



Producing high value crude oil from low quality, low priced high sulfur dirty crude oil feedstocks

Proven High Tech FULL UPGRADING Technology

GenOIL Inc.
(OTC - QB: GNOLF)



**The Genoil Hydroconversion Upgrader
Converting Heavy High Sulphur Crude (bad oil) → Light
Low Sulfur Crude Oil (good oil)**

**Proven Performance, tested by ConocoPhillips Canada,
Gulf Canada, Lukoil, CPECC/CNPC & Hebei Zhongjie
Petrochemical**



Forward-looking

The statements made by representatives of Genoil Inc. during the course of this presentation that are not historical facts are forward-looking statements. Although Genoil believes that the assumptions underlying these statements are reasonable, investors are cautioned that such forward-looking statements are inherently uncertain and necessarily involve risks that may affect Genoil's business prospects and performance causing actual results to differ from those discussed during the presentation.

Such risks and uncertainties include by way of example and not of limitation, general business and economic conditions, decreases in demand for oil, natural gas and natural gas liquids, changes in our operating conditions and costs, changes in costs relating to differing quantities and qualities of petroleum products, the effectiveness of our technology, financing concerns and changes in the legislative or regulatory environment.

Genoil undertakes no obligation to publicly update any forward-looking statements, whether as a result of new information or future events.

Overview

- *Genoil Inc. of Canada was established in 1996*
- *Employs 25 total staff members*
- *(Owns world's most high tech hydroconversion technology which converts crude oil with lots of carbon to low carbon easy to refine crude which produces no residue.*
 - *10 bpd Full Bodied Upgrader*
 - *Salt Caverns & 147 Acre property in Two Hills Alberta Canada*
- *Business spans research and development for upstream and downstream petroleum sectors*
- *The company signed an agreement to build its first Genoil Upgrader in the port of Duqm Oman.*
- *Partnered with UFA Scientific Research Institute, Kazan Scientific Research Institute & Mexican Petroleum Institute*
- *Genoil organized a \$5 billion MOU from the China Development Bank for a Saudi Aramco crude oil desulfurization project.*



Genoil signed agreement to build first GHU in Duqm Oman.

Recent Developments

For Press articles, click italicized [underlined links](#)

- Genoil Earns Revenues - Signed Consulting Agreement in Uzbekistan to Start Production at Large Heavy Oil Fields (Oct 17, 2021). Expects to be cash flow positive by year end.
- Genoil Signs Agreement with representative of the brother of the King of Saudi Arabia to Build 600,000 bpd GHU Upgrader in the Kingdom (Oct-2021)
- Genoil [Signs](#) Agreement to Build [First GHU in The Port of Duqm Oman](#), 200,000 bpd. (June 2021)
- Genoil Negotiating \$700 Billion Energy Infrastructure Investment in Russia and Genoil Upgrader Implementation, Advancing previous LOI. (Aug 2021) [News was covered by Pepe Escobar in the prestigious Asia Times.](#)
- [Lloyd's Register](#) provides [independent verification](#) of the [Genoil GHU process](#) demonstrating [successfully Decarbonization Pemex crude oil in Russia as well as heavy fuel oil desulfurization down to below 0.5% content to comply with IMO 2020 environmental legislation.](#)
- April 2018 Genoil signs agreement to develop & broker [Velikoye oil field](#) (discussions ongoing)
- November 2016 signed \$ 50 billion LOI to provide funding, consulting & technology in Russia to develop 3.5 million bpd of new oil production. [international press articles.](#)
- April 2016 received \$5 billion LOI from major Chinese bank for project in Middle East
- Jan 2016, Signed agreement with [Beijing Petrochemical](#) to guarantee the Genoil technology, projects and our process.

Company gained worldwide attention for signing a LOI in Russia to develop 3.5 million barrels per day of new oil production. By Comparison Exxon produces around 4 million bpd.

-Genoil now provides a wider range of services far beyond being a technology licensor.



Genoil Inc. – Equity Profile

- OTCQB: GNOLF - Management, Market Capitalization: \$14 M
- <https://sec.report/CIK/0001261002>
- Total Accumulated Tax Loss \$ 0.19 /share
- Burn rate: \$30K / month
- Average trading volume (30 day) 261,220
- Shares Outstanding: 510.82 Million
- 52 Week Range: \$ 0.01 - \$ 0.03
- Friends & Family & Insiders own over 70% of Genoil.



Financial Backing for Projects

国家开发银行

CHINA DEVELOPMENT BANK CORPORATION

Private and Confidential

Date: April 7, 2016

To: Saudi Arabian Oil Company

Cc: Beijing Petrochemical Engineering Co., Ltd.

Genoil Inc.

Ref: Heavy Oil Desulfurization Project

Letter of Intent

Dear Sir/Madam,

We are pleased to address you in this opportunity with reference to the application from the consortium ("the Consortium") formed by Beijing Petrochemical Engineering Co., Ltd. (BPEC) and Genoil Inc. ("Genoil"). We learn that the Consortium plans to bid for the USD5 (Five Billion Heavy Oil Desulfurization Project ("the Project"), which would increase the value of crude oil and contribute to environmental protection through eliminating toxic impurities.

Accordingly, as we learn more about the Project, we will consider providing financing for the Project, subject to a number of conditions, including, without limitation to, the following: (1) completion of our legal, technical and financial Due Diligence; (2) terms and conditions of financing, including security arrangements, to our satisfaction; (3) approval of the financing by relevant Saudi Arabian and where applicable, the Chinese regulatory authorities; (4) approval of the financing by our credit committee; (5) conclusion of satisfactory loan documentation.

This Letter will remain valid for 12 months since the date of issue. It is not intended to be and should not be construed as an offer to provide financing or a document with legally binding effect. It may not be relied upon or enforced by you and any person in any court or tribunal.

This Letter shall be governed by, and construed in accordance with, the laws of the People's Republic of China.

Yours faithfully,

For and on behalf of
China Development Bank Corporation

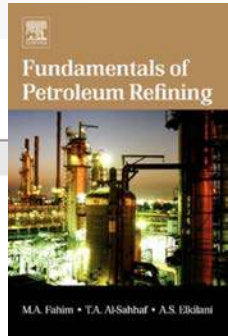
徐明

Xu Ming
General Manager of Beijing Branch

Address: No.158, Fuxingmennei Street, Xicheng District, Beijing, P. R. China, 100031
Tel: 86-10-63223437 Fax: 86-10-66413553

GHU High Tech Overview –

- **Genoil Inc. is a technology development company which has developed an advanced proven and patented hydroconversion process.**
 - High Margins - technology greatly reduces operating costs for oil producers.
 - Significantly increases profits for oil producers, exporters and traders.
 - Improves the saleability of all type of crude oils.
 - Our strategy is to allow crude oil exporters to increase the quality of their crude oil for their refinery customers through “Full bodied upgrading” or “partial refining.” The goal is not to compete with the refineries but to enhance refinery performance by offering them a better crude oil.
- **Sour to sweet, heavy to light technology**
 - Genoil has the technology and operational “know how” to convert heavy or sour oil into light sweet oil on site
 - Creating an increased value of >\$25 profit per barrel
 - 75 % less operating costs than competing processes resulting in faster project payoff.
 - Environmental solution which increases the energy output of a barrel of crude oil by over 35% and reducing carbon content and decreasing CO2 emissions.
 - \$150 billion dollar market potential.
- **Engineering & Project Consulting Expertise**
 - Majority of Genoil engineering team members have all worked at major international oil companies in management roles.
 - Strong management team with expert engineering and experienced track record in oil and gas technologies.
 - Tripartite partnership with two of the world’s leading institutes in petroleum scientific research.



CHAPTER SEVEN

HYDROCONVERSION

7.1. INTRODUCTION

Hydroconversion is a term used to describe all different processes in which hydrocarbon reacts with hydrogen. It includes hydrotreating, hydrocracking and hydrogenation. The term hydrotreating is used to describe the process of the removal of sulphur, nitrogen and metal impurities in the feedstock by hydrogen in the presence of a catalyst. Hydrocracking is the process of catalytic cracking of feedstock to products with lower boiling points by reacting them with hydrogen. Hydrogenation is used when aromatics are saturated by hydrogen to the corresponding naphthenes. The use of the hydroconversion technique depends on the type of feedstock and the desired products as shown in the Table 7.1.

7.2. HYDROTREATING

7.2.1. Objectives of Hydrotreating

Hydrotreating achieves the following objectives:

1. Removing impurities, such as sulphur, nitrogen and oxygen for the control of a final product specification or for the preparation of feed for further processing (naphtha reformer feed and FCC feed);
2. Removal of metals, usually in a separate guard catalytic reactor when the organo-metallic compounds are hydrogenated and decomposed, resulting in metal deposition on the catalyst pores (e.g. atmospheric residue desulphurization (ARDS) guard reactor); and,
3. Saturation of olefins and their unstable compounds.

7.2.2. Role of Hydrotreating

Hydrotreating units are needed in the refinery to clean streams from material such as sulphur, nitrogen or metals harmful to the catalysts. That is why they are located before the reformer, hydrocracker and FCC as shown in Figure 7.1. They are also needed to adjust the final product

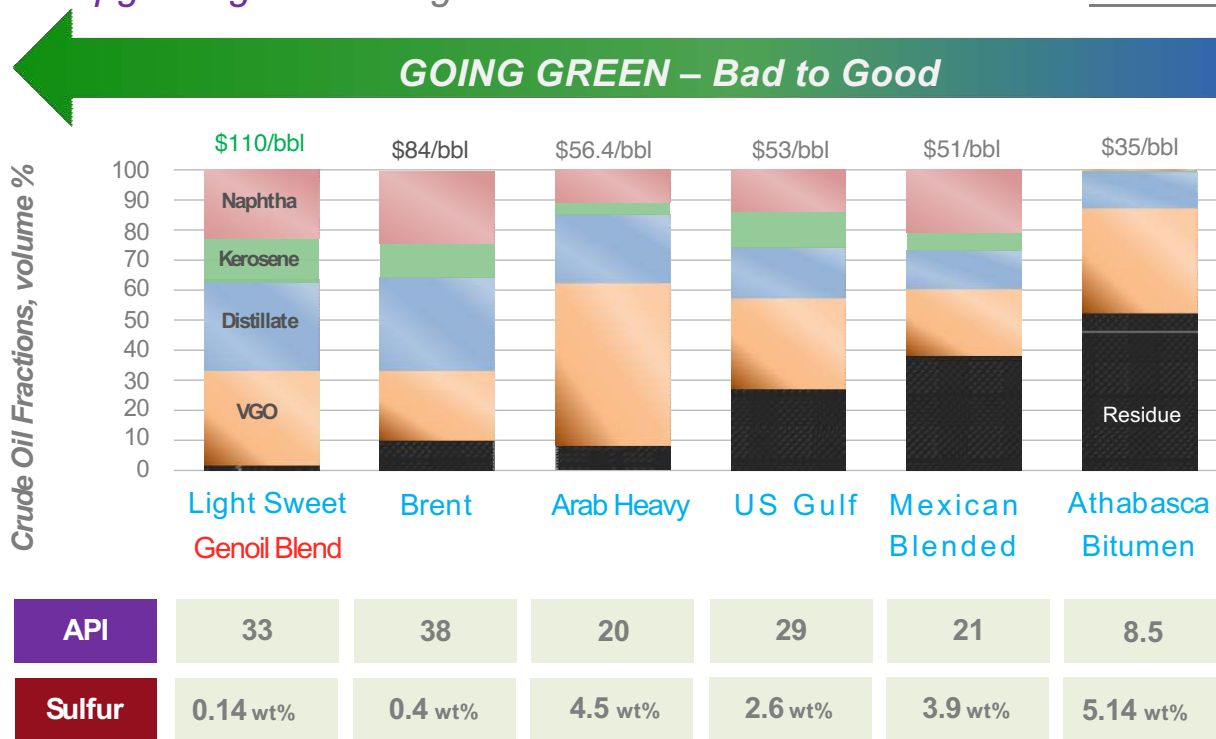
Fundamentals of Petroleum Refining
DOI: 10.1016/B978-0-444-52785-1,00007-3

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Oil Field Upgrading Strategy

GENOIL CAN MAKE 33 API SYNCRUDE AT THE OIL FIELD THAT YIELDS NO RESIDUE IN A REFINERY
NO RESIDUE = HUGE PRICE PREMIUM OVER RAW 33 API PUMPED FROM THE EARTH
 GHU Technology *UPGRADES* Low Quality Crude into High Quality Crude Syncrude

What is *FULL* upgrading? It's taking Crude like Athabasca Bitumen and **Converting** it to Light Sweet



In Today's market environment, there is at least a \$ 25.00 profit margin per barrel

Today cost of blending is a minimum of \$30.00 / bbl. This factor ensures our margins. With GHU at the field – no need for blending

GHU process is cheaper and more profitable than fracking

Potentials Customers: Lukoil, Saudi Aramco, CNPC, Sinopec, Total, BP, Bashneft, Grizzly Oil Sands, Tatneft, Enefit, CDT Group, PEMEX, PdVSA, and Husky

Examples of Low Quality Oil Being Converted to High Quality Oil

Genoil conducted a series of 12 different runs to confirm the required operating conditions and performance to meet the product objectives and specification for export sales crude:

Upgrade crude gravity to minimum of 32.0° API and sulfur content below 0.6 wt%).

- GHU® processed a heavy crude feed of **12.5° API with 3.26% sulphur**, the GHU® upgraded the crude to:
 - ❖ **A 30.4° API gravity (easy to refine) crude with:**
 - ✓ 92% desulphurisation
 - ✓ 60% denitrogenation
 - ✓ 63% Conradson Carbon (CCR) conversion

- In another extensive GHU® design program processing a heavy crude feed of **17.5° API and 1.2% sulphur**, was upgrade in the GHU® to a meet customer product specifications:
 - ✓ A gravity of 32.0 ° API (very inexpensive to refine)
 - ✓ 0.6 wt% sulphur (50% desulphurisation)
 - ✓ Maximum vacuum residue conversion

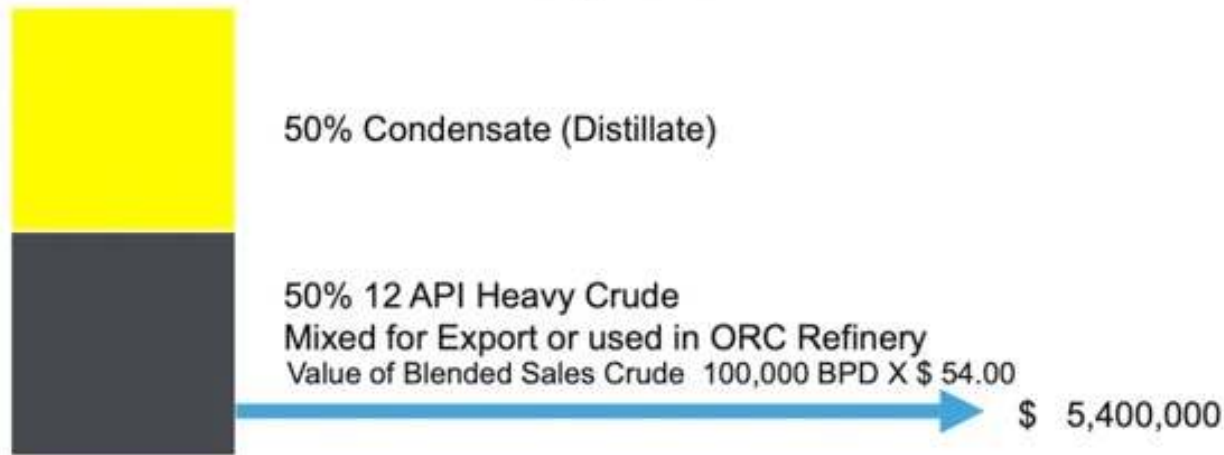


Project Economics Without GHU

SALES CRUDE BLEND MIXED TO EXPORT HEAVY CRUDE MIXED CONDENSATE AND HEAVY CRUDE 100,000 BPD CAPACITY

Per day Net Sales

In most cases, condensate costs exceed the value of the crude in the ground by almost double.



Today cost of blending can be as high as \$57 / bbl. This factor ensures our margins. With GHU at the field – no need for blending – ensuring our super conservative \$25.00 + profit margin estimations.

Bases value for each of the component to blend Export Grade crude

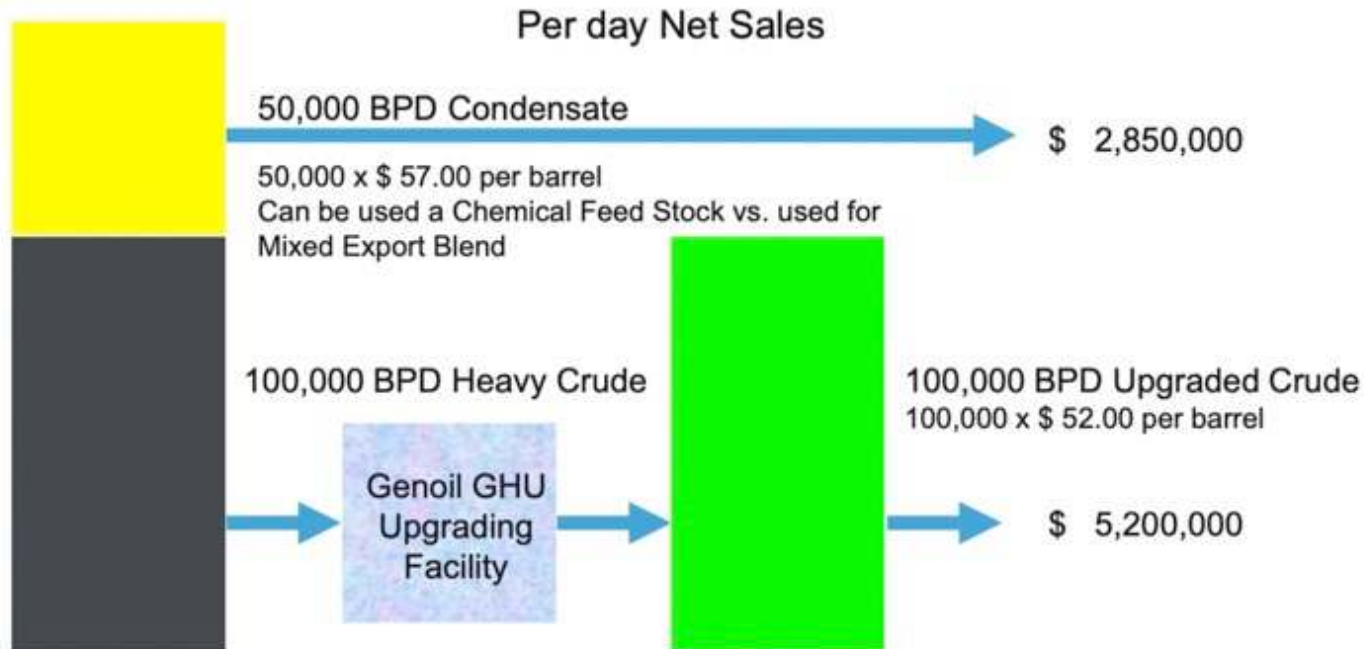
| | | | |
|----------------------------|----------|-----------|------------------|
| 50,000 BPD Condensate | \$ 57.00 | = \$ | 2,850,000 |
| 50,000 BPD Heavy Crude | \$ 35.00 | = \$ | 1,750,000 |
| Blended Total Value | | \$ | 4,600,000 |

| | | | |
|--|----------|-----------|----------------|
| Value of Blended Crude Sales 100,000 BPD | \$ 54.00 | = \$ | 5,400,000 |
| Net Gain in Value | | \$ | 800,000 |



Economic Benefit With GHU

SALES CRUDE UPGRADED IN GHU UPGRADING FACILITY 100,000 BPD CAPACITY WITH SEPARATE CONDENSATE SALES



Operating Expenses

| | |
|--------------------------------------|-------------------|
| Less Operating Cost 4.00 per barrel | \$ 400,000 |
| Less Cost of Capital 2.50 per barrel | \$ 250,000 |
| Less Hydrogen Cost 2.00 per barrel | \$ 200,000 |
| Total daily cost | \$ 850,000 |

| | |
|----------------------------|---------------------|
| Total Net Sales | \$ 8,050,000 |
| Less Operating | \$ 850,000 |
| Sales Less Expenses | \$ 7,200,000 |

Total Net Gain Per Day \$ 1,800,000
Difference between Mixed Crude Sales and Upgraded Crude sales based on 100,000 BPD



Proposed Fujairah GHU Port Upgrader Financial Analysis

Financial & Commercial study for the Project to convert heavy refinery products into light products

| Subject Name | profitable into light products | | | | | | | | | | | | | | | | |
|--|--------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--|--|--|
| Place: | Fujairah | | | | | | | | | | | | | | | | |
| Per day Capacity | 50,000 barrels | | | | | | | | | | | | | | | | |
| Yearly (330days) Crude oil Capacity | 2.5 Million ton | | | | | | | | | | | | | | | | |
| Yearly (330days) capacity in Barrels | 16,500,000 | | | | | | | | | | | | | | | | |
| Total Investment: | 694,563,173 | | | | | | | | | | | | | | | | |
| Loan Amount: 85% of the total investment | 590,378,867 | | | | | | | | | | | | | | | | |
| Partners Equity 15% of the total investment | 104,184,306 | | | | | | | | | | | | | | | | |
| Selling Margin on per Barrel | 20 | | | | | | | | | | | | | | | | |
| Yearly Maintenance, Operation cost. and salaries | 0 | | | | | | | | | | | | | | | | |
| Interest Rate on loan: (p.a.) | 8.063% | | | | | | | | | | | | | | | | |
| Loan Maturity Period: | 7 | | | | | | | | | | | | | | | | |
| Grace period in year | 2 | | | | | | | | | | | | | | | | |
| Concession Period: | 20 | | | | | | | | | | | | | | | | |
| DEPRECIATION PROVISION(20 Years) | 36,875,000 | | | | | | | | | | | | | | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | | | |
| Yearly Production in Barrel | 16,500,000 | 2,024,400% | 2,025 | 2,026 | 2,027 | 2,028 | 2,029 | 2,030 | 2,031 | 2,032 | 2,033 | 2,034 | 2,035 | 2,036 | | | |
| Margin per Barrel | \$20 | \$20 | \$20 | \$20 | \$20 | \$20 | \$20 | \$20 | \$20 | \$20 | \$20 | \$20 | \$20 | \$20 | | | |
| Revenue from Sales | 264,000,000 | 330,000,000 | 330,000,000 | 330,000,000 | 330,000,000 | 330,000,000 | 330,000,000 | 330,000,000 | 330,000,000 | 330,000,000 | 330,000,000 | 330,000,000 | 330,000,000 | 330,000,000 | | | |
| Cost of Operational Expenses and Salaries | 79,200,000 | 99,000,000 | 99,000,000 | 99,000,000 | 99,000,000 | 99,000,000 | 99,000,000 | 99,000,000 | 99,000,000 | 99,000,000 | 99,000,000 | 99,000,000 | 99,000,000 | 99,000,000 | | | |
| EBITDA: | 184,800,000 | 231,000,000 | 231,000,000 | 231,000,000 | 231,000,000 | 231,000,000 | 231,000,000 | 231,000,000 | 231,000,000 | 231,000,000 | 231,000,000 | 231,000,000 | 231,000,000 | 231,000,000 | | | |
| Financial Expenses: | | | | | | | | | | | | | | | | | |
| Interest on Loan | 47,602,348 | 40,801,927 | 34,001,686 | 27,201,285 | 20,400,963 | 13,600,642 | 6,800,321 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Profit before Depreciation | 137,197,752 | 190,198,073 | 196,998,394 | 203,798,715 | 210,599,037 | 217,399,358 | 224,199,679 | 231,000,000 | 231,000,000 | 231,000,000 | 231,000,000 | 231,000,000 | 231,000,000 | 231,000,000 | | | |
| Depreciation | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | | | |
| Profit After Depreciation | 110,322,752 | 163,323,073 | 170,123,394 | 176,923,715 | 183,724,037 | 190,524,358 | 197,324,679 | 204,125,000 | 204,125,000 | 204,125,000 | 204,125,000 | 204,125,000 | 204,125,000 | 204,125,000 | | | |
| Profit before Taxation | 110,322,752 | 163,323,073 | 170,123,394 | 176,923,715 | 183,724,037 | 190,524,358 | 197,324,679 | 204,125,000 | 204,125,000 | 204,125,000 | 204,125,000 | 204,125,000 | 204,125,000 | 204,125,000 | | | |
| Taxation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Profit After Taxation | 110,322,752 | 163,323,073 | 170,123,394 | 176,923,715 | 183,724,037 | 190,524,358 | 197,324,679 | 204,125,000 | 204,125,000 | 204,125,000 | 204,125,000 | 204,125,000 | 204,125,000 | 204,125,000 | | | |
| NET - Profit | 110,322,752 | 163,323,073 | 170,123,394 | 176,923,715 | 183,724,037 | 190,524,358 | 197,324,679 | 204,125,000 | 204,125,000 | 204,125,000 | 204,125,000 | 204,125,000 | 204,125,000 | 204,125,000 | | | |
| Cash Flow | | | | | | | | | | | | | | | | | |
| NET - Profit | 110,322,752 | 163,323,073 | 170,123,394 | 176,923,715 | 183,724,037 | 190,524,358 | 197,324,679 | 204,125,000 | 204,125,000 | 204,125,000 | 204,125,000 | 204,125,000 | 204,125,000 | 204,125,000 | | | |
| Depreciation | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | | | |
| Total Cash Flow | 137,197,752 | 190,198,073 | 196,998,394 | 203,798,715 | 210,599,037 | 217,399,358 | 224,199,679 | 231,000,000 | 231,000,000 | 231,000,000 | 231,000,000 | 231,000,000 | 231,000,000 | 231,000,000 | | | |
| Financial Expenses of Loan | | | | | | | | | | | | | | | | | |
| Loan Repayments: | 84,339,838 | 84,339,838 | 84,339,838 | 84,339,838 | 84,339,838 | 84,339,838 | 84,339,838 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Loan Balance the end Year | 506,039,029 | 421,699,191 | 337,358,353 | 253,017,515 | 168,679,676 | 84,339,838 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| NET - cash flow | 52,857,914 | 105,858,235 | 112,658,556 | 119,458,877 | 126,259,198 | 133,059,520 | 139,859,841 | 231,000,000 | 231,000,000 | 231,000,000 | 231,000,000 | 231,000,000 | 231,000,000 | 231,000,000 | | | |

| | Year-14 | Year-15 | 16 | 17 | 18 | 19 | 20 |
|-------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Yearly Production in Barrel | 16,500,000 | 16,500,000 | 16,500,000 | 16,500,000 | 16,500,000 | 16,500,000 | 16,500,000 |
| Margin per Barrel | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Revenue from Sales | 337,590,000 | 337,590,000 | 337,590,000 | 337,590,000 | 337,590,000 | 337,590,000 | 337,590,000 |
| Cost of Operational Expenses: | 99,000,000 | 99,000,000 | 99,000,000 | 99,000,000 | 99,000,000 | 99,000,000 | 99,000,000 |
| EBITDA: | 238,590,000 | 238,590,000 | 238,590,000 | 238,590,000 | 238,590,000 | 238,590,000 | 238,590,000 |
| Financial Expenses: | | | | | | | |
| Interest on Loan | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Profit before Depreciation | 238,590,000 | 238,590,000 | 238,590,000 | 238,590,000 | 238,590,000 | 238,590,000 | 238,590,000 |
| Depreciation | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 |
| Profit After Depreciation | 211,715,000 | 211,715,000 | 211,715,000 | 211,715,000 | 211,715,000 | 211,715,000 | 211,715,000 |
| Profit before Taxation | 211,715,000 | 211,715,000 | 211,715,000 | 211,715,000 | 211,715,000 | 211,715,000 | 211,715,000 |
| Taxation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Profit After Taxation | 211,715,000 | 211,715,000 | 211,715,000 | 211,715,000 | 211,715,000 | 211,715,000 | 211,715,000 |
| NET - Profit | 211,715,000 | 211,715,000 | 211,715,000 | 211,715,000 | 211,715,000 | 211,715,000 | 211,715,000 |
| Cash Flow | | | | | | | |
| NET - Profit | 211,715,000 | 211,715,000 | 211,715,000 | 211,715,000 | 211,715,000 | 211,715,000 | 211,715,000 |
| Depreciation | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 | 26,875,000 |
| Total Cash Flow | 238,590,000 | 238,590,000 | 238,590,000 | 238,590,000 | 238,590,000 | 238,590,000 | 238,590,000 |
| Financial Expenses of Loan | | | | | | | |
| Loan Repayments: | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Loan Balance the end Year | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NET - cash flow | 238,590,000 | 238,590,000 | 238,590,000 | 238,590,000 | 238,590,000 | 238,590,000 | 238,590,000 |

Lucrative Royalty Models **For Saudi \$3 million p/day profit**

- ECM Revenue – (Engineering and Consulting) – The ECM revenue involves the upfront/basic engineering, project design, procurement and implementation for upstream and downstream projects. These revenues are typically calculated at between 15% and 20% of the total project costs as project progresses in stages:
 - Feasibility Study
 - Basic Design Package
 - Detailed Engineering Design
 - Construction
- Licensing Fee / Royalties – This is a long-term licensing agreement where the fees are based on the profitability of the Genoil process where Genoil will capture 15% of the profit from each flowing barrel per day.
- Consulting Fee's – Working with Complant and other strategic giants, Genoil can secure standard fee's consulting work and deal brokering.
- Business Development Fee, sourcing capital

Currently heavy oil production is 10 million bpd. Genoil is looking to capture a **\$5.00/ barrel royalty on each barrel per day.**

Heavy oil demand is forecasted to grow dynamically so the need for upgrading will increase ten fold within the next 20 years.

Example:

- Saudi project model based on each 600,000 daily barrel throughput facility X \$5.00 (per daily barrel) or **\$3 million USD per day pure profit**
- Capex: approximately \$5 billion
- Engineering & Consulting (ECM) approx 15% - 20% of Capex (\$750m-\$1b)
- GenOil expects to receive at least 5% of ECM costs, as well as a continuing ongoing royalty of \$3/ barrel

Dramatic Pollution Reduction

1. GHU decarbonizes and cleans impurities from crude by enhancing API & Eliminating Sulfur & other impurities
2. Environmental benefits, Genoil adds hydrogen, dramatically reducing the amount of carbon molecules (reducing carbon) and complete sulfur elimination.
3. Environmental benefits independently inspected and certified by Lloyds Register
4. More competitiveness, Genoil technology makes crude more competitive with renewables by increasing the products yielded from crude and improving viscosity for transport.
5. Strategy to counter climate change initiatives and how to minimize their impact

Viscosity reduction -99%
Superb sulfur reduction – up to 99.5 %
Consistent pitch conversion level 93%
Demetalization rates - 98%
Conradson Carbon Reduction – 87%
Denitrogenation rate of -53%



Strategic Focus



- At the request of Genoil and our strategic energy partners, China Development Bank issued Saudi Aramco \$5 billion Letter of Intent for the first phase of \$35 billion project.
- This allowed Genoil to take an important lead role consulting for numerous companies on global projects. Genoil is combining the strengths & expertise of leading global solution providers under special purpose consortiums to provide the most competitive proposals for large infrastructure projects for the oil and gas industry.
- Genoil is not only providing technology, through our strategic relationships we can offer clients complete project solutions including competitive equity and debt financing.
- Genoil technology and projects are “warranted” by EPC construction partners Beijing Petrochemical Engineering Company – division of a Fortune 500 Company.



Genoil Now Provides A Wide Array of Products & Services

A more comprehensive R&D & technology implementation strategy

- Genoil R&D is supported with engineering and sales support from three of the most respected petroleum institutes in the world, OJS (VNIILUS) Kazan, UFA Institutes & IMP can provide a wide array of services to meet any need from technology licensing including financing and EPC contracting.

Technology Products:

- Genoil GHU (Genoil)
- Delayed coking
- Coke calcinations
- Thermal cracking
- Oily water cleaning technology and unit (Genoil)
- Visbreaking
- Solvent deasphalting, both at normal and supercritical conditions
- Bitumen production, bitumen blowing
- Distillation both CDU and VDU
- Zeoforming technology (Naphtha to gasoline at 1 unit with no use of hydrogen)
- Vacuum systems for VDU, both typical with use of steam and advanced “dry” with no steam and wastes
- Mercaptan (RSH) removal from crude oil, gas, oil products (or conversion RSH to nonpoisonous substance)
- H₂S removal from crude oil and gas
- Gas flow (associated gas) direct cleaning (1 unit) from H₂S and removing it as a marketable yellow sulfur



https://en.wikipedia.org/wiki/Mexican_Petroleum_Institute

Genoil working with **SDIC** **Complant:**

- SDIC Complant is the largest state-owned investment holding company in China.
- Complant has USD \$160 billion USD under management.
- Complant has Sovereign and Quasi Sovereign international credit ratings according to Moody's Standard & Poor and Fitch ratings agencies.

COMPLANT

second phase a 300,000 tons/day seawater desalination unit will be newly built), achieving zero emission from seawater desalination. By having adopted the circular economy model of "power generation – seawater desalination – salt production from concentrated seawater – land conservation and consolidation – waste recycling", the cogeneration of heat, power and water is realized, and the problems of water shortage and concentrated seawater discharge of coastal power plants are solved.

Reasons for interest in the Project:

First of all, the project is in line with the strategic direction of SDIC and COMPLANT:

According to the company's strategy, infrastructure-related industry is the guarantee for the transformation, upgrading, innovation and development of SDIC, with a focus on the development of an electric power-based energy industry. By optimizing and adjusting the business structure of the existing infrastructure-related industry, the power business will be developed from within China to the overseas market. It is estimated that by the end of 2020, the installed capacity at home and abroad will reach 23 million kilowatts. As a wholly-owned subsidiary of SDIC, COMPLANT is an important platform for SDIC's international business.

Second, SDIC will give play to its advantages of comprehensive investment and financing platform to support the project.

In 2017, the total assets of the SDIC's financial and service sector reached RMB 234.229 billion, with a profit of RMB 5.937 billion, and controlling four of China's A-shares listed companies, one of China's H-shares listed companies, one of a China's New OTC Market listed company and one overseas listed company, among which COMPLANT has two listed companies. SDIC manages RMB 1.1 trillion of financial assets and RMB 150 billion of funds. On April 25, 2017, SDIC's first overseas US dollar bond was issued successfully with a subscription of US \$7.8 billion. In April 2017, the three major international rating agencies, i.e. Fitch Ratings, Standard & Poor's and Moody's Investors Service, respectively awarded, SDIC the sovereign and quasi-sovereign international credit ratings.

In the future, based on the relevant project data provided by you, after thorough research on this project and evaluation, SDIC and COMPLANT will actively play the role of investment and financing platform to provide effective support for the project.

Third, the advantages of SDIC in the power industry are as follows:



Strong Engineering Partners



А К Ц И О Н Е Р Н О Е О Б Щ Е С Т В О
ИНСТИТУТ НЕФТЕХИМПЕРЕРАБОТКИ



450065, г.Уфа, ул. Инициативная,12, тел/факс: +7(347)242-25-11, e-mail: inhp@inhp.ru, www.inhp.ru
ИНН 0277929522, КПП 027701001, ОГРН 1180280038784, ОКПО 31372043



А К Ц И О Н Е Р Н О Е О Б Щ Е С Т В О
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16.12.20 № 64-1873

на № _____ от _____

Deputy Prime Minister for Relations,
International Cooperation and
The Sultan's Special Representative
Mr. As'ad bin Tarek bin Taimour

Dear Mr. As'ad bin Tarek bin Taimour!

For over 60 years JSC "Institute of Petrochemical Processing" has been one of the leading research and engineering centers in Russia and the world in the field of oil refining and petrochemistry. JSC is wholly owned by the Russian Government and has an extensive track-record pioneering technological advancements, the JSC Institute has developed more than six hundred advanced patents.

A large number of technological units and oil refining facilities have been built using the technologies patented by our institute. These technologies are now in use by some of the largest Russian and foreign oil companies located around the world and the Middle East.

Bruce Abbott of Genoil Inc., forwarded us the two letters you wrote to him earlier this week regarding the new refinery and petrochemical project and oil field development plans. We are very interested to support Genoil and you in Oman on these exciting large-scale expansion plans in the oil industry. Genoil and our institute can provide our foremost expertise to substantially lower the cost of Oman's energy infrastructure expansion plans.

Apart from new projects you are planning, we can enhance your existing facilities to bring forth considerably more profit. Institute of Petrochemical Processing and Genoil have great experience in the field of improvement of operation of the existing technological facilities, in terms of increase of effectiveness, fuel and energy economy, capacity expansion, quality improvement. We can execute technical audits followed by process modelling and development of solutions and calculations of enhanced economic efficiency. And we can do so cost effectively.

Improvements do not necessarily demand capital expenditures, some of our solutions can be implemented at almost no cost, however some improvements will require cost. Compared with new projects, efficiency analyses and project improvements activity can be a way to fast track our cooperation in Oman. Institute is competencies cover the following areas of integrated engineering:

- Research and integrated schemes for the processing of oil and gas condensates;
- Preparation of oil and gas for transportation and processing;
- Preparation and use of associated petroleum gas;
- Small-scale oil refining complexes;

- Rectification of oils, gas condensates and their fractions;
- Catalytic processes for the production of motor fuels;
- Processing of oil residues;
- Delayed coking, visbreaking, thermal cracking;
- Deasphalting, demetallization;
- Production of petroleum bitumen, pitch, sintering additives;
- Calcining petroleum coke;
- Production of oils and lubricants;
- Processing of hydrogen sulfide into elemental sulfur;
- Purification of gases, oil, fuel oil, boiler fuel from hydrogen sulfide;
- Water supply, sewerage, waste-water and gas emissions treatment;
- Processing and disposal of oil sludge and waste oils;
- Production of corrosion inhibitors and ARPD, lubricant and drilling additives, additives and modifiers for road bitumen, bitumen mastics, emulsions and compositions;
- Automation of technological processes and enterprises.

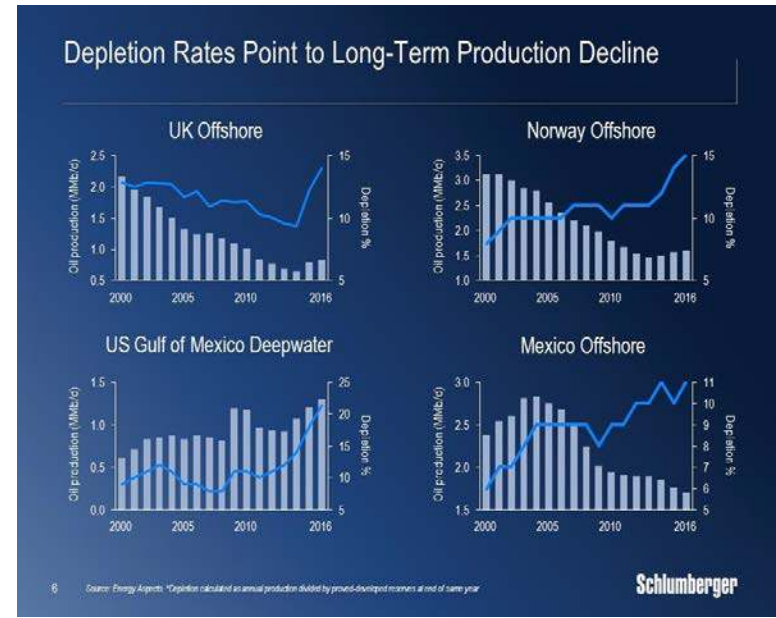
Our Institute is also of the largest analytical centers in Russia. We have a unique set of analytical equipment and a variety of different pilot units that allow us to implement practically any technological processes for oil and gas processing and for petrochemicals. The center is working to create new and improved existing petrochemical products and is supporting Genoil to implement projects in Oman.

We would be happy to speak with you and your team to get to know you and explain our ideas in greater detail in order to establish further mutually beneficial cooperation. We would also be honored to have you and your team visit us in Russia and see our twelve hectare research and development facility.

Best regards,
Director
D.V. Sharonov

Market Analysis, Oil Prices Will Continue To Rise

- Underinvestment in energy infrastructure in recent years
- Need for higher E&P spending - E&P spending down 50% since 2014 (Catastrophe looming)
- Increased demand for petrochemical technologies in feedstock disadvantaged territories (i.e. Mexico, Russia & Iraq and Middle East) and in strong consumer markets (China & India)
- Increasing demand for niche refining projects like Genoil GHU.
- Increased rate of reserve depletion
- Strong demand for new & revamp projects in response to improving oil prices and market demand fundamentals
- Contribute meaningfully to security of energy supply



Competitive Angle

A more competitive technology implementation strategy



- Genoil is providing consulting services which can lead to immediate revenues.
- **Genoil is global** - sourcing project opportunities from all over the world where our technologies can be utilized.
- Genoil to earn fees typically associated with organizing transactions.
- Genoil to earn revenues and fees from its vast network of relationships.
- Genoil is also in discussions with Sinopec and CPECC, Anton Oil, and Kerui to work together in the upstream and oil field services sectors.
- Genoil is in discussions with China Harbor Engineering Company (CHEC) on infrastructure development projects such as ports.
- Genoil is partnered with AntonOil a leading integrated oil field development company.



UPSTREAM



LNG



DOWNSTREAM



Infrastructure



Bidding
Farmouts
Integral Services
Acquisitions
Onshore
Shale

Genoil partners are leading provider of know-how, services and project development

Liquefaction
Regasification
FLNG
FSRU
Methanol

Genoil is looking to source projects to companies for LNG and Methanol.

Refining
Petrochemicals
Catalyst Development
Sulphur Recovery Partners

Genoil is working Beijing Petrochemical, China Petroleum Engineering / CNPC on Refining Acquisitions and refinery upgrades

World Class refinery partners & global capabilities. World leaders in the sector

Roads
Port Development
Port Operations

Global capability

THE EXPORT-IMPORT BANK OF CHINA
China-LAC Cooperation Fund

Experienced Board Management



David Lifschultz, Chairman and CEO

- Activist investor and former President and CEO of Lifschultz Industries Inc., proven and successful manager who sold Genoil to the Danaher Corp in 2001
- Donald J. Trump, Sarah Korein & David were partners in Lifschultz Industries.
- Former CEO of Lifschultz Fast Freight, surface transportation company with 2000 employees, 100M revenues per annum



Bruce Abbott - President and Director

- Took the company in a new direction.
- Has been involved with Genoil since 2008
- Worked in the Middle East and was involved in negotiations with SBK Holding Commercial Business Group in Dubai



Bengt Koch – Board Member

- 1972-84 he was Director of Marketing and Operations at ACL.
- Former Executive Chairman of ACL 1984-1990 with 2000 employees
- Managing Director of Italia di Navigazione from 1990-93
- Managing Director of DSR Senator lines srl from 1993-1998

■ Rolando Ramon - Board Member

Rolando is the co-founder, Managing Partner, and CFO of Mexiship Ocean and brings over 20 years of experience in oil and gas as well as the international marketplace. Rolando has deep knowledge of the Mexican oil and gas industry.



Thomas F. Bugg– Board Member

- Founder of Ensign Drilling Inc & Beau Canada Exploration Ltd.

Jose Garcia Torres – Board Member and Head of Genoil Mexico

- Head of Genoil operations in Mexico, President of the US Mexico Chamber of Commerce

Management Team:

Deep Level of Project Implementation Experience



Douglas Phillips -

- Former CEO Mazars USA & Co-CEO of Mazars Global
- one of the top 10 accounting firms in NYC.



Raushan Telyashev – Head of Genoil Engineering Team

- Former General Director and head of R&D at Lukoil & the Russian Refining Institute in Moscow. Responsible for managing 800 engineers in three R&D institutes.



Jose Garcia Torres – Vice President of Genoil, President of Genoil Mexico

- President of US Mexican Chamber of Commerce
- 30 years at Nacional Financiera NAFINSA (Mexican Industrial Development Bank)



Mario Carreon Rascon – Genoil Technical Director & Tech Director of Genoil Mexico

- Formerly with PEMEX Exploration y Produccion since 1982



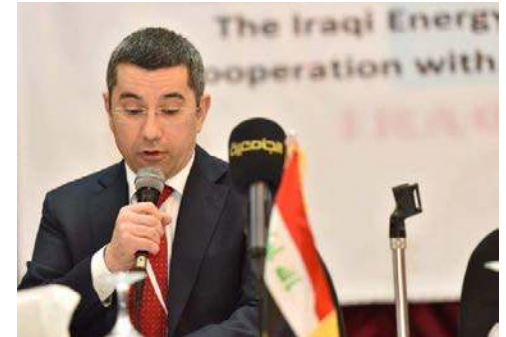
Robert Salmon – Vice President of Global Business Development (Formerly with Halliburton)

- Was awarded best Sales Manager for Halliburton Europe & Sub Sahara Africa
- Extensive upstream engineering experience heavy oil production background
- Expert knowledge in GHU technology and upstream heavy oil technologies



Marc Adler – Intellectual Property Attorney & Petroleum Process Engineer

Former Chief Intellectual Property Counsel & Associate General Counsel 1993-2008 for Rohm & Haas Company. Also former Exxon chemical engineer.



Genoil First Rate Engineering Team:

Unmatched Technical Experience



Eng. Aydar Mussallyamov– 17 years of industry experience

- Lukoil Uraineftgaz Refinery Deputy Director and Chief Engineer and Chief Engineer of a gas processing plant & Chief specialist in project office of Isomerization Unit Construction



Damir Madyarov– 41 years of experience

- Russian Refining Institute in Moscow Chief Project Engineer.
- Kazan Chemistry Technological Institute, Lukoil Nizhenovgorod Nefteproekt design institute Chief Project Engineer.
- Head of the Engineering Department and Deputy Technical Director Taneko JSC Tatneft Oil company.



Viktor Soloviev – PhD –Chief Petrochemical Specialist

- 20 years of experience at Shell Global Solutions and CRI Catalyst Companies.



Dr. Viktor Stepanov-

- PhD Creator and inventor of the Zeoforming Process
- Author of 194 Scientific articles and 54 patents.



Dr. Arthur Davletshin PhD– Process Engineer

- Head of Genoil Pilot Testing Department he has published more than 100 scientific and technical publications.

Genoil First Rate Engineering Team:



Dr. Yulia Tskhvediani

- Former head of office of Ventech Engineers Inc. in Russia where she brought in more than \$750 million US dollars in sales for the firm.
- Detailed experience in feasibility studies design and process of supply equipment.



Alexander Kurmishov

- Long Term Strategic Planning, management, commercial performance optimization, strategic marketing, feasibility studies, investment governance, business planning, performance management, procurement M&A.
- Deep knowledge of downstream oil sector value chain: Refining, petrochemical, infrastructure & marketing.



Sergey Pronin

- Lukoil NizhegorodNinefteproekt Chief Specialist of the project office. Realization of the project. Led the reconstruction of the Kogalymneftgas TPP Refinery construction of the naphtha isomerization unit and reconstruction of the diesel fuel hydrotreating unit under the EPC LSTK Contract.
- Gaspromneft ONPZ head of the Capital Construction Department, Head of the Production and technical Department



Eng. Khanpasha Shoipov

- OMSK oil refinery position of Chief Production Technologist.
- Lukoil Nizhegorodnijnefteproekt deputy Head of Production Department, Chief Technologist.
- VNII NP (Rosneft) head of project office for increasing the efficiency of the refinery and gas processing plant.

Genoil First Rate Engineering Team:



Haijun Xu – Process Engineer

- Specializes in the Genoil GHU technology and is a graduate of Tsinghua University of China.



Marco Quintela – Senior Process Supervisor Technologist

- Marco has over ten years of experience with Genoil. He has a Chemical Engineering Technology diploma from Northern Alberta Institute of Technology.



Anthony Yu

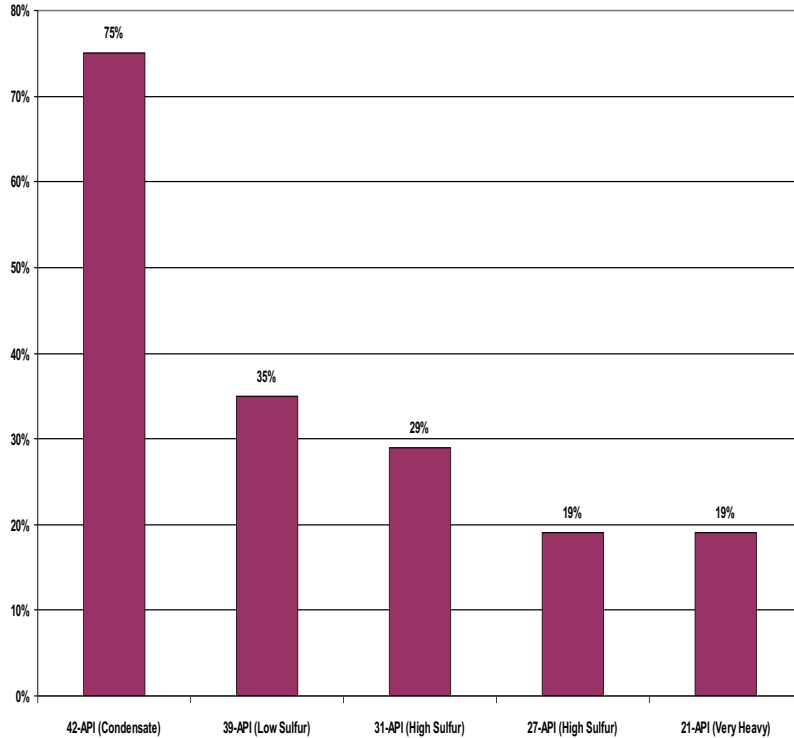
- Process Engineer E.I.T. been with Genoil since 2008

Genoil Patent Information

- Canada Patent No. 2306069, US No. 7001502 : *Process for treating crude using hydrogen in a special unit, : Special unit is a reactor that through high temperatures and high pressures breaks down the hydrocarbon molecules and adds hydrogen to the molecule. US 7510689),*
- *US Patent No. 8147677 Method and apparatus for introducing fluids into a hydrocracking reactor.*

Competing Technologies – GHU Advantages

GASOLINE
(%YIELD versus API)



It takes approximately 3-times as much heavy oil to produce the same amount of gasoline →

Genoil solves this problem!

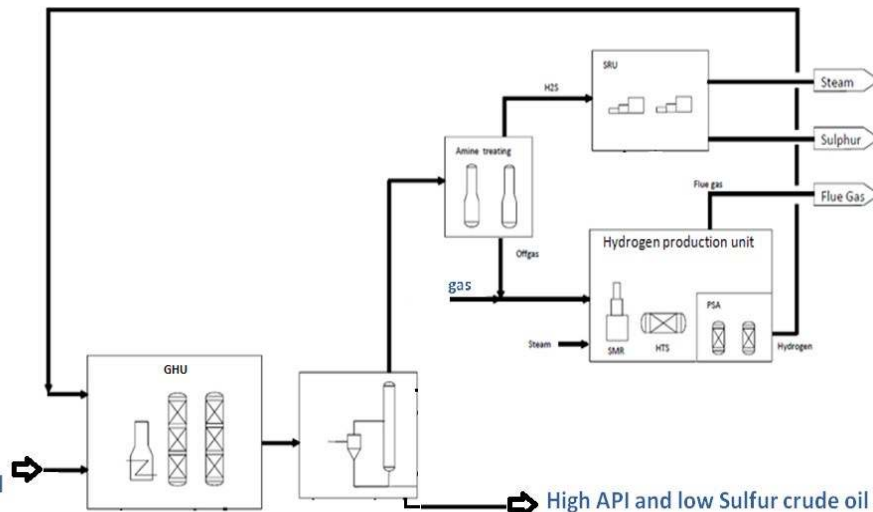
| | GHU (Hydrogen Addition) | Competing Hydroconversion Technologies | Delayed Coking (Carbon Rejection) |
|----------------------|--|---|--|
| Residue Conversion | Up to 96% | 65%-75% | 70-85% |
| Temperatures | Low/Medium | Medium- Very High | High |
| Volume Output | 100-104% | 100-104% | 75-80% |
| Coke production | 0% | 0% | 20-25% |
| Desulfurization | >99% | >90% | 37% |
| Hydrotreating | Process includes hydrotreating | Process includes hydrotreating | Needs further hydrotreating |
| Capital Cost (CAPEX) | \$ 7,000 – 10,000 per barrel | \$ 9,000 – 17,000 per barrel | \$ 8,000 – 14,000 per barrel |
| Equipment | Fewer Processes | Fewer Processes | More Processes |
| Water usage | 15-20% less than Coking or Air Cooled | 15-20% less than Coking or Air Cooled | |
| Natural gas usage | Optional or None | Optional or None | Yes |
| IRR (2) | 57.3% - China HYT | Unknown | 18% |

• The GHU costs about \$7-10,000 per barrel/day of production which is 1/4 the price of a refinery.

Genoil's GHU Technology Explained

Superior technology and benefits

- Genoil has the GHU technology and operational “know how” to convert atmospheric residue (or reduced oil) or heavy crude oil into light sweet products (particularly diesel fuel) or to obtain better API and low sulfur crude oil
- GHU Technology Employs:
 - Advanced Proprietary Catalyst
 - Proprietary H₂/raw material mixing and remixing devices to keep hydrogen consumption low, the patent includes an inline mixer that is used prior to the raw material/hydrogen mix entering the reactor, inline mixing devices in the line between each reactor to remix the oil/hydrogen prior to entering the next reactor, inside the reactors a mixing nozzle is a turbine vane mixer incorporated in the nozzle, mixes and controls the dispersion pattern and droplet size within the reactor.
- GHU technology was tested by CONOCO, LUKOIL, performance was proven



Low API
high Sulfur crude oil

Increasing the price and quality of crude oil with proven technology

www.genoil.ca

4Q, 2021

Genoil Hydroconversion Upgrader - *Advantages*

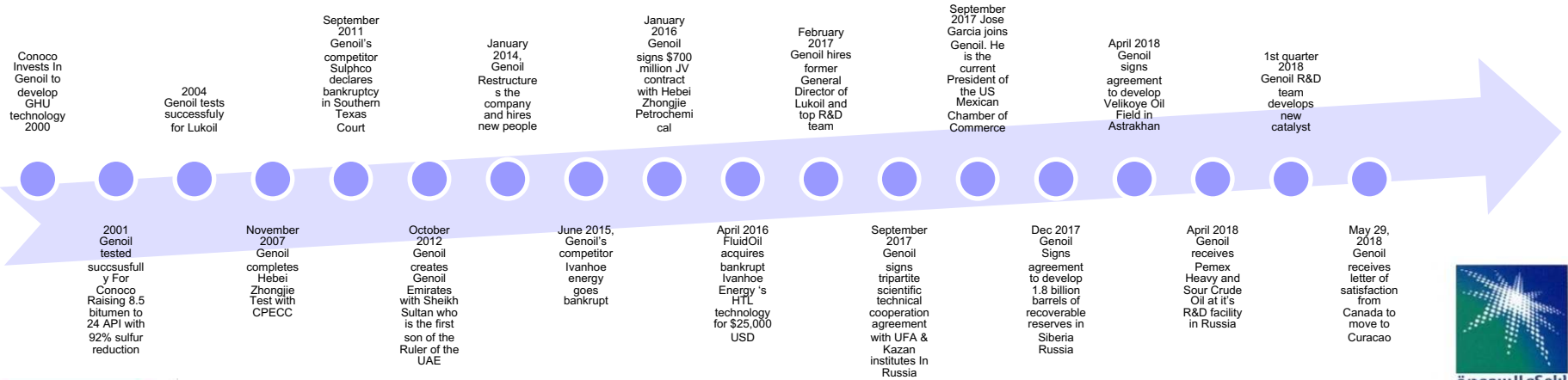
- Higher liquid yields than coking processes
 - Output is 100 – 107% of liquid input volume compared to approximately 80% for upgrading whole body crude into upgraded crude using the coking process
- Flexibility for the refiners to process sour, heavier crude feedstocks and tower bottoms residue
- Capability to adjust product slate to meet increasing demand for low sulphur petroleum products, including diesel and gasoline
- Stability of upgraded crude produced in hydroconversion process is superior to coked products, such as the upgraded crude processed today
- Moderate operating conditions, temperatures and pressures allowing for simple reactor design with lower CAPEX and OPEX
- Lower operating and capital costs per barrel investment compared to conventional hydrotreating processes
- Zero waste process

Most Established Independent Oil Technology Company

USD \$ 60 million invested by management friends and family – CEO *Never sold a share*

Tom Mcauley's Northsound Capital & Conoco Canada pumped in \$10 million USD

USD \$ 80 million raised by Genoil since inception.



السعودية
Saudi Aramco



GHU technology is proven and warranted. The company is well known



Increasing the price and quality of crude oil with proven technology

www.genoil.ca

4Q, 2021

Case Study – Different Technological Comparisons

Ebullating Bed Conversion Rates

H-Oil facilities and design percent conversion rates:

| Company | Design % Conversion Rate |
|-------------------------|--------------------------|
| Citgo Petroleum Corp | 55-75 |
| Kuwait Nation Petroleum | 50-60 |
| Humble Oil | 55-75 |
| PEMEX | 40-50 |
| Marathon Ashland | <55 |
| Motiva Enterprises | 65-75 |
| Husky Oil | 65 |
| Tonen Corp | 65-75 |
| PEMEX | 52 |
| Petrochemia | 55-68 |

LC-Fining facilities and design percent conversion rates:

| Company | Design % Conversion Rate |
|---------------------------|--------------------------|
| BP Texas City | 55-75 |
| Syncrude | 55-75 |
| Raffineria di Milazzo SpA | 65-45 |
| Slovnaft | 65-75 |

| | |
|-------------------------------|---------------------------------|
| Standard Fixed Bed HDS | \$ 13,600 per bbl capital cost* |
| LC Fining | \$ 13,200 per bbl capital cost* |
| Ebullating Bed 65% Conversion | \$ 14,900 per bbl capital cost* |
| Ebullating Bed 90% Conversion | \$ 16,200 per bbl capital cost* |
| Hycon Fixed Bed | \$ 17,200 per bbl capital cost* |
| VCC Slurry Phase | \$ 17,300 per bbl capital cost* |
| Canmet Slurry Phase | \$ 16,800 per bbl capital cost* |

* Information from SFA Pacific “Upgrading Heavy Oils & Residues”

Summary Of Economics

Genoil Hydroconversion VS Visbreaking

| Properties | Feed | Hydro Conversion | Hydro Visbreaking |
|---------------------------------|-------------|------------------|-------------------|
| Gravity, °API | 8.5 | 24.8 | 17.0 |
| Density @15°C | 1,009.9 | 904.7 | 952.5 |
| Sulfur, wt% | 5.14 | 0.24 | 3.32 |
| Nitrogen, wppm | 2,680 | 1,430 | 3,060 |
| Conradson Carbon, wt% | 12.75 | 2.59 | 8.24 |
| C ₅ Asphaltenes, wt% | 17.3 | 1.6 | 8.9 |
| C ₇ Asphaltenes, wt% | 12.6 | 1.2 | 7.8 |
| Nickel, wppm | 77 | 8 | 61 |
| Vanadium, wppm | 196 | 18 | 163 |
| Viscosity, cSt | 2,399 @60°C | 10.04 @40°C | 29.85@40°C |
| Residue (524+°C), wt% | 55.8 | 11.68 | 26.39 |
| Desulfurization, % | | 95 | 35 |
| Demetallization, % | | 90 | 18 |
| Residue conversion, % | | 79 | 53 |

- *Bankrupted Ivanhoe Energy sold their worthless visbreaking technology to FluidOil for \$25,000 (scrap value).*
- **GHU Conversion Rate 95%**
- **GHU Lowers CO2 emissions, and Carbon.**

Why GHU? How much does it improve the quality of oil?

- Because heavy oil contains low amounts of Hydrogen, it can take three times as much heavy oil to produce the same amount of Gasoline, GHU solves this problem.
- Lowers CO2 emissions, and Carbon.
- The Genoil GHU® adds hydrogen to the oil, thereby increasing high value transportation fuel yield from each barrel of crude.

| Products: | Present production | Production with GHU |
|-------------------|--------------------|---------------------|
| Nafta | 9.5% | 13.8% |
| Diesel | 35 % | 69.6% |
| Wax | 2.8% | 2.2% |
| Base oils | 5.6% | 5.3% |
| Light fuel oil | 17.0% | 0 |
| Heavy fuel oil | 21.9% | 0 |
| Burnt? Residues | 6.5% | 4% |
| Combustible gases | 0% | 2.3% |
| Sulphur | 0 | 0.4% |
| Losses | 1.7% | 2.4% |

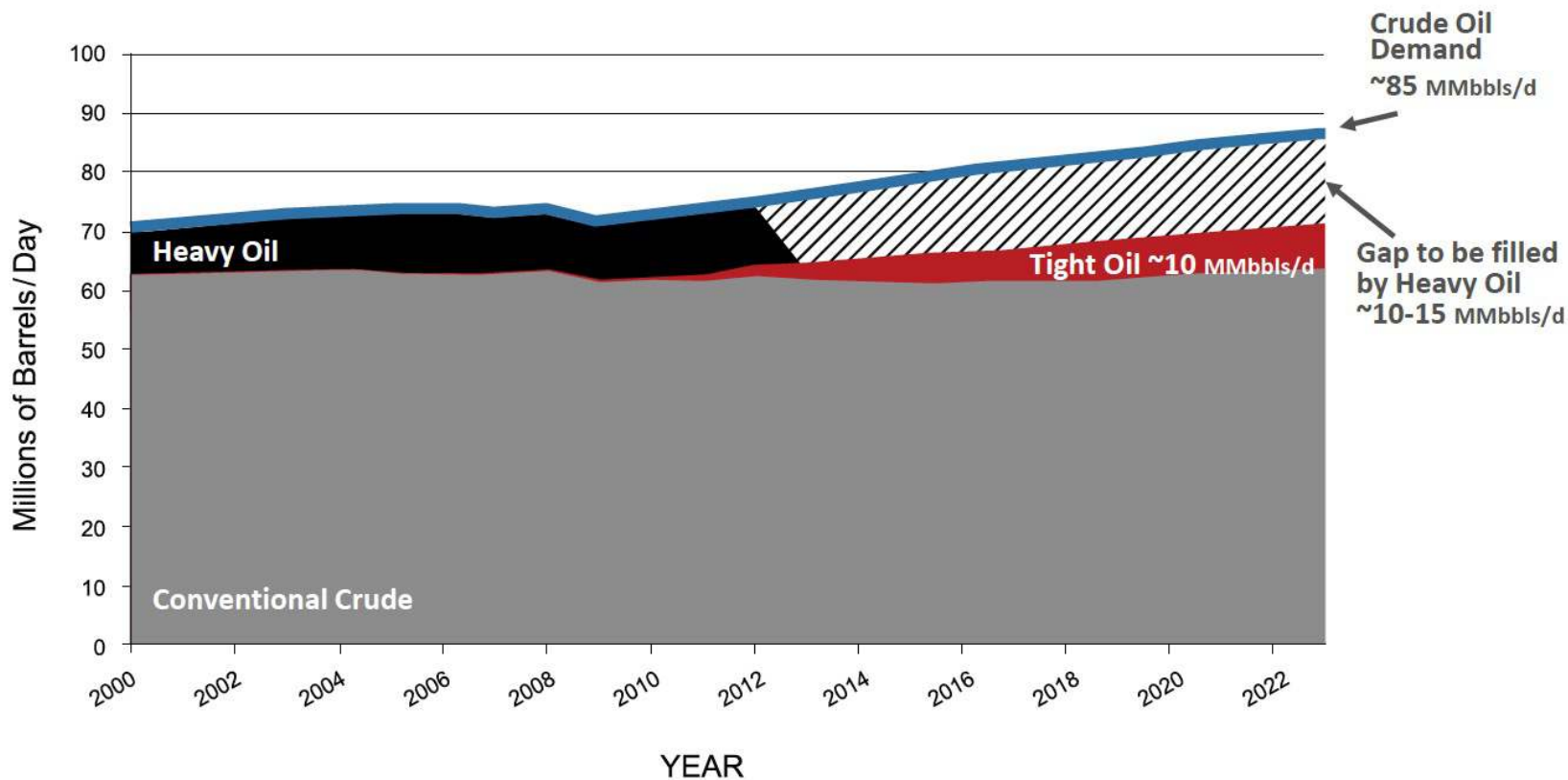
Feed and Product Properties

| Bitumen Upgrading by GHU® | Feed (vol%) | Product (vol%) |
|----------------------------|-------------|----------------|
| Gravity, °API | 8.5 | 24.8 |
| Sulphur, wt% | 5.14 | 0.24 |
| Nitrogen, wt% | 0.27 | 0.14 |
| C ₅ Asphaltenes | 17.3 | 1.6 |
| C ₇ Asphaltenes | 12.6 | 1.2 |
| CCR, wt% | 12.8 | 2.6 |

Why Heavy Oil? *Because Demand Keeps Growing!*

Global World Oil Demand Exceeds Supply

Future Demand must be met by the next quality grade down from



Technology Application

- **Upstream: Full FIELD UPGRADING, RECEIVING TERMINALS, PIPELINE 100 million bpd market**

GHU[®] full upgrading facility located at the oil producing field to convert high sulphur, heavy crude to sweet lighter fraction crude increasing the value and product slate of each barrel, and allow long distance pipeline transportation of upgraded crude without the need of high cost diluents or light oil to decrease the crude viscosity for transport to the refinery.

- **Downstream: REFINERY APPLICATION – 13 million bpd market**

GHU[®] in refineries can be used for the conversion of atmospheric and vacuum tower bottoms, refining residue oils, into lighter fractions for reintroduction into refining process, or with the addition of new atmospheric and vacuum tower, distilled into product increasing the slate volumes of distillates per barrel or unload an existing coker to increase capacity and refinery output of higher value transportation fuels

Shipping Bunker Fuel Environmental Crisis – Sulphur reduction to 0.5% by 2020:

- Sulphur reduction is internationally mandated by the International Maritime Organization by 2020.
- Genoil's GHU technology is the most efficient way to meet these environmental standards.
 - To re-affirm this, Genoil won the [Lloyds Register award](#)..
 - Genoil is currently in discussions with many of the leading maritime companies in the world.
- Due to the low price of bunker fuel there is no economical way to remove the sulfur other than the Genoil solution.
- International Organization for Standardization ("ISO") 8217:2010 regulation mandating less **0.5% by 2020**;

World Heavy Oil & Light Oil Ratio

Assumptions:

According to Schlumberger some fields decline at a 15% rate. Demand for oil grows by 2% per year – Genoil can meet this demand

| Year | CRUDE OIL RESERVES Billion barrels | | | CRUDE OIL DEMAND Billion barrels | | | HEAVY OIL DEMAND MET BY UPGRADING Billion barrels | | # PROD YEARS |
|--|---------------------------------------|--------------|--------|-------------------------------------|--------------|--------------|--|------------------|-----------------|
| | Light Oil | Heavy Oil | TOTAL | Light Oil | Heavy Oil | TOTAL | Present equipment | New equipment | Through 2033 |
| 2013 | 400 | 900 | 1300.0 | 27.5 | 3.5 | 31.0 | 3.5 | 0 | N/A |
| 2004 | 373 | 896.5 | 1269.9 | 26.6 | 5.0 | 31.6 | 3.5 | 1.6 | 20 |
| 2016 | 348 | 891.5 | 1239.2 | 25.7 | 6.6 | 32.3 | 3.5 | 3.1 | 19 |
| 2018 | 233 | 843.0 | 1075.7 | 21.2 | 14.4 | 35.6 | 3.5 | 11.0 | 14 |
| 2020 | 140 | 754.5 | 894.7 | 16.7 | 22.6 | 39.3 | 3.5 | 19.2 | 9 |
| 2025 | 70 | 624.3 | 694.5 | 12.2 | 31.2 | 43.4 | 3.5 | 27.8 | 4 |
| 2033 | 39 | 525.2 | 564.2 | 9.5 | 36.6 | 46.1 | 3.5 | 33.1 | 1 |
| Total (2013-2033) | | | | 361.0 | 407.9 | 768.9 | 69.4 | 338.6 | 210 |
| Annual average per production year (billion bbls) | | | | | | | 0.33 | 1.61 | |
| Annual average per production year (billion bbls/day) | | | | | | | 0.90 | 4.42 | |
| Investment cost of new equipment (\$ per daily bbl) | | | | | | | | \$ 10,000 | |
| Annual investment needed (\$ billion) | | | | | | | | \$ 44.2 | |
| 20-year investment needed (\$ billion) | | | | | | | | \$ 883 | |