BAB 6

KESIMPULAN DAN SARAN

6.1. Kesimpulan

Berdasarkan hasil perhitungan, analisis dan pembahasan yang telah dilakukan, dapat ditarik beberapa kesimpulan, yaitu:

1. Dalam proses pemilihan keputusan proyek, tidak cukup hanya mempertimbangkan satu kriteria sebagai penentu seberapa baik atau seberapa jeleknya proyek. Hal ini karena kualitas dan hasil akhir proyek dipengaruhi oleh banyak hal. Dalam hal ini, Chevron Indonesia Company telah menentukan empat kriteria yaitu: kriteria harga atau biaya (0,088), kriteria kualitas atau *technical* (0,261), kriteria *comunnity health and safety* (0,521) dan kriteria *environmental* (0,130). Dari hasil pembobotan dengan metode entropy diperoleh hasil bahwa kriteria *community health and safety* mempunyai bobot terbesar. Dari hasil tersebut dapat disimpulkan bahwa kriteria *community health and safety* adalah kriteria yang paling penting dalam pengambilan keputusan proyek dan kriteria harga atau biaya adalah kriteria yang kepetingannya paling kecil diantara semua kriteria.
2. Hasil dari perhitungan *PROMETHEE* adalah *Modifikasi Flow Line* 16" dari Kerindingan Platform ke Melahin Platform menduduki rangking pertama dan *Gas Lift Compressor* menduduki rangking kedua.

3. Sistem ini dapat membantu, mempermudah dan mempercepat proses perhitungan perangkingan proyek dengan metode *PROMETHEE*. Aktor yang terlibat dalam sistem ini adalah seluruh bagian produksi dan *engineering*. Namun terdapat batasan dalam akses sistem. Untuk staf produksi hanya dapat melakukan input-an proyek, item (yang berupa barang atau jasa) dan orang-orang yang terlibat dalam proyek (bekerjasama dengan *maintenance*). Sedangkan akses penuh dapat dilakukan oleh pihak *Engineering*.

6.2. Saran

Dari hasil analisis yang telah dilakukan didapat beberapa saran yang dapat dipertimbangakan perusahaan untuk meningkatan kinerja, yaitu:

1. Pada pengembangan selanjutnya, perusahaan dapat mengembangkan kriteria pemilihan proyek sehingga proses evaluasi dan pemilihan menjadi lebih komprehensif.
2. Perusahaan disarankan memanfaatkan sistem yang telah dirancang dan diharap sistem dapat diimplementasikan dan dioperasikan.
3. Perlu diadakan *user training* sehingga aktor yang terlibat dapat menjalankan sistem dengan benar.
4. Perusahaan harus jeli dalam mengambil kebijakan, sehingga proses pembangunan proyek dapat berjalan lancar.
5. Penggunaan sistem pendukung keputusan ini dapat membantu dalam penyimpanan data proyek, *maximum economic recovery*, *minimize production decline*, *maximum total cost of ownership* dan *safety*.

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LAMPIRAN

Lampiran 1

Company Profile
Chevron Indonesia Company

Upstream and Gas

Business Hub and Communications Center

Upstream & Gas

Home | Africa & Latin America | Asia Pacific | Europe, Eurasia & Middle East | North America | Gas & Midstream | Upstrea

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- Departments & Functional Groups
- Organization & Leadership
- Executive Communications
- News & Archives
- Resources

Related Links

- IndoAsia SBU Publications
- Fact Sheet: Indonesia
- Fact Sheet: Philippines
- Chevron Annual Report and Supplement

IndoAsia

Asia Pacific › Business Units › IndoAsia

Maximizing Mature Operations, Seeking Growth

Chevron's IndoAsia business unit (IBU) is Indonesia's largest oil producer. In 2010, total daily production averaged 477,000 barrels of liquids and 611 million cubic feet of natural gas. IBU continually works to optimize production, increase recovery and improve reliability from its existing reservoirs.

IndoAsia Business Unit

- IndoAsia Web site

Areas of Operation

- Indonesia
- Philippines

During 2010, the majority of production came from fields within the Rokan PSC on the island of Sumatra. The largest producing field is Duri, which is one of the world's largest steamflood developments. In 2010, 80 percent of the field was under steam injection. Development of the northern region of the field is continuing – in 2010, Area 12 expansion was completed and a final investment decision for Area 13 was reached. In the Minas Field, efforts continue to optimize the waterflood program to sustain field production, and a pilot project for chemical injection to further improve recoverability of light oil continues continues.

Offshore, IBU has operated interests in five Indonesian PSC areas covering approximately 2.8 million acres (11,100 sq km). In addition, we have three deepwater development projects under way. The Gendalo-Gehem natural gas project will include two separate hub developments and is currently in front-end engineering and design. At the end of 2010, Chevron also approved FEED for the Bangka deepwater project. The third project is the Extended Reach Drilling project for the West Seno Field, which reached final investment decision in 2010.

Indonesia Fact Sheet

Highlights of Operations

Chevron is a major partner in Indonesia's economy and an active member of the community.

Through our wholly owned subsidiary PT Chevron Pacific Indonesia, we are the largest producer of Indonesia's crude oil. We are searching for new oil and gas reserves from central Sumatra to offshore East Kalimantan. We have begun design work on our deepwater natural gas project off East Kalimantan.

Our geothermal operations in Indonesia help make Chevron the largest producer of geothermal energy in the world.

Chevron sells lubricants in Indonesia through our subsidiary PT Chevron Oil Products Indonesia.

Business Portfolio

Exploration and Production

Chevron is Indonesia's largest oil producer, with total daily production averaging 477,000 barrels of liquids in 2010. Total average daily production of natural gas was 611 million cubic feet.

We operate in partnership with Indonesia's Executive Agency for Upstream Oil and Gas Business Activities (BPMIGAS) through production-sharing contracts (PSCs).

PT Chevron Pacific Indonesia (CPI) owns and operates the Rokan and Siak PSCs in Sumatra.

Chevron also has operated interests in five offshore Indonesian PSC areas covering approximately 2.8 million acres (11,100 sq km). There are four PSC areas offshore East Kalimantan in the Kutei Basin, including operated interests in East Kalimantan (92.5 percent), Makassar Strait (90 percent), Rapak (80 percent) and Ganal (80 percent). The fifth PSC is a 100 percent-owned interest in East Ambalat, in the Tarakan Basin, offshore northeast Kalimantan. In December 2010, the company relinquished its interest in East Ambalat, pending government approval, which is anticipated by the end of 2011.

With the approval of the Indonesian government, the working interest for each of Chevron's two onshore exploration blocks in western Papua—West Papua I and West Papua III—was reduced to 51 percent in June 2010.

Chevron has a 25 percent nonoperated working interest in the offshore South Natuna Sea Block B, northeast of the Rokan Block. The company relinquished its 40 percent interest in the NE Madura III Block in the East Java Sea Basin; government approval is expected in the second half of 2011.

Optimizing Potential in Sumatra

The majority of CPI's production in 2010 came from fields in the Rokan PSC. Duri, the largest field, has been using steamflooding technology since 1985 and is one of the world's largest steamflood developments. In 2010, steam injection was deployed in 80 percent of the field.

We continued to implement projects designed to sustain production, increase recovery and improve reliability from existing reservoirs. In producing areas of the Duri Field, 206 production wells and 16 steam-injection wells were drilled in 2010. In the Minas Field, 58 production wells were drilled during 2010.

A successful appraisal well was also drilled at the Bekasap Field in 2010. During 2011, additional appraisal drilling is planned in the Kulin and Bekasap fields.

Developing Resources in Kutei Basin

In the Kutei Basin in East Kalimantan, most of the production in 2010 came from 14 offshore fields in the shelf area. Crude oil and natural gas produced from the northern fields are processed at the Chevron-operated Santan terminal.

In the deepwater area, Chevron made progress on the Gendalo-Gehem natural gas project. The project will include two separate hub developments, each with its own floating production unit, subsea drill centers, gas and condensate pipelines, and an onshore receiving facility.

In December 2010, the company awarded major front-end engineering and design contracts for the floating production units, subsea and pipeline components, and an onshore receiving facility. Maximum daily production from the project is expected to be 1.1 billion cubic feet of natural gas and 31,000 barrels of condensate.

Also in the fourth quarter of 2010, Chevron approved front-end engineering and design for the deepwater Bangka Project.

Moving Ahead in South Natuna Sea Block B

Seven fields in South Natuna Sea Block B produce natural gas, and four fields produce crude oil.

A five-phase development project in Block B supports two long-term natural gas sales contracts with Malaysia and Singapore. Drilling for the first three phases continued through 2010. The fourth phase, in the North Belut Field, reached a maximum total daily production of 240 million cubic feet of natural gas and 33,000 barrels of liquids in February 2010. More development drilling in the North Belut Field is planned through 2011.

As part of the fifth phase, work continued on the Bawal and South Belut projects in 2010. A final investment decision was made in the Bawal Project in October 2010; operations are expected to begin in 2012.

Geothermal

Chevron is the world's largest producer of geothermal energy and has major operations in Indonesia.

Chevron generates more than 630 megawatts of clean and affordable geothermal energy for Indonesia. Geothermal energy is created by the heat of the earth. It generates reliable power and emits almost no greenhouse gases.

Our subsidiary Chevron Geothermal manages two geothermal projects in Indonesia—Darajat and Salak, both on the island of Java. The Darajat project supplies geothermal steam, which generates 259 megawatts of electricity. All power from the Darajat site is sold directly to the national grid. Chevron holds a 95 percent operating interest in Darajat.

Chevron owns and operates the Salak project. It is one of the largest geothermal operations in the world, with a total operating capacity of 377 megawatts.

The combined output from our Darajat and Salak geothermal operations now produces sufficient renewable energy to supply approximately 4 million homes in Indonesia.

Chevron also operates and has a 95 percent interest in the North Duri Cogeneration Plant in Sumatra, which supplies up to 300 megawatts of electrical power to CPI as well as steam in support of CPI's Duri steamflood project.

In December 2010, Chevron acquired a 95 percent-owned and operated interest in the Suoh-Sekincau prospect in South Sumatra. The Indonesian government issued Chevron a license to explore the area, and we have taken the first steps toward geological and geophysical assessment. If successful, additional development could potentially add about 200 megawatts to Chevron's geothermal portfolio.

Lubricants and Trading

PT Chevron Oil Products Indonesia sells Caltex™ lubricants across Indonesia through a distribution network. These products serve commercial, industrial, consumer and marine customers.

Through our trading operation in Singapore, Chevron also trades in crude oil and finished petroleum products with Pertamina, Indonesia's government-owned oil and gas company. We also sell to licensed importers and distributors.

Chevron markets asphalt under the Caltex Asphalt® brand.

In the Community

In Indonesia, the expression *gotong royong* means offering assistance, sharing burdens and working with others. Throughout our more than 80 years in Indonesia, Chevron has embraced *gotong royong* by working with communities to provide disaster relief and help in rebuilding, small business and enterprise development, education and vocational training, health services, and environmental conservation. Our community development programs have delivered more than $120 million in assistance.

Education and Vocational Training

The first community engagement program offered by PT Chevron Pacific Indonesia took place in 1957, when CPI donated a building to house the first state senior high school in Pekanbaru, Riau. It still is one of Pekanbaru's most prestigious schools.

CPI supports the education of the Sakai people, an indigenous tribe in Riau. CPI supplies books, provides incentives for teachers and offers educational grants to thousands of Sakai children through our Beasiswa Anak Asuh Sakai (Sakai Foster Children Scholarship) program. In addition, the Darmasiswa Chevron Riau scholarship program allows the brightest students in Riau to pursue higher education in universities across Indonesia.

CPI built and sponsors Riau Caltex Polytechnic, the province's first polytechnic university. Course curriculum matches the province's business needs and contributes to its economic growth. More than 880 students have graduated from the university. About 85 percent found jobs within three months of graduation.

In West Java, Chevron's Darajat geothermal operations gave new computers to the Nurul Muttaqin Vocational High School in Garut. Previously, the children had to travel 12 miles (20 km) to the district capital to use computers.

In East Kalimantan, we established a school development program. The program works to improve the quality of the education in remote regions so that schools meet national quality standards.

Health Services

Chevron supports programs that fight HIV/AIDS and other diseases, promotes health care, and supports health education.

To help fight HIV/AIDS in Indonesia, we provided $5 million to the Global Fund to Fight AIDS, Tuberculosis and Malaria in Indonesia. The Global Fund works with the government of Indonesia to provide health education.

We also established the "I Wanna Live" HIV/AIDS awareness campaign with Yayasan Cinta Anak Bangsa, an anti–drug abuse group, and Media Indonesia, one of Indonesia's leading media companies. The campaign is aimed at junior and high school students and teachers in West Java.

To improve the quality of life in Sumatra, we support a mobile health service that provides health care, vaccinations and medical training for residents in 30 remote villages.

In a remote area of West Java, we helped build an emergency care unit for people in the area, especially for pregnant women who require special treatment during delivery. Previously, patients had to travel 25 miles (40 km) to the nearest clinic.

We take part in several other health initiatives:

- Our employees volunteer and donate during Indonesian Red Cross blood drives.
- We help fund treatment for underprivileged cancer patients and children with facial deformities.
- We help provide adequate sanitation facilities for the homes of poor families in Jakarta.

In Balikpapan, East Kalimantan, we started the Domestic Waste Management program in 2005. The project has been adopted by the municipality of Balikpapan and promotes health.

Small Business and Micro-Enterprise Development

Chevron supports programs that offer training in agriculture, fisheries and running a business from home. The newest of these is Local Business Development, which helps small companies and cooperatives in Sumatra, East Kalimantan and West Java. More than 4,600 small local businesses and cooperatives have participated in workshops. This program has helped participants increase the value of their businesses from $1.3 million in 2001 to more than $123 million in 2010.

In East Kalimantan and West Java, Chevron partnered with Permodalan Nasional Madani and Baitul Mal Muamalat to create the Community Enterprise Development Program. This program strengthens community-based business groups, individuals and owners of small shops. The program offers loans through a micro-finance institution and provides business management training.

In Salak and Darajat, West Java, Chevron helped establish a local farmers association in several villages. The farmers turned idle land into crops. Basic agricultural management assistance also was provided to sheep breeders in Darajat, West Java.

In West Java and East Kalimantan, we sponsor a series of programs called Initiative Engage Execute Empower. Under this umbrella, a number of projects promote local economic growth.

Programs in West Java include one focused on forest conservation and another that helps entrepreneurs start small and medium business.

In East Kalimantan, we created the Coastal Community Empowerment program to support sustainable economic development in local coastal communities and the region as a whole.

Disaster Relief and Rehabilitation

Following natural disasters, Chevron has been quick to step in to help communities recover and rebuild.

In 2009, many parts of West Sumatra and West Java were affected by a series of devastating earthquakes. Using the experience we gained from our relief efforts following previous disasters in Indonesia, we launched the Chevron Earthquake Recovery Initiative. In addition to providing emergency relief, the initiative focuses on recovery and reconstruction of schools.

We set up a $1.7 million school rehabilitation program and partnered with national and local governments and nongovernmental organizations to rebuild three severely damaged schools in West Java.

A state-run elementary school in West Sumatra, virtually destroyed by an earthquake, was rebuilt with money donated by our employees and then matched by the company.

Chevron Aceh Recovery Initiative

Following the 2004 tsunami, which hit Indonesia particularly hard, Chevron responded to the needs of victims in Aceh and Nias with the Chevron Aceh Recovery Initiative.

One of the initiative's long-term programs focused on providing vocational skills and economic development opportunities for residents of Aceh. More than 300 students completed their studies at Riau Caltex Polytechnics. A three-month program provided training in road and home construction, electrical installation, and computer applications. About 80 percent of the graduates are now employed in Aceh, and several have started their own businesses, employing others.

Chevron also launched a project to develop a polytechnic institution in Aceh, the Politeknik Aceh, in partnership with the government of Aceh, the Aceh-Nias Reconstruction and Rehabilitation Agency, and the U.S. Agency for International Development. The goal is to contribute to long-term economic development in Aceh. Construction began in 2007, and the Politeknik Aceh started its first academic year in 2008. On February 23, 2009, the polytechnic was officially opened by Indonesia's President Susilo Bambang Yudhoyono.

The college offers courses in five disciplines that are essential to the industrial sector—electronics engineering, robotics, engineering, information technology and accounting.

Chevron and our partner Swiss Contact also support the Business Startup Establishment project in Aceh that aims to start 1,200 micro enterprises and small businesses, creating jobs for 6,000 people. The project is an integrated micro-credit program that provides capital, training and business planning support for local entrepreneurs.

Record of Achievement

Chevron's relationship with Indonesia can be traced back more than 80 years.

In 1924, we took our first significant step in Asian exploration and production in Indonesia. Standard Oil Co. of California (Socal), which later became Chevron, dispatched a geological expedition to the island of Sumatra. In 1936, the holdings became part of N.V. Nederlandsche Pacific Petroleum (later CPI), a joint venture between The Texas Co. (later Texaco) and Socal.

Five years later, we drilled into the formation that would become the Duri Field. Steamflood technology was first applied to the field in 1985, and now Duri is one of the world's largest enhanced-recovery steamflood projects. In 1944, a well near the village of Minas became the largest oil field ever discovered in Southeast Asia. Production began after Indonesia won independence in 1952.

In the 1990s, we expanded operations to include electric power generation, relying on geothermal power production. In 2007, Darajat III was recognized as the world's largest project registered under the U.N. Clean Development Mechanism. And in 2009, Darajat III received Certified Emission Reduction certificates from the United Nations agency managing the Clean Development Mechanism.

Chevron is now the world's largest producer of geothermal energy.

National Recognition

Chevron is regularly honored for the quality of our operations in Indonesia.

In 2010, we received awards and recognition from Indonesian ministries and national professional associations, including:

- Zero Accident awards from the Ministry of Manpower and Transmigration
- Best Performance award in Safety, Occupational Health and Environment Protection from the Executive Agency for Upstream Oil and Gas Activity
- Best of the Best Award for Occupational Health, Safety Management, Environmental Management from the Ministry of Energy and the Mineral Resources Directorate General of Mineral, Coal and Geothermal
- Environmental Management Green and Gold awards from the Ministry of Environment Resources
- Best of the Best and Platinum awards for HIV/AIDS Prevention and Treatment Program in the Workplace from the Ministry of Manpower and Transmigration
- Education Care award from the Ministry of Education
- Indonesia's Best Company award, voted through a nationwide survey conducted by *Warta Economy*, Indonesia's leading business magazine

Environment and Safety

Protecting people and the environment and conducting our operations reliably and efficiently are integral components of The Chevron Way. We place the highest priority on the health and safety of our workforce and protection of our assets and the environment.

Chevron supports Indonesia's national parks, conservation areas and other environmental programs around the country. In East Kalimantan, we helped establish the Berau Marine Protected Area. To help promote ecotourism, we worked with National

Geographic Indonesia to produce a map of marine ecosystems in the Berau Islands. Within this area is Derawan Island, home c the endangered green turtle. The program also promotes sustainable employment in marine tourism and conservation projects.

In West Java, we collaborate with nongovernmental organizations concerned about the environment, biodiversity and conservation. With Wildlife Trust/Yayasan PEKA (Indonesian Nature Conservation Concern Foundation), we promote community awareness about the importance of conservation and biodiversity while also creating opportunities for economic growth.

We also work with Conservation International Indonesia to improve the environmental awareness of local people in Mount Halimun-Salak National Park. Using concealed cameras in the forest, we help monitor the presence and condition of endangered species, such as the Javanese tiger, the Owa Jawa monkey and the Javan hawk-eagle.

Recently, together with the Mount Halimun-Salak National Park and Raptor Sanctuary partnership network, we established the Suaka Elang (Raptor Sanctuary). This sanctuary marks the first step in the development of a multiparty professional network to support education about and rescue of these birds of prey and their habitats.

Economy

Chevron's day-to-day operations and capital investments contribute to Indonesia's economy. Salaries and wages paid to Chevron workers exert an important "multiplier effect." Through our operations in Indonesia, we provide jobs for approximately 7,000 employees and 32,000 business partner employees. About 97 percent of employees and managers are Indonesian.

More than 1,000 Indonesian Chevron employees have completed U.S.-based assignments as part of their professional development and to learn new technical skills. Transfer of technology is an integral part of Chevron operations as Indonesian employees learn how to use new technologies from around the world.

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Updated: March 2011

CAUTIONARY STATEMENT RELEVANT TO FORWARD-LOOKING INFORMATION FOR THE PURPOSE OF "SAFE HARBOR" PROVISIONS OF THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995

This page from Chevron.com contains forward-looking statements relating to Chevron's operations that are based on management's current expectations, estimates and projections about the petroleum, chemicals and other energy-related industries. Words such as "anticipates," "expects," "intends," "plans," "targets," "projects," "believes," "seeks," "schedules,"

Exploration & Production

Chevron has major operations in the world's most important oil and gas regions. We are leaders in working in extremely difficult environments such as ultradeep water.

Oil

Chevron uses innovation to maximize mature fields and discover new reservoirs.

Natural Gas

Chevron is well positioned to meet the world's escalating demand for natural gas.

Manufacturing, Products & Transportation

We are a leader in refining, fuels, lubricants and additives. Our experience and creativity bring energy to consumers efficiently.

Manufacturing

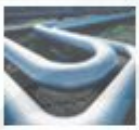
Our refining operations are strategically located to serve the fastest growing markets.

Global Trading

We provide raw materials and finished products to the right locations at the right time.

Products

We sell gasoline and refined products under the Chevron, Texaco and Caltex brands.



Pipelines

Through an extensive network, we move and store petroleum and petrochemical products.

Lubricants

Our lubricants satisfy retail, commercial, industrial and marine customers worldwide.

Shipping

Our fleet crosses the oceans to safely bring energy to our customers around the world.

Oronite

Our additives improve the performance of fuels and lubricants.

Other Businesses

Chevron's interests range from chemical production and mining to energy research and nanoscience. Along with a range of power facilities, we are also the world's largest producer of geothermal energy.

Chemicals

Chevron and our partners develop, produce and market petrochemicals and additives.

Mining

Production of coal and rare earth metals meets a growing demand.

Power

Twenty years of experience guide our power operations in the U.S. and Asia.

Technology

We build on Chevron's tradition of innovation to create solutions for the future.

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Company Profile

Providing Energy for Human Progress

Chevron is one of the world's leading integrated energy companies, with subsidiaries that conduct business worldwide. Our success is driven by our people and their unrelenting focus on delivering results the right way—by operating responsibly, executing with excellence, applying innovative technologies and capturing new opportunities for profitable growth. We are involved in virtually every facet of the energy industry. We explore for, produce and transport crude oil and natural gas; refine, market and distribute transportation fuels and lubricants; manufacture and sell petrochemical products; generate power and produce geothermal energy; provide energy efficiency solutions; and develop the energy resources of the future, including biofuels.

Company Roots

We trace our beginnings to an 1879 oil discovery at Pico Canyon, north of Los Angeles, which led to the formation of the Pacific Coast Oil Co. That company later became Standard Oil Co. of California and, subsequently, Chevron. We took on the name Chevron when we acquired Gulf Oil Corp. in 1984, nearly doubling our worldwide proved oil and gas reserves. Our merger with Gulf was at that time the largest in U.S. history.

Another major branch of the family tree is The Texas Fuel Company, formed in Beaumont, Texas, in 1901. It later became known as The Texas Company and eventually Texaco. In 2001, our two companies merged. The acquisition of Unocal Corporation in 2005 strengthened Chevron's position as an energy industry leader, increasing our crude oil and natural gas assets around the world.

Global Scope

Our diverse and highly skilled global workforce consists of approximately 58,000 employees and about 4,000 service station employees.

In 2010, Chevron produced 2.763 million barrels of net oil-equivalent per day, 2 percent higher than in 2009. About 75 percent of that volume occurred outside the United States. Chevron had a global refining capacity of more than 2 million barrels of oil per day at the end of 2010.

Our marketing network supports retail outlets on six continents. And we have invested in 13 power-generating facilities in the United States and Asia.

Corporate Officers

*Executive Committee Member

John S. Watson*
Chairman and Chief Executive Officer

George L. Kirkland*
Vice Chairman and Executive Vice President of Upstream and Gas

Lydia I. Beebe
Corporate Secretary and Chief Governance Officer

Paul Bennett
Vice President and Treasurer

James R. Blackwell*
Executive Vice President, Technology and Services

Matthew J. Foehr
Vice President and Comptroller

John D. Gass
Corporate Vice President and President, Chevron Gas and Midstream

Stephen W. Green
Vice President, Policy, Government and Public Affairs

Joe W. Laymon
Vice President, Human Resources, Medical and Security

Wesley E. Lohec
Vice President, Health, Environment and Safety

C.N. "Sandy" Macfarlane
General Tax Counsel

John W. McDonald
Vice President and Chief Technology Officer

R. Hewitt Pate*
Vice President and General Counsel

Jay R. Pryor
Vice President, Business Development

C.A. "Chuck" Taylor
Vice President, Strategic Planning

Michael K. Wirth*
Executive Vice President, Downstream & Chemicals

Patricia E. Yarrington*
Vice President and Chief Financial Officer

Rhonda I. Zygocki*
Executive Vice President, Policy and Planning

Updated: June 2011

Board of Directors

John S. Watson
Chairman and Chief Executive Officer

George L. Kirkland
Vice Chairman and Executive Vice President of Upstream and Gas

Linnet F. Deily
Former Deputy U.S. Trade Representative and U.S. Ambassador to the WTO

Robert E. Denham
(Lead Director) Partner of Munger, Tolles & Olson LLP

Robert J. Eaton
Retired Chairman of the Board of Management, DaimlerChrysler AG

Chuck Hagel
Distinguished Professor, Georgetown University, University of Nebraska at Omaha

Enrique Hernandez Jr.
Chairman, Chief Executive Officer and President, Inter-Con Security Systems, Inc.

Donald B. Rice
Retired President and Chief Executive Officer, Agensys, Inc.

Kevin W. Sharer
Chairman and Chief Executive Officer, Amgen, Inc.

Charles R. Shoemate
Retired Chairman, President and Chief Executive Officer, Bestfoods

John G. Stumpf
Chairman, President and Chief Executive Officer, Wells Fargo & Company

Ronald D. Sugar
Retired Chairman and Chief Executive Officer, Northrop Grumman Corp.

Carl Ware
Retired Executive Vice President, The Coca-Cola Company

Updated: June 2011

Lampiran 2

Pengolahan Data Proyek

1. **Pembobotan Entropy**

Kriteria / Alternatif	1 Harga/Biaya ($)	2 Kualitas (*technical)*	3 *Com. Health & Safety*	4 *Environmental*
Compressor Gas Lift	817,600	3	3	3
Modifikasi Flow Line	488,719	1	1	1

2. **Normalisasi**

i / k	1	2	3	4	Σ
1	1	1	3	3	**8**
2	0.5977	0.3333	1	1	**2.931**
Di	**1.5977**	**1.3333**	**4**	**4**	

3. **Perhitungan Entropy**

eMAX	**0.69**
K	**1.449**

e(di)	e(d1)	e(d2)	e(d3)	e(d4)	Σ
	0,958	**0,816**	**0,816**	**0,816**	**3,406**

4. **Perhitungan Bobot Entropy**

λ	λ_1	λ_2	λ_3	λ_4
	0,071	0,31	0,31	0,31

5. **Perhitungan Nilai Bobot Entropy**

Kriteria	Bobot Awal Kriteria	Nilai Bobot Akhir (*Entropy*)
Harga/Biaya	0,3	0,088
Kualitas (*Technical*)	0,2	0,261
Com. Health & Safety	0,4	0,521
Environmental	0,1	0,130

6. PROMETHEE

6.1. Penentuan Tipe dan Parameter Kriteria

Kriteria	Bobot	Tipe Preferensi	Kaidah (Min/Max)	Parameter
Harga/Biaya (K1)	0,088	V	Min	q = 488,719 p = 817,600
Kualitas (Technical) (K2)	0,261	III	Min	p = 0,5
Community Health & Safety (K3)	0,521	IV	Min	q = 1 p = 5
Environmental (K4)	0,130	IV	Min	q = 1 p = 5

6.2. Matriks Nilai Preferensi

6.2.1. Harga

	A1	A2
A1		1
A2	0	

6.2.2. Kualitas (Technical)

	A1	A2
A1		0
A2	1	

6.2.3. Community Health and Safety

	A1	A2
A1		0
A2	0	

6.2.4. Environmental

	A1	A2
A1		0
A2	0	

6.3. Indeks Preferensi

Alternatif	A1	A2	Total
A1		0,088	0,088
A2	0,391		0,391
Total	0,391	0,088	

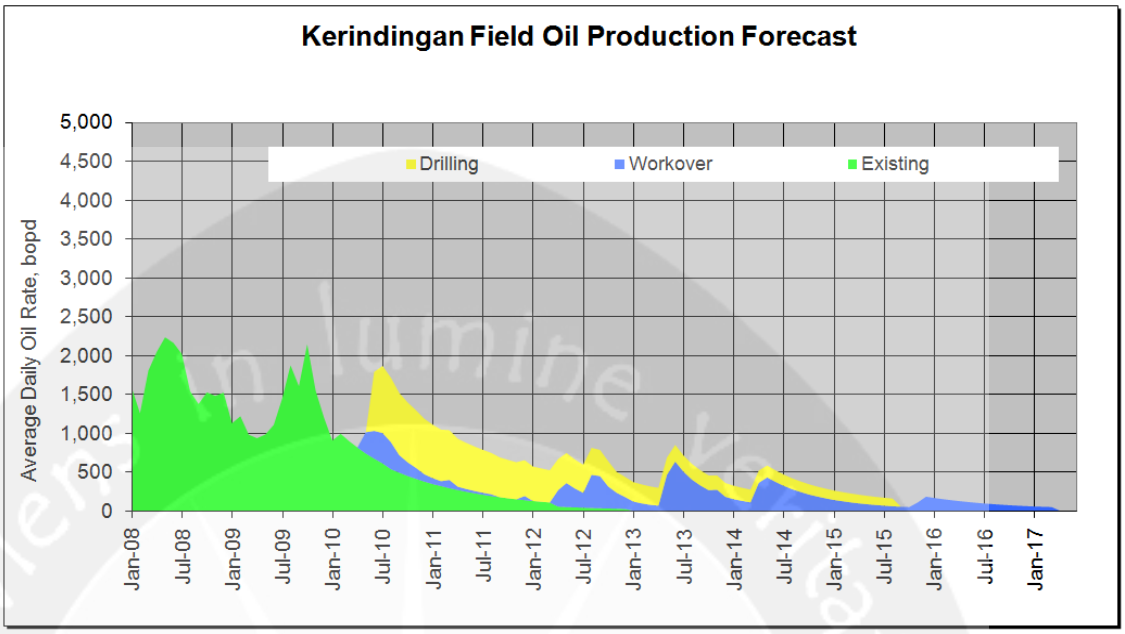
6.4. Perhitungan Arah Preferensi

Alternatif	A1	A2	Total	LF	EF	NF
A1		0,088	0,088	0,088	0,1955	-0,1075
A2	0,391		0391	0,391	0,044	0,347
Total	0,391	0,088				

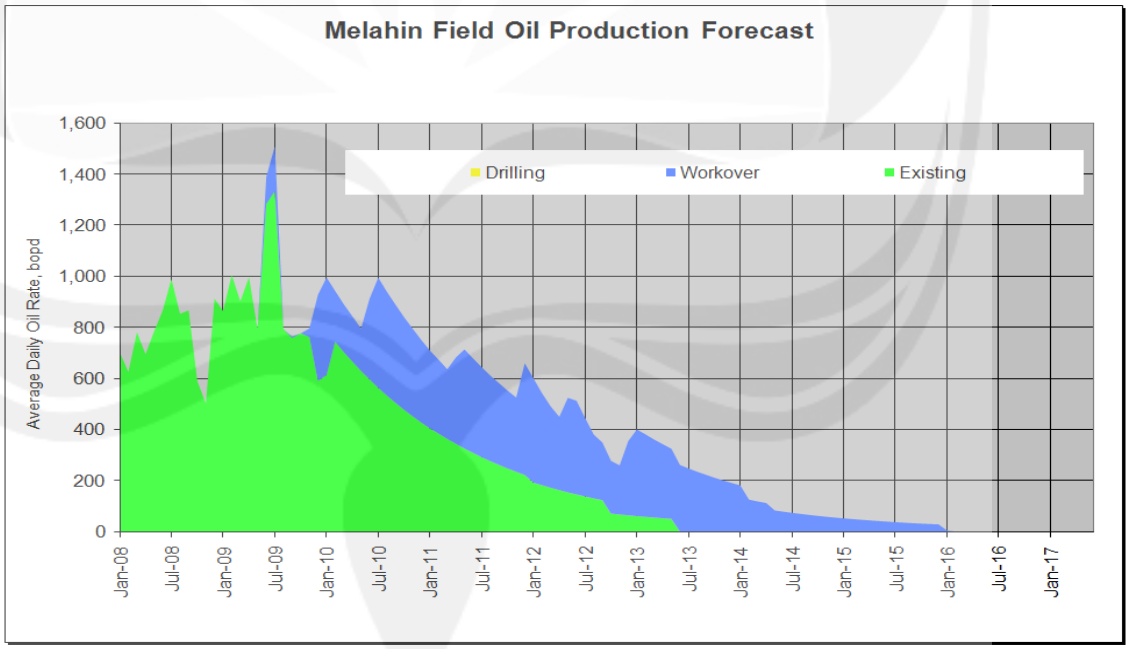
6.5. Perangkingan

Proyek	Net Flow	Rank
A1	-0,1075	2
A2	0,347	1

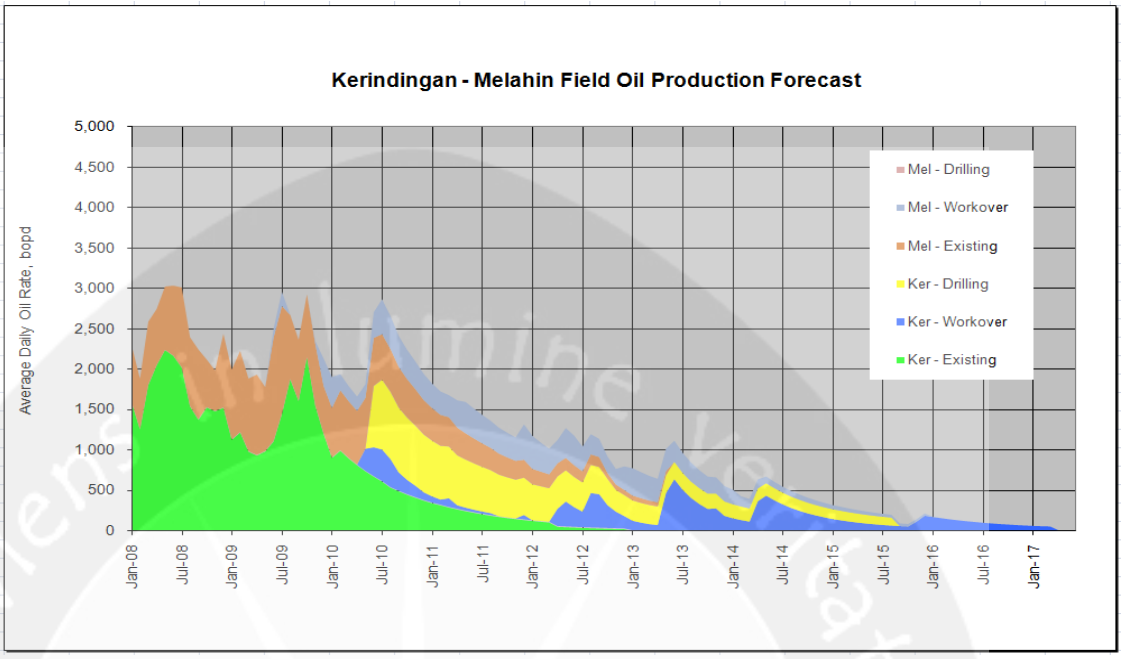
7. *Forecast* Produksi di Kerindingan Platform



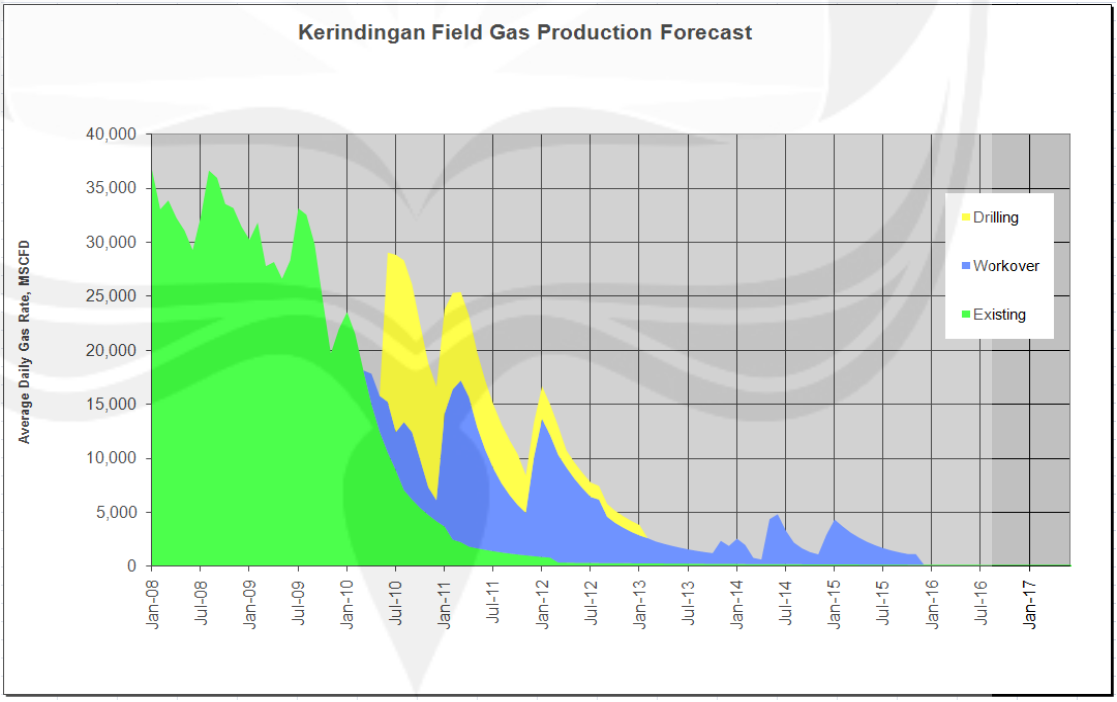
8. *Forecast* Produksi di Melahin Platform



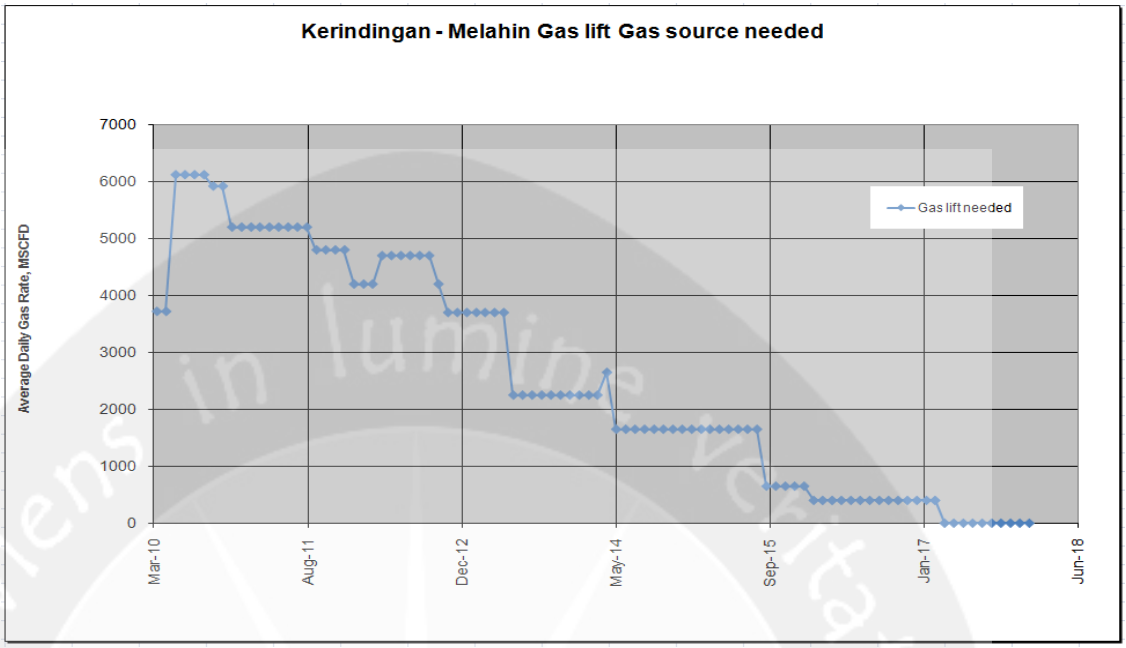
9. ***Forecast*** **Produksi di Melahin dan Kerindingan Platform**



10. ***Forecast*** **Sumber Gas Lift di Melahin dan Kerindingan Platform**



11. Konsumsi Gas Lift di Melahin dan Kerindingan Platform



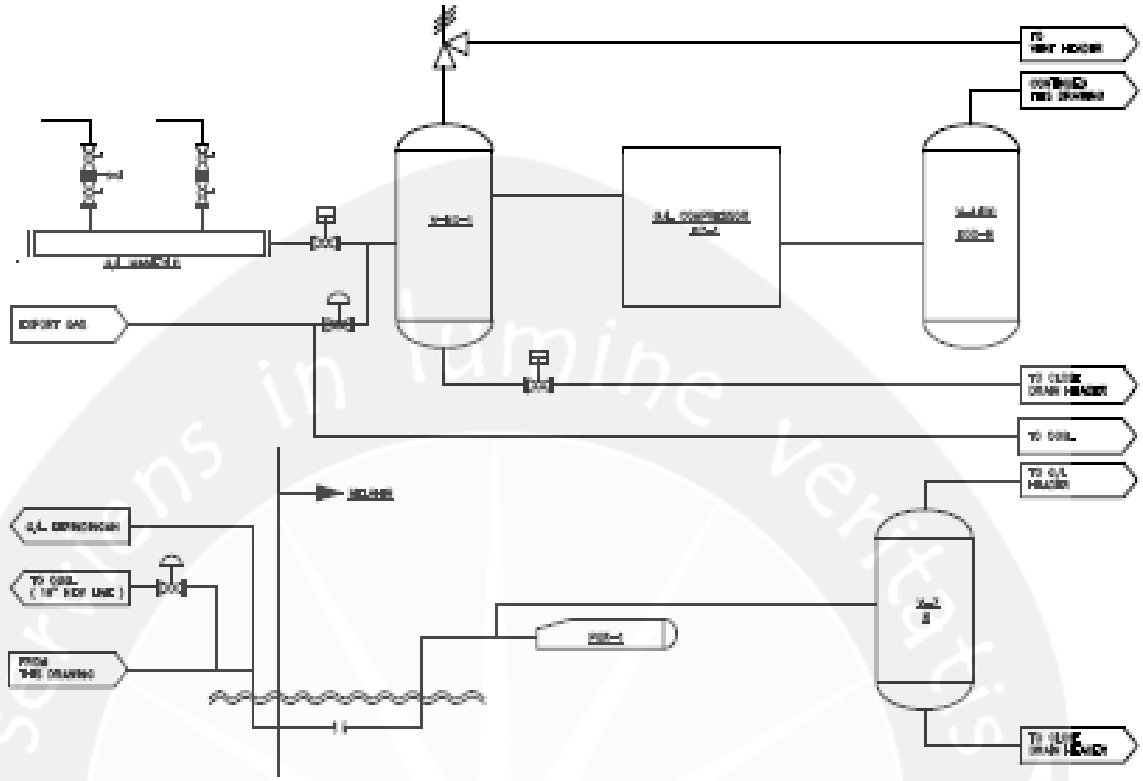
12. Analiss SWOT (*English Version*)

Strength (Internal)	**Weakness (Internal)**
• Commitment from Management to maintain production • Asset confidence level on oil reserves • Availability of surplus material • Experience in similar project	• SCM tender process • Availability of platform design information • Several versions of the same document may exist • Availability of Project team members • Congested deck space on Melahin platform • Asset confidence level on gas reserves
Opportunities (External)	**Threats (External)**
• Support from BPMIGAS • Engineering service company is available.	• Limited qualified supplier for special equipment • Uncertainty of budget funding • Uncertainty of barge schedule

13. Tim yang Terlibat dalam Proyek (*English Version)*

Phase	Phase #1 (Identify & Assess Opportunity)	Phase #2
DRB Decisions		
Endorser	Henry Sutanto	Henry Sutanto
Decisions Executive	Jimmy Dolan	Jimmy Dolan
DRB	Tom Schlicht Didik Rsiwantono Sandy Zahaf Suhardono	Tom Schlicht Didik Rsiwantono Sandy Zahaf Suhardono
Target End Date	December 2009	1 May 2010
Deliverables	Opportunity Statement Project Scope Decision Hierarchy	Update Framing Document Alternative Evaluation Report Conceptual Design PFO VIP PEP
Focus Items	Plan For Phase 2	Plan For Phase 3
Project Team / Resources	Priyo Santoso Rachmat Kurniawan Sudrajat NIB-Field Egr	Priyo Santoso Rachmat Kurniawan Sudrajat Cynthia Veronica NIB-Field Egr Sidik Purbono Munawar Cholil

14. Skema Diagram ALiran Proses

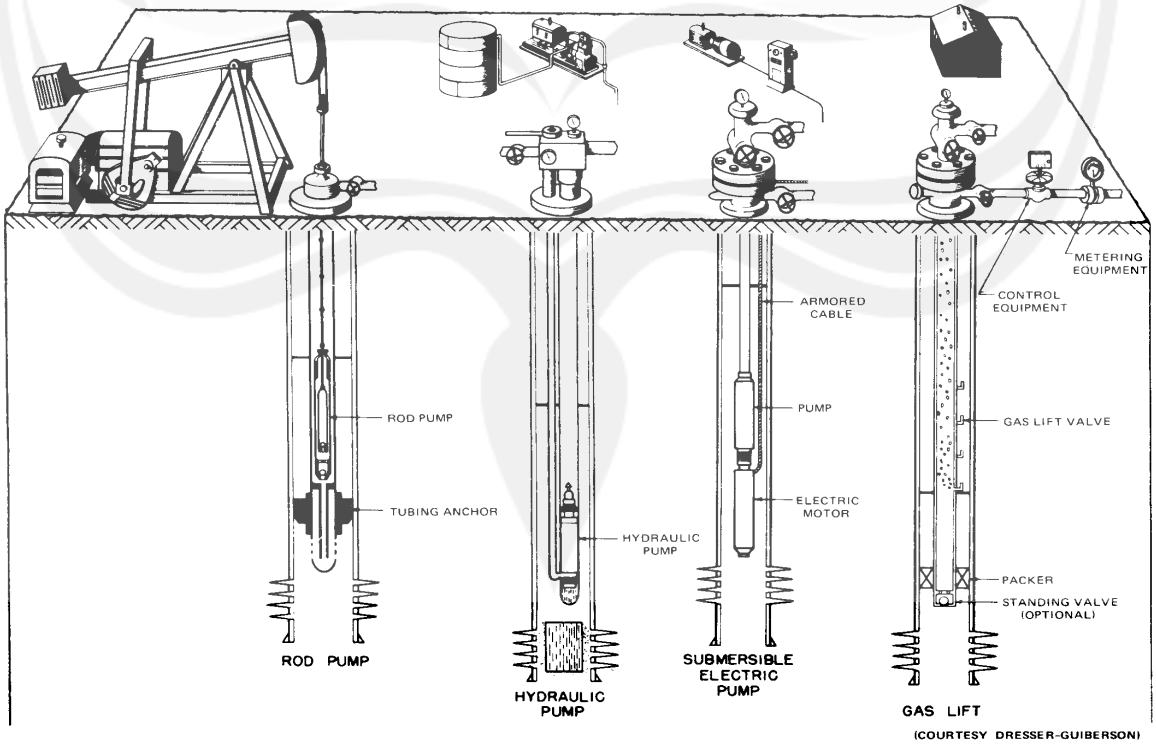


15. Perbandingan kelebihan dan kekurangan Pengadaan *Compressor Gas Lift (English Version)*

Type	Advantage	Disadvantage
Rental Gas Lift Compressor	• No spare part should be provided by Chevron. • Preventive Maintenance by supplier • Familiar technology • Flexible (low risk if gas lift source/oil well depleted faster than expected, contract can be)	• Limited potential bidder • Need major modification on structure, piping, E & I. • Long procurement process (12 months) • Mobilize under Chevron's responsibility. • Budget $ 1.6 MM (capital 1 MM + expense 0.6 MM (rental for 2 years).
Purchase Gas Lift Compressor	• Spare part should be provided by Chevron. • Preventive Maintenance by Chevron • Familiar technology • Compressor will be fixed asset for BPMIGAS	• Limited potential bidder • Need major modification on structure, piping, E & I. • Long procurement process (24 months) • High potential loss if gas lift source /oil well depleted faster than expected) • Budget $ 1.2 MM (purchase + installation)

16. Foto Melahin Platform

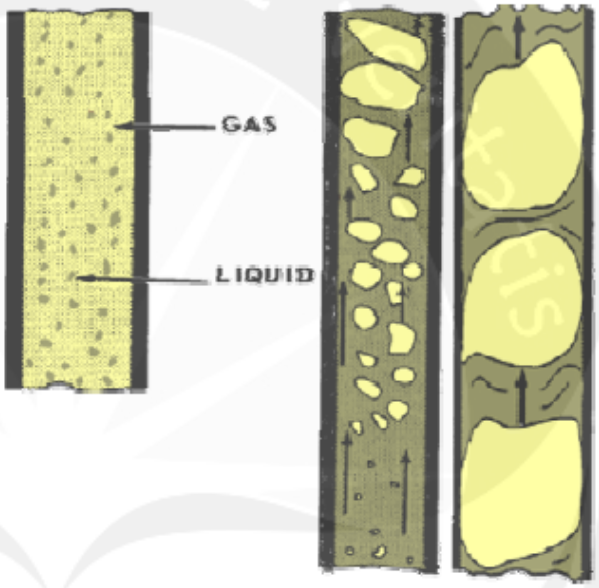
17. Tipe Artificial Lift



18. Gas Lift

Apakah Gas Lift Itu?

- **GAS LIFT ADALAH SALAH SATU UPAYA UNTUK MEMBANTU ATAU MEMBERIKAN PENGGANTI ENERGI ASLI RESERVOIR, SEHINGGA SUMUR BISA MENGALIR.**



- MEKANISME:
  - A. Mengurangi densitas fluida dan berat kolom (meningkatkan perbedaan tekanan antara *reservoir* dan *well bore*.
  - B. Memuaikan gas yang diinjeksikan sambil mengalirkan fluida kepermukaan.
  - C. Memindahkan *Liquid Slug* dengan gelembung udara yang besar dari gas yang dipadatkan (compressed gas) yang berprilaku bertindak sebagaimana sebuah piston