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## Greenfields Petroleum Corporation

13<sup>th</sup> March 2018

**Bringing offshore fields in the Caspian Sea back to life - growing low cost production & pursuing compelling large resource plays**

Houston-based Greenfields Petroleum acquires interests in undeveloped oil and gas fields overseas. Following the collapse of the Soviet Union, Azerbaijan offered up its best oil and gas projects to international companies. GNF now has an 80% stake in the impressive Bahar Project. It is a very good address, home to billion-barrel oil and multi-trillion cubic feet gas projects proved up by neighbours including BP and Total.

### Oil & gas production expected to treble to 18,000 boepd in 2020

A program of recompletions & workovers has allowed production to increase substantially and operating costs to be significantly reduced. **Production is now going to be boosted further through waterfloods on the Gum Deniz oil field and development drilling of the Bahar NKP gas horizons which were both highly successful in Soviet times.**

### 2017 year-end reserves P2 of 53 mmboe & PV(10) US\$538 million

Lots of technical work has been going on behind the scenes by Greenfield's backer Vitol. Reading between the lines, many opportunities seemed to have been ruled out of the reserves at this stage by GLJ. Once these opportunities are de-risked, a lot could be added to reserves in the future.

### Miocene play contains a 4-way structural close covering up to 20km<sup>2</sup>

Seismic has revealed this large-scale opportunity. A good analog exists in AOC's successful 2015 Hovsan 1870 well which produced 16 mmcf and 640bcpd. **Internal estimates suggest the potential to test 86 mmboe.**

### DCF analysis reveals upside potential of 506%

Discounting forecast cash flows from just the program of recompletions and workovers at a very conservative rate gives a target price of C\$1.03.

**We update coverage of GNF and retain our Conviction Buy stance.**

Table: Financial overview

| Year to end Dec    | 2015A  | 2016A | 2017E  | 2018E  |
|--------------------|--------|-------|--------|--------|
| Revenue (US\$m)    | 1.56   | 15.23 | 30.10  | 44.32  |
| Net income (US\$m) | (7.52) | 99.16 | (8.67) | (0.93) |
| EPS (US\$)         | (0.34) | 1.52  | (0.05) | (0.03) |

Source: Company accounts & Align Research

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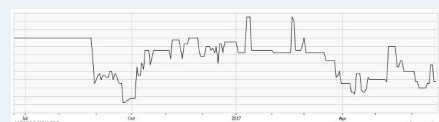
**CONVICTION BUY**  
– Price target  
**\$1.03CAD**



### Key data

|                  |                 |
|------------------|-----------------|
| EPIC             | GNF             |
| Share price      | C\$0.17         |
| 52 week high/low | C\$0.35/C\$0.12 |
| Listing          | TSXV            |
| Shares in issue  | 179,807,812     |
| Market Cap       | C\$30.56m       |
| Sector           | Energy          |

### 12 month share price chart



### Analyst details

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## Update

Greenfields Petroleum (GNF) focuses on discovered greenfield projects which are essentially undeveloped international oil and gas fields. Greenfield projects may require further delineation and infrastructure but have current production or near-term production. In addition, such projects often come with significant upside potential through the application of technology. **The end result of this strategy is that below the ground risk for shareholder is significantly lowered when compared to traditional exploration plays.**

## Operations

Greenfields' 100%-owned subsidiary Bahar Energy Limited (BEL) has an 80% participating interest in an Exploration, Rehabilitation, Development and Production Sharing Agreement (ERDPSA) with the State Oil Company of Azerbaijan (SOCAR) covering the Bahar Project. This comprises 76,500 acres of the producing Gum Deniz oil field and the producing Bahar gas field which lie offshore of Azerbaijan in the shallow waters of the Caspian Sea. The PSA is on good commercial terms with no taxes and an oil sales price linked to Brent.

After a year or two of fixing things, GNF has substantially reduced operating costs down to just US\$15 per barrel, completed reservoir development plans using 3D seismic and is now preparing to drill development wells in the gas field and reinstate waterfloods in the oil field. Currently, production is around 4,500 barrel of oil equivalent per day (boepd). The increase in oil and gas production to date has been due to the ongoing workovers and recompletions. Over recent months the level of production has fallen as some producer wells have become injector wells for the waterflood that is being trailed at the Gum Deniz oil field.

During Soviet times, the oil fields had been waterflooded with good results. Early work by the team shows that substantial amounts of water can be successfully injected into the reservoir from each injector well, which means less injector wells will be needed. The best producer wells make the best injector wells and so oil production will be down a little on recent levels however, it is expected that oil & gas production will be around the 6,000 boepd level by the year-end.

## Reserves

**On 8<sup>th</sup> February 2018, the company announced its 2017 year-end reserves which showed that Proved Reserves were 51% higher than at the previous year-end.**

| Greenfields Net Reserves         | 2017 Total Proved (1P) mboe | Change vs 2016 | 2017 Total Proved + Probable (2P) mboe | Change vs 2016 | 2017 Total Proved + Probable + Possible (3P) mboe | Change Vs 2016 |
|----------------------------------|-----------------------------|----------------|--|----------------|---|----------------|
| Light & Medium Crude Oil and NGL | 10,384                      | +65%           | 17,313                                 | +45%           | 26,255  | +59%           |
| Conventional natural gas         | 26,382                      | +45%           | 35,858                                 | +28%           | 40,160  | +8%            |
| <b>Total</b>                     | <b>36,766</b>               | <b>+51%</b>    | <b>53,171</b>                          | <b>+33%</b>    | <b>66,415</b>                                     | <b>+23%</b>    |
| PV10                             | US\$261.0m                  | +88%           | US\$537.6m                             | +69%           | US\$850.7m  | +81%           |

*Greenfield's reserves as at 31<sup>st</sup> December 2017. Source: GLJ Petroleum Consultants Ltd report*

2P reserves improved significantly. At Gum Deniz, the company has begun water injectivity testing on the first two injection wells and the recommencement of waterfloods added 9.9MMbbls in the BH FS-X, BH IX and BH VIII reservoirs. At the Bahar gas field, 2P reserves increased by 53 Bcf as a result of expanding the recompletion program and the planned drilling of four deeper BH NKP gas wells. The wells are planned to be drilled from existing offshore platforms with associated production facilities and flowlines. At the same time, project value was retained due to good management which has allowed for big savings in the operating costs of the project, oil and gas workovers and platform refurbishment.

## Outlook

Over the last 18 months, a lot of technical work has been going on behind the scenes by Greenfield's backer Vitol, the giant energy and commodities concern. Reading between the lines, many opportunities look like they were ruled out of the CPR at this stage. These remain internal estimates made by Greenfields management until sufficiently de-risked.

**This technical reservoir evaluation work uncovered a number of substantial growth opportunities.** There is the additional potential of the intermediate Bahar NKP gas development drilling (83 Bcf reserves) and a significant increase in oil production from 2018 onwards through re-starting the Gum Deniz water floods (37.5 mmb reserves). **This work, in addition to the current program of workovers and completions, is planned to allow production rise to almost 18,000 boepd in 2020.**

The Gum Deniz oil field was discovered in the 1950s and 496 wells were drilled. **At its peak, the oil field produced 46,400 bopd in 1964.** There are many horizons between 2000 – 3750m deep. The top horizons (V, VI and VII) are available for recompletions. The middle horizons (VIII, IX, X and SP) are where waterfloods are planned. Elsewhere, development drilling is planned at the deepest horizons (NKP, KS, PK and KAS). Waterfloods carried out by SOCAR in the past were fairly successful, but for some reason these projects were prematurely halted leaving large reserves behind. **Based on a total Original Oil In Place (OOIP) of 481 mmbbls in the VIII, IX and X-FS reservoirs, it is believed that a water flood could add 37.5 mmbbls of gross incremental reserves.**

The Bahar Gas Field started producing in 1969, with 203 wells being drilled. Peak production was 591 mmcf/d and 13,900 bopd in 1985. Original Gas In Place (OGIP) was 6.8 Tcf in twelve staked reservoirs with current 63% Recovery Factor (RF), although ultimately 72% is thought by independent engineers GLJ to be achievable. There are 9 horizons between 3,500-5,200 metres deep. The top 6 of 7 horizons (V, VI, VII, VII, IX and X) are available for recompletions, with a water flood planned for horizon SP which lies roughly at a depth of 4,750m.

Development drilling is planned to be undertaken at the deepest horizon at the Bahar Gas Field which is the NKP. OGIP is 395 Bcf, but so far only 122 Bcf has been produced (31% RF) and there is 174 Bcf of recoverable gas based on an ultimate recovery of 75%. In all, there are more than six potential development well locations with reserves of 83 Bcf which includes three platforms that have been refurbished in the past by SOCAR. Current thinking is that the BHR-301 development well could be spudded in 2018 from Platform 196. In addition, the company believes that there remains good uphole potential in the BX and BIX horizons. Such a development well is expected to cost around US\$10 million and take 155 days to drill each well.

**If that was not enough, that stills leaves the Bahar FS-X waterflood potential and exploration opportunities in the Miocene.** On the Bahar FS-X reservoir, the plan in 2019 is to install five pilots using eleven existing well bores, platforms and facilities. Subsequently, probably in 2021, there would be a full field development involving 9 downdip injectors wells, drilling platform and additional flowlines to the shore. **Third Party estimates suggest that this work will provide additional resources 11MMB for the pilot and 41 MMB for the field development.**

There is a good Gum Deniz Miocene analog in the 2015 discovery of a gas-condensate in the Hovsan 1870 well drilled by AOC. This well generated a lot of interest in the Miocene as it produced 16 mmcf and 640bcpd at 4700m. Seismic has revealed what could be a fairly large Miocene 4-way structural closure across the entire Miocene stratigraphic thickness. This fold could cover an area up to 20km<sup>2</sup> in size. **Third Party estimates suggest the potential to test 392 BCF and 21MMb (86 MMBOE) from Gum Island.** Apparently, Greenfield's neighbour BP seems to be warming up to the potential of drilling a nearby wells in possibly 2019.

## Valuation

In July 2017 we initiated coverage of Greenfields with a Conviction Buy stance and a price target of CAD\$0.62. We have now revisited our valuation based on our model which has been updated with the cash flow forecast based on GNF's most recent outlook to 2034, reserves as at the end of 2017 and the latest development plans. The terms of the ERDPSA cashflow as a contractor party to the government are that 10% of total production is delivered to SOCAR free of charge as Compensatory Production and SOCAR's affiliate SOA receives 20% of the cash flow that goes to the shareholders in BEL, i.e. the contractor parties. There are no additional taxes, duties or royalties charged.

The current production plans purely cover workover and recompletions with the focused gas workover schedule to bring gas production on at a fast pace. Once all the workover rigs have been sourced, production is expected to rise from 30 mmcfpd in 2018 to a high of 79 mmcfpd in 2022. Overall, average gross production is planned to rise from 5,757 boepd in 2018 to reach a high of 19,390 boepd in 2021 with a gas and oil split of 65%/35%. To remain conservative, we have used a flat Brent Crude price of US\$65 per barrel on which the company receives approximately 96% of the Brent Crude price on oil sales.

|   | US\$ million                  |
|---|-------------------------------|
| NPV (12)  | 192.50                        |
| Less debt   | 47.00                         |
| <b>NPV for Greenfield Petroleum</b>                               | <b>US\$145.50m/C\$187.04m</b> |
| <b>Per share C\$ (179,807,812 shares in issue)</b>                | <b>C\$1.04</b>                |
| <b>Per share C\$ (fully diluted 180,952,812 shares currently)</b> | <b>C\$1.03</b>                |

*Table: Greenfields Net Present Value using a 12% discount rate. Source: Align Research*

Risk has been adjusted by using a 12% discount rate. The NPV(12) figure came out at US\$192.50 million which after debt adjustment results in a figure of US\$145.50 million. Based on the current number of shares in issue (179,807,812), this equates to a price of C\$1.04 per share. However, based on the current fully diluted number of shares in issue (180,952,812) this equates to C\$1.03 per share.

Moving ahead, Greenfields looks as though it could serve up cracking news flow over the next 24 months. We are expecting that the workover and recompletions continue at Gum Deniz and Bahar, with 17 more platforms being refurbished, which will ultimately bring into production 56 wells accessing 105 intervals. **On top of that, there are four big value enhancing opportunities which serve to unlock very substantial potential reserves and resources highlighted.** Firstly in 2018 there are plans to drill the Bahar NKP development gas well (reserves 83 BCF). Secondly, also in 2018 will be the re-initiation of the Gum Deniz waterfloods (reserves 37.5 MMB). Thirdly, the pilot Bahar waterfloods are pencilled in for 2019 (resources 41 MMB) and lastly, the evaluation of partners for the deeper Miocene exploration opportunities (resources 86 MMBOE).

**Accordingly, we update our coverage of Greenfields Petroleum and retain a Conviction Buy stance.**

## Forecasts

| US\$'000s y/e 31 December                       | 2015A          | 2016A         | 2017E          | 2018E          |
|---|----------------|---------------|----------------|----------------|
| <b>Revenues</b>                                 |                |               |                |                |
| Petroleum and natural gas                       | -              | 14,422        | 30,100         | 44,320         |
| Management service fees                         | 1,555          | 809           | -              | -              |
|   | 1,555          | 15,231        | 30,100         | 44,320         |
| <b>Expenses</b>                                 |                |               |                |                |
| Operating                                       | -              | 9,341         | 17,190         | 26,620         |
| Impairment of accounts receivable               | -              | 2,875         | 3,720          | 3,000          |
| Marketing and transportation                    | -              | 52            | 108            | 125            |
| Administration                                  | 5,048          | 5,552         | 3,000          | 4,500          |
| Depreciation and amortization                   | 34             | 4,021         | 9,500          | 11,000         |
|   | 5,082          | 21,841        | 33,518         | 45,245         |
| Profit/(loss) from operating activities         | (3,527)        | (6,610)       | (3,418)        | (925)          |
| <b>Income from acquisition transaction</b>      |                |               |                |                |
| Income from fair value of future dividends      | -              | 8,467         | -              | -              |
| Gain on acquisition                             | -              | 81,524        | -              | -              |
| <b>Income (expense) from debt restructuring</b> |                |               |                |                |
| Gain on settlement of long term loan            | -              | 24,137        | -              | -              |
| Gain on settlement of debentures                | -              | 13,672        | -              | -              |
| Other financing costs                           | -              | (13,854)      | -              | -              |
| Fair value of warrants issued                   | -              | (546)         | 546            | -              |
| <b>Other income (expense)</b>                   |                |               |                |                |
| Income on investment in joint venture           | 2,305          | 992           | -              | -              |
| Interest income                                 | 3,203          | 3,420         |                |                |
| Interest expense                                | (12,457)       | (10,803)      | (5,800)        | (5,400)        |
| Foreign exchange gain/(loss)                    | 2,925          | (1,206)       | (60)           | -              |
| Change in fair value of derivative liability    | 27             | -             | -              | -              |
| Income (loss) before income tax                 | (7,524)        | 99,163        | (8,672)        | (6,325)        |
| <b>Total comprehensive income/(loss)</b>        | <b>(7,524)</b> | <b>99,163</b> | <b>(8,672)</b> | <b>(6,325)</b> |
| <b>Per share</b>                                |                |               |                |                |
| Income/(loss) per share, basic and diluted      | (\$0.34)       | \$1.52        | (\$0.05)       | (\$0.03)       |
| Weighted average number of shares               | 21,982,877     | 65,464,178    | 168,730,350    | 238,437,949    |
| Total shares plus options & warrants            | 23,292,521     | 243,959,097   | 180,627,812    | 280,362,812    |

Table: GNF summary forecasts. Source Company accounts and Align Research

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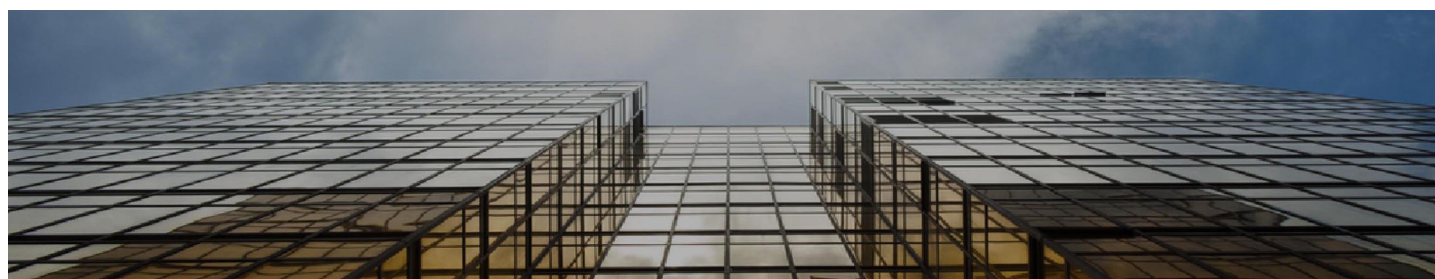
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