



# **Gandalf Project**

*A Canadian 'Sleeping Giant'*

**From Concept to Major Discovery**

**February 2023**

**Introduction**



## Forward Looking Statements (Important Notice)

This presentation includes certain forward-looking information or forward-looking statements for the purposes of applicable securities laws. These statements address future events and conditions and, as such, involve known and unknown risks, uncertainties and other factors, which may cause the actual results, performance or achievements to differ materially from those anticipated in such statements.

Important factors that could cause actual results to differ materially from the Company's expectations include, among others, the timeliness of regulatory approvals, the timing and success of future exploration and development activities, exploration and development risks, market prices, exploitation and exploration results, availability of capital and financing, general economic, market or business conditions, uninsured risks, regulatory changes, defects in title, availability of personnel, materials and equipment, unanticipated environmental impacts on operations and other exploration risks detailed herein and from time to time in the filings made by the Company with securities regulators.

In making the forward-looking statements, the Company has applied several material assumptions including, but not limited to, the assumptions that the proposed acquisition, exploration and development of the oil and gas projects will proceed as planned, market fundamentals will result in sustained commodity prices, and any additional financing needed will be available on reasonable terms. The Company expressly disclaims any intention or obligation to update or revise any forward-looking statements whether as a result of new information, future events or otherwise except as otherwise required by applicable securities legislation.

# Investment Overview: Exempt Market Offering

## Target: Project Gandalf Development

### Investment Overview

#### Size of the Offering:

- 100,000 Units (maximum)

#### Amount:

- \$10M Maximum raise
- Minimum Subscription \$5,000
- \$100/ Unit

**Initial Closing:** November 25, 2022

**Final Closing:** June 30, 2023 [unless extended]

**Fund Termination Date:** September 30, 2028

### Project Overview

**Location:** Just south of Edmonton - Leduc area, Alberta

**Development Play:** (4 Hor. Wells/ sq. mile – 1 to 1.5 mi. long)

**Technological Discovery:** Resulting from Reviews of logs from old, deep wells in the area

#### Type of find:

- Heavy Oil (API 18-20) in a Conventional fine sandstone Reservoir – with associated Natural Gas present

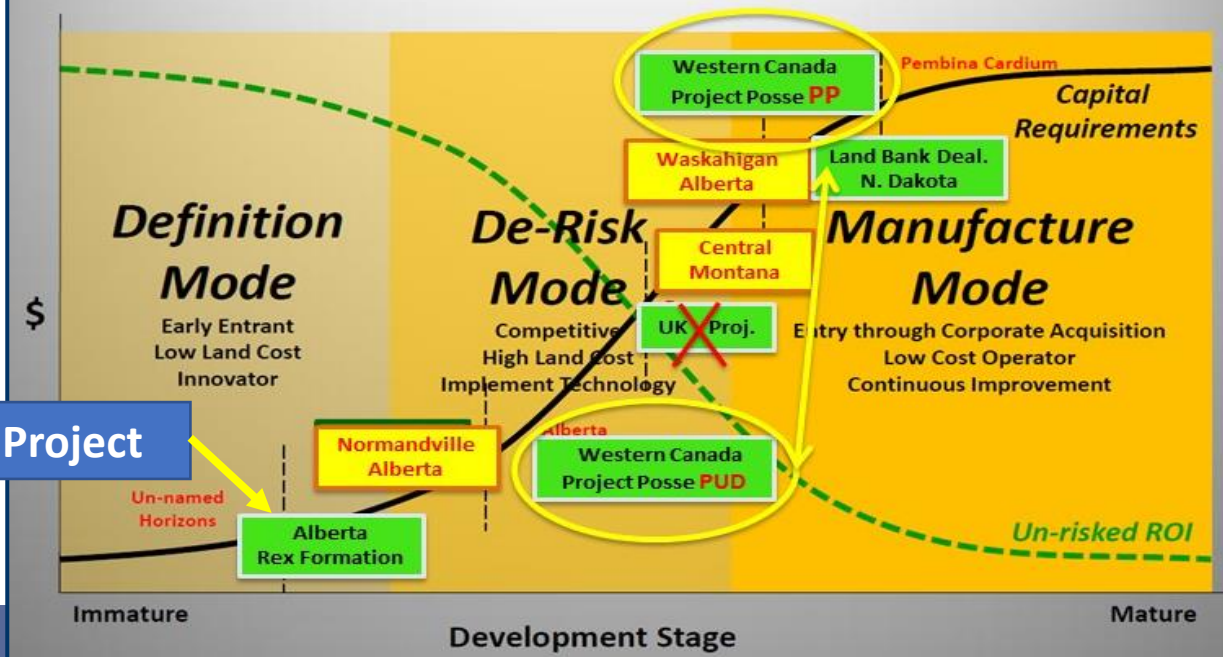
**Economics [for Development of Lands expected to be Acquired and held in Hand during Definition Mode]**

*Timeline of Expected Returns:* about 2.3 year payback (bf tax)

*Internal Rate of Return (IRR):* 46% (estimated)

*Net Present Value (NPV10 ):* \$14+ M (estimated)

### Life Cycle of a Resource Play



# PanAm Income Limited Partnerships Management Structure

**Group Chairman-CEO**

Hans G Schmidt

**COO Fund Mgmt. Ltd**

General Partner

**COO Field Operations**

J. Michael Corak

**Manager Land**

Neil Cusworth

**Advisory Board**

Attila Nadori

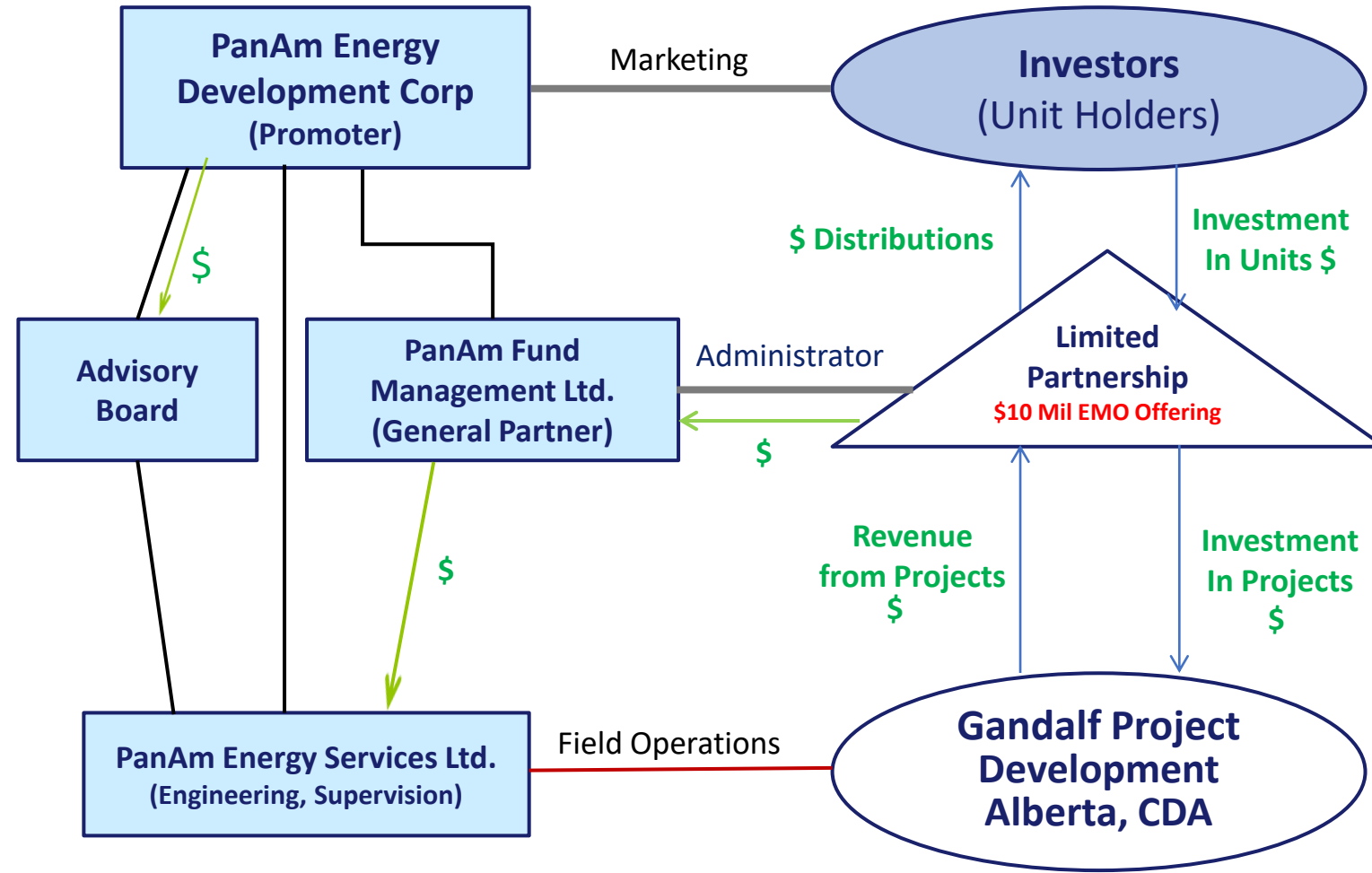
J. Michael Corak

C von Hohenzollern

Nick Busink (Honorary)

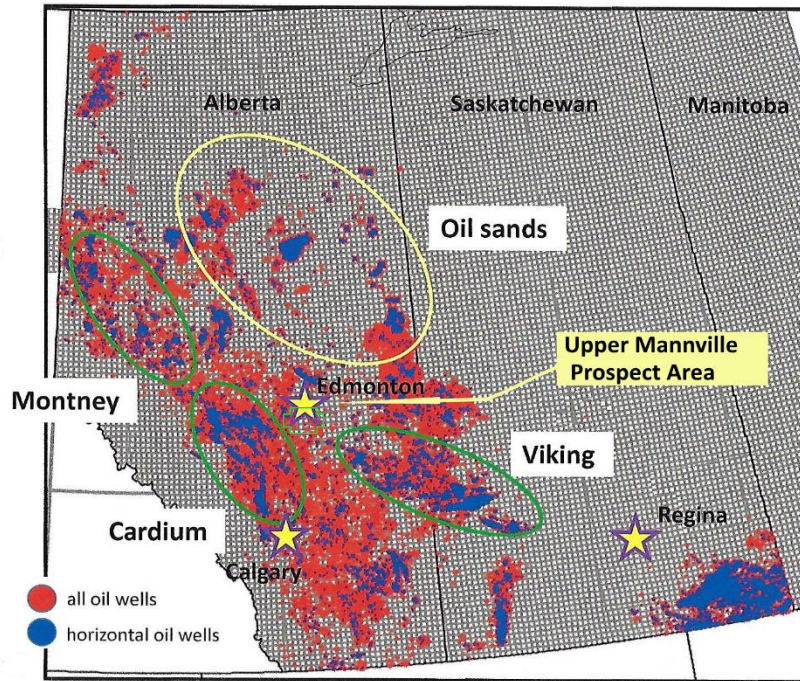
**Marketing Liaison**

Aaron Taylor





# Present Day Target: Project Gandalf – *the ‘Giant’s Location’*



## Gandalf Field - Upper Mannville (‘UM’) Rex Oil Zone:

- Part of the Western Canada Sedimentary Basin
- Located West of Leduc, Alberta (South-West of Edmonton by 40 KMs)
- Near expanding Trans Mountain Oil Pipeline

## Western Canada Sedimentary Basin:

Producing since 1947 when prolific Devonian reefs were discovered in the Leduc area, just south of Edmonton.

- 172 billion barrels of oil - World’s 3rd largest
- Production - 4.2 MM barrels of oil per day – World’s 6th largest
- 600,000+ wells drilled

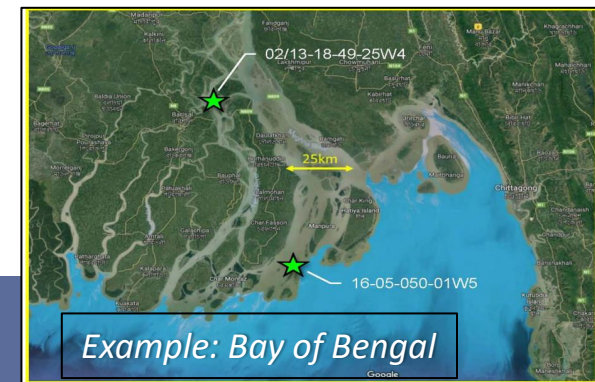
In the ‘60’s and ‘70’s Reserves in the Lower Mannville zones were developed in the Leduc Area – *penetrating but not developing the shallower Upper Mannville sands.*

## Geological History:

- During Upper Mannville (‘UM’) time (Project Gandalf + Leduc Rex Field) began as a series of river channels that were subsequently buried.
- Original deposition occurred some 100 million years ago.
- Thickness of deposits range ~20 to ~66 feet thick (~6 to ~20 metres).
- Channels composed of fine grained, well sorted, rock particles.
- Oil migrated into and accumulated in pore spaces in UM aged rock zones.

## Upper Mannville Creation:

Present day analog of greater Gandalf area may have looked like the Bay of Bengal today; i.e., sediments were deposited along the length of the river channels shown but which, at the time, flowed into an ocean located in what is today Central Alberta.



# Present Day Target: Project Gandalf – *the ‘Giant Proven’*

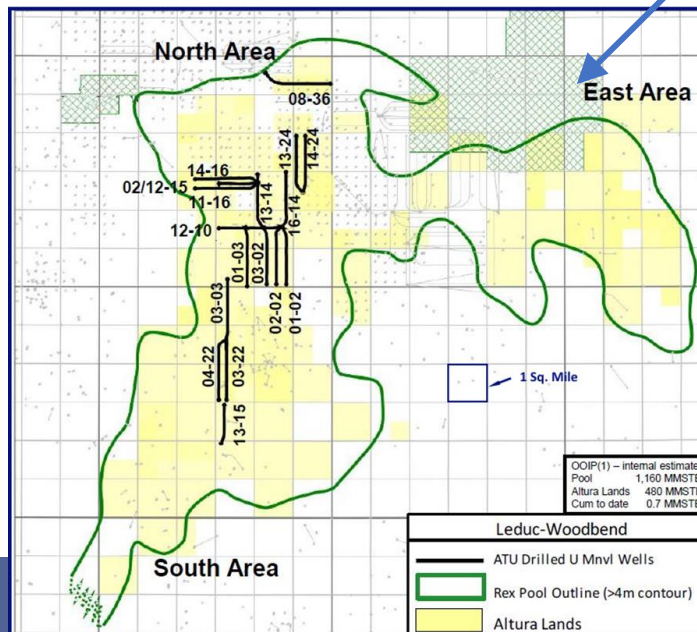
## Upper Mannville Leduc Field Status 2020:

- Altura (now Tenaz) was one of the first companies to recognize the potential of the UM Formation at its Leduc Field, east of Gandalf.
- Development of the Leduc Field Upper Mannville is continuing
- Production from about 20 horizontal Rex Zone wells with 1 – 1.5 mile lateral extensions.
- Clean oil is trucked from multi-well batteries to facilities near the field.
- Gas is gathered and delivered via pipelines to end market.

**Altura/Tenaz majority owner and other industry personnel, have classified the UM Leduc Field as “the 11<sup>th</sup> largest Canadian Oil Field discovery in Canada ever.”**

## ‘Altura/Tenaz’ Leduc Field

*Aerial extent and Well Locations*



Overall Rank	Area	Pool Name	Twp-Rge	Province	Formation	Disc Date (vt/hz)	OOIP (mmbbls)	notes
1	Pembina	various units	46-50,6-11W5	Alberta	Cardium	1953	7421	halo
2	Viewfield	Viewfield Bakken	6-11,5-11W2	SK	Bakken	1981/2004	4600	technology
3	Marten Hills		73-76,24W4-3W5	Alberta	Clearwater	2009/2011	3000?	technology
4	Swan Hills	BHL A&B	66-70,8-11W5	Alberta	BHL	1957	2895	halo
5	Weyburn/Midale	various units	5-6,10-14W2	SK	Midale	1954	2061	halo
6	Provost	Hamilton Lake units	34-36, 7-12W4	Alberta	Viking	1946	1661	halo
7	Turner Valley	Rundle	18-21,2-3W5	Alberta	TV	1916	1325	
8	Redwater	D-3	56-58,20-22W4	Alberta	Leduc	1948	1302	
9	Sinclair		7-10, 28-30W1	MB	Torquay	?/2004	1300	technology
10	Steelman/Alameda	Steelman/Alameda units	3-5,4-6W2	SK	Midale	1954	1200	
11	Leduc-Woodbend		48-50,24-26W4	Alberta	U Mann	2014/2016	1160	technology
12	Willesden Green	Cardium A	39-44, 4-9W5	Alberta	Cardium	1954	1094	halo
13	Swan Hills South	BHL A&B	65-66,9-11W5	Alberta	BHL	1959	1084	
14	Twining	Rundle A	30-33, 24-25W4	Alberta	Pekisko	1952	935	
15	Nipisi	Gilwood A	78-81,7-9W5	Alberta	Gilwood	1965	909	
16	Mitsue	Gilwood A	69-74, 3-6W5	Alberta	Gilwood	1964	818	
17	Judy Creek	BHL	63-64,10-11W5	Alberta	BHL	1959	817	
18	Morgan	Lloyd A	52-4W4	Alberta	Lloydminster	1962	811	
19	Bonnie Glen	Leduc A	46-47,27-28W4	Alberta	Leduc	1952	787	
20	Cecil/Mulligan		80-83, 8W6	Alberta	U Charlie Lake	1983/2013	700	technology

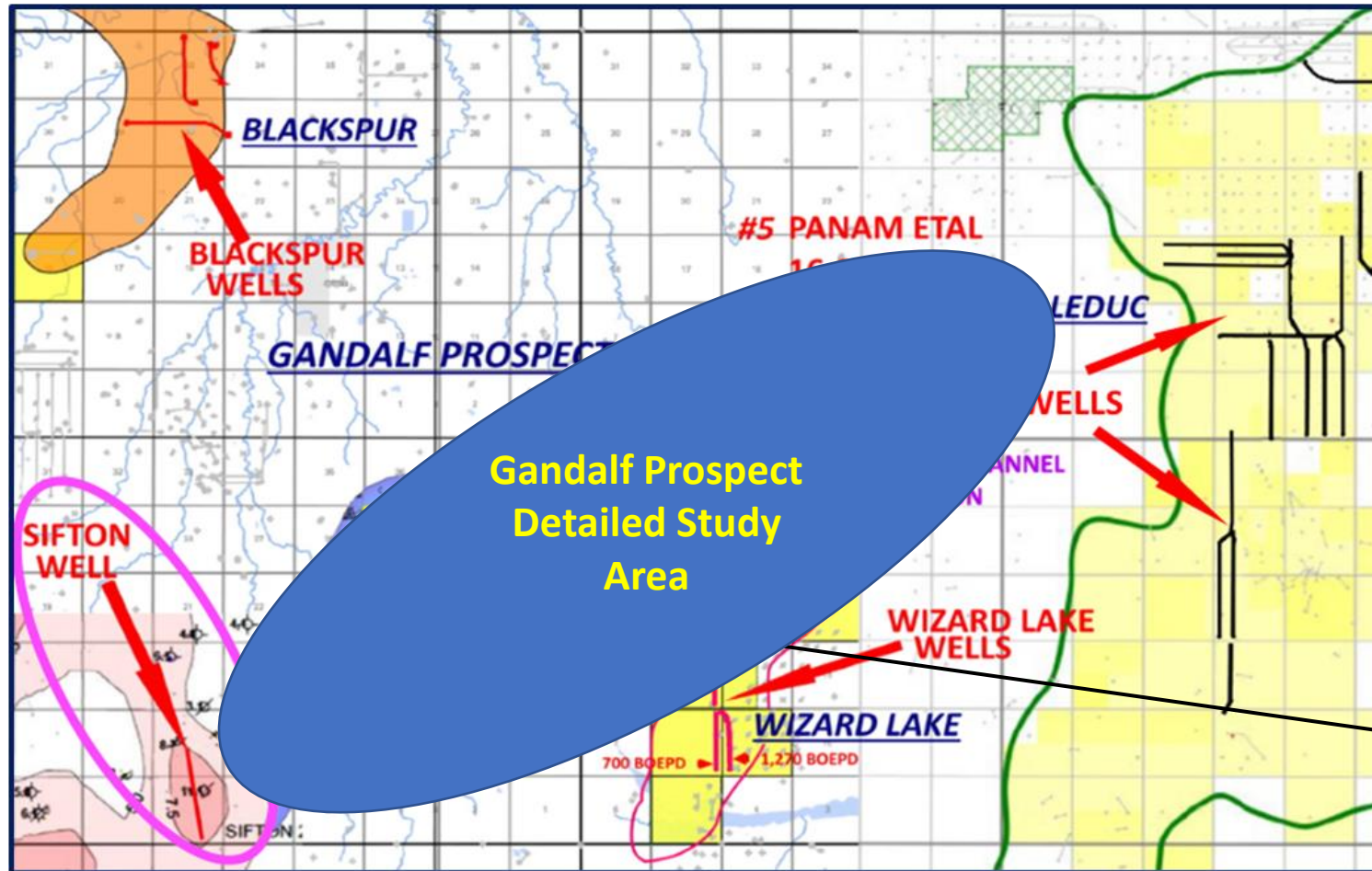
## UM Leduc Field Statistics:

- Original Oil in Place (OOIP)
  - 1.160 billion STB gross
  - 446 million STB net (Altura/Tenaz)
- Reserves (December 2021)
  - Proved 6.17 MMBOE+
  - Proved plus Probable (P+PP) 10.8 MMBOE
- 65 net sections in inventory
- 66 additional 1.5-mile lateral wells possible



# Gandalf Area Development by – mid-2020

## [Gandalf Location relative to Altura Leduc Field]



- By mid-2022, 3 horizontal wells had been drilled to the south of Gandalf
- Also, a 1.5 mile horizontal well was drilled to the west of Gandalf
- **Key:** The PanAm et al Gandalf Prospect is now surrounded by Upper Mannville production with Initial Production rates (IP's) as high as 300 – 1270 BOEPD (oil weighted)
- **Key:** To date "No Dry Holes" have been drilled in the Rex Zone in the entire area

The completion of prolific horizontal wells around Gandalf significantly reduces development Risk

- ❖ **NEW** Another horizontal well has recently been drilled just to the South of PanAm Group's 100% WI holding. Production Testing is currently in Progress.

Gandalf Prospect Surrounded by Rex Zone Production

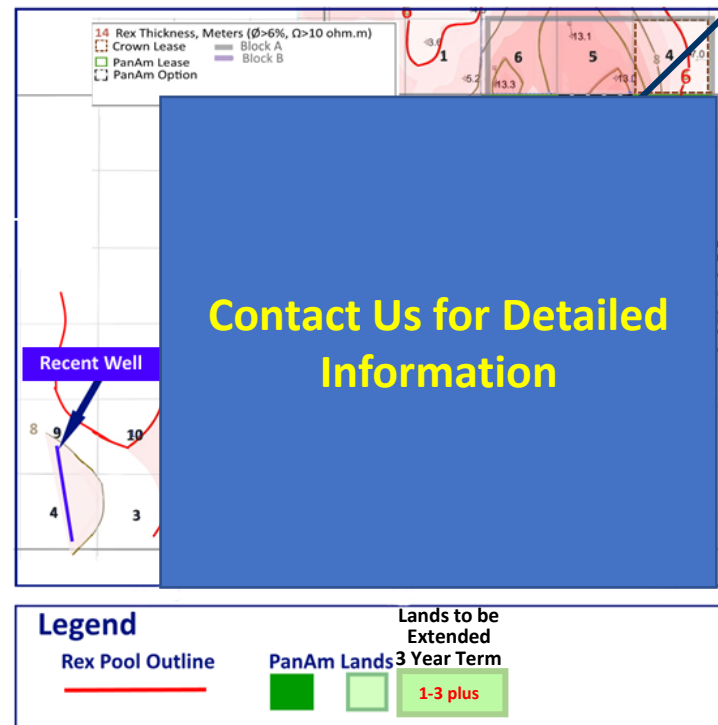
# Present Day Target: Project Gandalf – *Invest in the ‘Giant’*

## Why Invest in Gandalf with PanAm:

VALUE OF PANAM LEASES PRESENTLY HELD AND TO BE ACQUIRED

Section	UPDATED STUDY					
	Acres	Meters	Acre-meters	Rec Res, BBLS	Potential Working Interest, PanAm et al	Potential Net NPV10, PanAm et al
	640	13.0	8,320	1,417,603	31.7%	\$7,864,155
**EARNING SECTION - VALUE EARNED AFTER WELL COMPLETION**						
	640	10.0	6,400	1,185,969	100.0%	\$20,754,451
	640	8.0	5,120	563,456	50.0%	\$4,930,240
	320	7.0	2,240	328,422	50.0%	\$2,873,691
				(4)		
	480	8.0	3,840	573,451	50.0%	\$5,017,693
	640	12.0	7,680	1,354,741	50.0%	\$11,853,987
	640	11.5	7,360	885,200	50.0%	\$7,745,496
	640	10.0	6,400	855,266	50.0%	\$7,483,574
Totals of In-Hand Leases				7,164,107	*	\$60,659,133

\*



Oil on Shakers

- (1) New Well Testing has now begun \*\*
- (2) Older Wells tested From 380 to 1270 BOED
- (3) PanAm owns lease to the North and is actively pursuing other lease acquisitions in the greater Gandalf area\*\*

Successful completion of prolific horizontal wells surrounding Gandalf provide additional production and structural statistical data valuable in assisting in calculating “Oil in Place” potential

**NO DRY HOLES DRILLED TO DATE**

**NOW, is the Time to Act\*\***

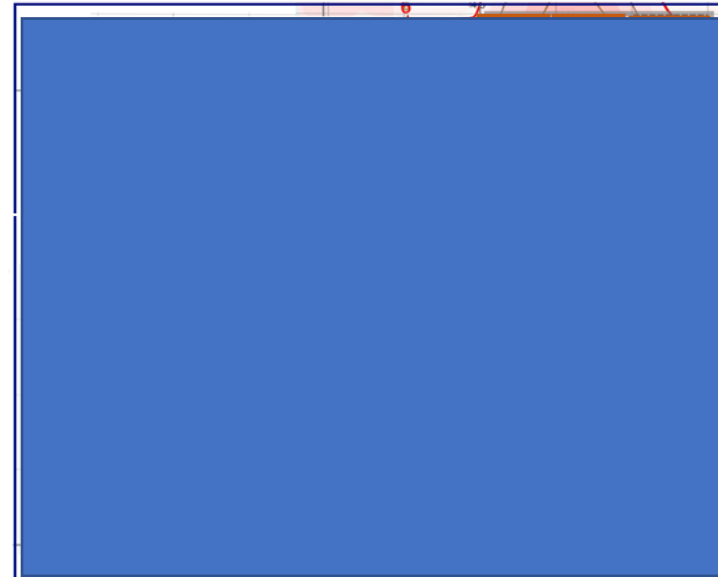


# Present Day Target: Project Gandalf – *Invest in the ‘Giant’*

## Investing today offers more for tomorrow:

(Possible Value of Additional Lease Acquisitions under Negotiation)

Section	UPDATED STUDY					
	Acres	Meters	Acre-meters	Rec Res, BBLS	Potential Working Interest, PanAm et al	Potential Net NPV10, PanAm et al
	320	7.5	2,400	358,407	50.0%	\$3,136,058
	640	10.0	6,400	955,751	50.0%	\$8,362,822
	640	8.0	5,120	764,601	50.0%	\$6,690,258
	640	7.0	4,480	669,026	50.0%	\$5,853,976
	640	11.0	7,040	1,051,326	50.0%	\$9,199,105
	640	10.5	6,720	1,003,539	50.0%	\$8,780,963
	640	10.0	6,400	955,751	50.0%	\$8,362,822
	160	8.0	1,280	191,150	50.0%	\$1,672,564
	640	13.0	8,320	1,876,240	50.0%	\$16,417,097
	640	10.0	6,400	955,751	50.0%	\$8,362,822
	640	9.0	5,760	860,176	50.0%	\$7,526,540
	640	11.0	7,040	1,209,590	50.0%	\$10,583,912
	640	12.0	7,680	1,187,306	50.0%	\$10,388,923
Totals of Possible Leases	12,038,613					\$105,337,863



### Legend

Rex Pool Outline

PanAm Lands

Lands to be Extended 3 Year Term

Lands to be Acquired via Farmins



1-3

Oil on Shakers



**New Well is being Tested Currently\***

Old Wells Tested From 380 to 1270 BOED

PanAm actively pursuing other lease acquisitions in the greater Gandalf area

**Additional leases allow for future growth participation opportunities when investing in PanAm today.**

**NOW, is the Time to Act.**

## Risks

- Speculative in nature
- New COVID variants could affect the price of oil
- No guaranteed return
- Risks of non-productive wells
- Limited area operating history
- Access to Market
- Limited transferability (no public market for Units of the LP)

**Please refer to the Offering Memorandum for a more comprehensive discussion of risks pertaining to this investment.**

## Upsides

- Countries and Medical institutions have come to understand how to cope with the virus
- Proven nearby wells (nearest only 1 half mile from PanAm Prospect boundary)
  - Well expected to reach initial production levels of 300 bpd & 1.4 mmf3 by Q1 2023
- No dry holes drilled in the study Area
- Much reduced exploration risk due to data available from previously drilled wells
- A number of New wells have been on stream long enough to provide production history
- Developed oil properties have a market as recent sales in the area confirm

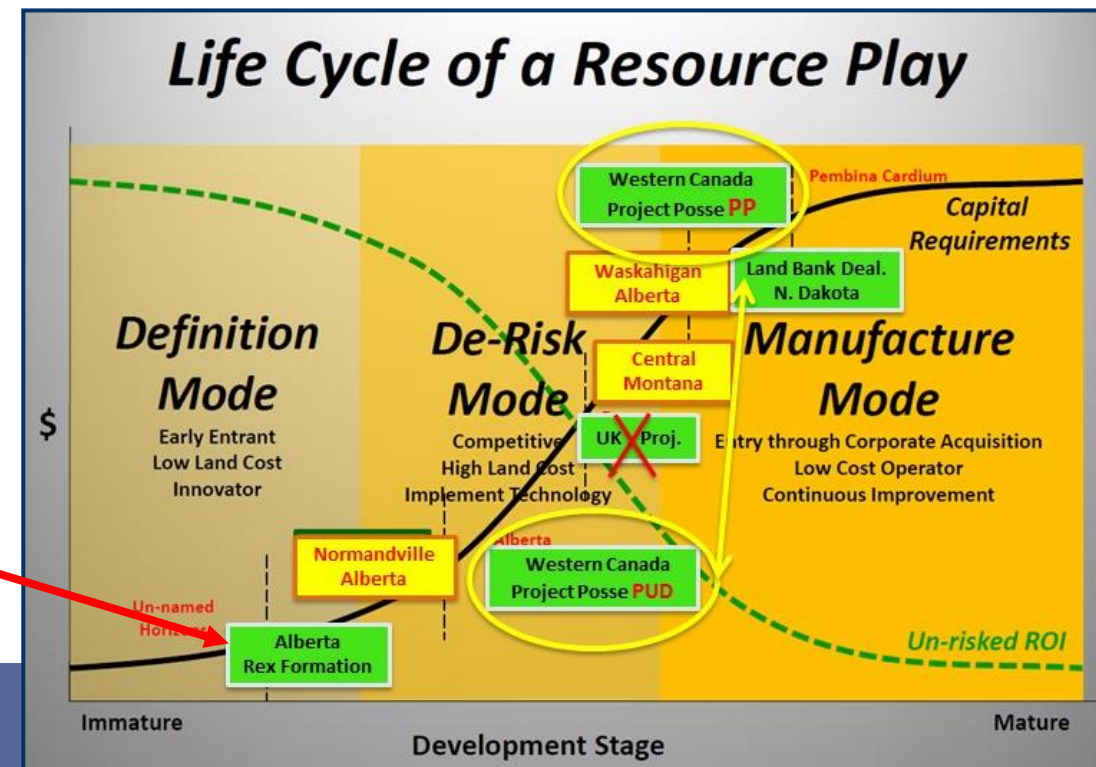
# Project Gandalf – *Invest in the ‘Giant’*

## Why Invest in Gandalf with PanAm:

- *Management Experience* –
  - Project management, drilling, capital raising
- *Proven Neighbouring Reserves* –
  - Ability to leverage public knowledge
- *Technological Find* –
  - New Log Interpretation Minimizes exploration risks,
  - Drilling and Extraction technology has unlocked recovery methods of oil from the Upper Mannville Formation

**The Time to Act is: NOW**  
(While the Project is still in Definition Mode)

- *Growth potential* –
  - Investment today allows further development participation tomorrow
- *Multiple equity sources* –
  - Capital raised from several channels







# Gandalf Project

## *A Canadian 'Sleeping Giant'*

## Contact Information

### PanAm Energy Group

OIL AND GAS INVESTMENTS THAT MAKE SENSE

Design an oil and gas participation that works for you

### PanAm contact form

If you have any investment queries, please fill out the short form to help us in following up with you. For all other requests, feel free to email us at [info@panamenergy.ca](mailto:info@panamenergy.ca)

Send

### PanAm Energy Group

111, 7th Avenue Northeast

Calgary, Alberta T2E 0M6

Email: [info@panamenergy.ca](mailto:info@panamenergy.ca)

Tel: 1.403.457.4432

Looking for more information?

Reach out to Aaron Taylor – he is your lead liaison for investing in PanAm.

### Contact

Aaron Taylor - 403-862-3444

[aarontaylor@rhythmcapitalcorp.ca](mailto:aarontaylor@rhythmcapitalcorp.ca)

Rhythm Capital Corp.

# Appendix I – The Making of a Supercycle

## Chart 2

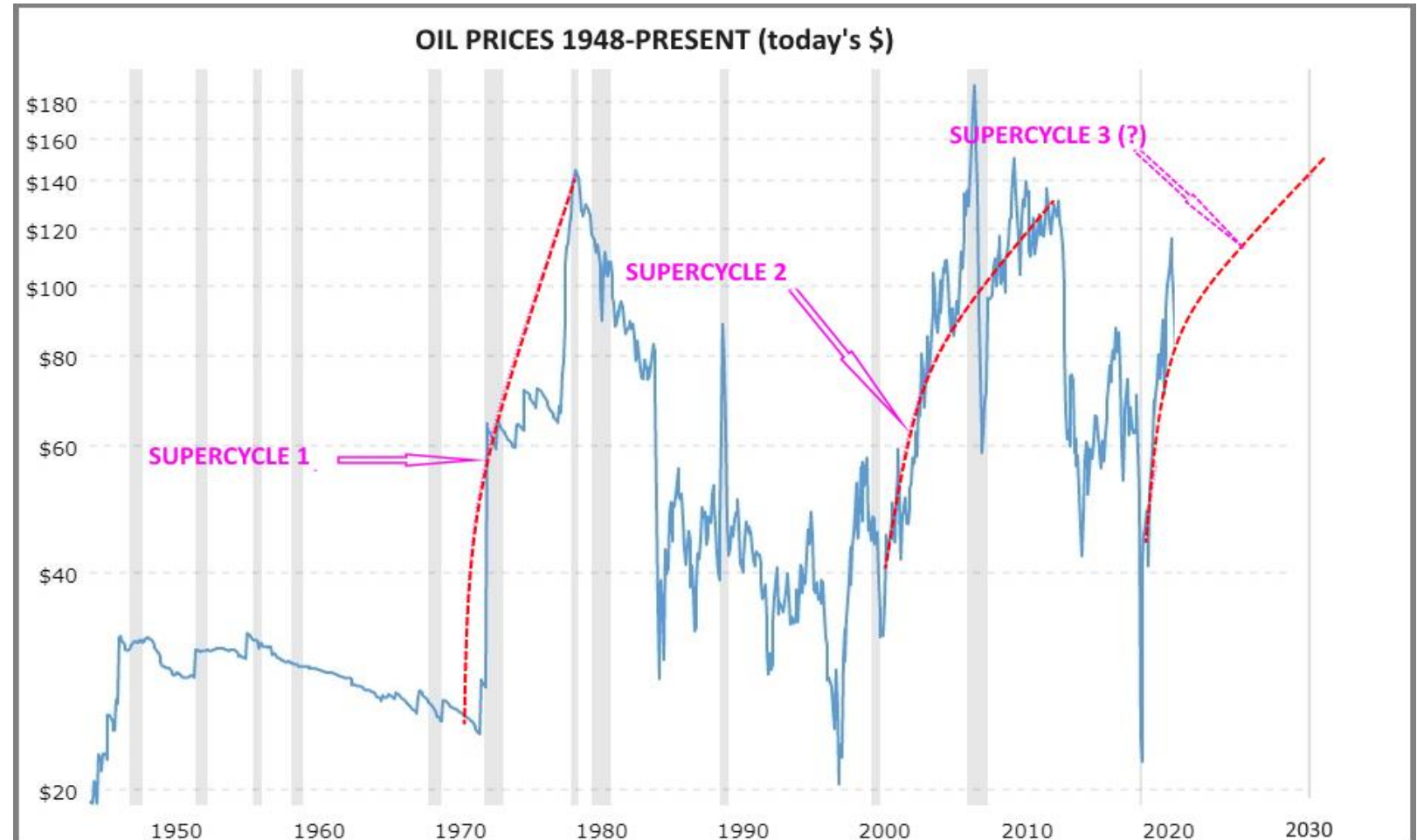
The supercycles as outlined by Dr. Currie. These supercycles continue for a 10-12 year period.

Cycle #1: 1968 – 1980

Cycle #2: 2002 – 2014

Cycle #3: 2020 - ?

Dr. Currie is *Global Head* of Commodities at Goldman Sachs, who have been very accurate in forecasting Oil pricing over the past decade.





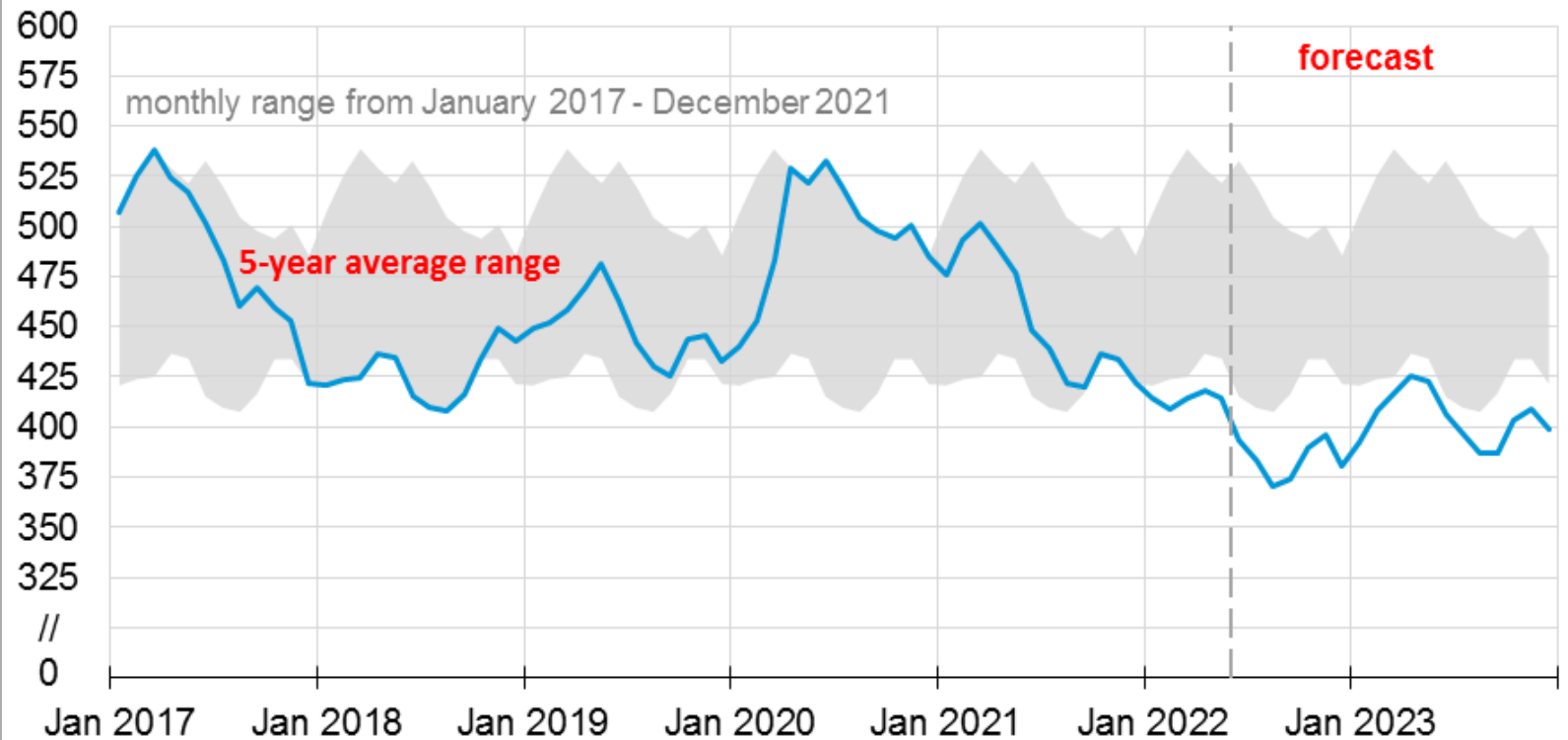
# Indications of a Supercycle

Chart 2

US inventories of crude oil from 2017 to present, including 1-year forecast.

Oil inventories are forecast to remain below the 5-year average for the foreseeable future.

U.S. commercial crude oil inventories  
million barrels



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, June 2022

## INDICATION OF A SUPERCYCLE

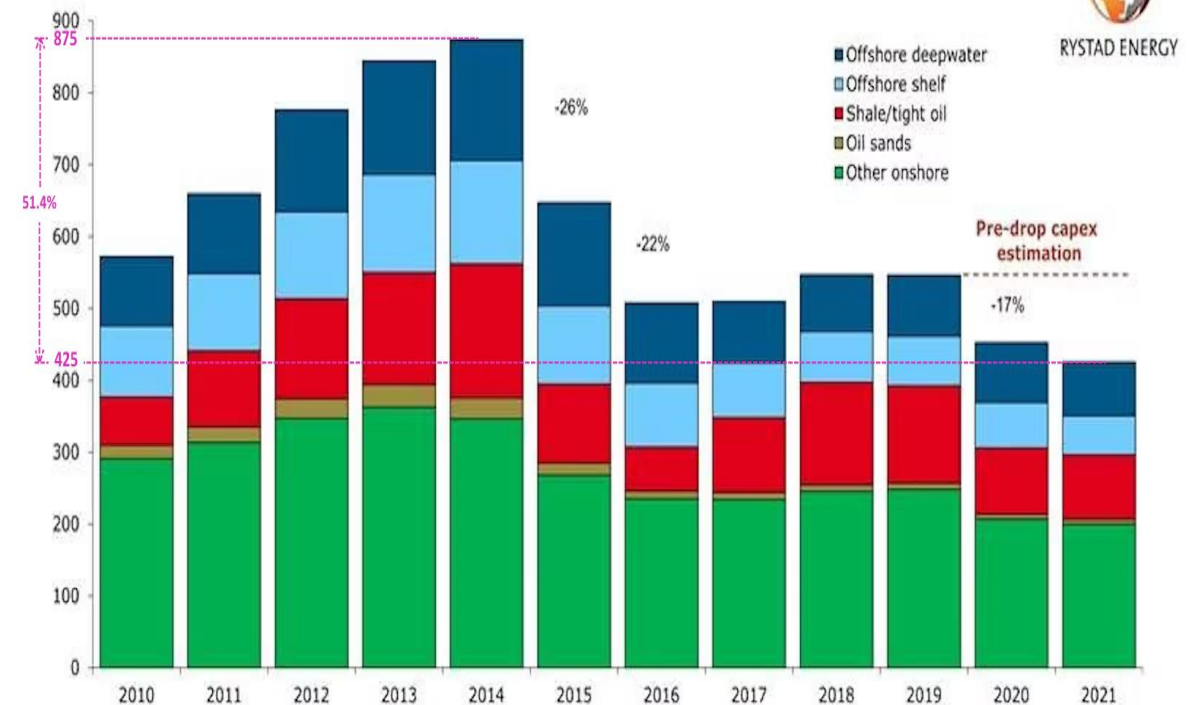
In a Supercycle, as Dr. Currie of Goldman Sachs has mentioned [ie., “underinvestment thesis”], supply is so inadequate to demand growth that prices rise for years, even a decade or more. This is occurring now, as shown in Charts 2 and 3.

### CHART 3

Annual capital expenditures from 2010 – 2021 (actual) are shown.

As Chart 3 indicates, oil and gas investment has fallen from about \$875 billion in 2014 (at the end of the last Supercycle) to around \$425 billion in 2021 – **a drop of 51.4%**. Expenditures are predicted to rise only slightly in 2022, **not on course with the rate required to reach the minimum \$4.7 trillion needed over this decade, as estimated by the IEF.**

Global E&P investments by supply segment  
Billion USD



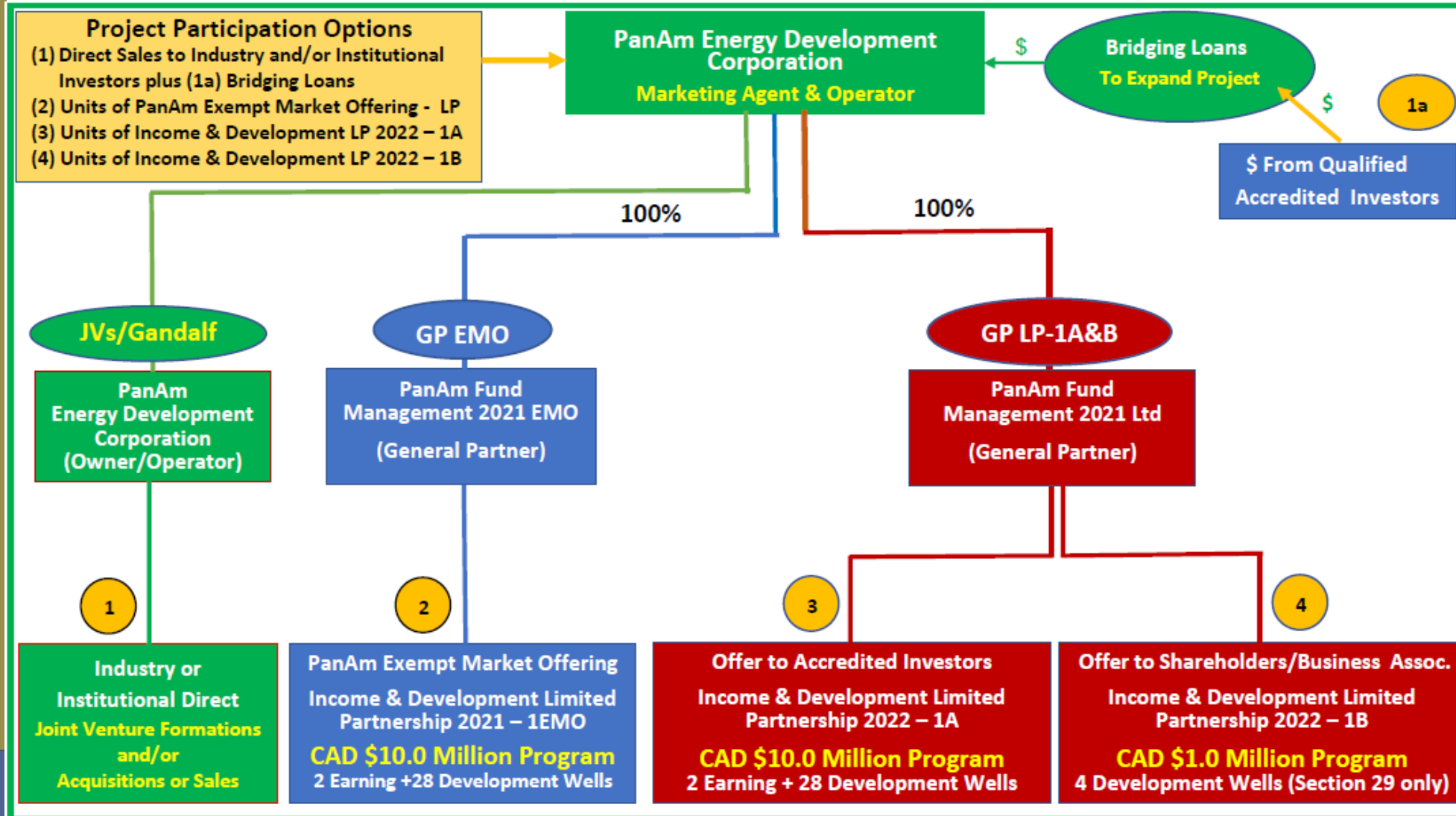
Source: Rystad Energy UCube

# Appendix II – Gandalf Project Participation Options



# PanAm Energy Group

“Organizational Structure 2022 - Project Acquisition and Sale – Gandalf Financing Participations on Offer”



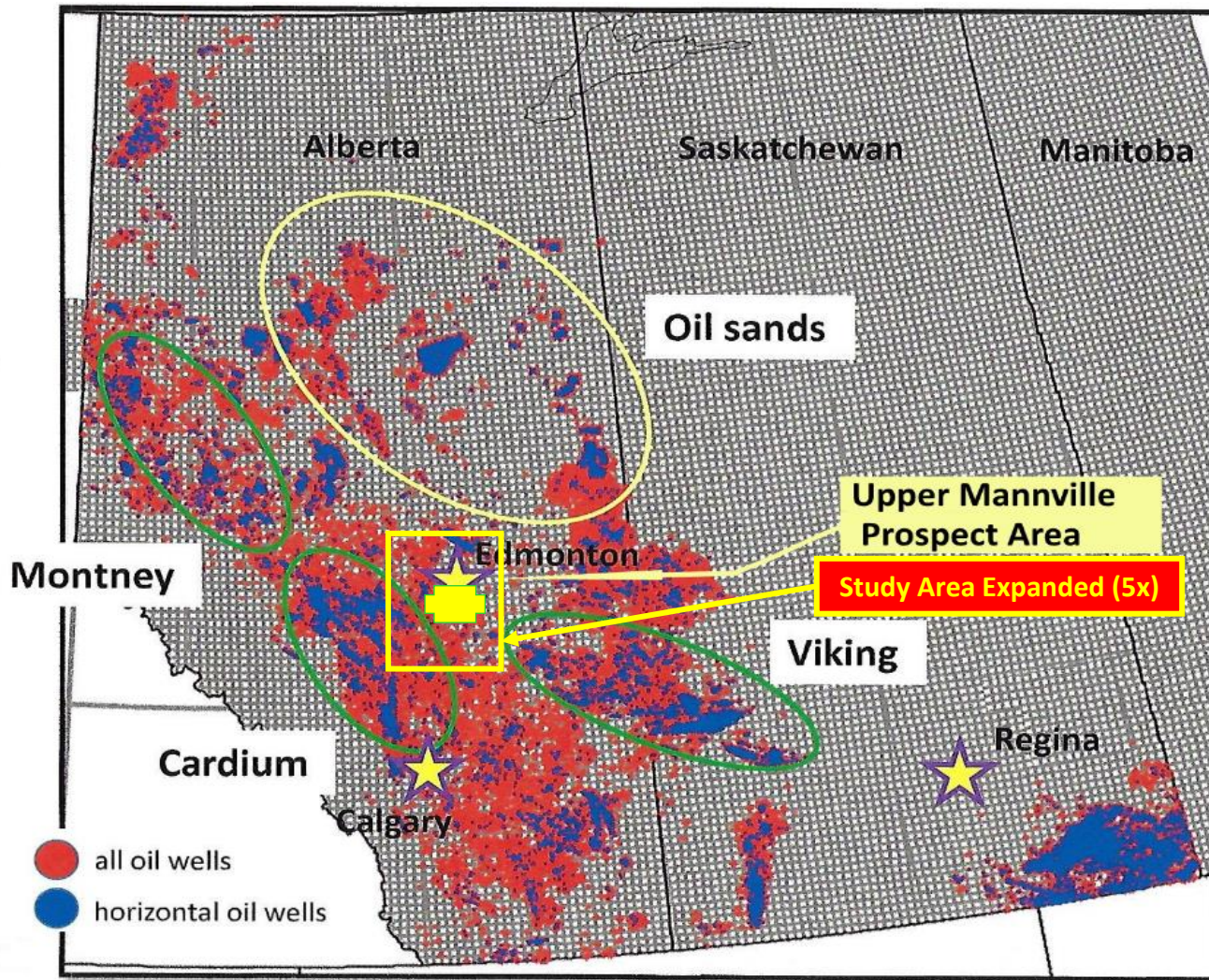
For more details  
Contact  
Aaron Taylor

## Appendix III – What Are PanAm's Current Additional Expansion Plans For Project Gandalf

- (1) Expand The Study Area [**underway**]
- (2) Conduct a Geophysical Survey [**to begin Q2 – 2023**]



# (1) Present Day Target: **Target Study Area to be Expanded** Project Gandalf – *the ‘Giant’s Location’*



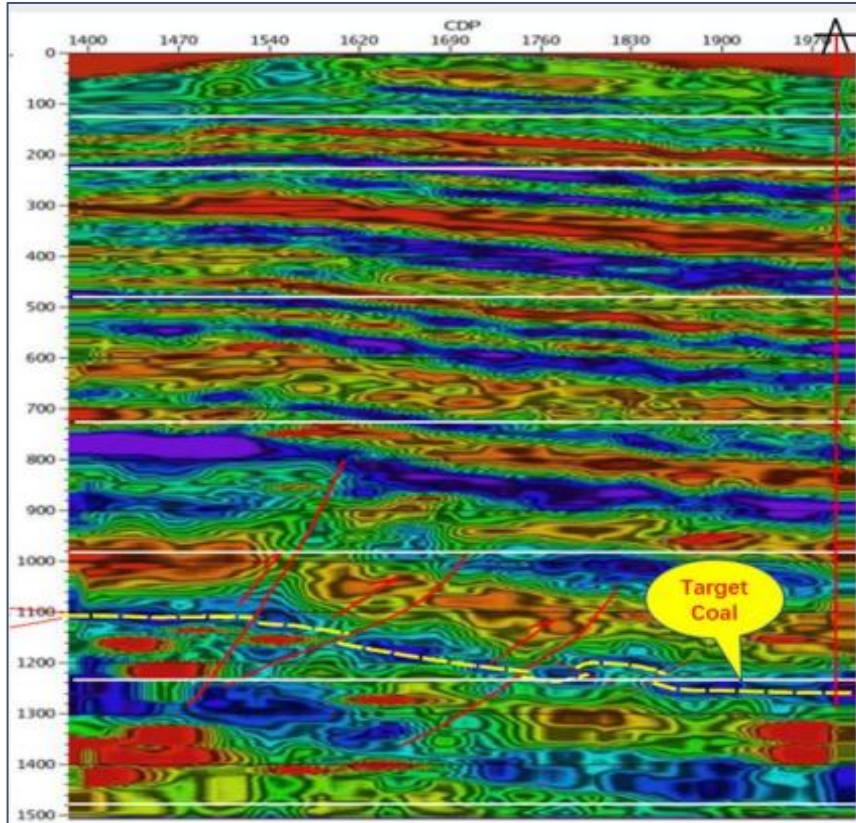
## Gandalf Field - Upper Mannville ('UM') *Rex Oil Zone:*

- Part of the Western Canada Sedimentary Basin
- Located West of Leduc, Alberta (South-West of Edmonton by 40 KMs)
- Near expanding Trans Mountain Oil Pipeline
- **Study Area to be expanded by a Factor of 5x**

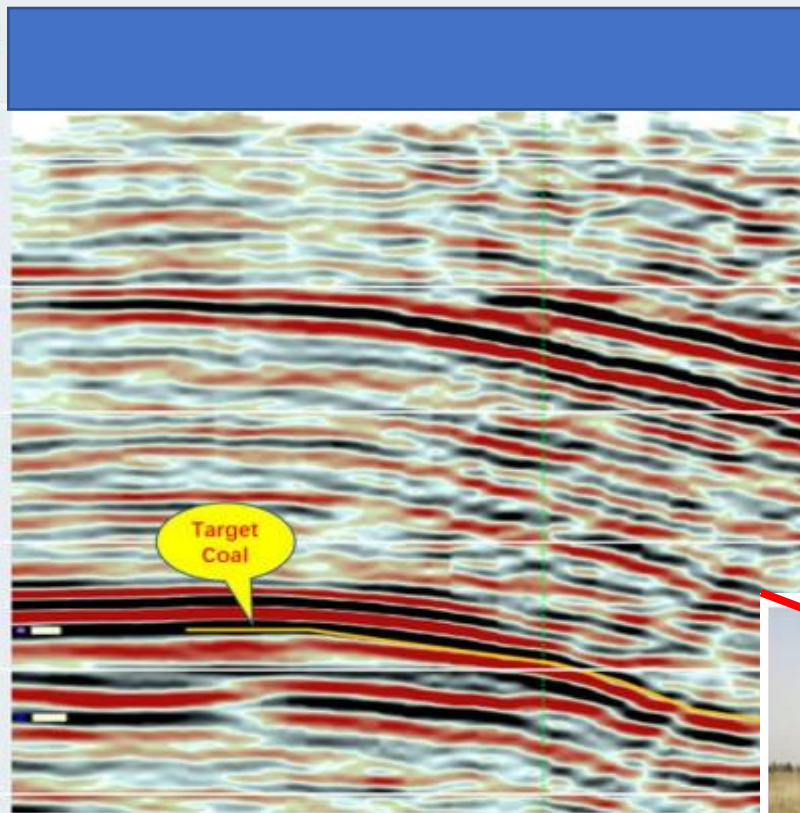




## (2) PanAm - Planned Seismic Survey [non-intrusive method]



SRT Profile In Depth (m)



Normal Seismic Time Migration  
In 3D

- Passive Source Seismic Technology to be used – SRT [ie., the Earth is the energy source].
- Unlike normal seismic, no Heavy Equipment is needed. A three-man crew, on foot, collects the input data
- No Holes for Dynamite charges are needed.
- No Crop Damage; minimal surface disturbance



# Appendix IV – Key Personnel

# Project Gandalf – Key Personnel

## Hans Schmidt [Group Chairman – CEO]

- *Over 40 years of related financial experience.*
- *VP & Head of Research for an institutionally focused brokerage serving clients in the eastern U.S. and Canada.*
- *Chairman and CEO of a North American focused private company from 1974-1990, overseeing its growth to proven and probable reserves of 215 MMbbls of oil and 155 Bcf of natural gas.*
- *Since 1990, has acted as a Consultant, Chairman and Officer of a group of companies involved in the development of industrial minerals and Petroleum Reserves in North America and abroad.*
- *Assembled projects with reserves of ~100 MMbbls of oil and 1.0 Tcf of gas in place, since 2006.*
- *Master's Degree in Geology and Geophysics from the University of Manitoba (1967). BSc (Geological Engineering, U of M (1966))*

## J. Michael Corak [COO – Field Operations]

- *Over 40 years of Oil & Gas and related experience including with Texaco's offshore and onshore drilling and production programs.*
- *Chief Petroleum Engineer for Montana Power responsible for company's 100 well annual drilling program.*
- *Cofounder and Vice President-Operations of Tower Drilling Corporation, a Rocky Mountain drilling contractor with an adjunct production company operating several hundred oil and gas wells in Colorado.*
- *President of Old Oak Energy LLC, providing consulting services to the Oil & Gas industry including drilling, production and reservoir and property valuations of multi-billion dollar acquisition programs.*
- *Degree in Petroleum Engineering from the Montana College of Mineral Science and Technology.*

## Aaron Taylor [Marketing Liaison]

- *25 years of professional experience.*
- *Managing Director of Rhythm Capital Corp.*
- *Imperial Oil from 1998 to 2006 in multiple roles overseeing rural bulk fuel facilities and coordinating fuel supply between marketing and refining.*
- *2006 to 2007, provided market assessments for Newalta to support growth and potential acquisitions within oilfield servicing business.*
- *2007 to 2017, worked in the financial services industry as President and UDP of an Exempt Market Dealer, leading private investment offerings.*
- *Currently brings his investment industry process knowledge and marketplace contacts to support PanAm Energy Development Corp.*