, sales tax and excise liability.

4. CURRENT ASSET TURNOVER RATIO

It is defined as the relation between sales and current assets of the company. It indicates the number of times current asset turned over in the business to generate sales volume and also for analyzing the efficiency with which the current asset of the company are used in the business. High ratio indicates efficient use of inventories and receivables to increase sales volume. A low ratio indicates inefficiency and slow collection of debts.

Table 4.1.4

Table showing Current Asset Turnover Ratio

(Rs. In millions)

Year	Net Sales	Current Assets	Ratio
2000-01	71366.04	35691.16	2
2001-02	67620.79	14794.84	4.57
2002-03	104895.03	23785.1	4.41
2003-04	98639.05	23632.83	4.17
2004-05	131450.64	33517.51	3.92

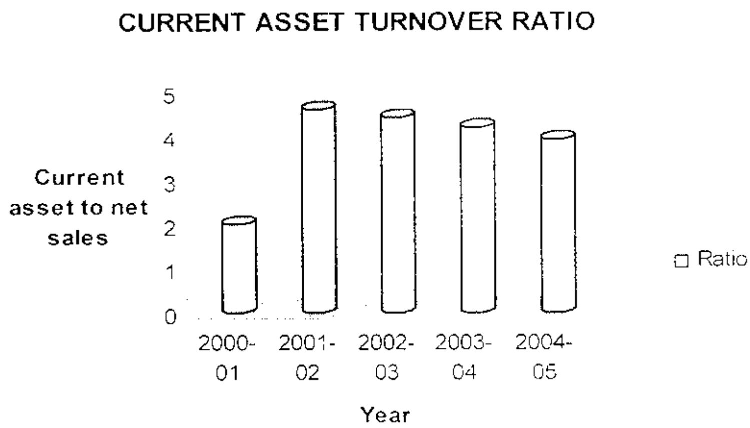
Source: Annual Report

INTERPRETATION

During 2000-01 the ratio is 2 and after that 4.57, 4.41, 4.17, 3.29 for the years 2001-02, 2002-03, 2003-04 and 2004-05 respectively. The highest ratio was found in 2001-02, due to the efficient use of current assets. After that decrease in ratio is because of increase in current assets.

Chart 4.1.4

Chart showing Current Asset Turnover Ratio



INFERENCE

From table 4.1.4 we can infer that the ratio has increased due to the efficient use of current assets. The basic reason for this was decreased loans and advances outstanding with PPAC.

5. CURRENT ASSET TO TOTAL ASSET RATIO

Current asset to total asset ratio is defined as the relationship between current assets and total assets indicating the number of times the current assets utilized from total assets. The effect of the level of current assets on profitability-risk tradeoff can be shown. An increase in the ratio indicates decline in profitability because current assets are assumed to be less profitable than fixed assets and risk of technical insolvency would be reduced.

Table 4.1.5

Table showing Current Asset to Total Asset Ratio

(Rs. In millions)

Year	Current Assets	Total Assets	Ratio
2000-01	35691.16	51091.49	0.70
2001-02	14794.84	30159.02	0.50
2002-03	23785.1	38811.75	0.61
2003-04	23632.83	38287.65	0.61
2004-05	33517.51	49285.15	0.68

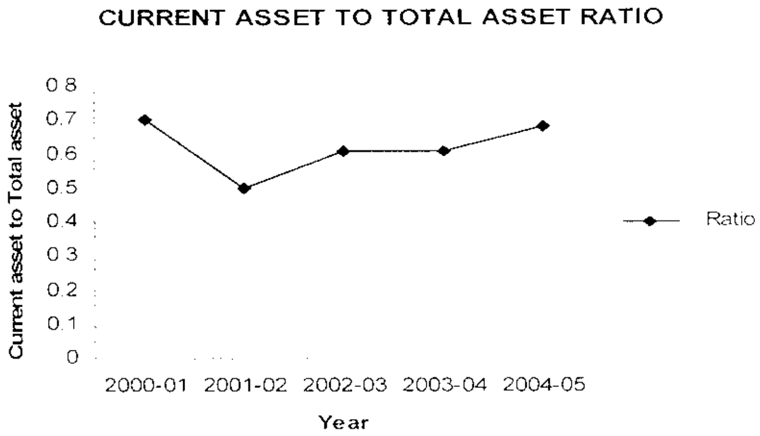
Source: Annual Report

INTERPRETATION

Current asset to total asset ratio for the year 2000-01 was 0.7 and was decreased to 0.5, 0.61, 0.61 and 0.68 respectively. Higher ratio was found in 2000-01 due to decline in profitability. When compared to other years of present study there was an increase in other years.

Chart 4.1.5

Chart showing Current Asset to Total Asset Ratio



INFERENCE

From table 4.1.5 we can infer that the increase in ratio was because of increase in current asset utilization resulting in less profitability when compared to previous year. It shows that company's profitability position shows slight decreasing trend. But overall profitability is satisfactory.

6. NET WORKING CAPITAL TO CAPITAL EMPLOYED RATIO

Net working capital to capital employed ratio is the relationship between net working capital and capital employed. Net working capital is the difference between current assets and current liabilities. Capital employed includes share capital reserves and surplus and share application money. This ratio shows movement of working capital in relation to capital employed.

Table 4.1.6

Table showing Net Working Capital to Capital Employed Ratio

(Rs. In millions)

Year	Net Working Capital	Capital Employed	Ratio
2000-01	7035.61	13616.27	0.52
2001-02	7954.54	11379.01	0.70
2002-03	12558.79	14377.07	0.87
2003-04	12239.31	18053.39	0.68
2004-05	20441.87	25593.42	0.79

Source: Annual Report

INTERPRETATION

Net working capital to capital employed ratio during 2000-01 was 0.52 and it shows an increasing trend in the following years. During 2001-02 the ratio was 0.70 and 0.87, 0.68 and 0.79 respectively for 2002-03, 2003-04 and 2004-05. The higher ratio was found during 2002-03.

Chart 4.1.6

Chart showing Net Working Capital to Capital Employed Ratio

INFERENCE

From table 4.1.6 we can infer that the ratio moves exactly in a parallel way to net working capital.

7. LONG TERM LIABILITIES TO WORKING CAPITAL RATIO

It is the relationship between long term liabilities and working capital. Long term liabilities includes liabilities which are not payable during the next accounting year but will be payable within next five to ten years and is used for principal purpose of replenishing the working capital. Long term liabilities include loans from oil industry development board and loans from Government of India and International Bank for Reconstruction and Development. Higher ratio indicate that long term liabilities can be paid fully out of working capital and it means that funds from long term borrowings have been diverted to the expansion of fixed assets and payment of unwarranted dividends

Table 4.1.7

Table showing Long Term Liabilities to Working Capital Ratio

(Rs. In millions)

Year	Long Term Liabilities	Working Capital	Ratio
2000-01	7775.07	7035.61	1.11
2001-02	7108.36	7954.54	0.89
2002-03	6061.66	12558.79	0.48
2003-04	4697.65	12239.31	0.38
2004-05	3874.80	20441.87	0.19

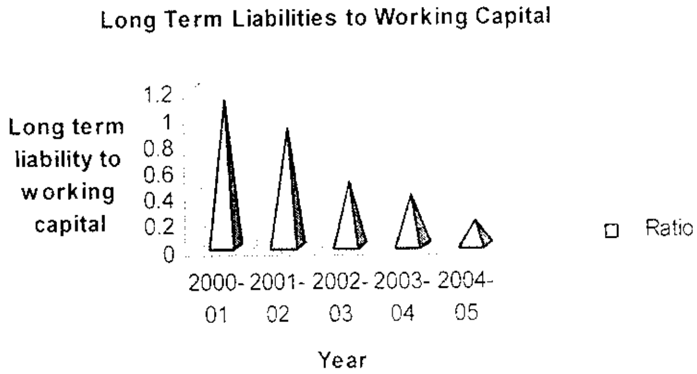
Source: Annual Report

INTERPRETATION

The highest ratio is found in 2000-01 i.e. 1.11 and it shows a declining trend after wards to 0.89, 0.48, 0.38, and 0.19 in the years 2001-02, 2002-03, 2003-04, and 2004-05 respectively.

Chart 4.1.7

Chart showing Long Term Liabilities to Working Capital Ratio



INFERENCE

From table 4.1.7 we can infer that the ratio is decreasing because of increase in the working capital and also the long term liabilities are not repaid proportionally.

8. CASH TURNOVER RATIO

Cash turnover ratio us the comparison of the balances of cash plus other liquid assets to operating costs and expenses that are current drain on working capital. It is the relation between annual operating costs and expenses and raw materials consumed and manufactured and other expenses. This ratio roughly indicates the adequacy of liquid assets to current operating needs. A high turnover of cash means the firm doesn't possess sufficient cash to provide for emergencies, while a very low turnover of cash suggests that ideal cash is running through the business.

Table 4.1.8

Table showing Cash Turnover Ratio

(Rs. In millions)

Year	Annual Operating cost Expenses	Average Cash	Ratio
2000-01	69074.14	51091.49	0.56
2001-02	6840.29	30159.02	0.23
2002-03	11226.32	38811.75	0.29
2003-04	11393.52	38287.65	0.23
2004-05	13075.64	49285.15	0.26

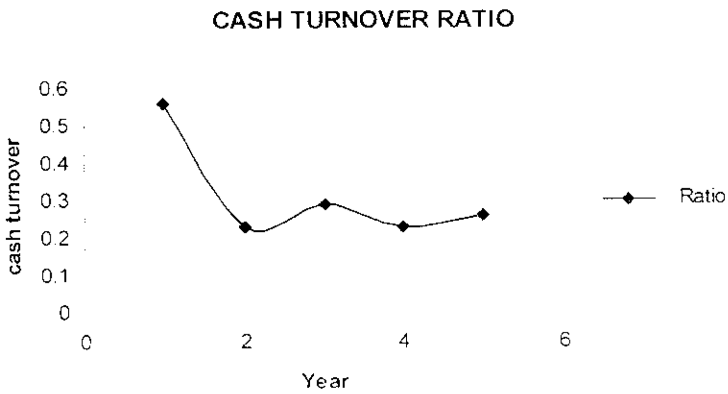
Source: Annual Report

INTERPRETATION

During the year 2000-01 the cash turnover ratio was 431.84. It means that the firm doesn't have sufficient cash to provide for emergencies. Then the ratio shows a declining trend to 78.79, 41.98 and 29.81 in the year 2001-02, 2002-03 and 2003-04 respectively.

Chart 4.1.8

Chart showing Cash Turnover Ratio



INFERENCE

From table 4.1.8 we can infer that the decreasing trend is due to rising up of average cash. Since the ratio shows a decreasing trend, the study reveals that the ideal cash is running through the business indicating satisfactory position.

9 CASH RATIO

The cash ratio is the relation between cash in hand and at bank and short term marketable securities and current liabilities. This ratio is also called absolute liquidity ratio. The ratio 1:2 is considered as satisfactory. If the ratio increases the liquidity level also increases and vice versa.

Table 4.1.9

Table showing Cash Ratio

(Rs. In millions)

Year	Cash in hand & at bank	Current Liabilities	Ratio
2000-01	163.74	28655.55	0.08
2001-02	1247.63	6840.29	0.005
2002-03	2839.89	11226.32	0.006
2003-04	3053.04	11393.52	0.249
2004-05	12239.31	13075.64	0.152

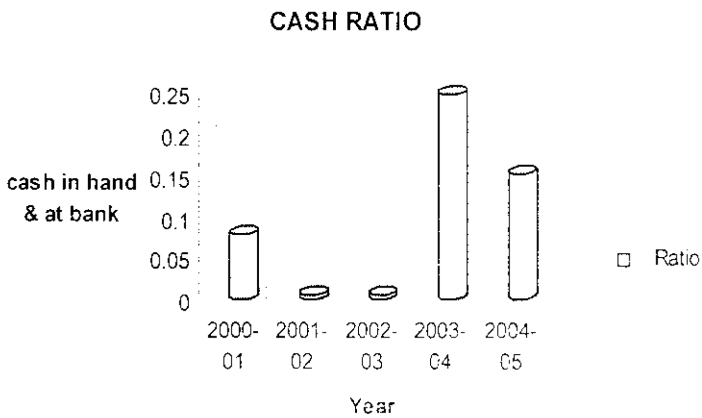
Source: Annual Report

INTERPRETATION

In the year 2000-01 the cash ratio was 0.006 then it has increased to 0.18 and 0.25 during 2001-02 and 2002-03 respectively. The higher liquidity i.e. 0.24 was found during 2003-04 and again it has decreased to 0.15 in 2004-05.

Chart 4.1.9

Chart showing Cash Ratio



INFERENCE

From table 4.1.9 we can infer that the ratio shows an increasing trend due to increase in cash credit account balance, increased crude credit, excise liability and sales tax. Since ratio is showing increasing trend, liquidity level rises up possessing satisfactory results.

10. CASH FLOW COVERAGE RATIO

Cash flow coverage ratio is the relationship between sum of earnings before interest and tax and depreciation and interest. Cash flow coverage includes earnings before interest and tax, depreciation, preference dividend and installment of principle. It measures the relationship between what is normally available from operations of the firm and claims of the outsiders the liquidity position of a firm to serve the outsiders is reflected in the ratio. The higher the ratio, the better the ability. Similarly lower the ratio, lesser the ability.

Table 4.1.10

Table showing Cash flow Coverage Ratio

(Rs. In millions)

Year	EBDIT	Interest	Ratio
2000-01	31383.95	10992.74	2.85
2001-02	34447.44	11497.24	3
2002-03	90696.10	9492	9.56
2003-04	10597.28	397.67	26.64
2004-05	13608.27	350.23	38.86

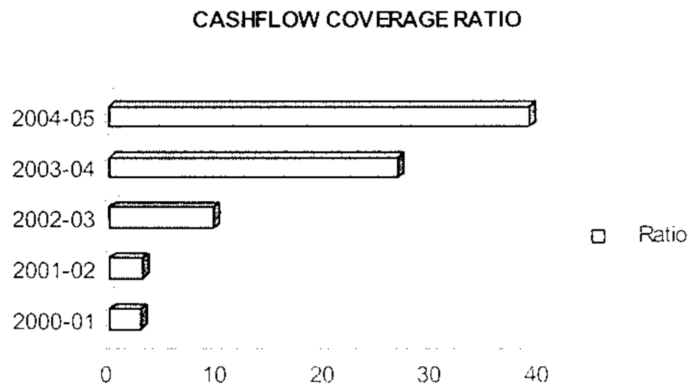
Source: Annual Report

INTERPRETATION

In the year 2000-01 the cash flow coverage ratio of KRL was 2.85. Then the ratio shows an increasing trend from 2001-02 to 2004-05 and reached up to 38.85. So the study reveals a satisfactory position, showing better ability to service outside liabilities due to an increasing trend in cash flow coverage ratio.

Chart 4.1.10

Chart showing Cash flow Coverage Ratio



INFERENCE

From table 4.1.10 we can infer that due to increased EBIT and depreciation the ratio has increased which means, KRL has the ability to service outside liability there by maintaining their liquidity position.

11. CASH CYCLE

Cash cycle refers to the period by which cash is used to purchase materials from which are produced goods which are then sold to customers who later pay bills. The firm receives cash from customers and the cycle repeats itself. It is calculated by dividing annual operating costs and expenses by average cash. Greater the period, maximum period is required for all the process dealing with cash. Lower the period, the minimum period is required for the process.

Table 4.1.11

Table showing Cash Cycle

(Rs. in millions)

Year	Days in a year	Cash turnover	Ratio
2000-01	360	431.84	1
2001-02	360	78.79	5
2002-03	360	41.98	9
2003-04	360	29.81	12
2004-05	360	39.3	9

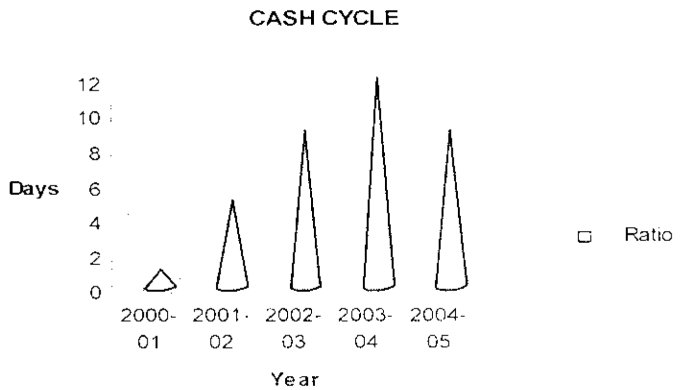
Source: Annual Report

INTERPRETATION

Cash cycle of KRL during 2000-01 was 1 day and it was increased to 5 days in 2001-02 and again to 12 days in 2003-04. It decreased to 9 days in 2004-05. The year 2000-01 is utilized for all the processes dealing with cash. But the following period shows an increasing trend.

Chart 4.1.11

Chart showing Cash Cycle



INFERENCE

From table 4.1.11 we can infer that the increasing trend of ratio was mainly due to decreased cash turnover ratio and more time taken for all processes dealing with cash.

12. DEBTORS TURNOVER RATIO

Debtor's turnover ratio is the relationship between net credit sales and average debtors. This ratio shows how quickly receivables or debtors are converted to cash. Sound credit and collection period results in efficient receivables management. Net credit sales include sale of products, recoveries, excise duty adjustment and products consumed internally. The higher the ratio, the better debts are being collected more promptly and vice versa.

Table showing Debtors Turnover Ratio

Table 4.1.12 (Rs. In millions)

Year	Net credit sales	Average debtors	Ratio
2000-01	71366.04	872.87	81.76
2001-02	67620.79	2592.23	26.09
2002-03	104895.03	6636.60	15.81
2003-04	98639.05	8526.75	11.56
2004-05	131450.64	9639.59	13.63

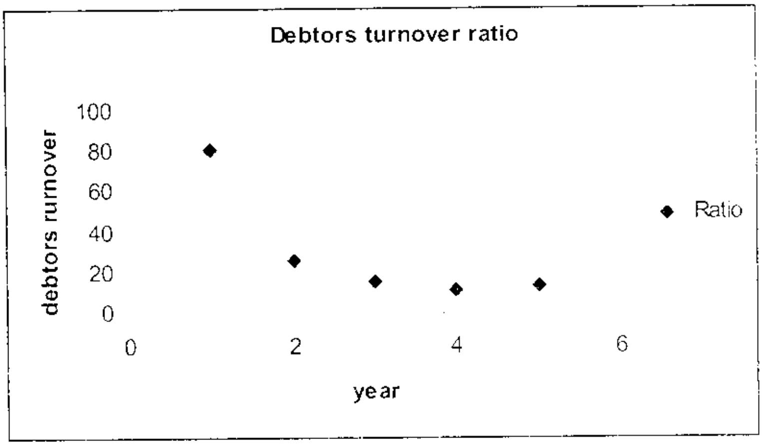
Source: Annual Report

INTERPRETATION

In the present study, debtors turnover of KRL during 2000-01 was 81.76 and reduced to 26.09 in 2001-02. In the following years 2002-03 ratio was 15.81. it has again decreased to 11.56 in 2003-04 and in 2004-05 the ratio shows a slight increase and moved to 13.63.

Chart 4.1.12

Chart showing Debtors Turnover Ratio



INFERENCE

From table 4.1.12 we can infer that the ratio shows a declining trend. This was due to delay in collection of debts. This shows inefficient credit management of the company. This was due to increased sundry debtors because of high price of product fixed as per recent government policies. So it is to be concluded that debtor's turnover ratio shows unsatisfactory position of KRL because of decreasing trend in the ratio.

13. AVERAGE COLLECTION PERIOD

Average collection period measures the liquidity of the firm and it is the time taken for collection of debts. It is calculated by dividing days in a year by debtor's turnover ratio. Shorter collection of debts and quick payments by debtors increase the liquidity of the firm. The longer collection period shows delayed payment by debtors and so declining liquidity position.

Table 4.1.13

Table showing Average Collection Period

(Rs. In millions)

Year	Days in a year	Debtors turnover ratio	period
2000-01	360	81.76	4 days
2001-02	360	26.09	14 days
2002-03	360	15.81	23 days
2003-04	360	11.56	31 days
2004-05	360	13.63	26 days

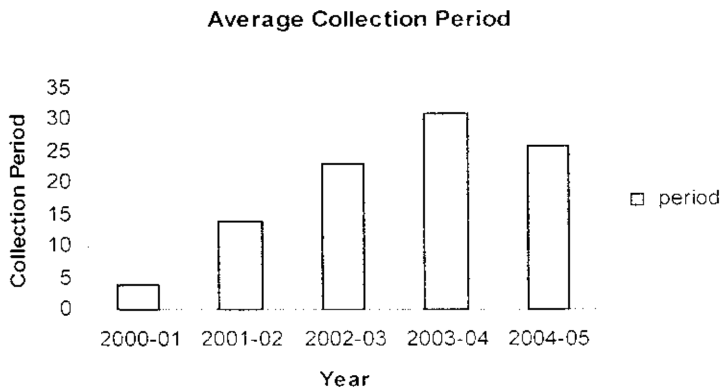
Source: Annual Report

INTERPRETATION

Average collection period of KRL during 2000-01 was 4 days; it has increased to 14 days in 2001-02 again to 23 and 31 in 2002-03 and 2003-04 and finally decreased to 26 days. This increase was due to the inefficiency in managing debtors by company due to recent government policies.

Chart 4.1.13

Chart showing Average Collection Period



INFERENCE

The collection period fixed for oil marketing companies like IOC, BPCL, HPCL and IBP were 3 days. From 2001 onwards the liberalization policies of government the collection period of oil marketing companies were extended to 20 days. The period was changed to 30 days for the convenience of collection of debts. This explains insufficient debt collection period.

14. CREDITORS TURNOVER RATIO

Creditor's turnover ratio can be calculated by dividing total purchases by average creditors. Average creditors are the sum of opening creditors and closing creditors divided by two. The creditor's turnover ratio is an important tool of analysis as a firm can reduce its requirement of current assets by relying on supplier's credit. A low turnover ratio reflects liberal credit terms granted by suppliers. while high ratio shown that accounts is to be settled rapidly.

Table 4.1.14

Table showing Creditors Turnover Ratio

(Rs. In millions)

Year	Total purchases	Average creditors	Ratio
2000-01	68075.05	6217.07	10.95
2001-02	52030.88	5870.82	8.86
2002-03	83702.98	7259.21	11.53
2003-04	86003.27	8232.17	10.45
2004-05	117121.21	8983.25	13.037

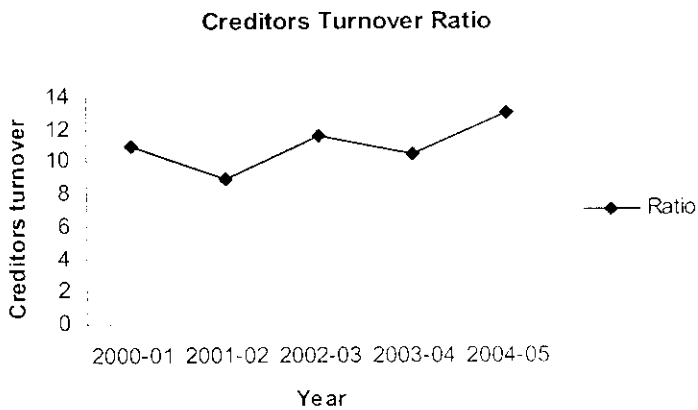
Source: Annual Report

INTERPRETATION

Creditor's turnover ratio shows an increasing trend up to 2002-03 then the ratio found a decline in 2003-04 which in turn increased to 13.03 in 2004-05. The highest ratio was due to increased total purchases because of higher production compared to the previous year.

Chart 4.1.14

Chart showing Creditors Turnover Ratio



INFERENCE

From table 4.1.14 we can infer that the ratio is showing an increasing trend so accounts are to be settled rapidly. So the creditor's turnover ratio of KRL reveals unsatisfactory position of the company.

15. AVERAGE PAYMENT PERIOD

Average payment period is calculated by dividing days in a year divided by creditor's turnover ratio. Average payment period is to find out the liquidity position of the firm. Creditor's turnover ratio calculated by dividing total purchases by average creditors. Shorter the period, stronger is the liquidity position. Longer the period weaker is the liquidity position.

Table 4.1.15

Table showing Average payment period

(Rs. In millions)

Year	Days in a year	Creditors turnover ratio	Period
2000-01	360	10.95	33 days
2001-02	360	8.86	41 days
2002-03	360	11.53	31 days
2003-04	360	10.45	34 days
2004-05	360	13.037	28 days

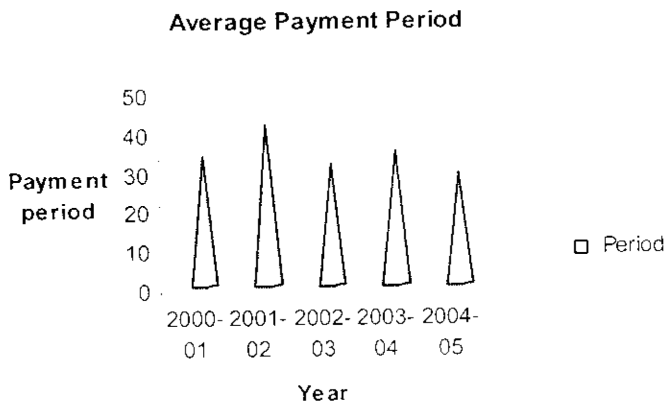
Source: Annual Report

INTERPRETATION

During 2000-01, the average payment period is 33 days and in 2001-02 it is increased to 41 days and again decreased to 31 days in the year 2002-03. it has increased to 34 days in 2003-04. Longer period was found in 2001-02 shows the weaker liquidity position. But in 2004-05 position became strong.

Chart 4.1.15

Chart showing Average payment period



INFERENCE

From table 4.1.15 we can infer that the decreasing trend shows the strong liquidity position of KRL and reveals satisfactory results of the company during 2004-05.

16. DEBT EQUITY RATIO

It is the relationship between long term debts to net worth. Long term debt is an outside liability inclusive of loan fund. Loan fund involves secured loans from GOI and unsecured loan from Oil Industry Development Board. A debt- equity ratio of 2:1 is considered as ideal. A higher ratio increases risk to the creditors, inflexibility in operations of the firm and encounter serious difficulties in raising funds in future. lesser margin of safety and larger claim against assets of the firm. Lower ratio reduces risk to creditors and higher margin of safety and protection against shrinkage in assets.

Table 4.1.16

Table showing Debt Equity Ratio

(Rs. In millions)

YEAR	long term debt	share holders equity	ratio
2000-01	7775.07	7035.61	0.57
2001-02	7108.36	7954.54	0.62
2002-03	6061.66	12558.7	0.42
2003-04	4697.65	12239.31	0.32
2004-05	3874.8	20441.87	0.3

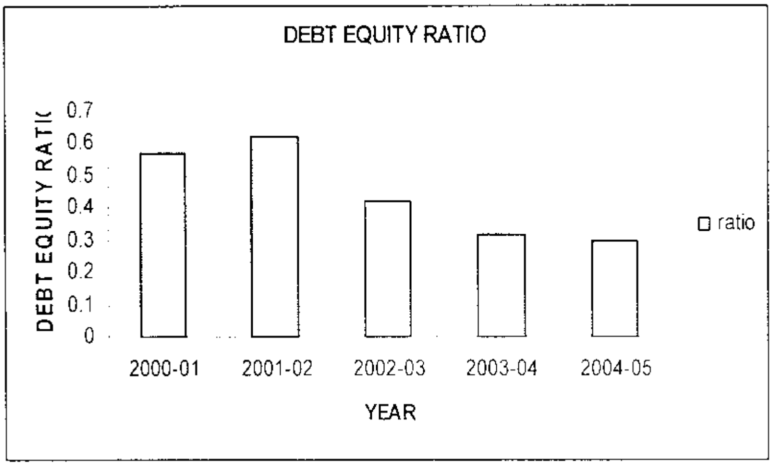
Source: Annual Report

INTREPRETATION

During 2000-01 the ratio is 0.57 and it has increased to 0.62 in 01-02 and there was a decreasing trend to 0.42, 0.32 and 0.30 during the years 02-03, 03-04 and 04-05 respectively.

Chart 4.1.16

Chart showing Debt Equity Ratio



INFERENCE

From table 4.1.16 we can infer that the lower ratio was found in the year 2004-05 which shows the satisfactory risk to creditors and high margin of safety and protection against shrinkage of assets. This was due to reduced long term debt and increased net worth. So the debt equity ratio reveals good signal to the company.

17. INVENTORY TURNOVER RATIO

Inventory turnover ratio is the number of times the inventory is turned over in the business during a particular period and it measures the relationship between sales and average inventory. This ratio measures how quickly inventory is sold and indicates whether investment in inventory is within proper limits or not, signifying the liquidity of the inventory. Higher the ratio more the sales and minimum level of inventory is held and hence possessing good inventory management.

Table 4.1.17

Table showing Inventory Turnover Ratio

(Rs. In millions)

YEAR	Sales	Average Inventory	Ratio
2000-01	71366.04	7373.59	9.68
2001-02	67620.79	6088.45	11.1
2002-03	104895.03	7243.4	14.48
2003-04	98639.05	8540.2	11.549
2004-05	131450.64	11270.5	11.66

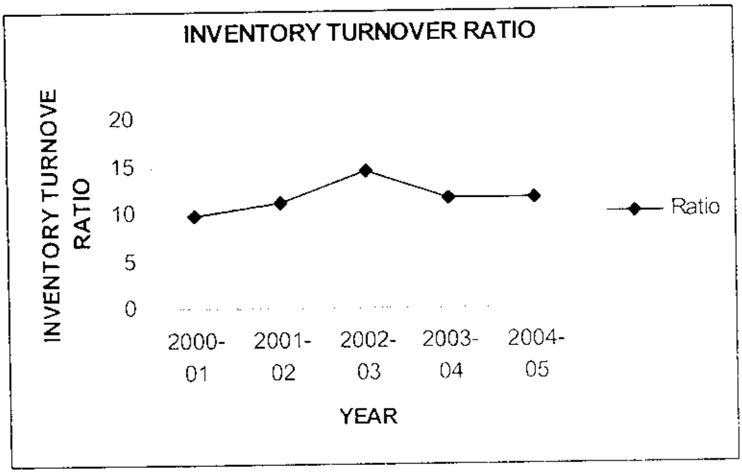
Source: Annual Report

INTREPRETATION

During the year 2000-01 the inventory turnover ratio was 9.68. It shows an increasing trend till 2002-03. The ratio was highest during 2002-03 and was 14.48. It has decreased to 11.54 and then slight increase in 2004-05 to 11.66.

Chart 4.1.17

Chart showing Inventory Turnover Ratio



INFERENCE

From table 4.1.17 we can infer that the ratio was highest during 2002-03 and was 14.48 because of increase in sales and minimum level of inventory held on stock.

18. FIXED ASSET TURNOVER RATIO

Fixed asset turnover ratio is the relationship between fixed assets and sales. The increase in fixed asset may cause increase in the financial position of the company. An increase in this ratio will lead to increase in sales and the management of fixed assets will be easier. The fixed assets may include all tangible assets. A decrease in ratio shows a decrease in the sales.

Table 4.1.18

Table showing Fixed Asset Turnover Ratio

(Rs. In millions)

YEAR	Fixed Asset	Sales	Ratio
2000-01	35691.16	71366.04	0.5
2001-02	14384.45	67620.79	0.21
2002-03	13840.89	104895.03	0.13
2003-04	13251.16	98639.05	0.13
2004-05	13622.64	131450.64	0.10

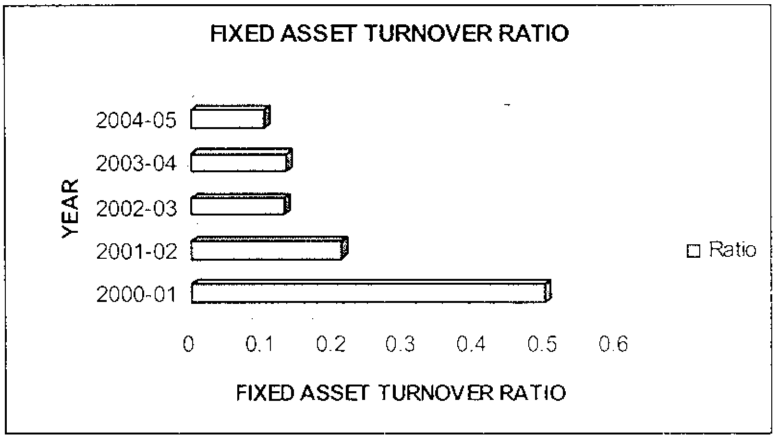
Source: Annual Report

INTERPRETATION

The above table shows that during the year 2000-01 the ratio was 0.5 but then the ratio shows a declining trend. during the year 2001-02 it was 0.21 in 2002-03 and 2003-04 the ratio was 0.13 without any change in 2004-05 it has again decreased to 0.10.

Chart 4.1.18

Chart showing Fixed Asset Turnover Ratio



INFERENCE

From table 4.1.18 we can infer that the decrease in ratio is because of decrease in sales and it is because of the increased crude oil prices.

19. INVENTORY TO WORKING CAPITAL RATIO

Inventory to working capital ratio is the relationship between the stock in hand or inventory and the net working capital. The net working capital is the difference between current assets and current liabilities. Here the inventory refers to the crude oil in stock which is supplied as a raw material to various departments. Higher ratio indicates the efficient use of the working capital and continuous supply of inventory.

Table 4.1.19

Table showing Inventory to Working Capital Ratio

(Rs. In millions)

YEAR	Working Capital	Inventory	Ratio
2000-01	7035.61	6064.001	0.86
2001-02	7954.54	6112.9	0.77
2002-03	12558.79	8373.9	0.67
2003-04	12239.31	8710.2	0.71
2004-05	20441.87	13830.8	0.676

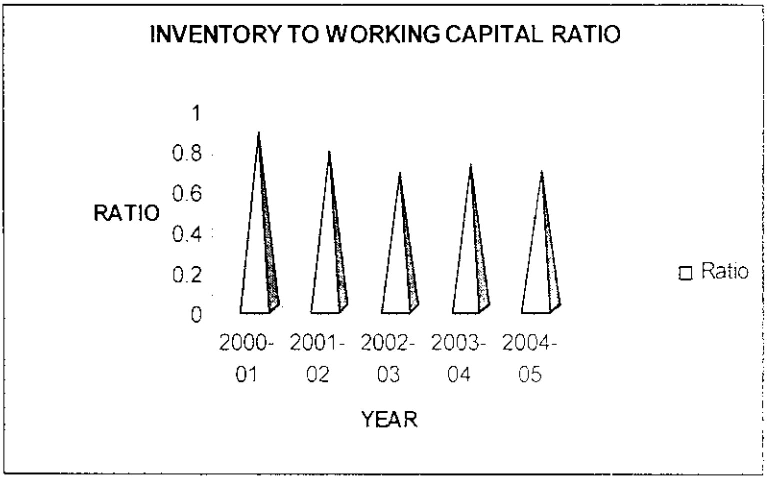
Source: Annual Report

INTERPRETATION

The above table shows that during the year 2000-01 the inventory to working capital ratio was 0.86 and it was the year when the ratio showed its highest position. After that the ratio showed a declining trend. In the year 2001-02 the ratio was 0.77 and decreased to 0.67 in the year 2002-03 again showed a slight increase in 2003-04 again decreased to 0.67 in 2004-05.

Chart 4.1.19

Chart showing Inventory to Working Capital Ratio



INFERENCE

From table 4.1.19 we can infer that the lower ratio indicates that the usage and supply of raw material is not up to mark.

2. CASH FLOW ANALYSIS

It involves cash flow from operation, investing and financing activities.

CASH FLOW FROM OPERATING ACTIVITIES

Operating activities are the principle revenue producing activities of the enterprise and the amount of cash flows arising from operating activities is the key indicators of the extent to which the operators of the enterprise have generated the sufficient cash flows to maintain the operating capacity of the enterprise, pay dividends, repay loans and to make new investments without recourse to external sources of financing. Cash flow from operation activities are net before tax, depreciation, profit or loss on sale of assets, interest on borrowings, interest on income, adjustments for trade receivables, other receivables, inventories, trade payables, interest other than direct tax paid. These can be split into cash inflows from operating activities and cash outflow from operating activities.

CASH FLOW FROM INVESTING ACTIVITIES

Investing activities involve acquisition and disposal of long term assets and other investments not included in cash equivalents. The cash flow from investing activities are cash inflows and cash outflows of KRL which includes purchase of fixed assets, purchase or accretion of investment, interest received and income from investment.

CASH FLOW FROM FINANCING ACTIVITIES

Financing activities are activities that result in changes in size and composition of the owner's capital and borrowings of the enterprise. Cash inflows and outflows from financing activities of KRL are proceeds from long term borrowings, repayment on loans, interest on fixed loans, dividends paid and corporate dividend tax.

Net cash flows are the difference between total cash inflow and cash outflow. This is the cash balance held by the company. It can be deficit or surplus.

Table showing Cash Flow Statement

Table 4.2.1

(Rs.in millions)

Particulars	2000-01	2001-02	2002-03	2003-04	2004-05
A. CASH FLOW FROM OPERATING ACTIVITIES:-					
Net profit before tax	1024.56	1185.81	6965.25	9097.6	11929.4
Adjustments for:-					
Depreciation	1014.55	1107.75	1153.62	1171.17	1291.36
Investment income	-10.14	-3.47	-42.04	-43.04	-42.29
Profit/Loss on sale of assets	-1.05	0.12	0.1	-0.14	-0.92
Interest on borrowings	1099.27	1147.92	949.2	397.67	350.23
Interest other than long term loans		_			
Interest income	-290.94	-217.01	-142.68	-218.65	-489.3
Operating profit before working capital changes	2836.25	3221.02	8883.34	10404.61	13038.48
Adjustments for:-					
Trade and other receivables	901.92	29354.09	5209.9	284.66	-4379.77
Inventories	2619.18	-48.95	-2260.99	-339.94	-5120.6
Trade payables	-2130.76	-21802.5	3129.61	-299.15	2897.03
Cash generated from operations	2422.75	3330.72	4542	10050.18	6435.14
Interest other than on fixed loans	-89.69	-177.1	-56.64	-59.31	-71.02
Direct taxes paid	-475.07	-144.2	-2313.68	-2912.16	-3920.37
Net cash from operation activities(A)	1857.94	3009.41	2171.68	7078.71	2443.75
B. CASH FLOW FROM INVESTING ACTIVITIES:-					
Purchase of fixed assets	-1017.68	-699.21	-584.81	-793.18	-2338.48
Sale of fixed assets	3.16	0.91	1.52	7.23	1.89
Purchase of/ Accretion of investments	-109.14	-440.08	-14.29	-9.65	-6.68
Decrease in investment after amalgamation	8.68	_		-43.07	-16.39
Interest received	275.41	185.95	130.83	195.29	462.97
Income from investments	10.14	3.47	42.04	43.04	42.29
Net cash used in investing activities(B)	-829.44	-948.95	-424.71	-600.34	-1854.94
C. CASH FLOW FROM FINANCING ACTIVITIES:-					
Proceeds from long term borrowings	1719.4	472.37	1956.44		

Repayment of loans	-431.41	-691.89	-1119.76	-1364.01	-822.85
Interest on fixed or long term loans	-1012.83	-970.01	-893.17	-337.29	-278.88
Dividends paid	-702.5	-289.2	-305.1	-1379.24	-1957.29
Corporate dividend tax	-106.6	-296.6		-177.41	-254.52
Net cash from investing activities(C)	-533.93	-1775.33	-361.59	-3257.95	-3313.54
Net increase or decrease in cash(A+B+C)	549.81	552.07	1385.38	3220.42	-2724.73
Cash and cash equivalents (Opening)	88.56	640.63	-702.93	-1273.99	1946.43
Cash and cash equivalents (Closing):-	640.63	2026.01	-1273.99	1946.43	-788.3
Cash and bank balance	163.74	1247.63	2839.89	3053.04	3120.21
Cash credit from scheduled banks	-75.18	-607.01	813.88	-156.45	-2498.3
Short term deposits from financial institutions		-1343.56	-3300	-497.56	570
Packing credit				-452.6	-830.21
TOTAL	88.56	640.62	2026.01	1946.43	-778.3

Source: Annual Report

INTERPRETATION

In the present study cash flow from operating activities involves cash inflows and cash outflows. Cash flow from operating activities of KRL from 2000-01 to 2004-05 are Rs.1857.94, Rs.3009.41, Rs.2171.68, Rs.7078.71, Rs.2443.75. during the year 2001-02, the cash flows were increased to 61.42%. It was decreased to 27.84% in 2002-03 and again increased to 225.96% in the year 2003-04 and decreased to 65.48% in 2004-05. The operating cash flows of KRL from 2000-01 to 2004-2005 are Rs.1028.5, Rs.2060.46, Rs.1746.97, Rs.6478.37, Rs.588.81. The cash outflows were 100% in the year 2001-02. it has decreased to 15.31 in 2002-03. It has increased to 271% in the year 2003-04. The value found a decreasing trend by 90.1% in 2004-05.

3. TREND ANALYSIS

Trend is a general long term movement in time series value of the variable(y) over a fairly long period of time. The variable y is the factor which we are interested In evaluating for future. If trend can be determined and rate of change can be ascertained, then tentative estimates on same series value into future can be made.

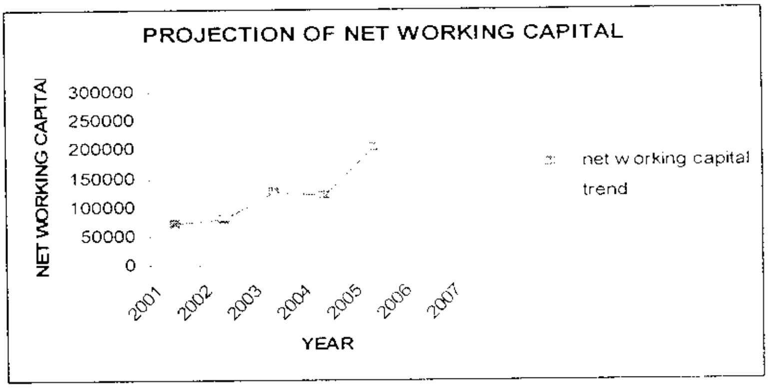
PROJECTIONS OF THE FOLLOWING ITEMS FOR THE YEARS 2006 AND 2007.

The method of least squares has been used for making projections for net working capital, sales, current assets, current liabilities and expenses.
The actual figures and the trend values have been plotted in a graph. The method of least squares is a method that will give us good estimates of regression coefficients to avoid individual judgement in constructing lines, parabolas or other approximating curves to fit sets of data. The trend line is called the line of best fit. The actual values and trend values have been plotted in the graph.

1. NET WORKING CAPITAL

The working capital for the year 2000-01 is 7036.5. it shows an increasing trend due to increase in the raw material cost and other costs. In 2004-05 the working capital was 204418.12. projections have been made for the next two years 2005-06 and 2006-07 are 213751.13 and 244848.5.

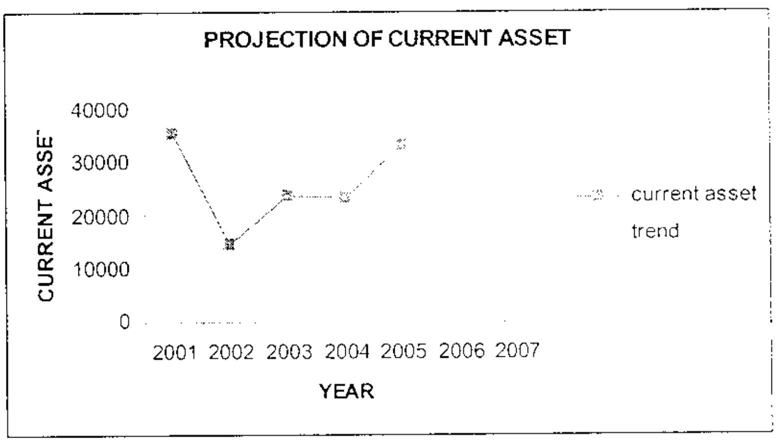
Chart 4.3.1
CHART SHOWING PROJECTION OF WORKING CAPITAL



2. CURRENT ASSET

In the year 2000-01 current assets were 35691.10 and it has decreased to 14794.2 in 2001-02 due to efficient management. From 2003 it shows an increasing trend. The projected working capital for 2005-06 and 2006-07 are 27631.6 and 28080.26.

Chart 4.3.2
CHART SHOWING PROJECTION OF CURRENT ASSET

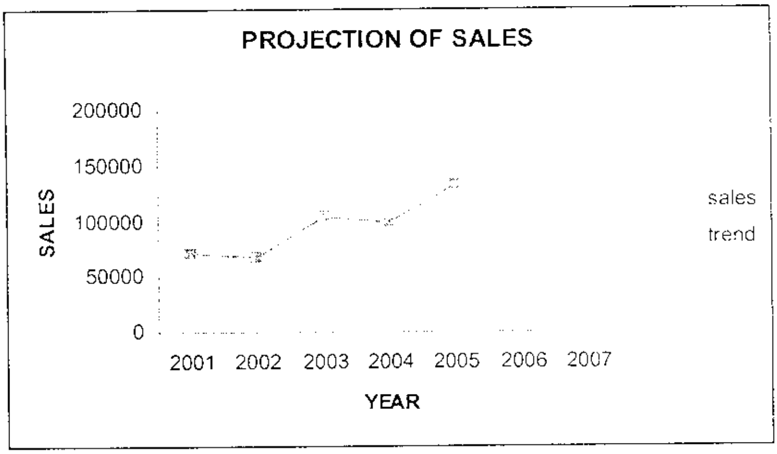


4. SALES

Sales for the year 2000-01 was 71266.4. it showed increase and decrease in the subsequent years. But the overall sales were satisfactory. The estimated sales for 2005-06 and 2006-07 are 140150.6 and 155269.3 respectively.

Chart 4.3.3

CHART SHOWING PROJECTION OF SALES

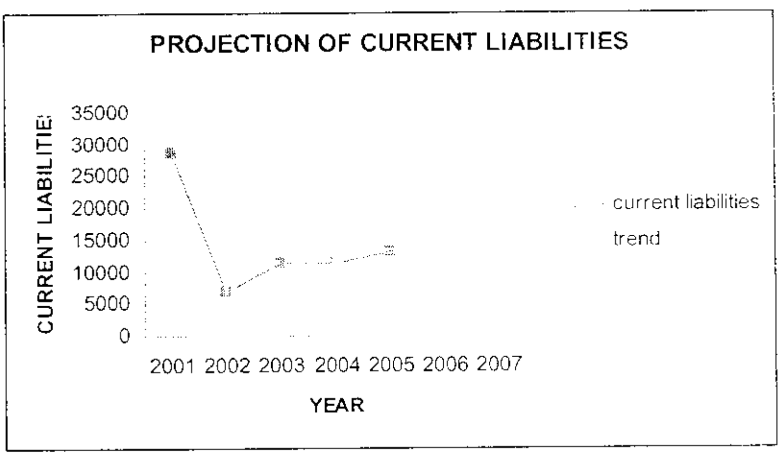


5. CURRENT LIABILITIES

In the year 2000-01 current liabilities were 28655.55. it showed a subsequent decrease in the next years and increase in 2004-05. the projected trend for 2006 and 2007 are 6258.26 and 3595.62 which is much lesser compared to the earlier years.

Chart 4.3.4

CHART SHOWING PROJECTION OF CURRENT LIABILITIES

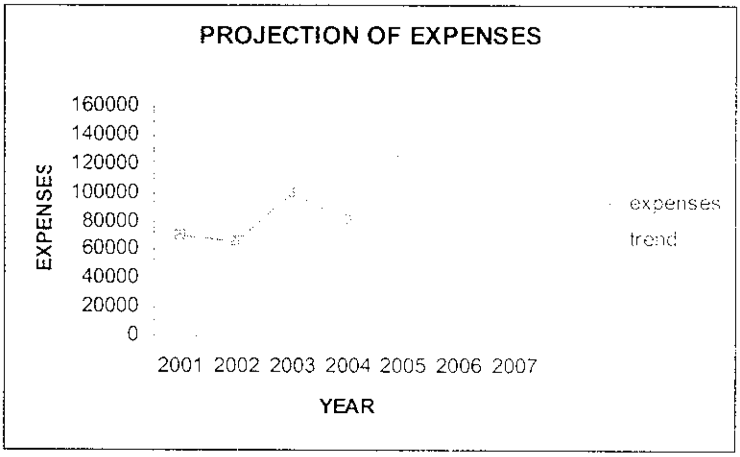


5. EXPENSES

The expenses of KRL during the year 2000-01 were 70091.74 and have increased to 122824.68 in 2004-05. The projected expenses also showed an increasing trend in the years 2006 and 2007 which were 142112.8 and 136144.7 respectively.

Chart 4.3.5

CHART SHOWING PROJECTION OF EXPENSES



CHAPTER 6

FINDINGS, RECOMMENDATIONS AND CONCLUSION

FINDINGS

- In case of working capital turnover ratio, the sales have increased but at the same time working capital is also increased, so better management of working capital should be done.

- Current ratio shows a slight decrease in the year 2002-03 because of increased current liabilities due to increase in the income tax payment, higher crude credit, sales tax and excise liability.

- The increasing trend of quick ratio was due to increased quick assets because of increase in price of products, cash credit balance, amount to be received from PPAC or OCC, higher income tax payment, increased crude credit, sales tax and excise liability.

- The current asset turnover ratio has increased due to the efficient use of current assets. The basic reason for this was decreased loans and advances outstanding with PPAC.

- The increase in current asset to total asset ratio was because of increase in current asset utilization resulting in less profitability when compared to previous year. It shows that company's profitability position shows slight decreasing trend. But overall profitability is satisfactory.

- The net working capital to capital employed ratio moves exactly in a parallel way to net working capital.

- The long term liabilities to working capital ratio are decreasing because of increase in the working capital and also the long term liabilities are not repaid proportionally.

- The decreasing trend in cash turnover ratio is due to rising up of average cash because of increase in cash credit balance account. Since the ratio shows a decreasing trend, the study reveals that the ideal cash is running through the business indicating satisfactory position.

- The cash ratio shows an increasing trend due to increase in cash credit account balance, increased crude credit, excise liability and sales tax. Since ratio is showing increasing trend, liquidity level rises up possessing satisfactory results.

- Due to increased EBIT and depreciation the cash flow coverage ratio has increased which means, KRL has the ability to service outside liability there by maintaining their liquidity position.

- The debtors turnover ratio shows a declining trend. This was due to delay in collection of debts. This shows inefficient credit management of the company. This was due to increased sundry debtors because of high price of product fixed as per recent government policies. So it is to be concluded that debtor's turnover ratio shows unsatisfactory position of KRL because of decreasing trend in the ratio.

- The collection period fixed for oil marketing companies like IOC, BPCL, HPCL and IBP were 3 days. From 2001 onwards the liberalization policies of government the collection period of oil marketing companies were extended to 20 days. The period was changed to 30 days for the convenience of collection of debts. This explains insufficient debt collection period.

- The creditor's turnover ratio is showing an increasing trend so accounts are to be settled rapidly. So the creditor's turnover ratio of KRL reveals unsatisfactory position of the company.

- The lower debt equity ratio was found in the year 2004-05 which shows the satisfactory risk to creditors and high margin of safety and protection against shrinkage of assets. This was due to reduced long term debt and increased net worth. So the debt equity ratio reveals good signal to the company.

- The decrease in fixed asset turnover ratio is because of decrease in sales and it is because of the increased crude oil prices.

- The inventory turnover ratio was highest during 2002-03 and was 14.48 because of increase in sales and minimum level of inventory held on stock.

RECOMMENDATIONS

- The working capital turnover ratio situation of KRL is not so good as it showed a decreasing trend from 2002-03 to 2004-05. it is therefore suggested that the concern should check the reducing trend and should try to improve the working capital turnover ratio.
- Current asset turnover ratio found slight decreasing trend during 2003-04 when compared to the previous year of the present study because of higher current assets indicating slow collection of debts which will do no good to the company. So it is suggested that debts are to be promptly collected.
- Current assets to total asset position reveals that during 2004-05 there found an increasing trend in ratio due to greater utilization of current assets which reduced profitability of the company. This can be improved by reducing current assets utilization in order to earn profit of the company.
- Long term liabilities to working capital ratio during 2004-05 indicates bad position of the company, since long term liabilities cannot be paid fully out of working capital. It is therefore suggested that working capital is to be arranged in such a way that company could be able to pay long term liabilities fully out of working capital.
- Cash cycle reveals that maximum period had taken by the company for all the processes dealing with cash. So it is suggested that a company can do better by reducing the period for all the cash processes by some means.
- The debtor's turnover ratio reveals that the debts are not being collected rapidly and declining trend in ratio amounts to congestion of funds in accounts receivables which increases the chances of bad debt losses. The decreasing trend in the ratio shows undesirable credit and collection policies. Therefore it is recommended that collection efforts should be tightened by the company and immediate steps are to be taken to check the downward trend of turnover of accounts receivables. The higher debt collection period reduces liquidity position of the company. Therefore, it is suggested that efficiency of staff employed for the collection of debts should be checked.

CONCLUSION

The working capital position of Kochi Refineries Ltd is satisfactory. From the analysis it was found that the company is maintaining a good liquidity position and hence met all the current obligations. The analysis also projects that adequate cash is running through business indicating a good position in KRL. The study reveals that the company has the ability to meet all outside liabilities and is having capacity to handle fixed charges liabilities. Average payment period exhibits stronger liquidity position of KRL. It is found that the company is having high margin of safety and protection against shrinkage in assets and also exposes creditors to lesser risk.

Cash position displays good sign for the company. The inventory management of the company indicates satisfactory results by holding minimum amount of inventory and by utilizing minimum period for converting raw materials into petroleum products and finally reaching the hands of ultimate customer. But in the area of receivables management, debtor's turnover and average collection period were not found so appreciable due to inefficient debt collection.

The proper working capital management requires both the medium term planning and also the immediate adaptation to change arising due to fluctuation in operating levels of the firm.

BIBLIOGRAPHY

BOOKS REFERRED

1. I.M.PANDEY, FINANCIAL MANAGEMENT
2. S.N.MAHESHWERI, FINANCIAL ACCOUNTING
3. C.R. KOTHARI, RESEARCH METHODS IN BUSINESS
4. L.R.POTTI, BUSINESS STATISTICS
5. D.C.SANCHETI & V.K.KAPOOR, STATISTICS THEORY, METHODS AND APPLICATIONS

PUBLICATIONS

ANNUAL REPORTS OF KRL
PETROLEUM UPDATES
OIL&GAS JOURNALS

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