



CORPORATE PRESENTATION

[MKS INVESTMENTS LTD.]

August 2019

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I. MKS INVESTMENTS

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■ MKS INVESTMENTS LTD.

MKS INVESTMENTS LTD. is a Canadian oil and gas company focusing on Petroleum and Natural Gas (PNG) Right acquisition, technical advisory and Korean government research. It is managed by experienced executive member who have been evaluating, operating and developing oil and gas project in Canada, USA, Australia etc. Based on wide range of experiences, MKS INVESTMENTS has been proceeding quality oil and gas business focusing on Canada to the world wide.

■ CORPORATE SUMMARY

Name	MKS INVESTMENTS LTD.
Representative	Bryan Moon, Ph. D., President
Business Category	PNG Right Acquisition, Power (Gas-Fired, Geothermal, Wind), Consulting and Government Research
Address	128 - 7 th Ave. SE, Calgary Alberta T2G 0H5 CANADA
Phone	+ 1 - 587 - 433 - 0033 (Canada) + 82 - 10 - 4689 - 0514 (Korea)
Email	bryan.moon@mksinvest.com
Website	www.mksinvest.com

■ FOCUS OF MKS INVESTMENTS

1. Acquisition of Quality Oil and Gas PNG Rights

- Quality land acquisition based on technical evaluation
 - Light oil, over 5 sections, southern Alberta, infrastructure proven oil basin (Cardium, Viking, Bakken, Montney)

2. Gas Fired Power and Geothermal

- Alberta gas-fired power project (< 5 MW)
- Alberta renewable electricity program (Geothermal, Wind)

3. Consulting and Korean Government Research

- Asset advisory service, Oil & gas business strategy
- Well workover (stimulation, by-pass, re-activation) project
- Directional drilling and mud circulation system project

II. MANAGEMENT

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■ MANAGEMENT

- President (Bryan Moon)
 - Hanyang University, BSc., Texas A&M University, MSc., Hanyang University, Ph. D. (Petroleum Engineering)
 - Former senior engineer of GS E&C, Former general manager of STX Energy Canada
 - Former Vice President (Director) of EK Resources, Former Technical Advisor of PI Financial, IAB Professor in Hanyang Univ.

■ EMPLOYEES

- Geology, Sr. Geologist (William Osborne)
 - McGill University, MSc., P. Geol., Former Sr. geologist of Vaquero Energy, Highpine Oil & Gas, Kootney Energy.
- Land, Sr. Landman (Steve Smith)
 - Mount Royal University, P. Land., Former VP Land of Nexstar Energy, Sr Land of PrimeWest Energy, Calpine Canada, Encor.
- Engineering, Sr. Engineer (Garry Holmen)
 - University of Alberta, Former Director of Extreme Engineering, Former manager of Schlumberger, Manager of Applied Physics
- G&A, HR, Accounting Manager (Julie Kim)
 - Ashton College, Former manager of eastern shipping, A&A realtor and relocation, SK consulting
- Geophysics, Exploitation and Business Development Manager (Kevin Lim)
 - University of Calgary, Former researcher of J&W Geo-consulting, Support analyst of University of Calgary
- Engineering, Reservoir Engineer, Researcher (D. H. Kim)
 - CheonBuk National University, MSc., Ph. D Candidate, Former intern researcher of KOGAS R&D Division

■ ADVISORY GROUP

- Legal (Frank Sur) : Queen's Univ., BA Hons, Univ. of Detroit, JD, cum laude, Univ. of Windsor, LLB, Partner at Gowlings
- Accounting (Jon Won) : Univ. of Washington, MBA, Certified General Accountant, President of Won Professional Corp.

III. BUSINESS AREA

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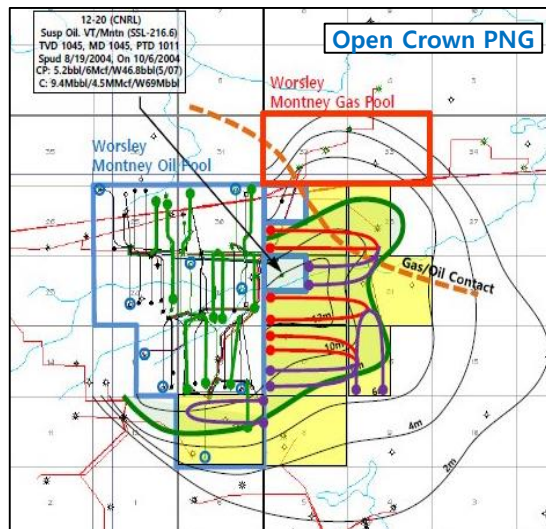
■ BUSINESS AREA OF MKS INVESTMENTS LTD.

- 3 main business units consisting of PNG rights acquisition, Power project, Consulting and Research.

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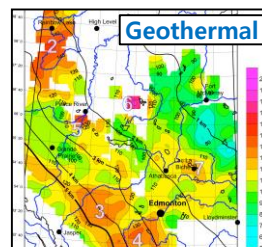
PNG Rights Acquisition

- Open crown PNG right acquisition
- Land farm-in and farm-out
- Exploration (seismic, drilling)
- Development (horizontal drilling)



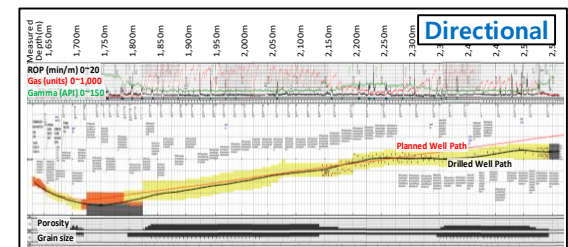
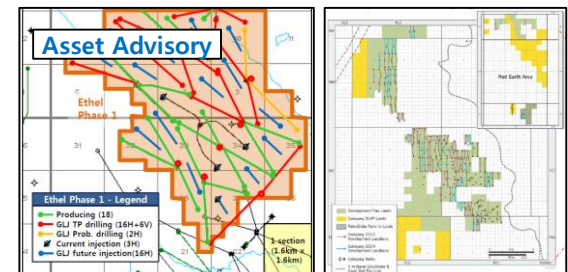
Gas-Fired / Geothermal Power

- Alberta Gas-Fired Project
 - < 5 MW, 20 Location = 100 MW
- Alberta Renewable Energy Program (Geothermal and Wind Power)



Consulting and Research

- Asset advisory, Business strategy
- Field data, core sampling
- Workover (stimulation, by-pass)
- Directional drill (mud motor, MWD)



IV. PETROLEUM & NATURAL GAS RIGHTS

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■ CROWN PNG (PETROLEUM AND NATURAL GAS) RIGHT ACQUISITION IN ALBERTA

- 58.5 Sections (14,975 ha) of PNG Rights in Alberta → 166 HZ drilling locations with EUR of 26 MMboe*

Shadow Montney (5 sec.)

- Girouxville (440 km NW, Edmonton)
- Montney formation
- max. pay 10 m (Porosity > 9 %)
- TVD 1,050 m (SSL – 463.5 m)
- 20 HZ with EUR of 3.0 MMbbls

Presley Montney (10 sec.)

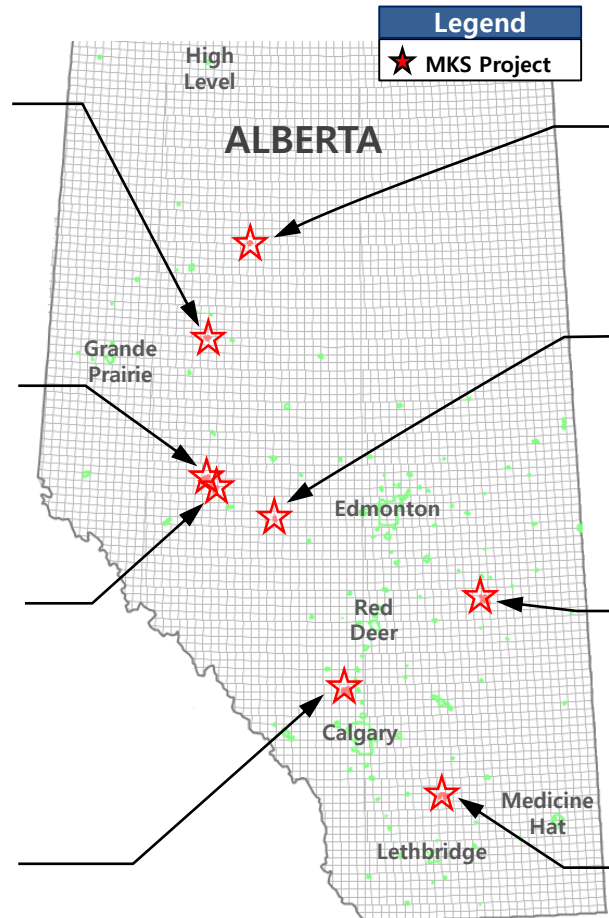
- Presley (150 km NW Edmonton)
- Montney Dolostone formation
- max. pay 5 m (Porosity > 3 %)
- TVD 2,700 m (SSL – 1,700 m)
- 28 HZ with EUR of 5.0 MMboe

Pine Creek Cardium (7 sec.)

- Niton (100 km West, Edmonton)
- Cardium sand formation
- max. pay 5 m (Porosity > 6 %)
- TVD 2,000 m
- 20 HZ with EUR of 3.1 MMbbls

Crossfield Viking (10 sec.)

- Carstairs (70 km North, Calgary)
- Viking formation
- max. pay 6 m (Porosity > 6 %)
- TVD 2,200 ~ 2,500 m
- 38 HZ with EUR of 3.7 MMboe
- Ellerslie/Elkton dvlp, WF potential



Golden Slave Point (3.75 sec.)

- Golden (360 km NE, Grande Prairie)
- Slave Point, Gilwood formation
- max. pay 11 m (Porosity > 12 %)
- TVD 1,620 m
- 10 HZ with EUR of 5.3 MMbbls

Carrot Creek Cardium (4 sec.)

- Niton (110 km West, Edmonton)
- Cardium sand formation
- max. pay 8 m (Porosity > 12 %)
- TVD 1,650 m (SSL - 690 m)
- 12 HZ with EUR of 1.3 MMbbls

Halkirk Viking (8 sec.)

- Foresburg (314 km NE, Calgary)
- Viking sand formation
- max. pay 8 m (Porosity > 12 %)
- TVD 800 m (SSL - 100 m)
- 28 HZ with EUR of 2.7 MMbbls

Armada S. Mannville (10.75 sec.)

- McGregor Lake (150 km SE, Calgary)
- Mannville (Glauconite) sand
- max. pay 10 m (GLAU, MNVL A & C)
- TVD 1,000~1,200 m
- 10 HZ with EUR of 2.0 MMbbls

* MKS Investments internal evaluation

IV-1. CARROT CREEK PROJECT

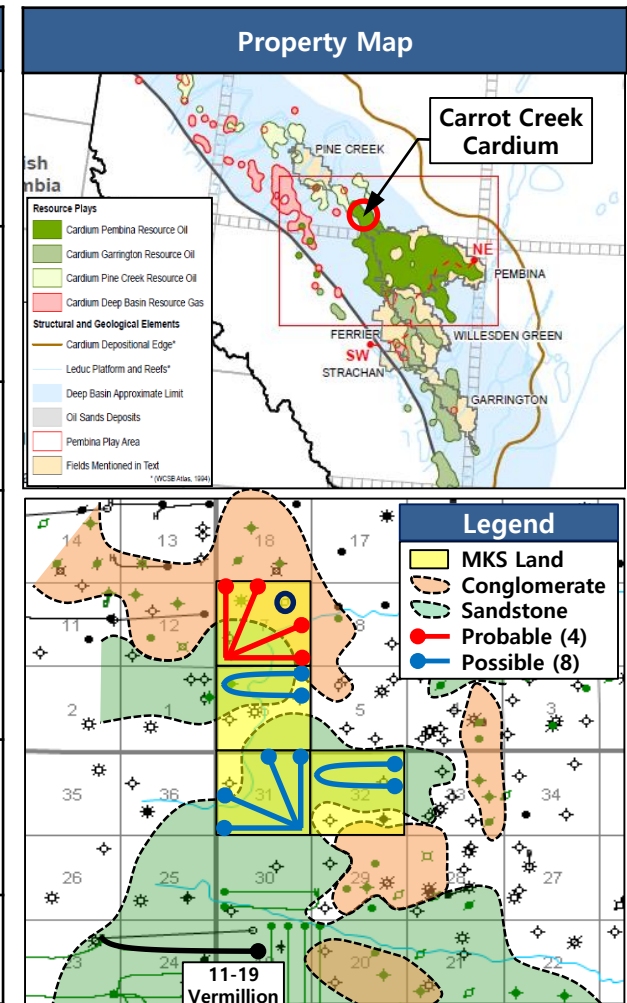
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■ CARROT CREEK LIGHT OIL PROJECT

- Total 12 horizontal multi-frac drilling potential (4 Probable & 8 possible locations) in 4 sections of Carrot Creek land.

Category	Specification
Outline	<ul style="list-style-type: none"> • Light oil project near Niton, Alberta (110 km west of Edmonton) • 4 net sections with 12 HZ drill locations in Cardium Fm. <ul style="list-style-type: none"> - North of West Pembina Cardium showing best productivity
Geology	<ul style="list-style-type: none"> • Cardium formation : Colorado Group (Cretaceous-age) <ul style="list-style-type: none"> - Sandstone reservoir, TVD 1,650 m (SSL -680 m) - max. 8 m net pay, ϕ 12 %, estimated EUR 1.3 MMbbls
Land	<ul style="list-style-type: none"> • PNG Rights : 4 net sections (1,024 hectares) - Surface ~ base Cardium
Evaluation	<ul style="list-style-type: none"> • Offsetting Cardium operators <ul style="list-style-type: none"> - Vermillion, ConocoPhillips, White Cap, TORC, Lightstream etc • Incredible production history of nearby Cardium wells <ul style="list-style-type: none"> - 13-12 (Pennwest) : VT, TVD 1692, C:485Mbbbl/261MMcf/W605Mbbbl - 15-12 (Pennwest) : VT, TVD 1655, C:719Mbbbl/278MMcf/W750Mbbbl
Development	<ul style="list-style-type: none"> • Excellent Economics from Vermillion West Pembina (11-19) <ul style="list-style-type: none"> - 12 HZ Cardium locations (4 Probable and 8 possible) - EUR 230 Mboe, ROR 46%, Payout 1.9 years, NPV@10 2.8 MM\$
Upside Potential	<ul style="list-style-type: none"> • Future expansion to offsetting Crown land • Waterflooding potential based on offsetting pilot field



■ TRANSGLOBE ENERGY

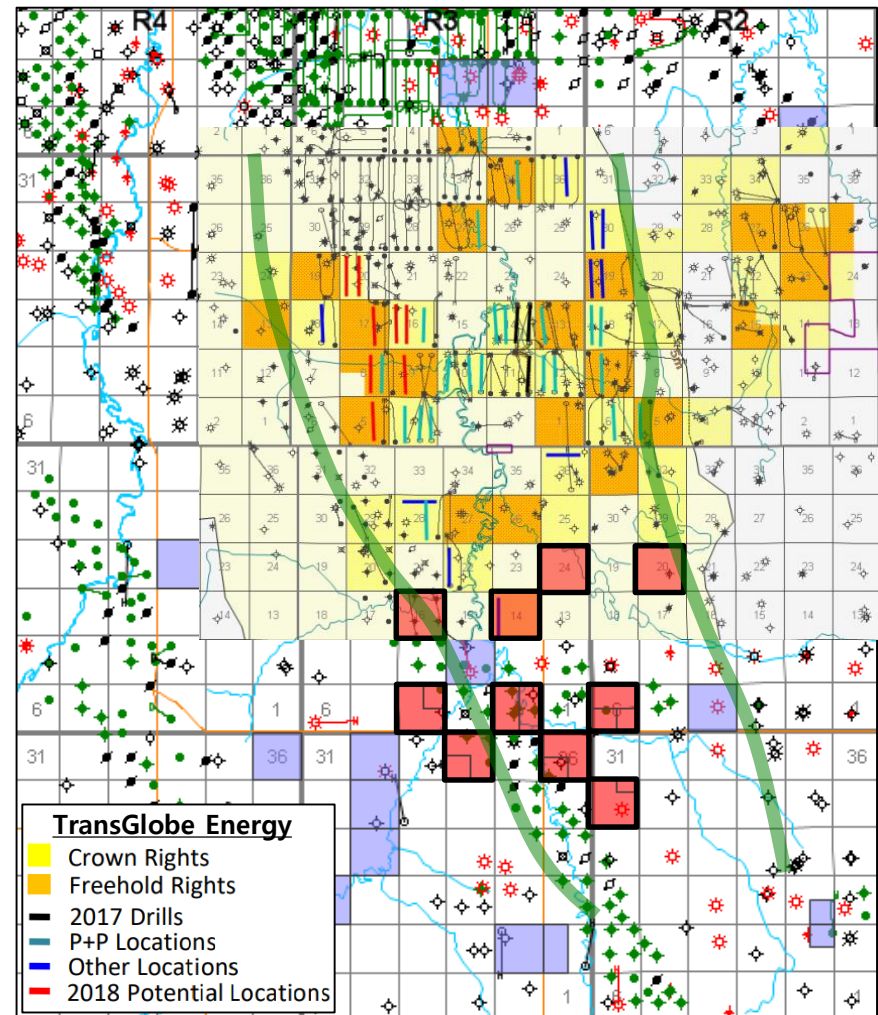
- Over 20 years as an international oil & gas company having operations in Egypt from 2004
- Re-entry to Canada in Dec. 2016 with asset acquisition in Harmattan and Crossfield area

■ TransGlobe Canadian Asset Acquisition

- Light oil and liquid rich gas asset (Dec. 20, 2016)
- Purchase at 80 MMC\$ (25,806 C\$/boed)
- Production of 2,782 boe (Q1, 2017)
 - 58% liquids with 12% decline/year
- 150 net sections (95,000 net acres)
- 2P reserves of 20.7 MMboe, ATax NPV@10 of 78.2 MMUS\$
- 49 booked, 100 un-booked locations
- Cardium production with significant Ellerslie potential

■ TransGlobe Cardium Results

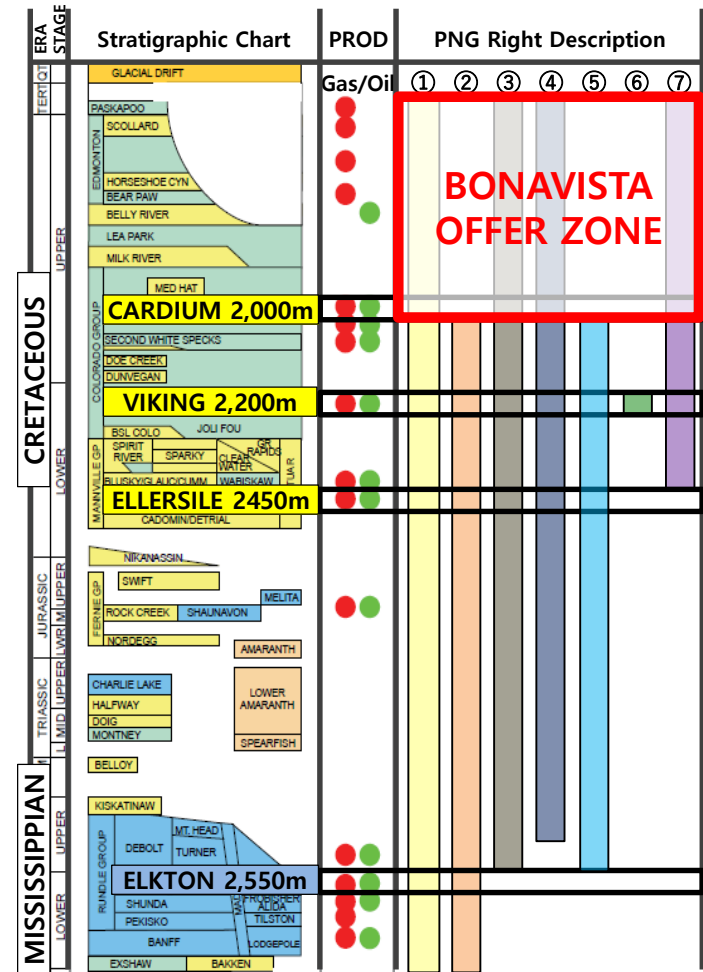
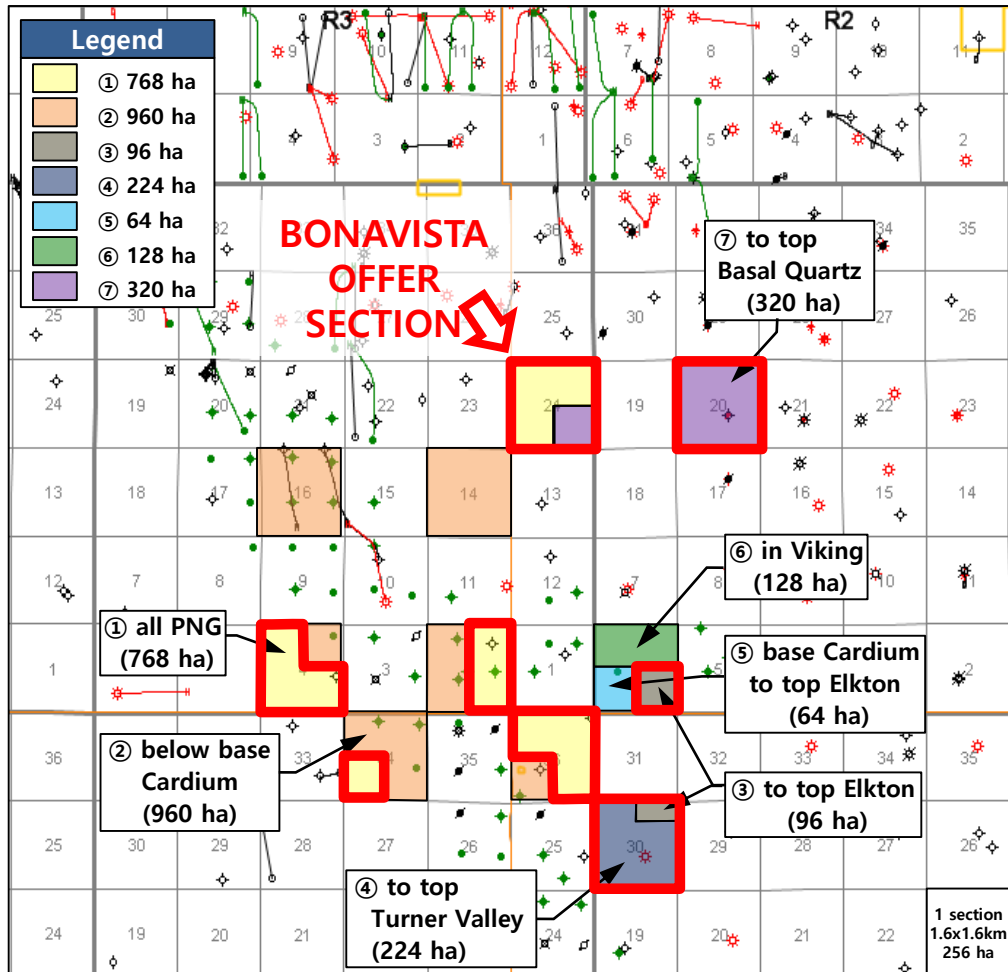
- Drilled 3 wells 4 sections north of MKS lands in 2017
 - 2.2 MM\$/well, IP 30 ave : 589 boed (509 bopd, 86 % liquids)
- 17 proved & 5 probable locations
- 8 Cardium HZ wells planned for 2018



* source : TransGlobe Energy (Mar, 2018)

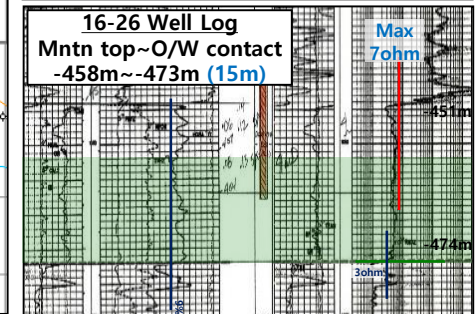
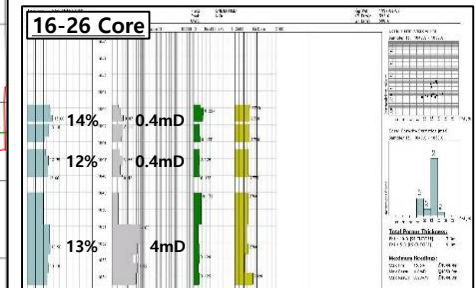
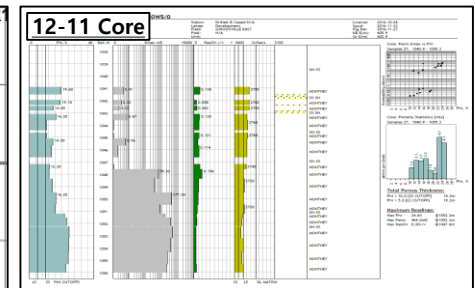
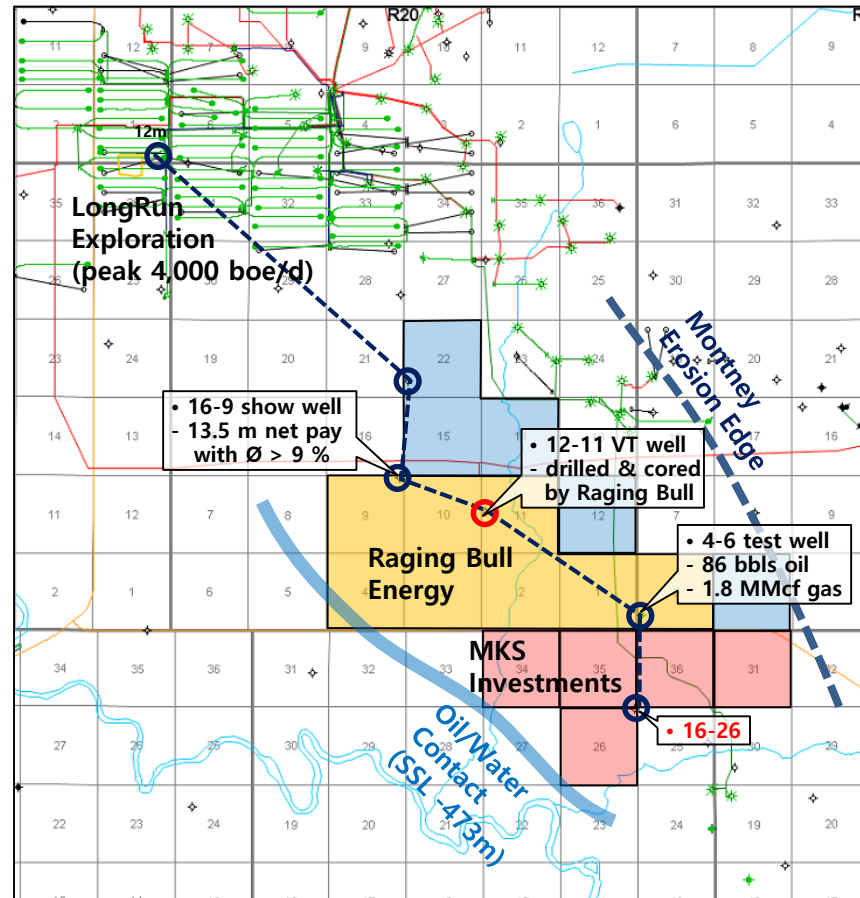
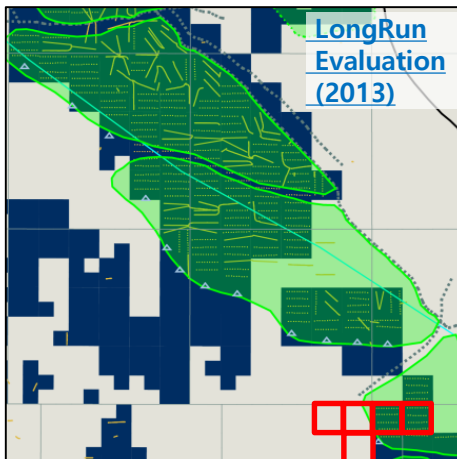
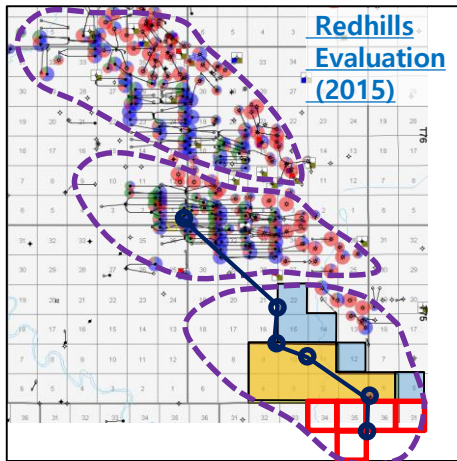
■ CARDIUM PNG RIGHTS DIVESTITURE

- 5.5 sections Cardium PNG Right divestiture to Bonavista Energy (July 18, 2019)
- 5,073 % profit based on initial unit bidding price and 964 % profit on total invested cost



■ SHADOW MONTNEY EVALUATION SUMMARY

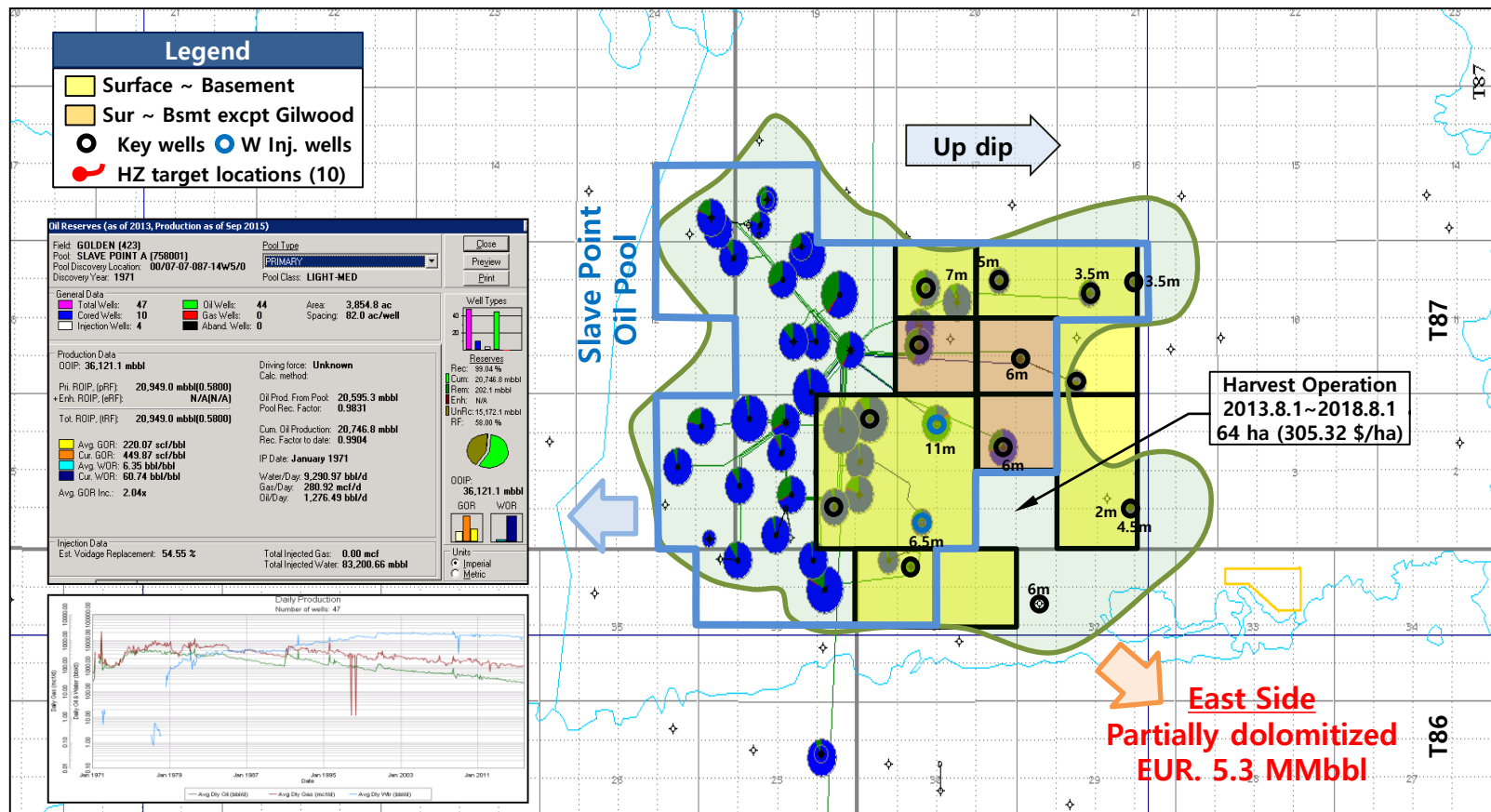
- 5 sections (expiry at June, 2022) : All sections from surface to basement
- High development potential near 16-26 with over 15 m oil column from well log and core analysis
- Preparing Joint Venture with Raging Bull Energy



* source : Redhills (2015) & Longrun (2013)

■ GOLDEN SLAVE POINT EVALUATION SUMMARY

- 3.75 sections (expiry at February, 2023) : surface ~ basement (3 sections), surface ~ basement except Gilwood (0.75 sections)
- Max bid price was 1,286 \$/ha at 2012 by Harvest and Taylor Hill (return to Crown after 5 years)
- High development potential based on geological evaluation (thin and tight formation need horizontal drilling)



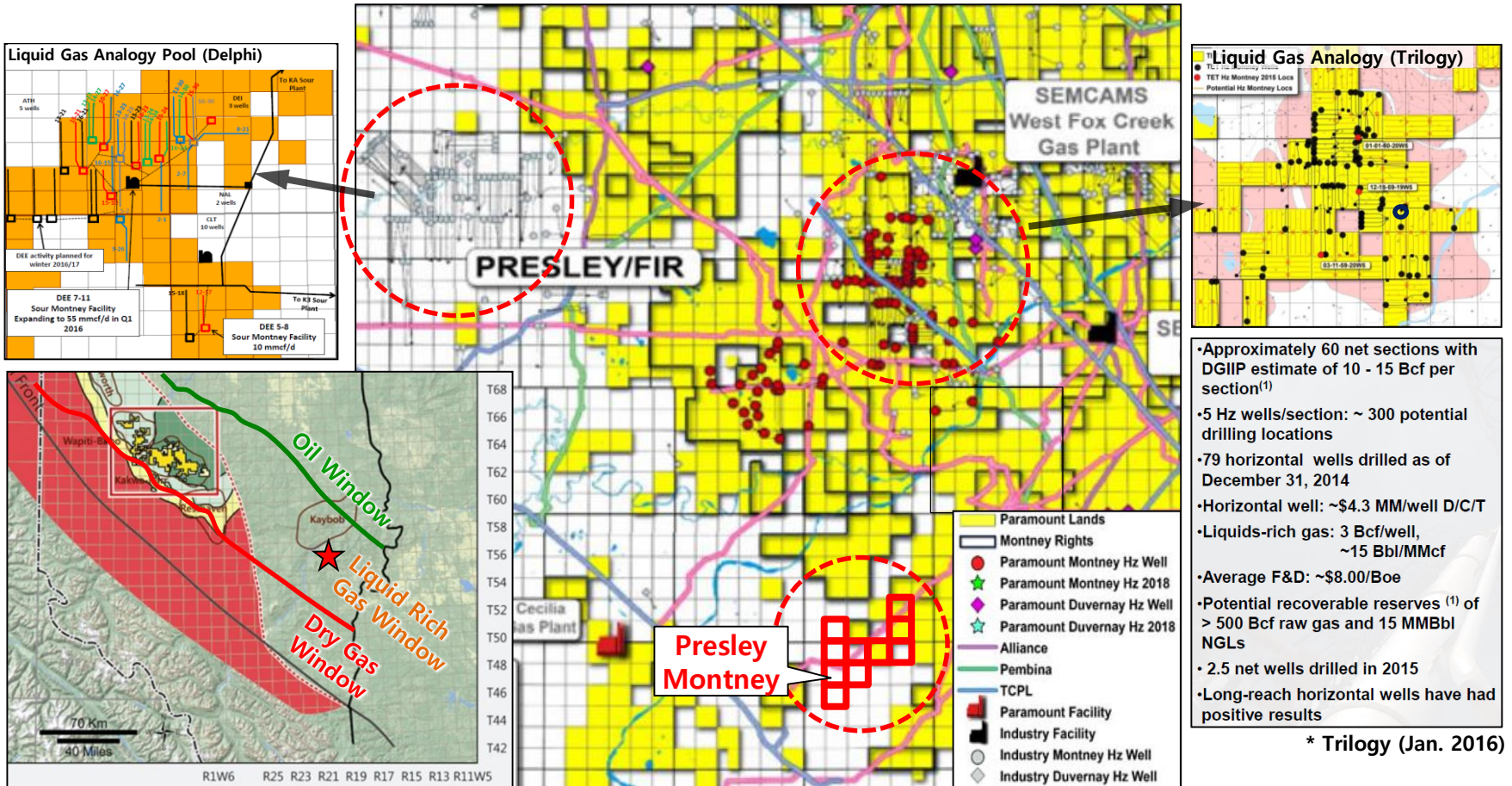
IV-5. PRESLEY PROJECT

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■ PRESLEY MONTNEY EVALUATION SUMMARY

- 10 sections (expiry at July, 2023)
- Extended Montney liquid rich gas trend from Paramount Resources lands in the north of acquired land position
- High development potential based on geological evaluation with thick dolostone with coquina



* source : Trilogy / Delphi (Jan. 2016) and Paramount (Aug., 2018)

V. ALBERTA POWER PROJECT

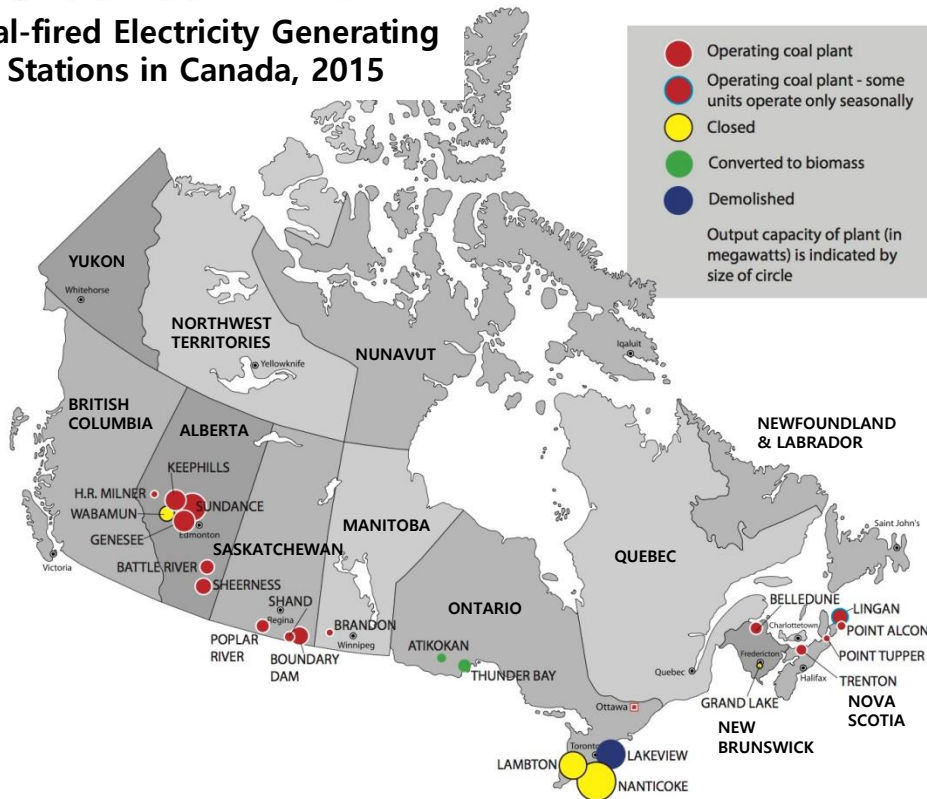
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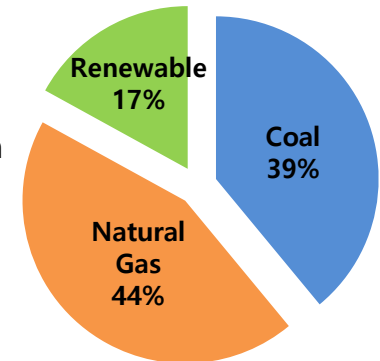
CHANGE IN ALBERTA'S ELECTRICITY GENERATION MARKET

- Government of Alberta began to charge carbon taxes and is **phasing out coal-fired electricity generation by 2030** to keep up with the international CO2 reduction policy.
- At June 2016, electricity generation sources in Alberta: Coal 39%, Natural gas 44%, Renewable 17% (Total 16,261 MW)
- **2030 Target : Natural gas 70%, Renewable 30%**
- Ontario has already phased out coal-fired generation by more than the amount of coal-fired generation in Alberta

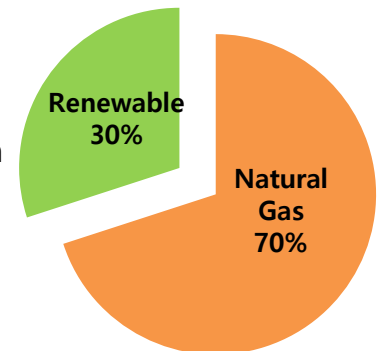
Coal-fired Electricity Generating Stations in Canada, 2015



Alberta's Electricity Generation 2016



Alberta's Electricity Generation 2030



* source : Broadbent Institute & Alberta Energy

V-1. GAS-FIRED POWER PROJECT

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■ SUMMARY OF SMALL-SCALE GAS-FIRED GENERATION (GAS-TO-POWER, GTP) PROJECT IN ALBERTA

- Gas Production & Reserves: Sandstone and coal bed in southern Alberta have very steady production with less than 5% of annual decline, which makes them **optimal for 10-years or greater long-term GTP projects**.
- Project Location: A compressor station to gather and treat the produced gas, and the **grid which can be connected for the transmission of electricity must be nearby**. A location for gas engine must be secured within the compressor station.
- Comparison of project term and cost:

Category	Base Load Generation	Over 5 MW	Under 5 MW
Total Capital Cost for Project	1.5~2.0 MM\$/MW	1.25~1.75 MM\$/MW	< 1 MM\$/MW
Regulatory Approval & Application to Completion	8~11 years	4~7 years	0.8~1.2 years
Infra, Zoning, Environmental Regulation	Significant	Significant	Minimal
Maintenance	24/7 Staff	24/7 Staff	Periodic
Operation Parameters	24/7 Operation	2 hr. Warm-up	3 min. Remote Start-up
Substation & High Pressure, Major Trans. Lines	Yes	Yes	No



Gas



Electricity

* source : photo by Emerald Bay Energy gas plant

V-2. ALBERTA RENEWABLE PROGRAM

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RENEWABLE ELCTRICITY PROGRAM (REP)

- Eligible projects are limited to new or expanded renewable electricity generation projects located in Alberta
- Projects must be able to connect to the [existing distribution or transmission system](#)
- Projects must be greater than or equal to [5 MW in size](#)
- Eligible fuels must meet the Natural Resources Canada definition of renewable energy
- REP Procedure : Request for Expression of Interest (REOI), Request for Qualification (RFQ), Request for Proposal (RFP), Result

Round 1 (2017) : 600 MW - Wind Power

- Average Pool Price : 37 \$/MWh

EDP Renewables Canada Ltd. ↗	Sharp Hills Wind Farm	248.4	Oyen
Enel Green Power Canada, Inc. ↗	Riverview Wind Farm	115	Pincher Creek
Enel Green Power Canada, Inc. ↗	Phase 2 of Castle Rock Ridge Wind Power Plant	30.6	Pincher Creek
Capital Power Corporation ↗	Whitla Wind	201.6	Medicine Hat

Round 1

Round 2 (2018) : 300 MW, Round 3 (2018) : 400 MW - Wind Power

- Average Pool Price : 38.69 \$/MWh (Round 2), 40.14 \$/MWh (Round 3)

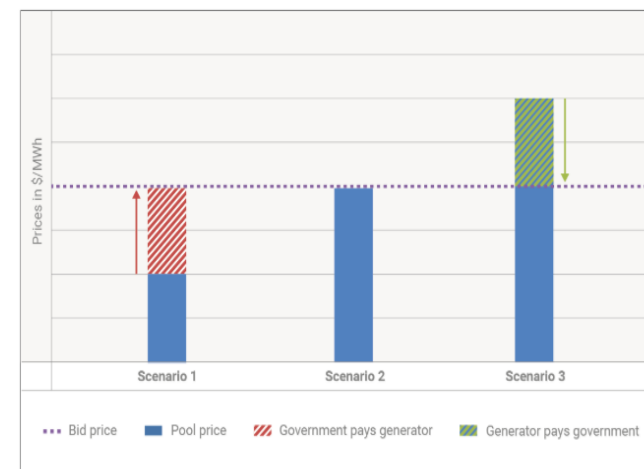
EDF Renewables Canada Inc. ↗	Cypress Wind Power Project	201.6	Medicine Hat
Potentia Renewables Inc. ↗	Stirling Wind Project	113	Lethbridge
Capstone Infrastructure Corporation ↗	Buffalo Atlee Wind Farm 1	17.25	Brooks
Capstone Infrastructure Corporation ↗	Buffalo Atlee Wind Farm 2	13.8	Brooks
Capstone Infrastructure Corporation ↗	Buffalo Atlee Wind Farm 3	17.25	Brooks

Round 2

TransAlta Corporation ↗	Windrise Wind	207	Pincher Creek
Potentia Renewables Inc. ↗	Jenner Wind Power Project	122.4	Brooks
Potentia Renewables Inc. ↗	Jenner Wind Power Project 2	71.4	Brooks

Round 3

Indexed Renewable Energy Credit



Scenario 1

The pool price is low, so the government payment to generators (red) is needed to meet the bid price.

Scenario 2

The pool price is equivalent to the bid price, so the government would issue no payment to the generator.

Scenario 3

The pool price is higher than the bid price, so the generator would be paying that amount (shown in green) back to the government.

IV. RESEARCH – Directional Drilling System

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SUBJECT 1. Directional Propulsion & Integrated Control Technology

Directional Control System

- Mud motor (propulsion) & MWD
- Acoustic pulse-based MWD communication to identify drill bit location in formation

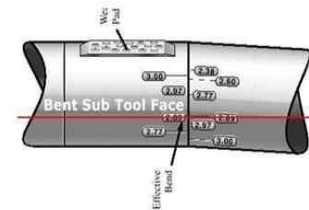
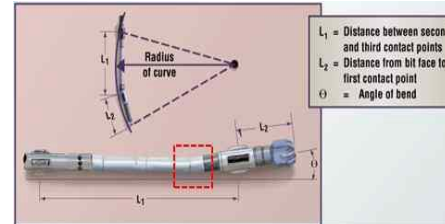


■ Mud motor (Hockey stick type)



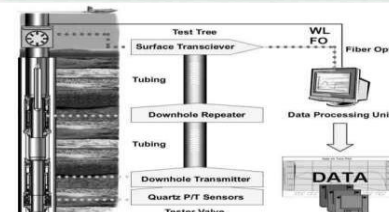
Mud Motor

- Develop Short Bit to Bend technology maintains Bend Angle, securing more extended Dogleg.
- Development of high-efficiency mud motor capable of continuous drilling without trip out.



MWD(Measurements while drilling)

- Improved mud pulse communication technology which is 2 bps communication speed level.
- Development of MWD technology to improve the drilling stop time(3 min/times) & real-time location recognition



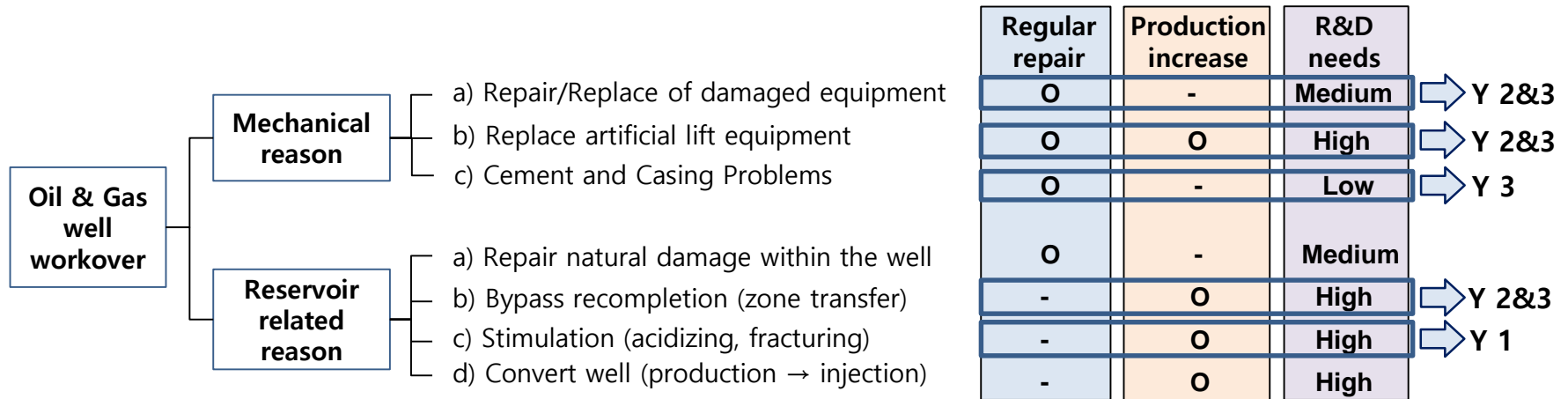
IV. RESEARCH – Well Workover

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■ Workover and stimulation technology for low productivity wells

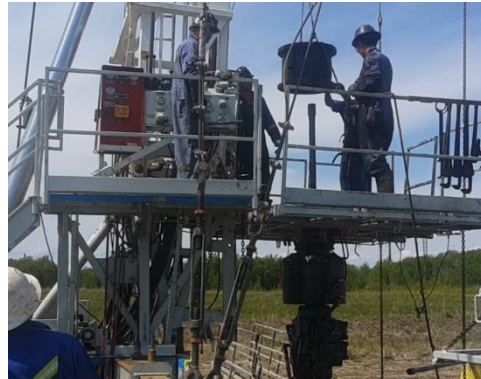
- Performing Stimulation, Bypass recompletion, re-activation, replace artificial lift in Canada for the evaluation of well workover



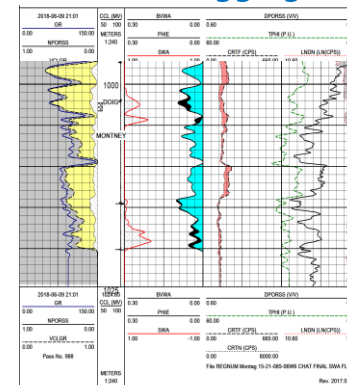
Acid Stimulation (Alderson, 1st Y)



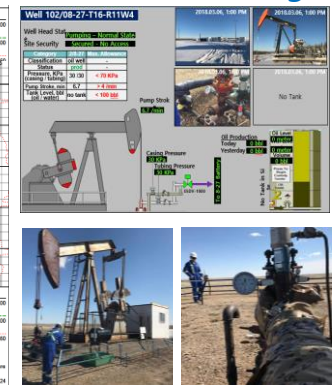
Re-completion (Jack Field, 2nd Y)



CHAT Logging



Field Monitoring





End of Documents

MKS INVESTMENTS LTD.

Contact Information

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