

Report Date: September 20, 2005 Badger Consultants, LLC Thomas S. Chanos (608) 274-5019 Tom_Chanos@charter.net

Syntroleum Corp. SYNM - \$16.00 – NasdaqNM New Recommendation

Recommendation: Sell Short

Reasons For Short Sale Recommendation

- Extreme overvaluation: 15 times book value, 120 times sales. \$900 million market cap.
- Zero net revenue next year in 2006 (Gross revenue less royalties + bonuses +overriding royalty).
- Unproven technology.
- ▶ Negative free cash flow of \$55.87 million over the trailing 12 months.
- ➢ Additional dilutive capital needed.
- Much bigger competitors.
- Alternative fuel investor hype.
- > Over 14 quarters in a row of unprofitability, with many more to come.
- Stock price has tripled over the last 52 weeks.

Financials						
52 – Week Low 9-17-2004	\$5.88	Book Value (mrq)	\$1.07			
52 – Week high 9-12-2005	\$16.50	Diluted Earnings/Shr (ttm)	-\$0.75			
Daily Volume Avg.	500,000	Diluted Earnings/Shr (mrq)	-\$0.01			
52 – Week Change	+150%	Sales/Shr (ttm)	\$0.14			
Market Capitalization	\$900M	Cash/Shr (mrq)	\$1.69			
Shares Outstanding	55.43M	Price/Book (mrq)	15			
Float	48.82M	Price/Earnings (ttm)	NA			
Profit Margin (ttm)	-520%	Price/Sales (ttm)	120			
Operating Margin (ttm)	-550%	Revenue (ttm)	\$7.03M			
Return on Assets (ttm)	-24.93%	EBITDA (ttm)	-\$36.97M			
Return on Equity (ttm)	-118.16%	Income to common (ttm)	-\$36.57M			
Current Ratio (mrq)	3.369	Shares Short 4-8-05	4.15M			
Debt/Equity (mrq)	0.421	% Of Float Short	8.50%			
Total Cash (mrq)	\$93.9M	Short Ratio	12.7			

(ttm) = Trailing 12 months, (mrq) = Most recent quarter, M = Millions, B = Billions, m = Thousands

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The Bear Facts

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Business Description (10K)

Syntroleum Corporation is in the business of monetizing remote and/or stranded natural gas. It is the developer, user and licensor of the Syntroleum Process, a proprietary process for **converting natural gas** (**or synthesis gas from coal**) **into synthetic liquid hydrocarbons - a process general known as gas-to-liquids (GTL) technology.** We employ our technology to form joint ventures and acquire equity in oil and gas development projects where GTL is critical to a project's success. We also license the Syntroleum Process to others. Syntroleum's unique capabilities enable us to offer attractive solutions for natural gas reserves (including flared gas) that are not economic to produce using traditional methods.

The Syntroleum Process produces synthetic liquid hydrocarbons, also known as synthetic crude oil, that are virtually free of contaminants that are normally found in products made from conventional crude oil. These synthetic liquid hydrocarbons can be further processed into higher margin products through conventional refining techniques, including Syntroleum's proprietary Synfining Process. These products include:

- Ultra-clean liquid fuels for use in internal combustion engines and fuel cells;
- Specialty products such as synthetic lubricants, process oils, waxes, etc.

Costs to produce these products using GTL technology are increasingly competitive with conventional process technologies. Moreover, the ultra-clean properties of GTL fuels meet or exceed the new and proposed environmental requirements that will soon go into effect for the U.S. and Europe.

Key advantages to the Syntroleum Process include its use of air in the conversion process, which is economically competitive and inherently safer than the requirement for pure oxygen in other GTL technologies; and Syntroleum's proprietary catalysts, which enhance conversion efficiency of the catalytic reaction. These features help to reduce capital and operating costs of plants, and permit smaller plant sizes, including mobile plants that can be mounted on barges for offshore service. Research indicates that the Syntroleum Process can be economically applied in plant sizes from less than 20,000 to over 100,000 barrels per day.

It is generally accepted that, if converted to liquid, there are enough known stranded natural gas reserves in the world to produce more than 250 billion barrels of synthetic crude oil. To put that in perspective, that would be equivalent to finding another Saudi Arabia.

But SYNM does not have access to all of those stranded gas reserves and there are many other companies with GTL technology as well.

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What are the benefits of Gas-to-Liquids (GTL) technology?

- **Monetizing gas reserves.** GTL has the potential to convert a significant percentage of the world's estimated stranded natural gas deposits estimated to be more than 3,000 TCF and today hold little or no economic value into several hundred billion barrels of oil equivalent of great economic value to the companies and countries that control them.
- Eliminating costly or environmentally disadvantageous practices.
- **Economic development of remote gas.** GTL will permit the economic development of many remote gas discoveries that are otherwise deemed too far from market to have any economical value.
- **Coal Conversion**. GTL technology can also be used to convert vast coal deposits into synthetic crude oil and/or clean synthetic diesel fuel, thus enabling the monetization and use of these resources in an environmentally friendly way.
- Development of Environmentally-Superior Liquid Fuels.

What is the Syntroleum Process?

The Syntroleum Process is a process for converting natural gas (or syngas from coal) into synthetic oil that can then be further refined into fuels and other hydrocarbon-based products. The process is based on two catalytic reactions:

- **The conversion of natural gas into synthesis gas.** In the first step in the process, natural gas is reacted with air in a proprietary auto-thermal-reforming reactor to produce a nitrogen-diluted synthesis gas, consisting primarily of carbon monoxide and hydrogen.
- **The conversion of synthesis gas into synthetic crude**. In a reaction based on Fischer-Tropsch chemistry, the synthesis gas flows into a reactor containing a proprietary catalyst developed by Syntroleum, and is converted into synthetic hydrocarbons commonly referred to as "synthetic crude oil."

What is Syntroleum's business strategy?

- Participate in Gas Development Projects.
- $\circ~$ Develop and Own GTL and Other Gas Processing Plants.
- License the Syntroleum Process.
- **O Expand and Develop Product Markets.**

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Overvaluation

Syntroleum, SYNM, is a company that is currently riding the alternative fuel craze. Whenever oil prices increase investors look for alternative energy companies with potential for riches with some great new technology such as fuel cells or alternatives to oil. SYNM fits the latter. Unfortunately for investors, SYNM's technology is neither new nor near everyday use.

That does not seem to have deterred investors from bidding up this money losing company. The stock price has basically tripled in the last year from a low of \$5.88 to over \$16 recently. SYNM now trades at 120 times sales and over 15 times book value. So obviously revenue and earnings must be set to explode? Not exactly, in fact on a net revenue basis, (Gross revenue less royalties plus bonuses and overriding royalty), revenue next year in 2006 will be ZERO!

Free cash flow is estimated to be negative \$46.8 million next year, which is almost exactly half of their cash on hand. Obviously with no revenue there will be no earnings as well. Earnings per share for 2005 are estimated to be negative \$0.71 and for 2006, negative \$0.63.

SYNM has given "investors" this ride once before. In 2000 the stock price briefly went above \$20 during the internet bubble before declining 90 percent and dropping to a little over a \$1 two years later. Here we are 5 years later and there still are no earnings and very little revenue.

Then with no net revenue and no earnings the technology must be awesome and poised for a breakout, now that oil prices are near \$70? Not exactly.

Unproven Technology

- To date, no commercial-scale GTL plant based on the Syntroleum Process has been constructed!
- Although they are currently developing the Sweetwater plant, their first commercial-scale GTL plant, they **do not know for certain when construction of this plant will begin or when it will become operational**. They do not have any experience managing the design, construction or operation of commercial-scale GTL plants, and they may not be successful in doing so.

Risks

- Lower reaction activity than demonstrated in laboratory and pilot plant operations, which would increase the amount of catalyst or number of reactors required to convert synthesis gas into liquid hydrocarbons and increase capital and operating costs.
- Shorter than anticipated catalyst life, which would require more frequent catalyst purchases and therefore increase operating costs.
- Excessive production of gaseous light hydrocarbons from the Fisher-Tropsch reaction compared to design conditions, which would lower the anticipated amount of liquid hydrocarbons produced and lower revenues and margins from plant operations.

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- Inability of the gas turbines or heaters integrated into the Syntroleum Process to burn the lowheating-value tail gas that is produced by the process, which would result in the need to incorporate other methods to generate horsepower for the compression process that may increase capital and operating costs.
- A number of improvements to the Syntroleum Process are in various early stages of development. <u>These improvements will require substantial additional investment, development and testing</u> <u>prior to their commercialization!</u>
- For example, improvements to the heat integration of the Syntroleum Process designed to lower capital and operating costs are currently under development. These improvements may not occur because further integration of the gas turbine into the process **might not be technically feasible** due to the operating tolerances of the materials in the gas turbine. In addition, their horizontal reactor, which is designed to have a low center of gravity for marine applications, **may not be capable of commercial application** due to operational difficulties, which could limit the market for floating GTL plants.

Basically they are not sure if their technology will work on a grand scale, but they will need additional capital in any event. But according to their investor presentation they can predict \$100 million of cash flow by the year 2009 and a total cash flow of \$1.5 billion by the year 2035, even though **to date no commercial-scale GTL plant based on the Syntroleum Process has been constructed!**

But at least SYNM has GTL technology that no one else has and has a big lead in their technology that will take their competitors years to catch up right? Not exactly.

Competition

The Syntroleum Process is based on chemistry that **has been used by several companies in synthetic fuel projects over the past 60 years**. Their competitors include major integrated oil companies that have developed or are developing competing GTL technologies, including **Exxon, Shell, Sasol, BP Amoco and Conoco**. Each of these companies has significantly more financial and other resources than SYNM to spend for research and development of their respective technologies and for funding construction and operation of commercial-scale GTL plants. These competitors could offer to license their technology to others. In addition, several small companies have developed, and are continuing to develop, competing GTL technologies. The Department of Energy has also sponsored a number of research programs relating to GTL technology, including a recent program relating to the development of a ceramic membrane technology that **could potentially lower the cost of competitive processes**. As GTL technologies continue to be developed by its competitors, **one or more of their current technologies may become obsolete.**

While we are not experts in the GTL field, we know enough to see what the retail investors overlook. Investors are falling for the hype of alternative fuels without understanding the technologies involved and also not understanding how far away these technologies are from ever reaching a profit. Most of SYNM's competitors are far larger and have much more financial resources than they do. In addition, its competitors have been working on this technology for years as well.

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Conclusion

SYNM is approaching a one billion dollar market capitalization. We feel this is too high for a company that will have no net revenue next year. If oil prices decline back to under \$50 this and all other alternative energy stocks will be given a steep haircut. Even if oil prices remain high for the foreseeable future it will be a very long time, if ever, that this company becomes profitable. SYNM currently has one plant that has produced 140,000 gallons of ultra-clean fuels at its gas-to-liquid (GTL) fuels plant at Port of Catoosa, Oklahoma. The plant also manufactured 60,000 gallons of additional products, such as syncrude.

Those fuels were tested in buses on the roads of Washington, DC and Denali National Park. This is a drop in the bucket. SYNM's GTL process is a niche process. It is ok for offshore or stranded gas fields that cannot support world scale GTL.

GTL has a long way to go for SYNM. Shell and Sasol have spent decades operating commercial-sized plants, each with their own share of setbacks. Only now are those plants scaling up and ready to operate commercially.

SYNM has a lot of technology but virtually no operating experience. Pilot plants on a scale of 1/250000 and 1/2500 that run sporadically are a long way from the real world that must operate 24 hours a day, 7 days per week for many years. SYNM likes to state how big the potential market is for GTL technology is, but does not say that they have no access to most of those reserves and that there are many bigger competitors in the GTL market as well. So even if this technology works there is no guarantee that SYNM will be the company to capture that market.

We have a target price of \$7 to \$10 per share within 12 months. Sell.

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RATIO COMPARISON

Valuation Ratios	Company	Industry	Sector	S&P 500
P/E Ratio (TTM)	NM	17.44	18.79	20.86
P/E High - Last 5 Yrs.	NA	37.02	32.63	39.28
P/E Low - Last 5 Yrs.	NA	5.90	10.36	15.12
Beta	0.63	0.55	0.67	1.00
Price to Sales (TTM)	103.33	3.70	2.44	2.92
Price to Book (MRQ)	13.94	3.78	3.81	3.94
Price to Tangible Book (MRQ)	13.95	4.62	4.68	6.95
Price to Cash Flow (TTM)	NM	10.33	11.59	14.80
Price to Free Cash Flow (TTM)	NM	25.06	28.24	27.41
% Owned Institutions	53.56	48.10	56.80	66.31
Drofitability Datios (%)	Company	Industry	Sactor	S & D 500
Gross Margin (TTM)	-28 42	56 97	35 47	45.92
Gross Margin - 5 Yr Avg	28.43	55 55	35.75	45.24
	20.13	00.00	55.15	10.21
EBITD Margin (TTM)	NM	47.21	27.45	21.68
EBITD - 5 Yr. Avg.	-783.85	42.89	24.42	20.18
Operating Margin (TTM)	NM	31.23	19.00	20.78
Operating Margin - 5 Yr. Avg.	NM	23.84	14.24	18.02
Pre-Tax Margin (TTM)	NM	26.04	16.98	18.25
Pre-Tax Margin - 5 Yr. Avg.	NM	21.13	13.00	16.66
Net Profit Margin (TTM)	NM	18.31	11.64	13.54
Net Profit Margin - 5 Yr. Avg.	NM	14.23	8.29	11.13
Effective Tax Rate (TTM)	NM	33.26	34.40	30.42
Effective Tax Rate - 5 Yr. Avg.	NM	32.81	37.36	33.19

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