

# PETROTECH OIL & GAS, INC.

## An Oil and Gas Recovery Innovator

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### PETROTECH OIL & GAS, INC. (OTC:PK – PTOG - \$0.099)

Price Target: \$0.78

Rating: Speculative Buy

### COMPANY SNAPSHOT

PetroTech Oil and Gas, Inc. is a diversified oil services firm that utilizes its multiple patented technologies for Enhanced Oil Recovery (EOR) in conjunction with existing tools to in order to recover stranded oil reserves representing billions of barrels of oil in the U.S. The deployment of new technologies, which greatly reduce operating and extraction costs, allow PTOG to bring back to production previously producing wells and recognize near term cash flow. In addition to other services, PetroTech entered into a JV contract purchase leases in mineral interests of up to 30,000 acres in North Dakota's Bakken Shale Formation that has Probable and Possible reserves of 116M barrels of oil could result in huge profitability down the road.

### KEY STATISTICS

Price as of 6/13/13	\$0.099
52 Wk High – Low	\$8.039 – 0.08
Est. Shares Outstanding	35.5M
Market Capitalization	\$3.5M
3 Mo Avg Vol	76,000
Exchange	OTC:PK

### COMPANY INFORMATION

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### INVESTMENT HIGHLIGHTS

**PetroTech is poised to transform the oil and gas industry.** The Company's patented tools could potentially recover hundreds of millions of barrels of oil from primarily depleted oil reservoirs in the U.S., representing a multi-billion dollar revenue opportunity.

**PetroTech's process will have a major impact on the recovery of stranded oil in U.S. basins by enhancing the recovery of stranded oil reserves in areas that otherwise may never be produced.** Plus, without utilizing EOR technology existing reservoirs will produce only 20% of their "Original Oil in Place."

**The EOR is currently being tested in the field on 8 of its wells in Navarro County, Texas and will expand to 110 in the coming months and could be successful on 70% of wells producing tens of barrels per day (BOPD).** Moreover, the Company plans to target the EOR for use in oil fields across the U.S.

**PetroTech entered into a JV contract purchase leases in mineral interests of up to 30,000 acres in North Dakota's Bakken Shale Formation that has Probable and Possible reserves of 116M barrels of oil could result in huge profitability down the road with the first well to be drilled in 4Q13.** Separately, the Company already has 2 major oil services commitments for solid controls solutions which could generate millions in revenue in the next 2 years.

**PTOG's 3-pronged strategy could result in huge profits.** We rate PTOG Speculative Buy with a \$0.78 price target based on the value of the EOR and services segments alone. Favorable field test results, production in the Texas and North Dakota wells in 2H13 would likely prompt a higher price target.



## **PETROTECH OIL AND GAS, INC. (OTC:PK PTOG)**

### **COMPANY OVERVIEW**

PetroTech Oil and Gas, Inc. is a diversified oil services firm that utilizes its multiple patented technologies for Enhanced Oil Recovery (EOR) in conjunction with existing tools to in order to recover stranded oil reserves within depleted reservoirs representing billions of barrels of oil in the U.S. The deployment of new technologies, which greatly reduce operating and extraction costs, allow PetroTech to bring back to production previously producing wells and recognize near term cash flow. These funds provide the capital to further develop properties, resulting in reserve appreciation.

The Company also is engaged in providing solid controls solutions for oil and gas drilling, completion and work over operations which based on existing commitments, should generate \$1M over the next 12 months. Separately, the Company is actively engaged in executing joint ventures for the exploration, drilling, and production of oil in major oil-rich regions of North Dakota's Bakken Shale Formation. The Company entered into a JV contract to purchase leases in mineral interests of up to 30,000 acres in North Dakota's Bakken Shale Formation that has Probable and Possible reserves of 116M barrels of oil could result in huge profitability down the road. Drilling could begin in 4Q13.

PetroTech's three-pronged strategy should results in substantial profits. Upcoming milestones include field test results within the next 90 days from the Company's 8 wells using the EOR tools, initial revenue generation from these wells and the solid controls services, and progress regarding the JV exploration and production mineral interest prospects in the Bakken.

### **INDUSTRY OVERVIEW**

The continued and increased demand for energy in developed industrialized nations as well as emerging economies like Brazil and China are significant factors in this trend. 'Green Energy' subsidized by government initiatives have neither demonstrated a competitive cost structure nor sufficient efficiency in comparison to traditional fossil fuels and oil. One point to notice is that there has been a huge spike in consumption in Asia as China and other economies have developed. Another compelling and telling fact that the charts show is the demand for oil over taking the supply in North America in the future.

Despite rising costs, there is still a high demand word wide for oil which does not seem to be slowing down anytime soon. Additionally, projects like the XL Keystone pipeline are at the forefront of an initiative in the United States for 'energy independence'. New methods for extracting and refining oil will be crucial to maximize efficiencies in this endeavor. PetroTech Oil and Gas is a leading innovator in oil recovery and is poised to take advantage of this market.

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Figure 1 below highlights a forecast for petroleum and other liquids as a fuel source in the United States from the 2013 Annual Energy Outlook from the U.S. Energy Information Agency.

**Figure 1: U.S. Production of Petroleum and Other Liquids by Source (Millions of Barrels Per Day)**  
 (Source: EIA: 2013 Annual Energy Outlook)

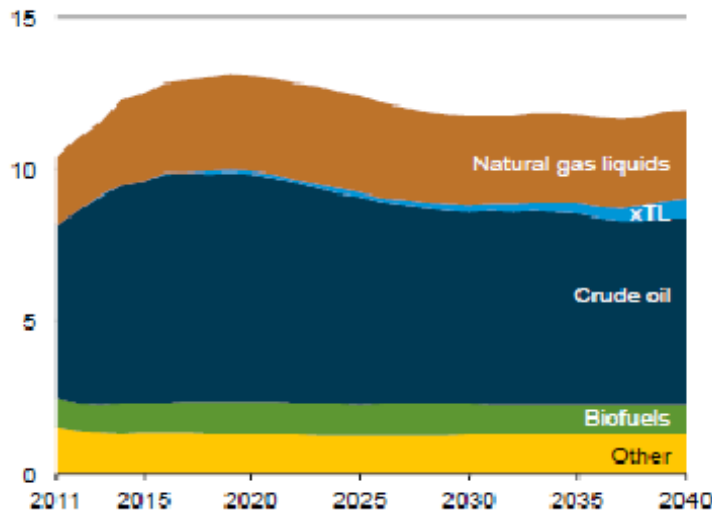
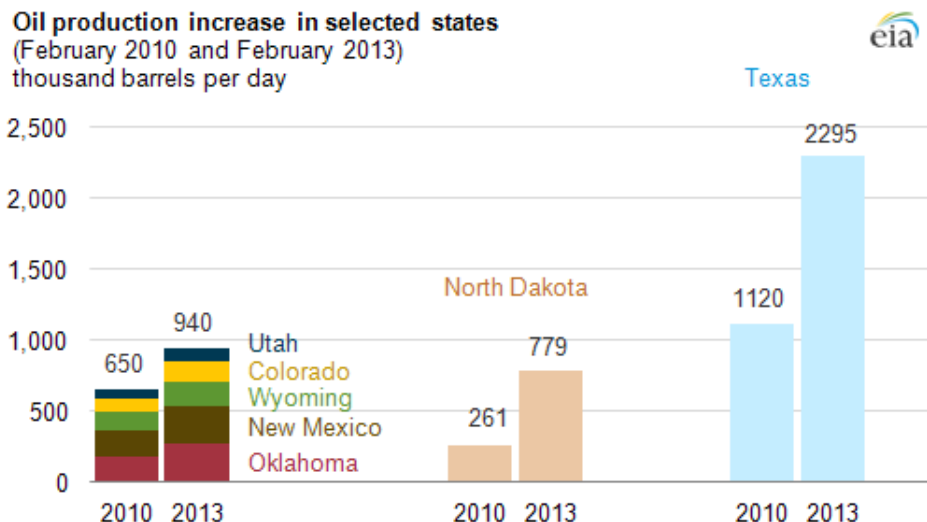


Figure 2 shows the increase in oil production from selected states, including leaders Texas and North Dakota. In all of these states, increasing production was achieved by applying horizontal drilling and hydraulic fracturing to low-permeability rocks. In many fields (in basins such as the Permian, Uinta, and Powder River) enhanced oil recovery techniques are also boosting production from conventional reservoirs.

**Figure 2: Oil Production Increase from 2010 to 2013 by State**  
 (Source: US Energy Information Agency)



**PETROTECH OIL AND GAS, INC. (OTC:PK PTOG)****ENHANCED OIL RECOVERY (EOR)**

Petrotech Oil and Gas, Inc. uses multiple patent technologies for Enhanced Oil Recovery (EOR) in conjunction with other proven technologies currently used in the industry, to drill, complete equip new drill wells and older wells with secondary production opportunities.

Throughout the United States there are primarily depleted oil reservoirs representing billions of barrels of oil that lend themselves to the use and exploitation of Enhanced Oil Recovery and PetroTech's proven patented technology. Without EOR technology, the recovery of stranded oil reserves in many areas would never occur and these reservoirs will produce only about 20% of their Original Oil in Place.

Although the EOR could be used in formations across the country, the pinnacle reefs and other reefs in Texas make excellent reservoirs for EOR because they are compact, have consistent reservoir properties, thick pay columns, and are overlain by an impermeable cap seal. These reservoirs alone represent over 300 million barrels of recoverable stranded oil using the Company's patented method and technology.

The current target markets for acquisitions in which to engage the EOR process are large and small overlooked oil reservoirs where the Company can maximize oil production and recoveries while minimizing the injection time frame and capital investment.

**PetroTech Competitive Advantages**

While CO<sub>2</sub> injection-based EOR is a proven method that has been in use over the last 50 years, the Company has found that a N<sub>2</sub>-CO<sub>2</sub> mixture is 2-3 times more efficient than CO<sub>2</sub> in the recovery of stranded oil. When combined with a patented exhaust unit that was more efficient than regular CO<sub>2</sub>, a new prototype of that equipment was then built for injection purposes; and is in the process of being further developed for commercial use via field tests on 8 wells of the Company's wells in which it has 100% working interest in Navarro County Texas. Although these are primarily depleted reservoirs, the region has a long history of oil production with an estimated 215M barrels of oil produced in the county over the past 100+ years.

In addition to its efficacy, the Company's treatment and production tools only reduce operating and capital costs by 30% and 40% respectively by using solar power along with hydraulics to pump oil. Plus, the system also is very quiet and substantially reduces noise pollution. It should be noted that CO<sub>2</sub> floods have been successful on the reefs in the U.S. with rates as high as 1000 BOPD. The Company's process will have a major impact on the recovery of stranded oil in U.S. basins. This statement is based on the fact that PetroTech has an unlimited source of gas and the Company does not need an expensive infrastructure to transport the gas.



## **PETROTECH OIL AND GAS, INC. (OTC:PK PTOG)**

The cost and recovery of each project will be dependent on size of structure and depth; the cost will range depending on type of formation and type of treatment design. Management hopes that on a per project basis PetroTech will capture an additional 20% to 40% of oil in place. The Company plans to execute this objective over a period of 5 years as opposed to the original 20% of oil that has already been produced which may have taken ten to twenty years. Based on management's Reservoir Models, each successful project is estimated to have a six to twelve month payout with IRR exceeding 300% during the initial 3-year production period. These treatments tests should run for 30-45 days concurrently per well, and if successful, recovery of 10-20 BPOD per well is optimal for a solid cash flow return. Following the completion of the tests this summer, is expected that due to favorable results, treatment will occur on the Company's remaining 102 wells on-site, which could ultimately produce a peak production level of hundreds of barrels per day.

### Other Services

The Company recently entered into an agreement to purchase solid controls equipment that will expand their services by offering these solutions for oil and gas drilling, completion and work over operations. Petrotech is now working with Solid Services Depot, a recognized industry leader in the manufacturing of quality solids control equipment.

Solids control is a technique that uses combined equipment for drilling rigs to separate the solids in the drilling fluids that are crushed by the drill bits and carried out of the well to the surface. This technique plays a major role on the drilling rig as a filtration system to extract solids from the mud and return cleaner mud to the active system. It controls Mud weight and allows the rig to drill faster and keep the properties of the well-bore hole consistent so that producing formations are protected. In addition, it helps prevent blow outs and is environmentally friendly.

There is a demand for the services of solids control due to the rise in the price of oil and gas prices, domestic and developing countries supply and need for petroleum products, the explosion of shell well development due to new technologies like solids control sweeping across the country. On a preliminary basis, management forecasts \$1M in revenue generation over the next 12 months from services rendered related to the equipment. PetroTech has already been awarded a commitment on two major oil company contracts.

## **NEW JOINT VENTURES**

In addition to the Company's core, legacy targeted projects and markets, PetroTech and Pangean Energy LLC, through a Joint Venture, have entered into a contract to purchase mineral interests in Leases in the North Dakota Bakken Shale Formations. The property consists of 16,000 acres currently under lease, with an additional 14,000 acres under option.

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The acquisition price is \$28.8M to be paid through a combination of cash, stock and interest in the development of the wells and the transaction is subject to final due diligence by the purchaser and legal title opinions. Interestingly, the engineering report performed by Pinnacle Energy Services LLC, in June 2012 reported that IP rates in the (tight oil) Bakken were between 2000 barrels of oil per day and 3500 barrels of oil per day with Probable and Possible Reserves for the property of 116.2M barrels of oil. Management hopes to begin drilling one well in 4Q13. The oil produced via this transaction could dwarf the Company's wells in Texas, especially if PetroTech uses its EOR tools. We plan to provide forecasts once closing on the transaction occurs and more clarity is provided.



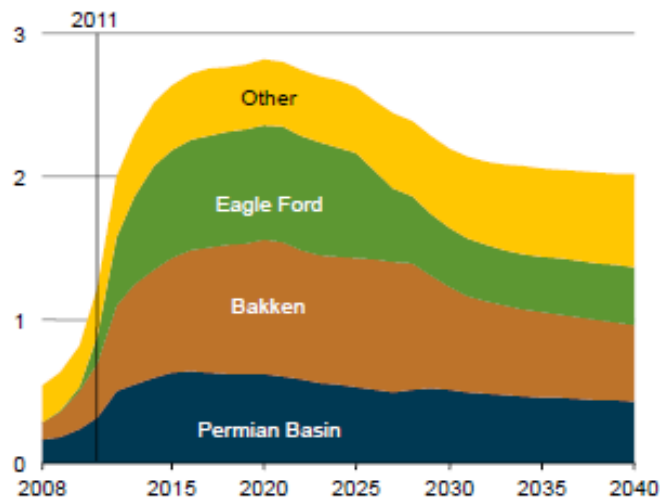
Image I. The Bakken Formation  
Source: Goldman Small Cap Research

We deem it likely that PetroTech could enter additional joint ventures that result in meaningful working interests in in the Bakken or Eagle Ford regions. Both regions have become 2 of the most important oil drilling regions in the U.S. In fact, in the Bakken, which is growing by leaps and bounds, and may have oil deposits rivaling the Middle East, 99% of all drilled wells have had success. The rich Bakken area of North Dakota, known as the Williston Basin, has just begun to be tapped. Figure 3 shows the forecast for oil production in the U.S. by source. The Bakken source is no doubt going to be a major player and crucial for oil production in the U.S.

**PETROTECH OIL AND GAS, INC. (OTC:PK PTOG)**

**Figure 3: U.S. Oil Production by Source (2011 – 2014) (Billions of Barrels of Per Day)**

(Source: US Energy Information Agency)



**THE PETROTECH EXECUTIVE TEAM**

**Eddie Schilb, President**

Mr. Schilb has been involved in development of multiple areas of construction for a combination of Thirty Years; and has been an entrepreneur for 14 years. He has been involved in the management of many areas of Construction, Oil Field Construction and Heavy Equipment projects at times managing over 85 employees, dealing with City, Local and State Compliance agencies and authorities.

**Kenneth Wiedrich, Chief Financial Officer**

Wiedrich is a Senior level Executive with extensive hands-on experience in management, operational accounting, reporting for public companies, finance functions and in dealing with Board of Directors, Banks, Attorneys, Audit firms and SEC. Areas of expertise include:

- Financial & Strategic Planning
- Accounting & Financial Operations
- Budget Development & Management
- Business Startups & Expansions
- Staff Management & Development
- Public Company Accounting & Reporting
- 

He also has experience with government cost accounting methods and all related government acquisition regulations.



## PETROTECH OIL AND GAS, INC. (OTC:PK PTOG)

### **Ayo Odetunmibi, Vice President Operations**

Mr. Odetunmibi received his B.S. Mechanical Engineering, June 1992. He has been involved in multiple designs of industry equipment. He received multiple Certificates in 2006 from THE UNIVERSITY OF NORTH TEXAS in Dallas; Texas Environmental Training and Hazardous Material Training including, Certification in 40-Hour Hazardous Waste General Site Worker (Environmental Training Program). He facilitates ventures for the Mobile Transport from third party groups as well as developing our own prototype.

### **RISK FACTORS**

In our view, the greatest risk factor for PetroTech would be poor field test results, which we view as unlikely given the successful lab tests and many years of research. Moreover, a reduced efficacy is the more likely risk factor. Even if this were to occur, management would still proceed with its plan, albeit with incrementally lower profit expectations. Other risks include the need for capital to acquire working interests in other properties that are not covered by pending cash flow from its EOR efforts. All of these risks are consistent with firms of PetroTech's size and standing and we believe that the Company's positioning and lower risk high-reward strategy will enable it to succeed.

### **CONCLUSION**

PTOG's 3-pronged strategy could result in huge profits. The innovative EOR tools could transform the way oil from depleted oil reservoirs is recovered and generate meaningful cash flow and profitability from the Company 110 wells in Navarro County, Texas. We expect that revenue meaningful production on a handful of wells could occur sometime in 2H13 which could ultimately produce a peak production level of hundreds of barrels per day over the next few years. Plus, in the interim, the solid controls services should serve as "steady eddie" business for PetroTech.

Separately, we believe that the pending closing of the JV Bakken contract could be huge for the stock, which only has 3.8M shares in the public float. The 30,000 acres (including the option) has huge Probable and Possible Reserves of 116.2M barrels of oil. Management hopes to begin drilling one well in 4Q13. The oil produced via this transaction could dwarf the Company's wells in Texas, especially if PetroTech uses its EOR tools. We plan to provide forecasts once closing on the transaction occurs and more clarity is provided.

We rate PTOG Speculative Buy with a \$0.78 price target based on the value of the EOR and services segments alone. Favorable field test results, clarity on new business and any activity on the JV front would likely prompt a higher price target as much of the risk in the stock would be reduced. Moreover, we will be able to better extrapolate and forecast future financial results.





## PETROTECH OIL AND GAS, INC. (OTC:PK PTOG)

### Senior Analyst: Robert Goldman

Rob Goldman founded Goldman Small Cap Research in 2009 and has over 20 years of investment and company research experience as a senior research analyst and as a portfolio and mutual fund manager. During his tenure as a sell side analyst, Rob was a senior member of Piper Jaffray's Technology and Communications teams. Prior to joining Piper, Rob led Josephthal & Co.'s Washington-based Emerging Growth Research Group. In addition to his sell-side experience Rob served as Chief Investment Officer of a boutique investment management firm and Blue and White Investment Management, where he managed Small Cap Growth portfolios and *The Blue and White Fund*.

### Analyst Certification

I, Robert Goldman, hereby certify that the view expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the recommendations or views expressed in this research report.

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