Metal Mining to the Aid of the Oil Sands? Lateral Opportunities in Industrial Cross-Breeding

Gussow Geoscience Conference, Engineering Sustainable Oil Sands Development, Shahé F. Sabag PGeo, President & CEO, Dumont Nickel Inc., Oct 2009

Viable sustainable development solutions depend on combining technological advances with behavioral modifications. While industry readily deploys costly resources toward seeking technological solutions, it resists behavioral changes which stray beyond "core business". Oil sands operations can benefit from supporting novel low cost metal mining to enhance their eco?footprint.

Northeast Alberta contains some of the world's largest accumulations of recoverable metals, hosted in metal bearing black shales over 100's sq kms. Several immense low grade polymetallic zones were discovered by accident in 1995 but could not be exploited with then available metal recovery technologies.

Milestone advances in bioleaching of metals from polymetallic black shale deposits have propelled this novel deposit type to the frontlines worldwide over the past five years as a long term future source of metals. Bioleaching has lower Capex/Opex, lower eco-footprint and lesser energy dependence when compared to traditional smelting and refining.

The first ever bioheapleaching black shale mine came into production in 2008 and is producing metals, in the Finnish subarctic, at a lower cost than traditional miners. The mine will generate $30 billion as the "first-born" of a $5 million EU R&D initiative. It offers a template for what might be achieved in Alberta.

Known metal zones in Alberta's polymetallic black shales are located in landlocked northeast Alberta. Envisaged metal mining can benefit oil sands operations by consuming significant waste Sulfur while also providing collateral opportunities for Carbon sinks/offsets. Black shales also have capacity to sequester CO2.

Recognizing the strategic importance of sustainable self sufficient metals supply, the EU has been the principal driving force advancing exploitation of black shales via focused initiatives through a consortium of industry and environmental groups. Canada lacks a similar constructive collaborative fabric.

Dumont is advancing six polymetallic black shale projects in northeast Alberta over 2,500 sq kms, with potential for hosting up to 20 billion tons in six 50-100 sq km deposits. The projects present opportunities to develop low footprint metal mines, to utilize run-of-river hydro, to harvest waste heat, and to cross-breed local technologies toward creating a new valuable industry independent of energy markets. The projects provide collaborative opportunities to oil sands operators toward what can become a showcase of pro-active sustainable development.

Dumont is assessing options for bioleaching metals from its projects, and intends to advance them via consortium through the initial $1 million R&D phase. Dumont is also scoping Carbon sink/offset opportunities presented by the projects, as well as the capacity of envisaged mining operations to consume Sulfur.

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Abstract

This paper demonstrated how oil sands operations can benefit from supporting innovative low cost metal mining to enhance their eco-footprint. Northeast Alberta contains large accumulations of recoverable metals, hosted in metal bearing black shales. Immense low grade polymetallic zones were discovered in 1995 but could not be exploited with existing recovery technologies. However, significant advances in bioleaching of metals from polymetallic black shale deposits have propelled this new deposit type to the forefront over the past 5 years as a long term future source of metals. Compared to traditional smelting and refining, bioleaching has lower Capex/Opex, lower eco-footprint and less energy dependence. Envisaged metal

mining in the black shales of northeast Alberta can benefit oil sands operations by consuming large amounts of waste sulfur while also providing collateral opportunities for carbon sinks/offsets. Black shales have the capacity to sequester carbon dioxide (CO{sub 2}). Dumont Nickel Inc. is advancing 6 polymetallic black shale projects in northeast Alberta over 2,500 km{sup 2} with potential for hosting up to 20 billion tons in six 50-100 km{sup 2} deposits. The projects present opportunities to develop low footprint metal mines, to use run-of-river hydro, to harvest waste heat, and to combine local technologies to create a new valuable industry independent of energy markets. <<Less

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DUMONT NICKEL INC

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Lateral Opportunities in Industrial Cross-Breeding

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2009 Gussow Geoscience Conference
October 2009

Proposed Benefits to OS + Other Alberta Industries from Novel Polymetallic Black Shale Metals Mining Consistent with Gussow 2009 Focus & Aims

Gussow Geoscience Conference 2009
Engineering ***Sustainable Oil Sands Development***

Focus
complex ***technical and environmental issues*** *related to energy recovery from heavy oil and bitumen deposits in the context of* ***restricted economic climate*** *and public* ***concern over CO2 emissions*** *and safe disposal of CO2*

Aims
to allow all the key players to report on their activities, make recommendations about next steps and ***brainstorm cutting edge solutions*** *or avenues for research in an effort to reduce exploration and production costs and maximize recovery of increasingly remote and heterogeneous heavy oil resources*

Gussow Web

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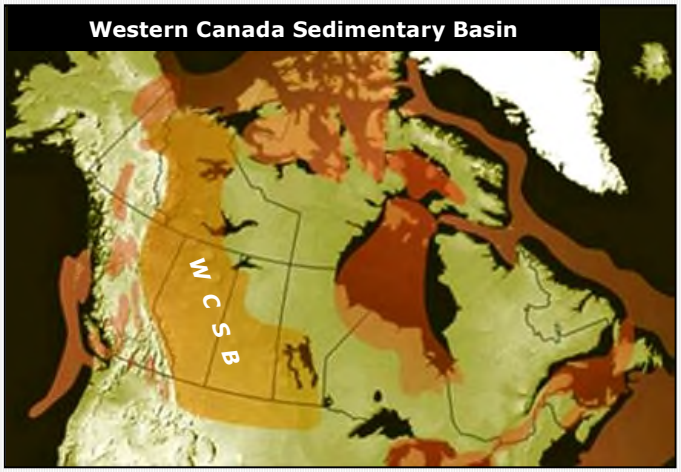
Polymetallic Black Shales

Novel Giant Deposit Type - WCSB

West Canada Sed Basin Contains

Some of the World's Biggest Accumulations of

Base Metals + U + Gold



Hosted in

Metal Enriched Zones

In Black Shales

First Zones Discovered 1995 - Alberta

2nd White Speckled Shale & **Shaftesbury Fm**

Metalliferous Black Shales

2nd White Speckled Shale*

Metal Enriched Black Shale

Rift-Volcanic Type Metal Enrichment

Alberta Polymetallic Black Shales

Novel Giant Deposit Type – Alberta

2nd White Speckled Shale

Metal Enriched Black Shale - Rift-Volcanic Type Enrichment

2 W S	A V G Grade	M A X Grade
M o O 3 (lb / t)	0 . 1	1 . 1
N i (lb / t)	0 . 1	0 . 8
U 3 O 8 (lb / t)	0 . 1	0 . 6
V 2 O 5 (lb / t)	0 . 9	4 . 8
Z n (lb / t)	0 . 3	1 . 7
C u (lb / t)	0 . 1	0 . 4
C o (lb / t)	0 . 0	0 . 4
A g (o z / t)	0 . 0 2	0 . 1
A u (o z / t)	*A s s u m e n il*	

Rift-Volcanic Type - Tabular "Giant" Deposits (1+ Billion tons)

Known Worldwide .. 10's-100's sq kms .. 20m-100m Thick

Modest Bulk Grades 10's-100's ppm Base Metals

Formed in "starved" Basins

Metal Zones Near Exhalative Venting → "Smoker" Metals

Metal Equiv of Oil Sands - As Big as Oil Sands

Explored Like Oil Sands - Bulk Mined Like Oil Sands

Polymetallic Black Shales
Metals Recovery Break-Throughs

Metals Extraction – Major Challenge to Exploiting Black Shales

Very Fine Metal Particles Physically "Trapped" in Organics or Fine Clay or Slimes
Metals Not Recoverable by Traditional Methods
Smelting Inefficient - Cannot Recover Low Grade – Energy Intensive & "Dirty"

Alberta Black Shales Discovered 1995 – "Shelved"

Metals Could not be Recovered by Traditional Methods

Milestone Advances in Bioleaching

1990's - Use Natural Bacteria to Leach Metals from Sulfides
Bacteria Metabolize Fe+S – No Energy Needed
~ 30 Tank BioLeaching Operations – Concentrates

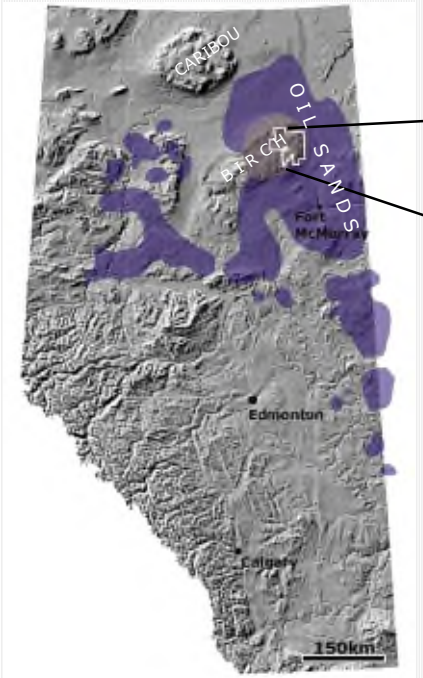
2006 - EU Pilot Demo - BioHeapLeaching
Enables Eco Friendly Bulk Exploitation of Giant Low Grade Base Metal Deposits
100's Million Pounds Metals - Long Term Sources to Metals - LOMs 25-50+ yrs

First Polymetallic Black Shale Mine 2008 – BioHeapLeaching

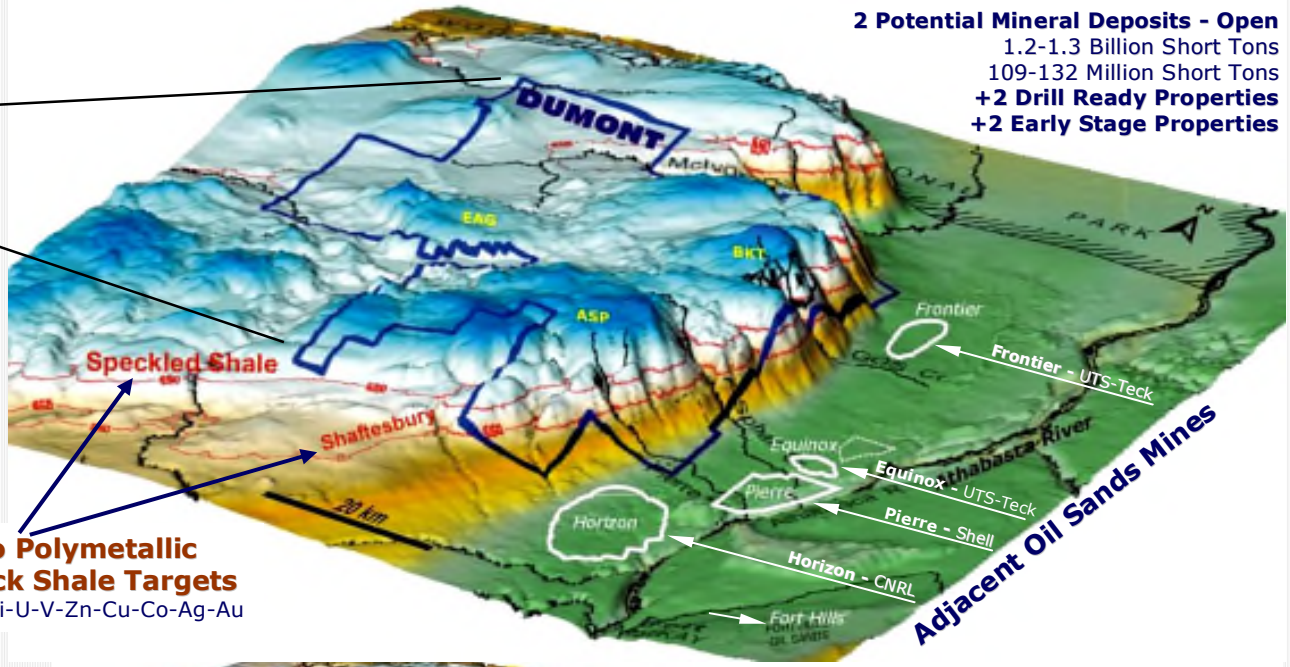
Ex Outokumpu Discovery Shelved 1990's – Enabled by BioHeapLeaching
Re-Evaluate Alberta Polymetallic Black Shales (WCSB?)

Dumont Polymetallic Black Shales

Six Polymetallic Properties - 2,536 sq km



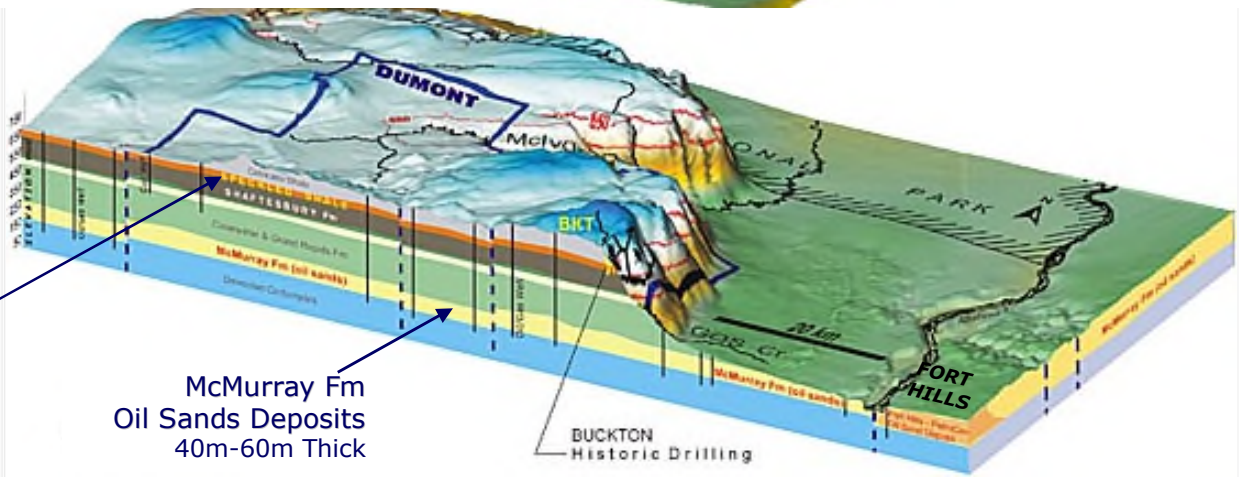
2 Potential Mineral Deposits - Open
1.2-1.3 Billion Short Tons
109-132 Million Short Tons
+2 Drill Ready Properties
+2 Early Stage Properties



Two Polymetallic Black Shale Targets
Mo-Ni-U-V-Zn-Cu-Co-Ag-Au

- 2 Extensive "Flat" Formations – Stacked
- Preserved in Birch Mtns
- Discovered by Accident 1995
- Drill Confirmed 1997
- Recovery R&D 1997-1999
- Curtailed 1999
- AGS Work 1995-2001

2nd White Speckled Shale Fm
Primary Bulk Mining Target
- Upper Unit – Near of At Surface
- 20m-40m Thick



McMurray Fm
Oil Sands Deposits
40m-60m Thick

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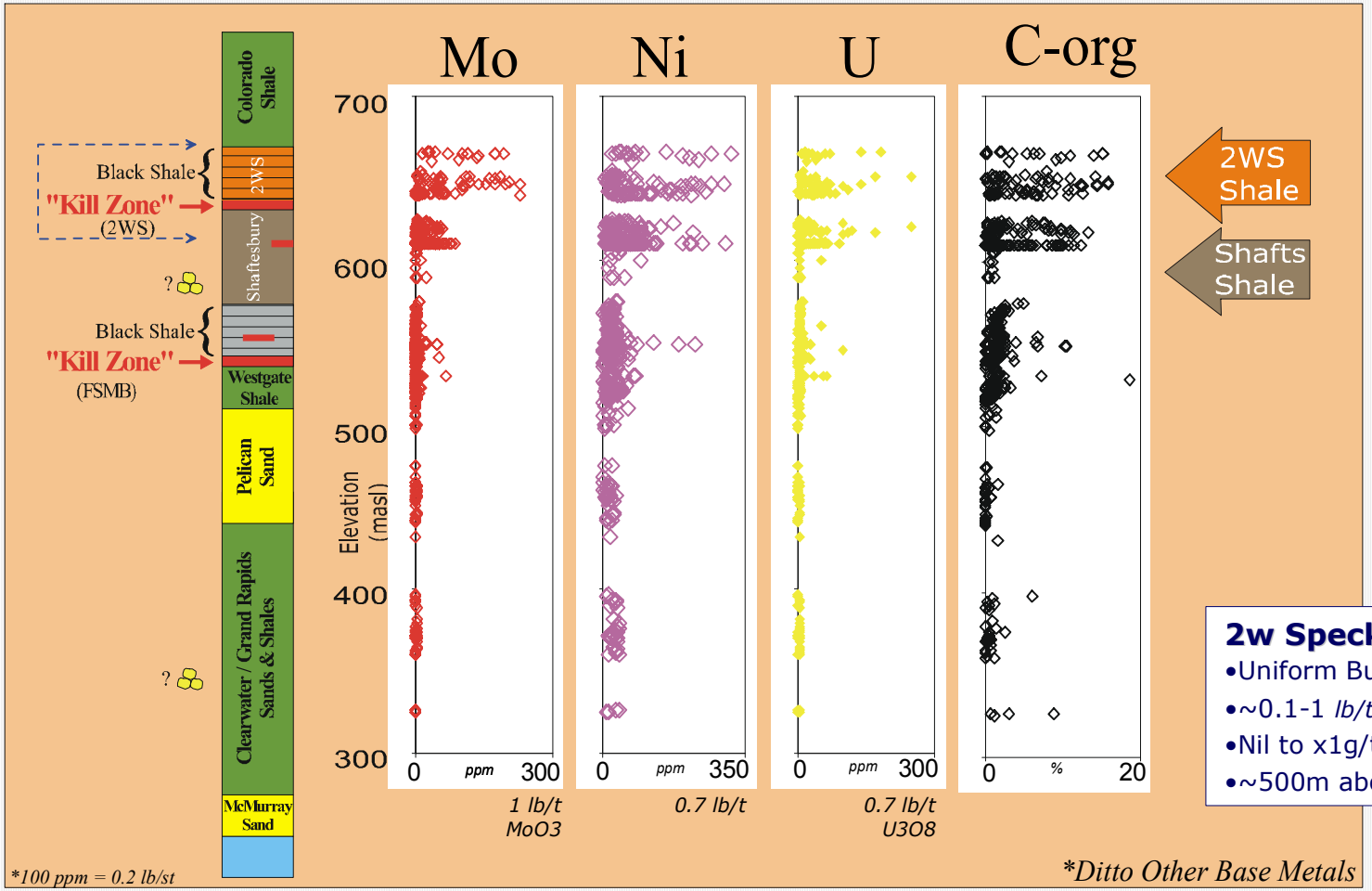
Dumont Polymetallic Black Shales

Two Polymetallic Formations

Second White Speckled Shale & Shaftesbury Fms

- The ONLY Metal Enriched Fms - Mo-Ni-U-V-Zn-Cu-Co-Ag-Au
- Metals Associated w/ Kill Zones + Bentonites (Ash)
- Other Black Shales Above and Beneath – No Metals



2w Specks Primary Target

- Uniform Bulk Grades Over 60km
- ~0.1-1 *lb/t* Base Metals
- Nil to x1g/t Au (0.1-0.4g/t?)
- ~500m above Oil Sands

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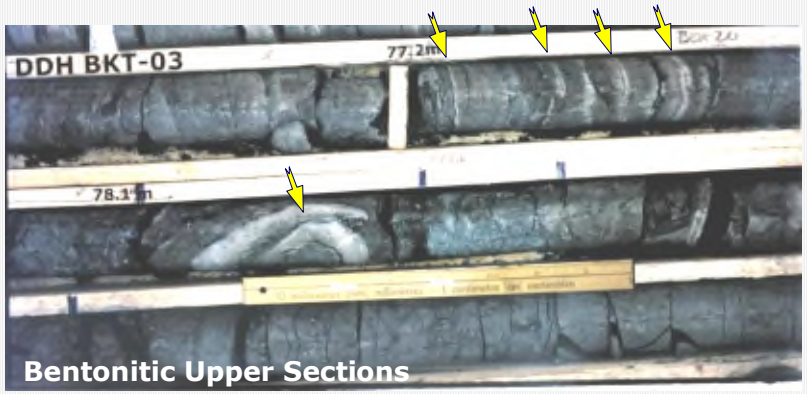
Dumont Polymetallic Black Shales

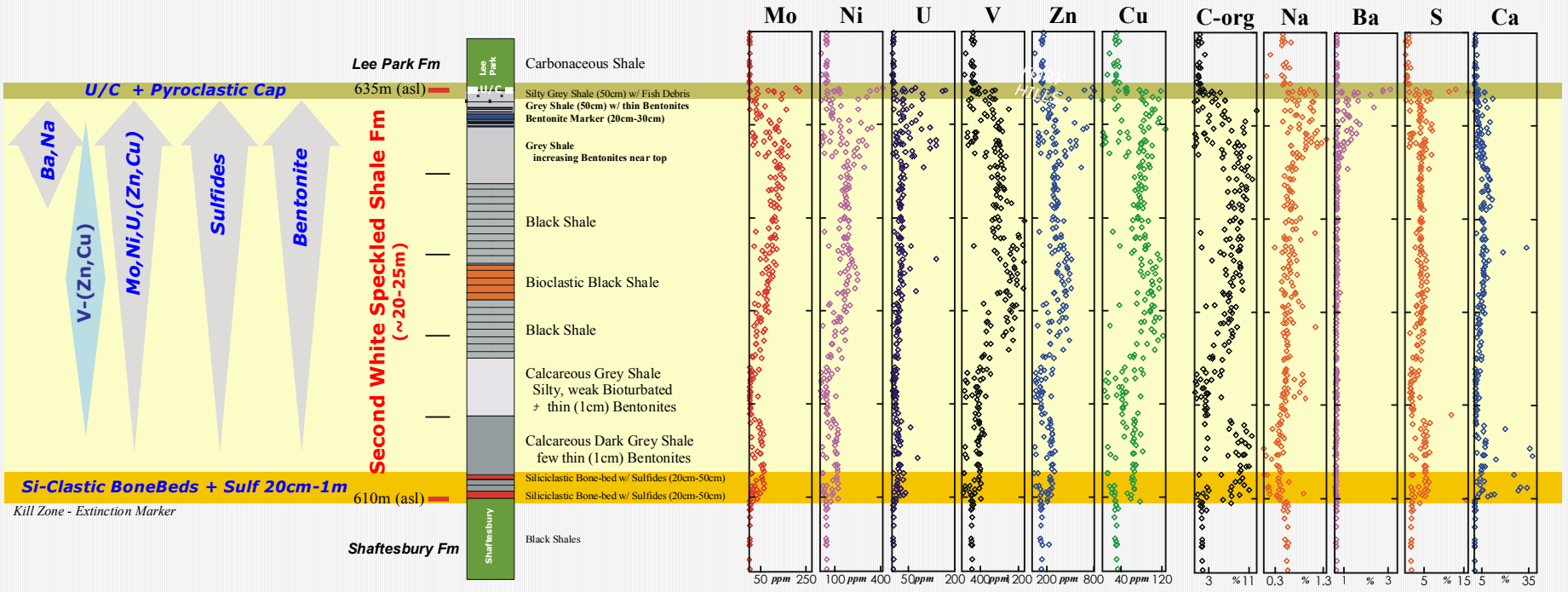
2nd White Speckled Shale – A Volcanic Cycle



Second White Speckled Shale Downhole Patterns

Buckton Zone Historic Drilling

- Speckled Shale Nearer Surface – Primary Target
- Speckled Shale is the Better Mineralized Fm
- Discovered by Tracing Placer Gold + Sulfides in Steams
- Downhole Geochemistry Supported by Geol
- 2nd White Speckled Shale "Captures" Exhalative Cycle



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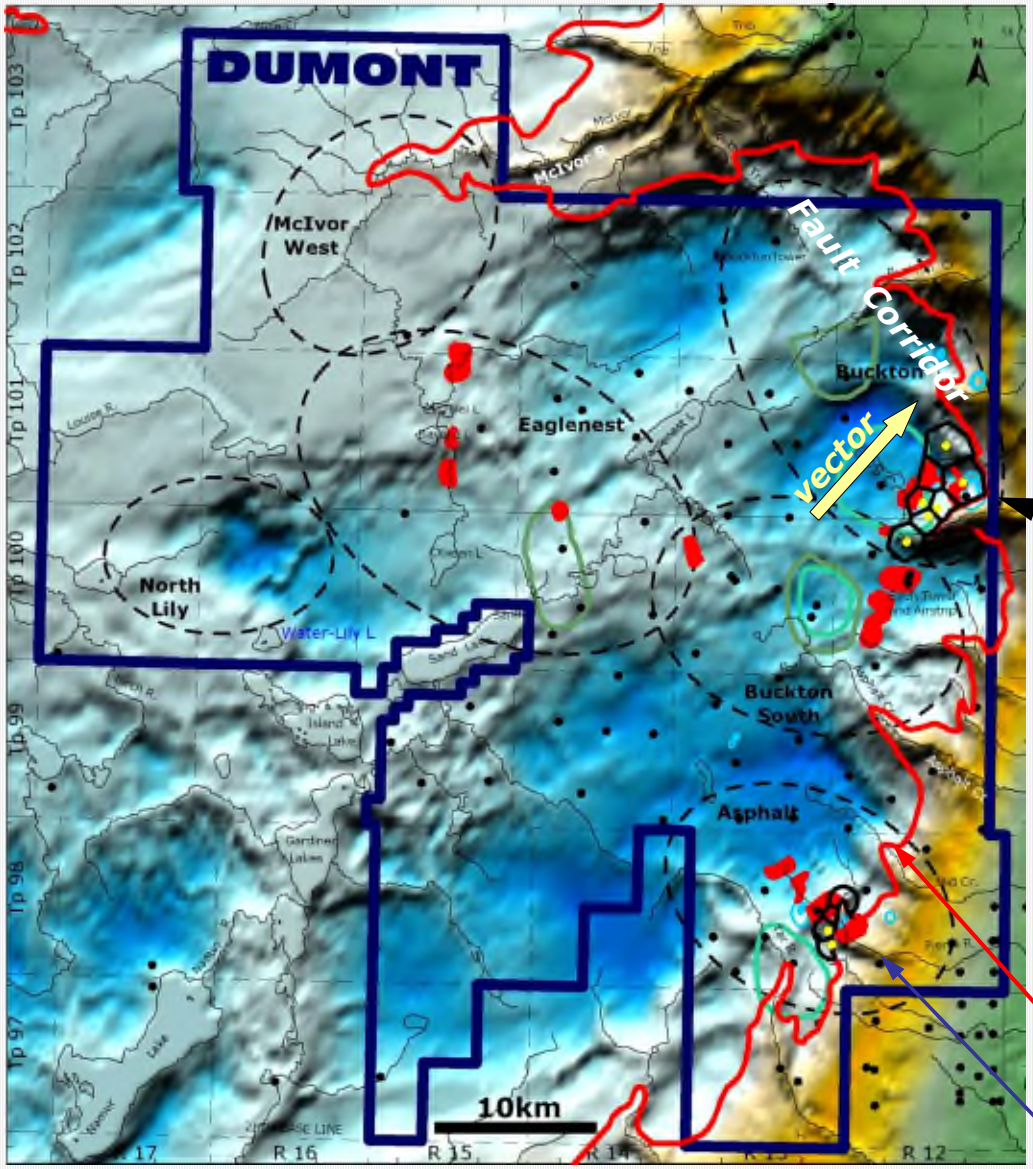
Dumont Polymetallic Black Shales

2 Potential Mineral Deposits* + 4 Other Targets



Six Mineralized Systems

Mo-Ni-U-V-Zn-Cu-Co-Ag-(Au)

100-300 sq km each

Near Structural Corridors & Abnormal Strat

1000+ Oil-Gas Wells

Uniform Bulk Grade Over 60km

BUT

Upper Lateral Enrichment Vectors

Buckton – 1.2 billion t

Northerly Enrichment Vector

- Increasing Grade to the North
- Thicker Better Grade Sections
- More Bentonites & Thicker
- Mo-Ni-Co-U-Ag x3-x5 the Avg Grade
- ***BUT*** V-Cu-(Zn) No Change
- Nearer Fault Corridor → Higher Grade
- Nearer Metals Source? Nearer Venting?
- Exhalative Metals in V-(Zn,Cu) Basin?

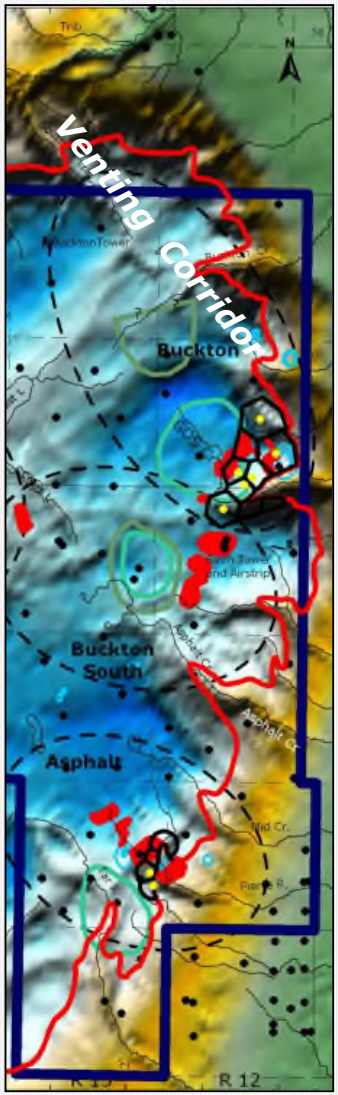
Erosional Edge
2nd White Specks

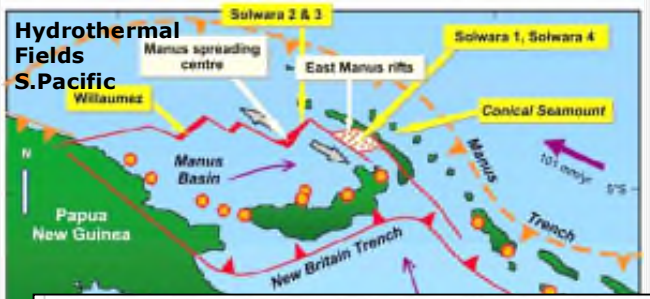
Alluvial Gold
Alluvial Sulfides

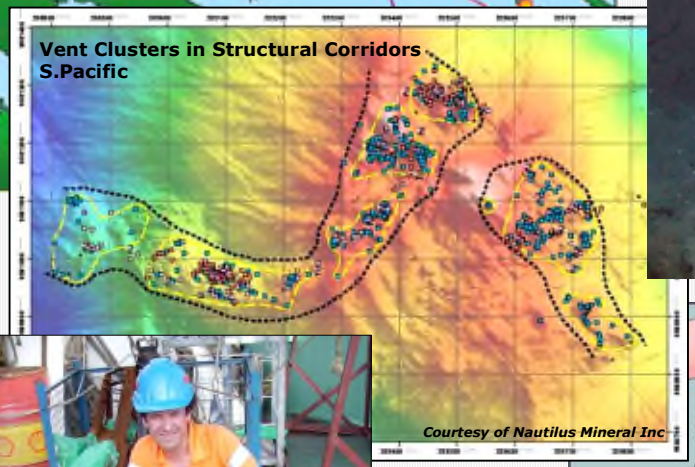
DUMONT - DNI

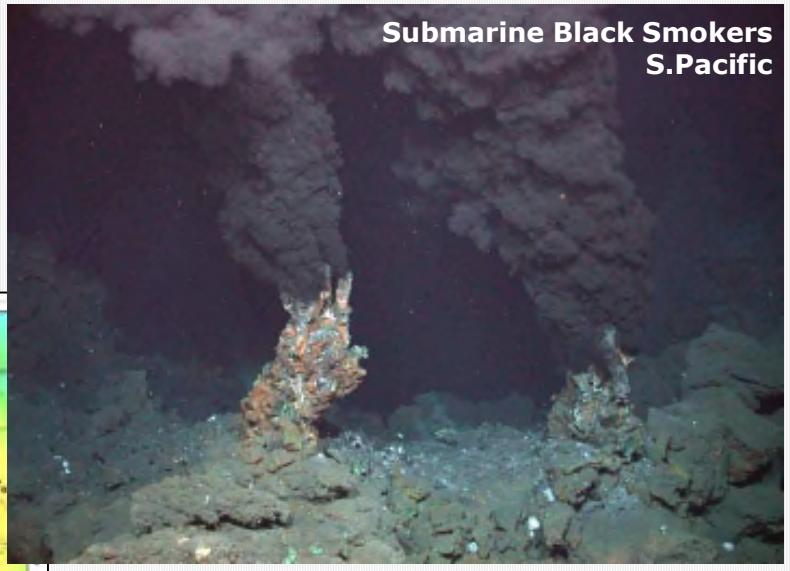
Dumont Polymetallic Black Shales

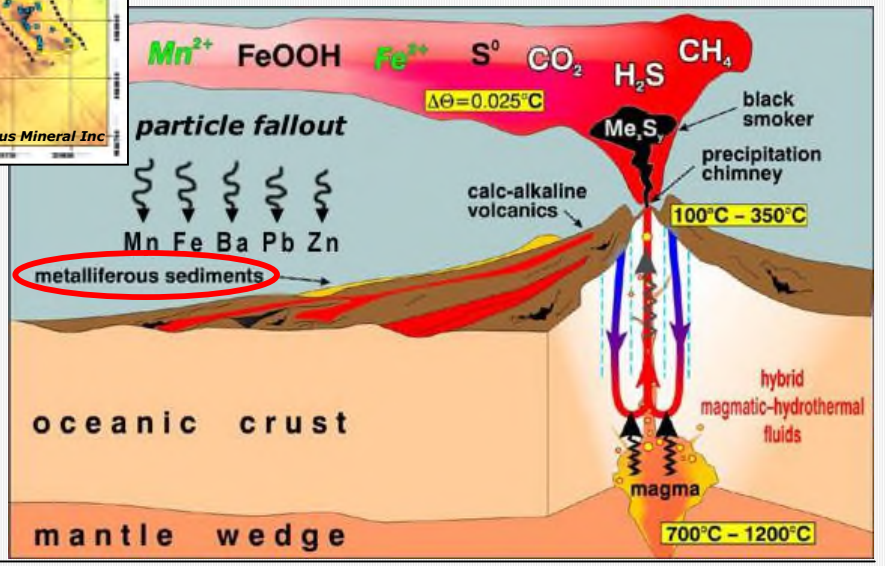
Vent Corridors – SEDEX Working Model for Alberta











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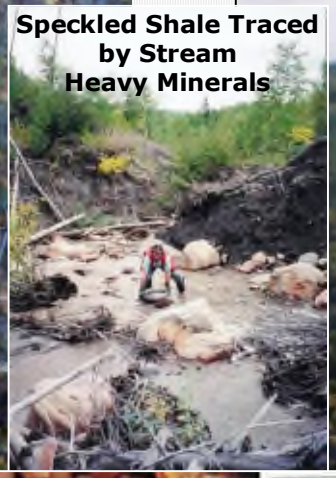
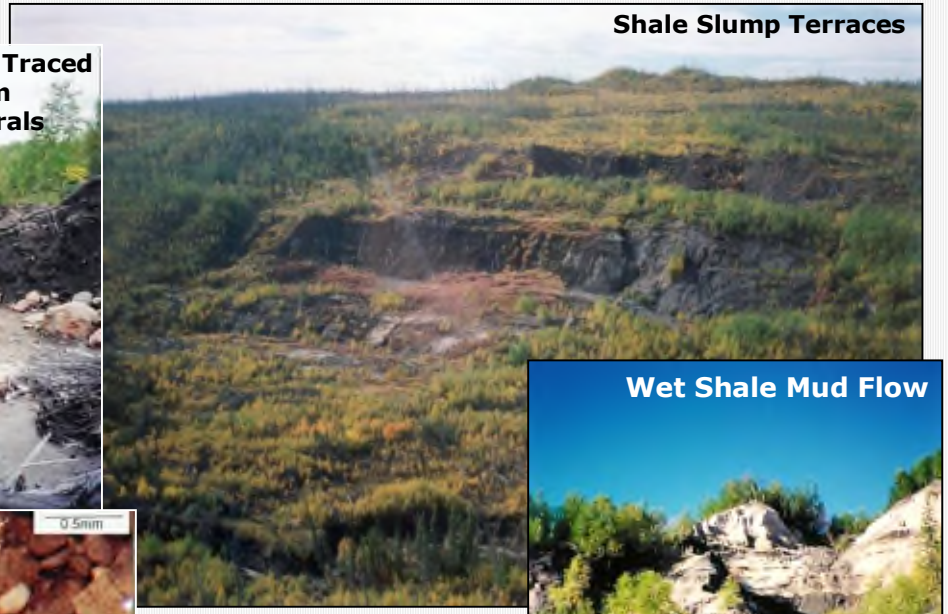
Dumont Polymetallic Black Shales

Sulfides & Gold in 2nd White Speckled Shale


Shale Debris In Asphalt Creek


Speckled Shale Traced by Stream Heavy Minerals


Shale Slump Terraces


Wet Shale Mud Flow


Coarse Sulfides in Pan Concentrate

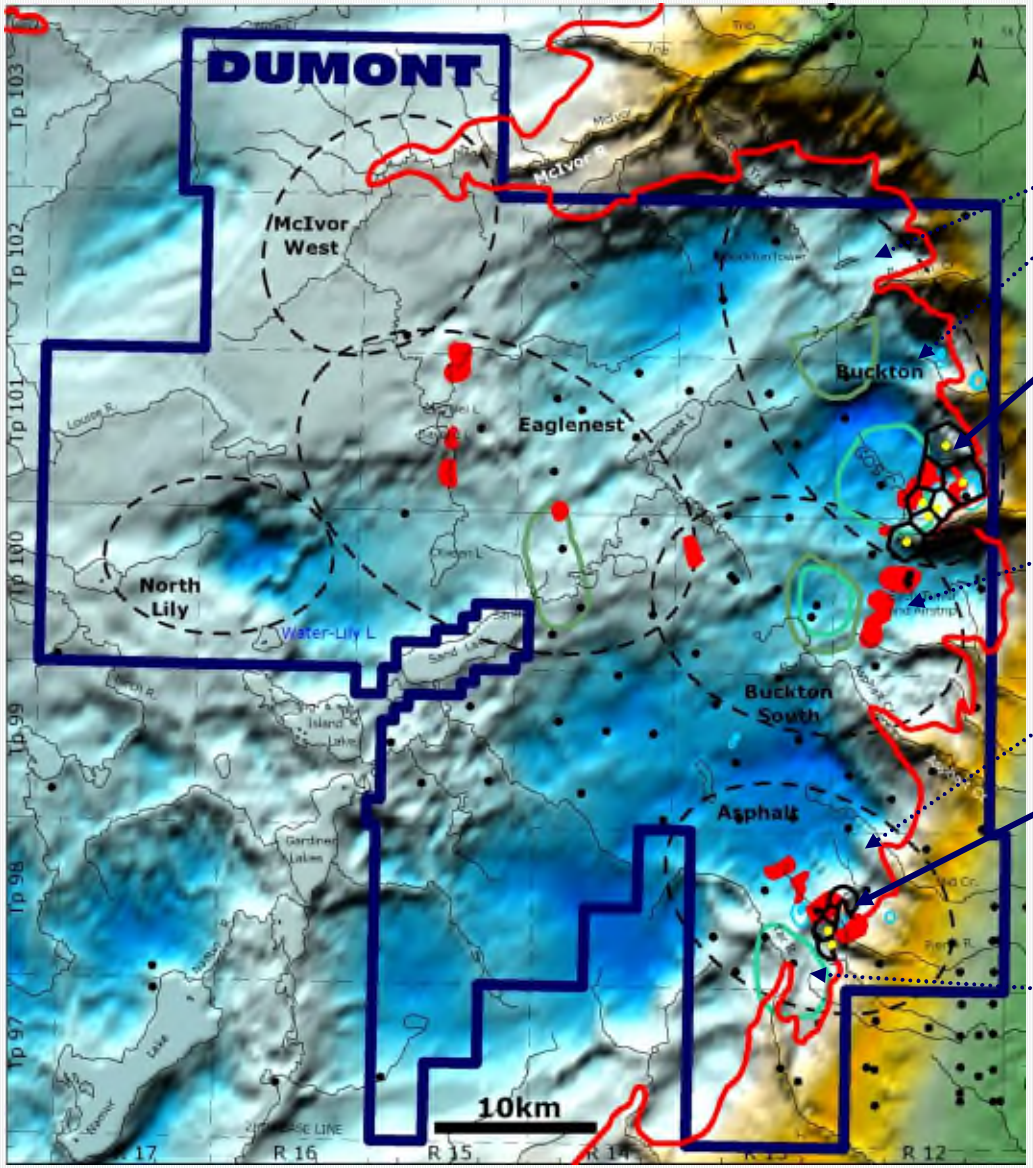

Muddy Concentrate


Clean Concentrate

- **Speckled Shale Contains up to 20% Sulfides**
- Fine Mud-Clay Coating on Metal Minerals
- Metals Concentrated by Gravity after Deflocculation
- **Gold Grains** in Streams -> Traced to Shale Outcrops
- **Speckled Shale Poorly Consolidated** → High Tons "Rip" Mining – Like Oil Sands
- **Speckled Shale Flows when Wet** → Amenable to Slurry – Like Oil Sands

Dumont Polymetallic Black Shales

2 Potential Mineral Deposits* + 4 Other Targets



Six Prospective Systems
Mo-Ni-U-V-Zn-Cu-Co-Ag-(Au)
100-300 sq km each

Buckton North Extension
Open for 6km+
+SEDEX Targets

BUCKTON ZONE
Potential Mineral Deposit* (NI-43-101)
1.2 – 1.3 billion short tons
~21m thick – 26 sq km
Partly Exposed - Open in 3 Directions
Drill Tested - Historic Work
Higher Grade Sub-Zones

Buckton South Extension
Open for 6km – 1-2 billion tons?
Possible Separate Zone

Asphalt North Extension
Open for 6km

ASPHALT ZONE
Potential Mineral Deposit* (NI-43-101)
109-132 million short tons
~11m thick – 4.5 sq km
Partly Exposed - Open in 3 Directions
Drill Tested - Historic Work
+SEDEX Targets

Asphalt South Extension
Open for 3km

**The Asphalt and Buckton Potential Mineral Deposits are NOT Resources, though Based on historic drilling and related supporting data, they are conceptual in nature since there has been insufficient drilling over the two Zones to define a mineral resource, and it is uncertain if further drilling will define a resource over the Zones. The Asphalt and Buckton Potential Mineral Deposits comply with NI-43-101.*

Dumont Polymetallic Black Shales

Buckton Potential Mineral Deposit*

Buckton Potential Mineral Deposit* - *Bulk Average Grade*

Estm 1.2-1.3 Billion short tons – 26 sq km – avg 20.5-21.9m thick

	Grade Range (ppm)	Grade Range (lb/st)(opt)	Gross Metal/Oxide Content (lb) (oz)* Low Estimate	High Estimate
Mo	62 - 86 ppm	**0.12 - 0.17 lb/st**	**150,000,000**	**225,000,000**
[MoO3]	93 - 129 ppm	**0.19 - 0.26 lb/st**	**225,000,000**	**338,000,000**
Ni	121 - 160 ppm	**0.24 - 0.32 lb/st**	**293,000,000**	**419,000,000**
U	25 - 37 ppm	**0.05 - 0.07 lb/st**	**61,000,000**	**96,000,000**
[U3O8]	30 - 44 ppm	**0.06 - 0.09 lb/st**	**72,000,000**	**113,000,000**
V	623 - 776 ppm	**1.25 - 1.55 lb/st**	**1,511,000,000**	**2,027,000,000**
[V2O5]	1108 - 1381 ppm	**2.24 - 2.79 lb/st**	**2,719,000,000**	**3,649,000,000**
Zn	282 - 360 ppm	**0.56 - 0.72 lb/st**	**683,000,000**	**940,000,000**
Cu	70 - 83 ppm	**0.14 - 0.17 lb/st**	**169,000,000**	**217,000,000**
Co	19 - 24 ppm	**0.04 - 0.05 lb/st**	**46,000,000**	**63,000,000**
Ag	0.3 - 0.8 ppm	**0.01 - 0.026 opt**	**12,000,000**	**34,000,000**
Au	assumed nil	**assumed nil**	**assumed nil**	**assumed nil**

lb/st=lbs per short ton; opt=ounces per ton *100% recovery, rounded to nearest million

Bulk Grade a Starting Point

Uniform Bulk Grades - Higher Grade Subzones

No "Leading" Metal - Collective Value

Sufficient Gross In-Situ Bulk Value to Compel Follow-Up

Viability = Collective Efficient Recovery

Encouraging Historic Recovery Data – To Be Optimized

Recovery

Encouraging Historic R&D

Initial R&D – To Be Optimized

Sulfuric Acid Leaching

- Ni - 97%
- Zn - 100%
- V - 33%
- Other Metals no Data

Gold Leached by Cyanide

- Bottle Roll Cyanidation
- 0.1-0.4 g/t Multi Samples
- Expl Grade Understated

Heavy Mineral Concentrates

- Sulfides + Gold

Other Polymetallic Black Shale Projs

Only 3 Other Projects Worldwide

Only 3 Other Projects Worldwide

Talvivaara Mine – Finland – Ni-Co-Zn-Cu-Mn

MyrViken Property – Sweden – U-Oil (Mo-V) – Targeting 150 ppm U + Oil

Storsjon Property – Sweden – U-Oil (Mo-V) – Targeting 150 ppm U

	Shares Issued (MM)	Share Price C$	**Mkt Cap (C$ MM)**	Started	Development Stage	Base Resources
Talvivaara Mining Co (Talv:LSE)	245	$ 7.20	**$1,764**	2003	Mining	1.2 Billion t
Continental Precious Minerals (CZQ:TSX)	47	$ 0.45	**$ 21**	2006	Resources & Bench	2.8 Billion t
Aura Energy Corp (Au:AEE)	45	$ 0.15	**$ 7**	2006	Drilling	1B-3B t Blocked
Dumont Nickel Inc. (DNI:TSX-V)	165	$ 0.03	**$ 5**	2008	Historic Data	1.2-1.3 B t Blocked

Aug 2009

Alberta Offers Significant Advantages Not Found Elsewhere

Good Regulatory, Logistical & Permitting Fabric – Good Access & Infrastructure

No Political Risk – No Competing Land Use

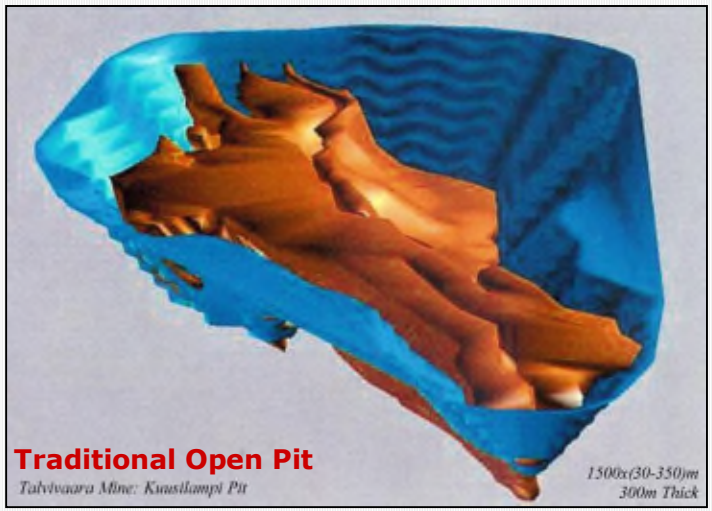
Metal Zones Near Surface - Available to Bulk Mining

Talvivaara a Guide to What Might be Achieved in Alberta

Polymetallic Black Shale - Finland

Talvivaara Polymetallic Mine - In Sub-Arctic

First Bio-Heapleaching Mine - 2008
Polymetallic Black Shale
Ni-Co-Zn-Cu-Mn



Ex-Outokumpu Project - Shelved 1990's

- Too Low Grade for Recovery by Smelting
- "Enabled" by EU $3MM Bio-HeapLeach Demo 2006
- **$32 Billion Gross Revenues**

1.2+ billion tons - Open Pit – 15MM tpa – 75-100yr LOM

Ni-5.2lb/t	*Co-0.4lb/t*	*Zn-11lb/t*	*Cu-2.8lb/t*
Ni-0.26%	***Co-0.02%***	***Zn-0.55%***	***Cu-0.14%***

Collective Recovery: Ni-85%, Co-48%, Zn-79%, Cu-47%, Mn-?

- 2.3% Global Ni Supply 2010 - 4% by 2012
- Capex $820 million - Opex $11/t

Can Mine to $3/lb Ni - $2.3 w/ Mn Circuit - $1.5 by 2012

DUMONT - DNI

Polymetallic Black Shale - Finland

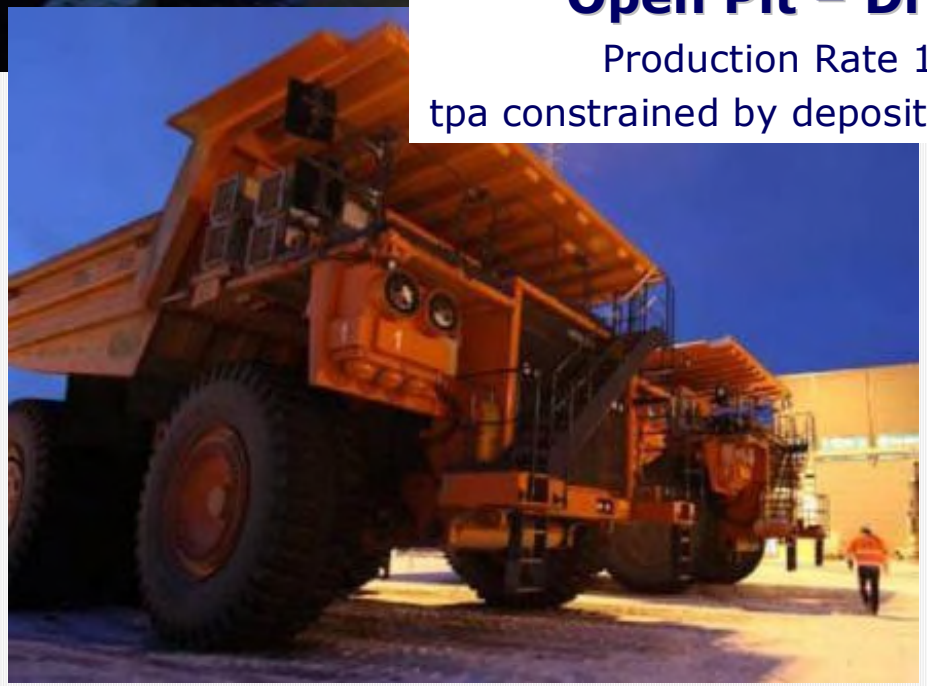
Talvivaara Polymetallic Mine

Talvivaara Open Pit
First Blast

Open Pit – Drill/Blast

Production Rate 15 MM tpa

tpa constrained by deposit shape & drill/blast



DUMONT - DNI

Polymetallic Black Shale - Finland

Talvivaara Polymetallic Mine

IF Tabular Deposit – *like OS*
IF Mineable by "Ripping" – *like OS*
Talvivaara Could Mine at Much Higher Rate

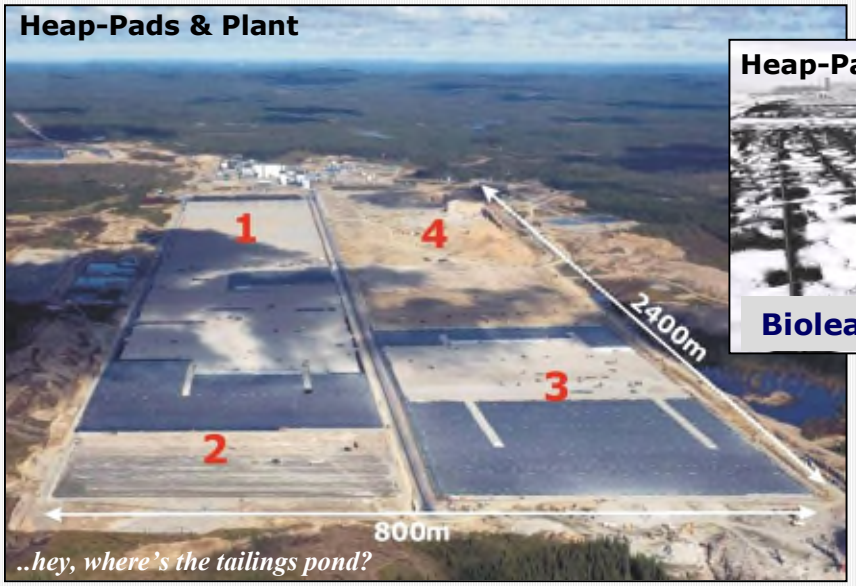
15 MM tpa
Talvivaara

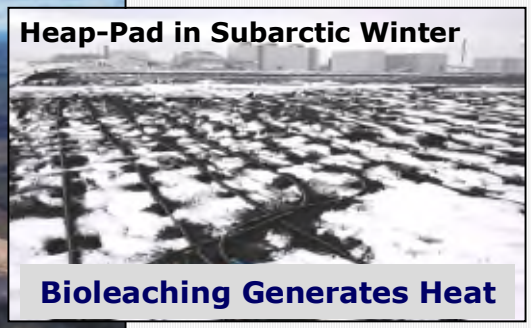
70 MM tpa – 180 MM tpa
Oilsands

DUMONT - DNI

Polymetallic Black Shale - Finland

Talvivaara Polymetallic Mine - In Sub-Arctic

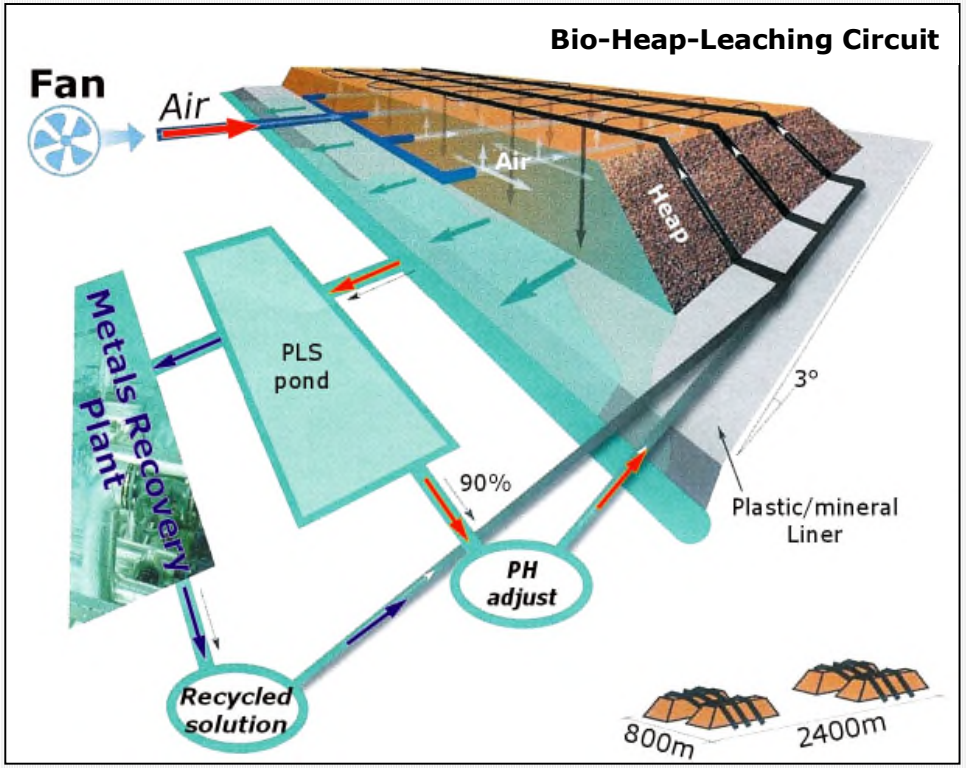




Bioleaching
Natural-Bugs + Air + Water
+ (S) + (CO_2)

Collective Recovery
Ni-85% Co-48%
Zn-79% Cu-47% Mn-?

Low Opex – **Low** Capex
Low Energy – **Low** Footprint



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Dumont Polymetallic Black Shales

Bulk Mining Benchmarks

Talvivaara Mine a Good Guideline

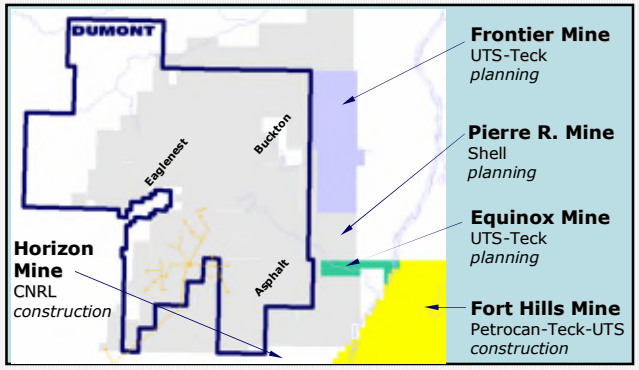
- Operations, Costs & Technology
- Tailor Existing Technology to Alberta Shales
- Migrate Technology to Canada
- "Template" for What Might be Achieved in Alta

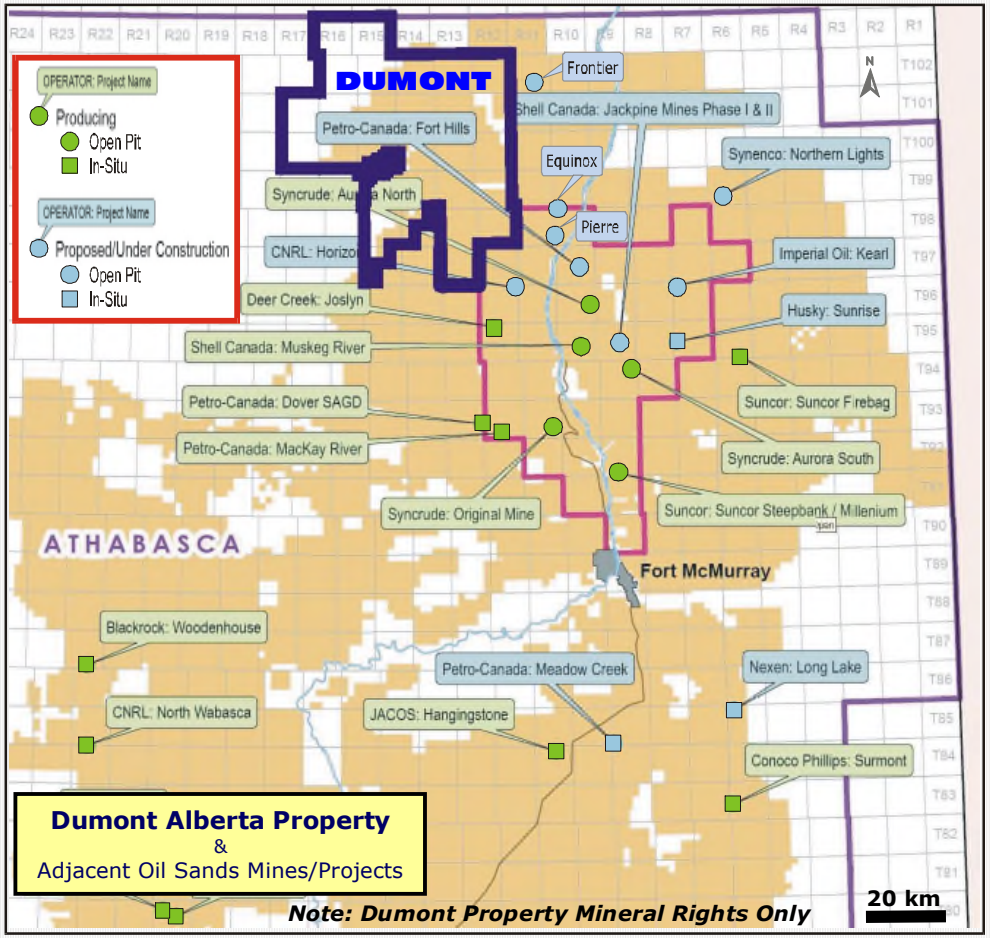
Oil Sands Ops a Good Guideline

- 40+ Adjacent Operations, Logistical, Costs
- Adapt to Metal Mining, Borrow What Works

Other Guidelines

- Other Deposits "Driven" by Size
- General Bulk Mining Cost Benchmarks





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Dumont Polymetallic Black Shales
Bulk Mining Benchmarks

In-Situ Gross Metal Value
High Enough
to Compel Closer Look

Value = x2–x5 of Bulk Mining Cost Benchmarks
Viability = Efficient Collective Metal Recovery

Dumont Polymetallic Black Shales *Athabasca, Alberta*

- Mo-Ni-U-V-Zn-Cu-Co-Ag(Au) _____ **In-Situ $15-$131/t** GFD
- **Buckton -** Bulk Avg_____ **Gross In-Situ $32-$56/t** GFD
- Billions+ tons - Open Pit "Rip Mining"
- Capex - Like Talvivaara?

Operating Cost ? _____ **$5-$14/t ?**

BioHeapleaching

Talvivaara Polymetallic Mine: *Talvivaara, Finland*

- Ni-5.2*lb/st* Zn-11*lb/st* Cu-2.8*lb/st* Co-0.4*lb/st* ___ **In-Situ $56/t** GFD
- Ni-0.26% Zn-0.55% Cu-0.14% Co-0.02%
- 1.2 Billion t Resource - Open Pit - LOM 75-100 yr @ 15MM tpa

Operating Cost_____ **~$11/t**

High Tonnage Rip Mining

Typical Oil Sands Mine: Athabasca, *Alberta*

- 0.5 *bbl/t* SCO Grade ___*($100/bbl)*_____ **In-Situ $50/t** GFD
- 0.5-1BB bbl SCO Avg Deposit - LOM 20-30yrs
- Typical 40m-60m Thick - Flat 50-100 sq km Deposit
- Prod Rate: 50,000-100,000 *bbl/day* (35-70MM tpa)

Operating Cost* *($6-$9/t cash cost)* _____ **$11-$14/t**

**Mine+Upgrade+Capital+10%Return $22-$28/bbl SCO*

Paracatu Gold Mine: *Kinross, Brazil*

- 0.37 g/t Gold Grade ____*($600/oz)*_____ **In-Situ $7/t** GFD
- 1.7BB t Resource - 20MM oz - LOM 32yrs @ 60MM tpa
- 76% Recovery - Flotation + Gravity
- Kinross Bought 51% for $260MM + $470MM '07-'08

Operating Cost *($400/oz - Cash Cost ~$170/oz)* ____**$5/t**

$=USD

***GFD**=Go-Forward-Date. **Talvivaara GFD**: Bankable Feasibility Report 2006, Ni EUR3.75/lb, Cu EUR2000/t, Zn EUR1050/t, Co EUR12.5/t; **Paracatu GFD**: Corporate Documents 2007, Technical Report 2006, Gold 600/oz; **Dumont GFD**: Start Land Assembly Sep 2007. Mo-$32/lb; Ni-$12/lb; U-$75/lb; V2O5-$5/lb; Zn-$1.4/lb; Cu-$3/lb; Co-$40/lb; Ag-$15/oz; Gold assumed nil. **Oil Sands**: Info from misc sources. **USD/CDN** at par.*

Dumont Polymetallic Black Shales

Efficient Collective Metals Recovery is Key

Polymetallic Zones in 2nd White Speckled Shale
Potential For Giant Deposits
Long Term Source of Metals + U + (Gold)

Viability = **Grade** x **Thickness** x **Tons** x **Recovery%** x **Location** x **Intangibles**

Gross In-Situ
Metal Value
x2–x5 of Cost Benchmarks
@100% Recovery

Near Surface
Open Pit
Mined by Ripping
Like Oil Sands

Giant
Volumes
Sq Kms

Mining District
No Political Risk
Regulatory Fabric
Infrastructure
Local Sulfur

Synergy w/ OS
Sulfur Clean-Up
CO_2 Sinks
CO_2 Offsets

Encouraging** Orientative Historic Work - Collective Recovery - **To Be Optimized

	Mo	Ni	U	V	Zn	Cu	Co	Ag	Au
2009 — ***Extractable (Leaching) ?***	?	Sulfuric Acid 97%	?	Sulfuric Acid 33%	Sulfuric Acid 100%	?	?	?	Cyanide Leach CIL+Defloc
2009-2010 — ***Extractable (Concentrate) ?***	?	Gravity Defloc Con	?	?	Gravity Defloc Con	?	Gravity Defloc Con	Gravity Defloc Con	Gravity Defloc Con vg
2010 — ***Optimum Recovery ?***	*to be determined*								

Dumont Next Steps

$0.5-$1 Million Testwork Program – Optimize Recovery

1. Bio-Leaching - Existing Technology - Methods from EU
2. Mineral Concentration for Gold+Sulfides
3. Conventional Leaching & Clay Disaggregation

Existing Historic Drill Core Samples + New Field Trenching 2009

DUMONT BRGM Study 2009

DUMONT Other R&D 2009

Dumont Polymetallic Black Shales

Regional Synergies - Sustainable Dev Ideas?

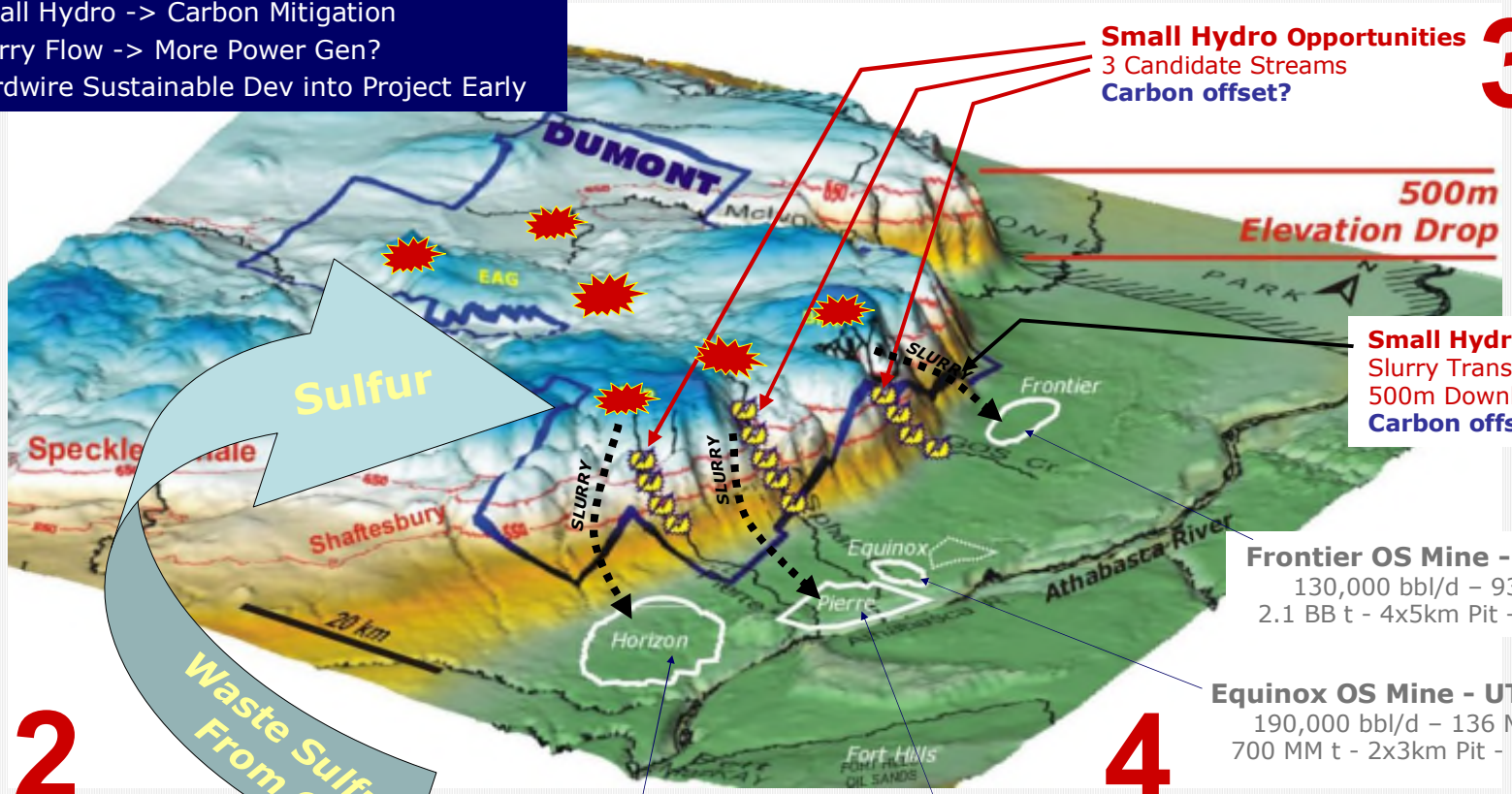
Synergies – Metal Mining + OS Mining
- Sulfur Consumption – Sulfate Production
- Sequential Pit Use – Pit Back-Fill
- Process Shale Slurry On "Flats"
- Small Hydro -> Carbon Mitigation
- Slurry Flow -> More Power Gen?
- Hardwire Sustainable Dev into Project Early

1

BioLeaching Bird's Eye View
IN: Sulfides + Bugs + Water + Air + CO_2 + Sulfur
OUT: Met-Liquor + Sulfate + Heat + Spent Shale
Sulfur Agglomerated In Leaching
Carbon Sink? + Sulfate/Shale Backfill

Small Hydro Opportunities
3 Candidate Streams
Carbon offset?

3



3

Small Hydro
Slurry Transport
500m Downhill
Carbon offset?

Frontier OS Mine - UTS/Teck
130,000 bbl/d – 93 MM tpa
2.1 BB t - 4x5km Pit - LOM 22yrs

Equinox OS Mine - UTS+Teck
190,000 bbl/d – 136 MM tpa
700 MM t - 2x3km Pit - LOM 5yr

4

2

Metal Leaching Consumes Sulfur
Talvi Consumes 270,000 tpa @15MM tpa
S Sink

Horizon OS Mine - CNRL
250,000 bbl/d – 180 MM tpa
7.2 BB t - 8x9km Pit - LOM 40yr

Pierre R. OS Mine - Shell
200,000 bbl/d – 144 MM tpa
5.7 BB t - 7x8km Pit - LOM 40yr

Conceptual Schematic

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Dumont Polymetallic Black Shales
Regional Synergies - Sust Devlp Opportunities

Polymetallic Black Shale Mining
Can Benefit Oil Sands + Other Alberta Industries

Symbiotic Synergies – Metal Mining & Oil Sands Mining

- Waste From Metal Mining = Feed for OS Mining
- Waste From OS Mining = Feed for Metal Mining
- Cross-Breeding Opportunities
- New Industry Disconnected from Energy Markets

Dumont Current R&D
Inhouse – ARC – BRGM – Actlabs – Offshore Geo Orgs

- Bioleaching + Conventional Recovery Testwork
- Sulfur Consumption
- CO_2 Mitigation
- River Small Hydro – *pending 2010*
- Soil – *pending 2010*
- Other

Athabasca Oil Sands District
Metals Leaching = Sulfur Clean-up?

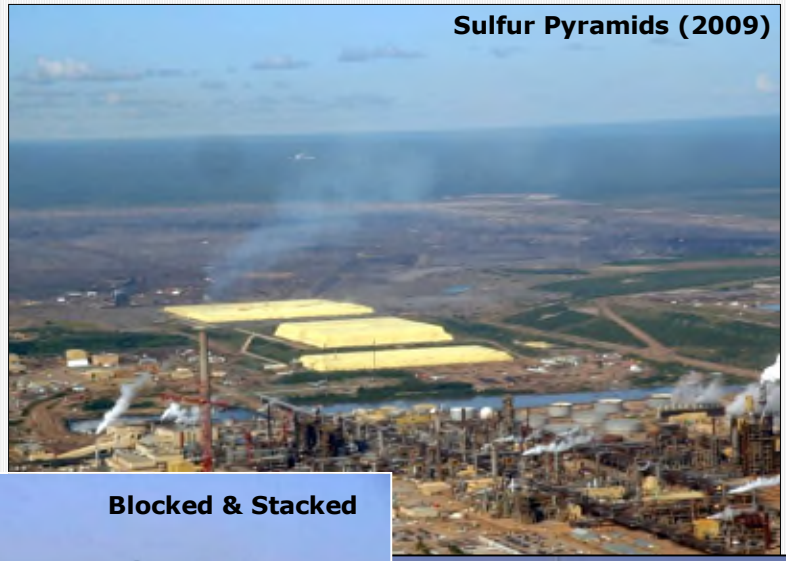
Bitumen Upgrading Produces Waste Sulfur
- ~1t Sulfur per 100-150 bbl Upgraded
- ~5 million t Stockpile (2005)
- ~2 million t New Sulfur Produced Annually
- Acid Drainage – Environmental Liability

Sulfur Stockpiling & Maintenance is Costly
- Blocking, Stockpiling, Monitoring ~$5-$10/t
- Waste Sulfur – Oversupply
- Athabasca Landlocked
- Shipping to Port - Truck+Rail ~$72-$100/t
- What is Carbon Footprint of Shipping Sulfur?

Sulfuric Acid - Metal Leaching Solvent
- Bioleaching Consumes Sulfur
  Talvivaara Consumes ~270,000 tpa SulfAcid
  Talvi@75tpa = ~ 0.5 MM tpa Sulfur Consumption
- Inorganic Leaching Also Consumes Sulfur

Metal Leaching = Sulfur Clean-Up

DUMONT
BRGM Study 2009


Sulfur Pyramids (2009)


Blocked & Stacked


Mildred Lake Sulfur Pyramids (2005)


Monitoring Costs

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Alberta Black Shales

Potential Geologic CO_2 Sinks for CCS

Oil Sands Operations emit 65 MM t CO_2 per year - 125 MM tpa by 2020

Carbon Mitigation Technologies Include Geologic CO_2 Sequestration
Injection Hosts Include Deep Brines, Salt, CoalBeds etc..

Can Also Inject CO_2 into Organic-rich Shales which can "Absorb" CO_2
Costs Partly Offset by Enhanced Gas Recovery
Costs "Assisted" by CO_2 CERs/ERUs

Kentucky Black Shales Provide an Excellent CO_2 Sink
Capacity to Sequester ~ 28 Billion tons CO_2
Big Sandy Gas Field - Capacity to Sequester ~ 7 Billion tons CO_2
(1.5 million acres, 5 counties, Kentucky)

Alberta's $2+ billion CCS Initiative
Significant Commitment to Advancing CO_2 CCS
Will Injection-CCS Overshadow All Else?

Alberta Black Shales Hold Potential as Immense CO_2 Sinks
Untested

Dumont Polymetallic Black Shales
Existing Science on Mineral Trapping of CO_2

Mineral Trapping of CO_2
Attractive Solutions for Permanent Traps

Promising – Even Though Reaction Dynamics Need Enhancement

in Geothermal Reservoirs - *pressurized*
in Fly Ashes - *ambient*
in Coal Mine Waste - *ambient*
in "spent" Oil Shale Ashes - *ambient*
in "spent" Oil Shale Waste – *ambient*
… +Many Others
Considerable Existing Science

CO_2 Capture Dynamics Depend on
Chemistry + Available Reactive Surface Area

Dumont Polymetallic Black Shales

Black Shales Mining - Collateral CO_2 Sinks

Black Shale Mining Produces Considerable Crushed Material

6 Potential Deposits, 2BB-4BB t ea, 10BB-20BB t Upside Total

Immense Reactive Surface Area >>"Frakking"
Holds Potential as Significant CO_2 Sink

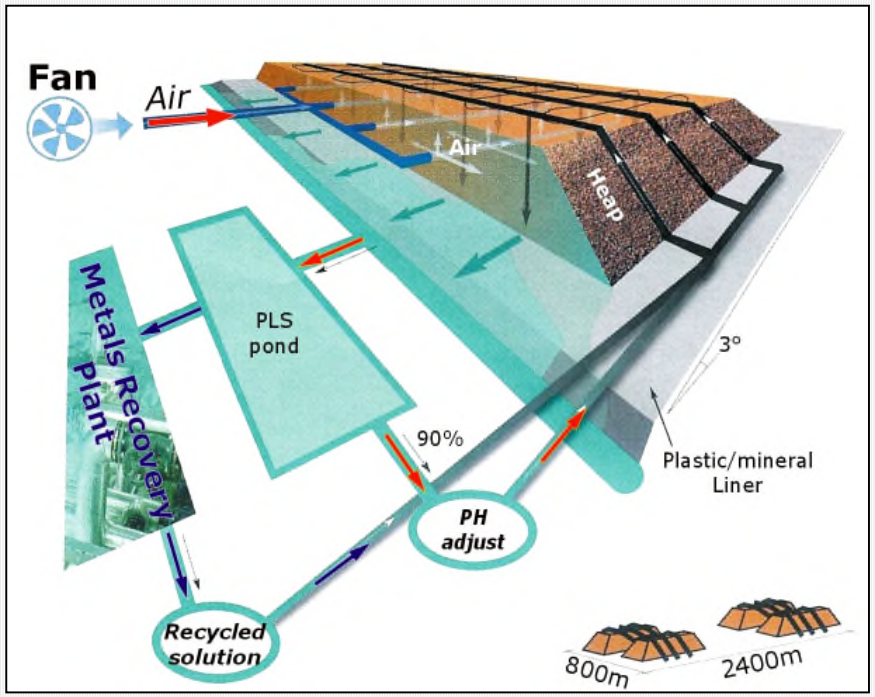
DUMONT ARC Study 2009

DUMONT Other Studies 2009

1

Inadvertent CO_2 Adsorption During Heap Aeration?

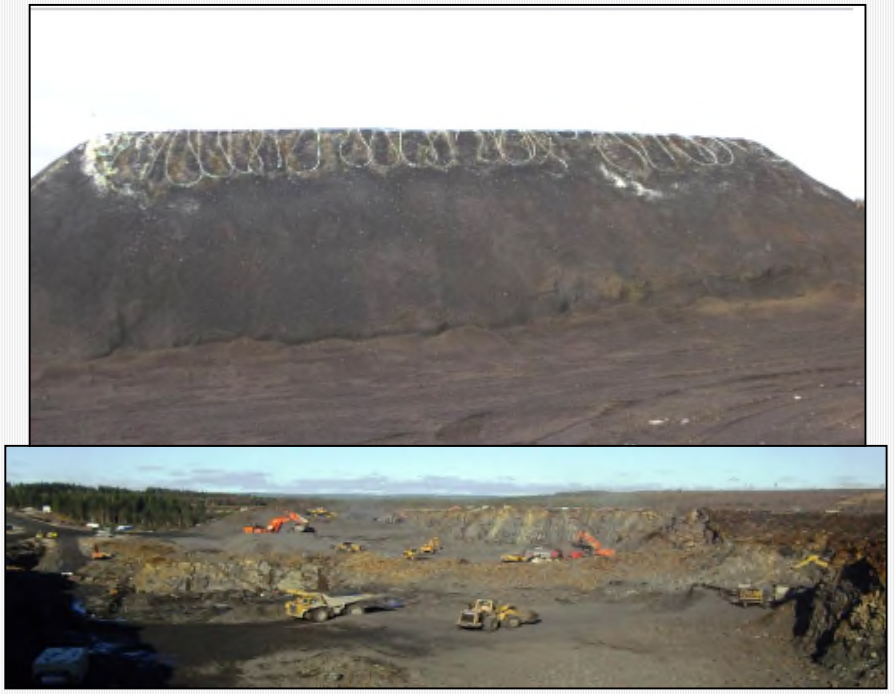
(CO2 for Biomass – CO2 "filter" - Chemically Assisted?)



2

Backfilled Crushed "Spent" Shale A Potential CO_2 Injection Reservoir?

(superior frakked surface)



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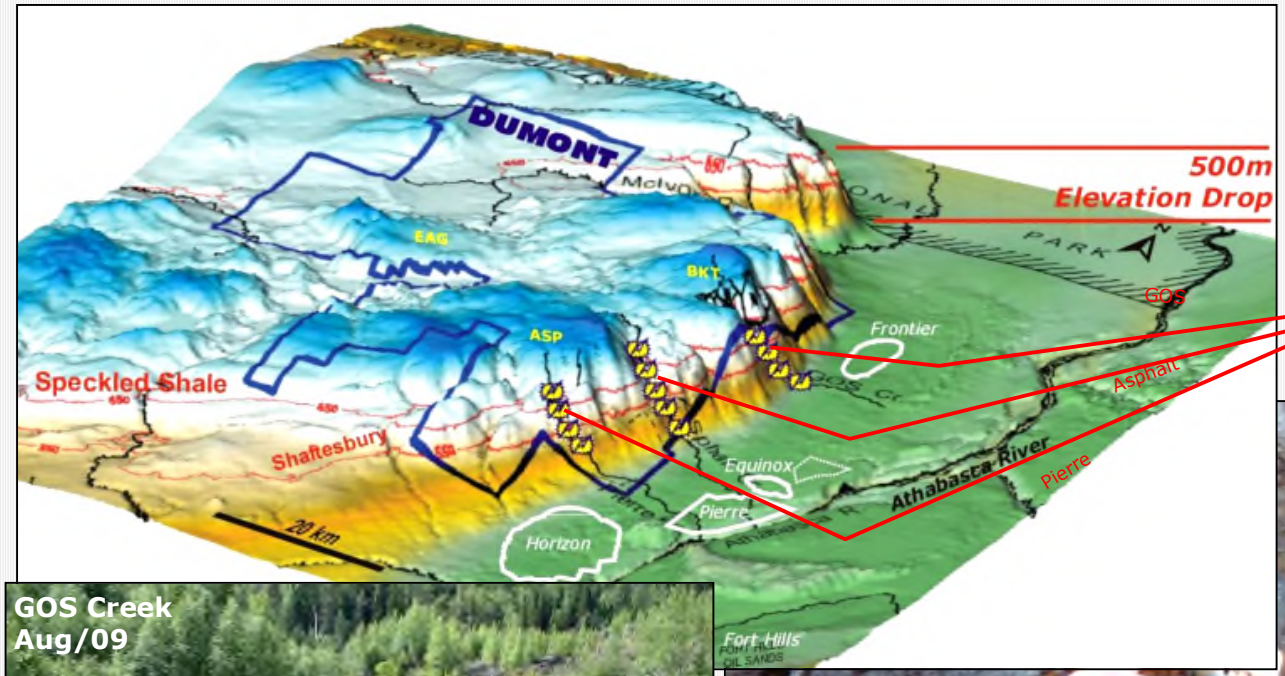
Dumont Polymetallic Black Shales

Run of River Small Hydro Options – 500m Vertical



Birch Mountains
500m Steep Relief
Many Streams
Muddy Waters + Sulfides
No Fish

Possible Turbines
Run-of-River Small Hydro

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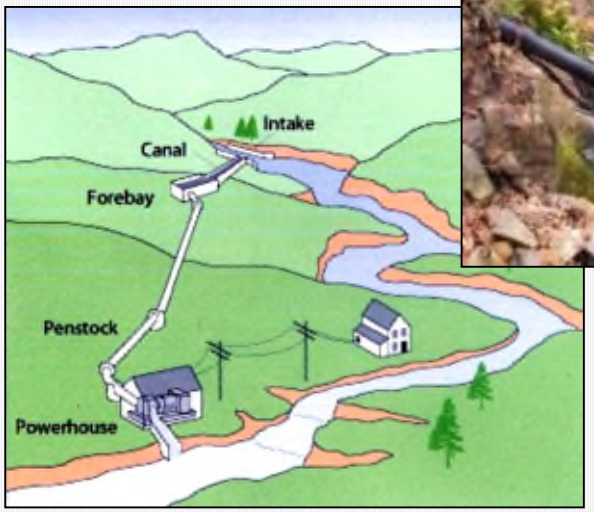
Dumont Polymetallic Black Shales

Run of River Small Hydro

Traditional Run-of-River Small Hydro

- Micro-Hydro Turbines (<100*kw*)
- Pico-Hydro Turbines (<5*kw*)
- Constant Power Generation 24/7

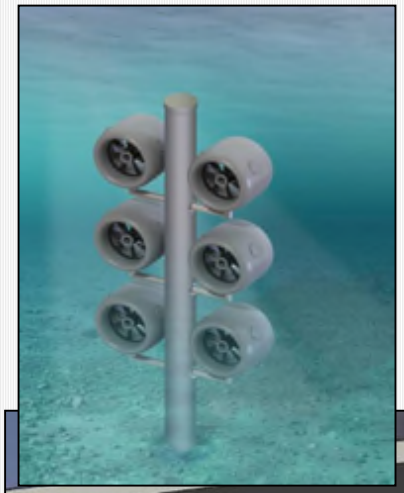
Solutions Can Come In Small Packages



DUMONT Study 2010

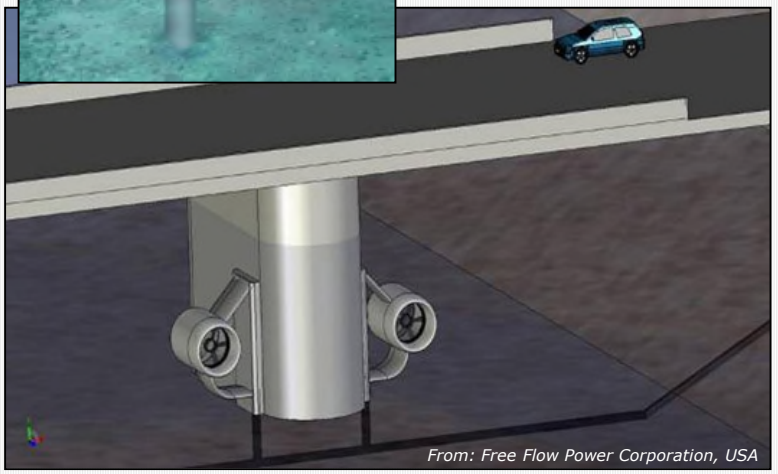
Free Flow Turbine Generators

- Can Operate Over Range of Flow Speeds (2-5m/sec)
- 2m Diameter Model → 10*kw* 2*mps* Flow (40*kw*@3*mps*)
  Higher Flow → Exponential Increases in Power
  Strategically Deployed – Modular Expansion
- Near Consumer → Low Transmission Cost & Power Loss



Each Generator Replaces

~60 tons CO_2 per year
~63 tons Coal
~127 bbl Oil
~780,000 cu ft Gas



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Dumont Polymetallic Black Shales
"Spent" Shale - Oil Sands Tailings Stabilizer?

Remediated Oil Sands Tailings a Waste Sand Issue

Wind-Blown Fine Sand - Health & Eco Hazard

Revegetation Challenges – Surface Stabilization Challenges

Metals Mining Produces de-Sulfidized "Spent" Shale

- **Backfill *OR* Recycle to Backfill OS Pits?**
  eg. Buckton can yield 2BB tons Fill = Horizon->Fronteer Volume Shrinkage
- **Possible Top-Soil Stabilizer and Binding Agent?**
- **Possible Top-Soil Enhancer – Enhanced Re-veg?**
- **Collateral Slurry Transport Benefits – Hydro+CO_2CERs?**

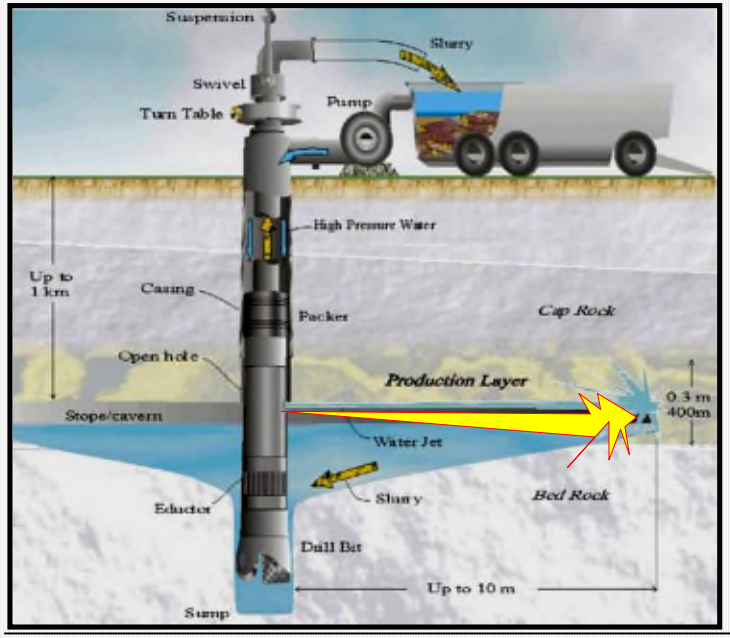
Dumont Polymetallic Black Shales

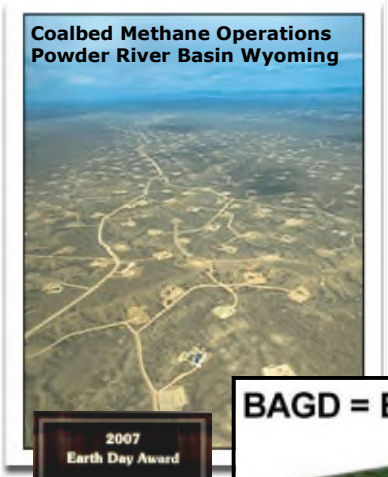
Future In-Situ Extraction?

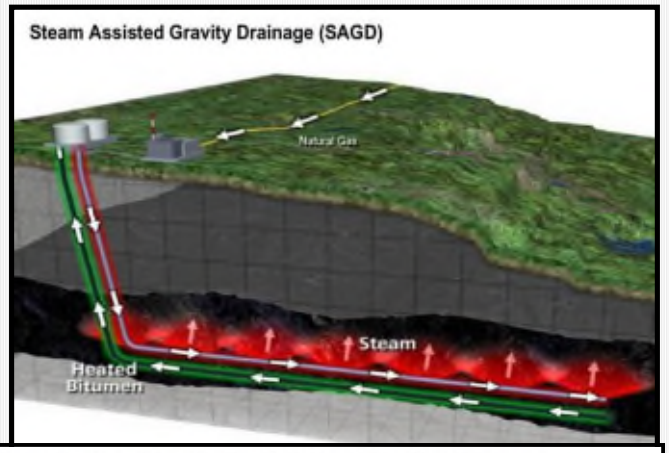
Speckled Shale Poorly Consolidated Candidate for Borehole Slurry Mining

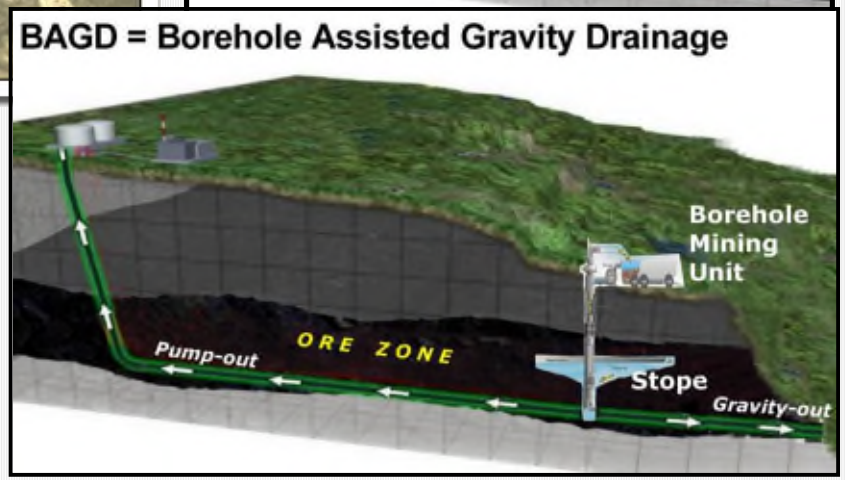
In-Situ Mining Alternative to Open Pit?

- Used for Uranium, Potash, Aggregate
- High Pressure Cutting-Jet Bit Assembly
- Cavern "Stoping" - Ore Slurry Pumped
- Good for Selective Extraction & Flat Zones
- Small Surface Footprint
- Like Coal-Bed-Methane Surface Land Use
- ***BUT*** "Mining" Stations Temporary
- Manageable via Biodiversity Offsets?









Adapt SAGD Technology?

- "Borrow" Horizontal Drilling Know-How for Slurry-Mining
- "Borrow" Slurry Handling Know-How
- Existing Equipment - Existing Expertise - Existing Regulatory

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Dumont Polymetallic Black Shales
Regional Industrial Symbiotic Opportunities

Symbiotic Cross Breeding Checklist

	Envisaged Metal Mining Bio-Leaching Black Shales		Oil Sands Operations
Sulfur	Consumes	←	Produces Waste Sulfur
CO2	Modest CO2 Sink	→	Produces
CO2	Potential CO2 Offsets	→	Produces
CO2	Potential CO2 Sequestration Sink	→	Produces
Sulfate	Produces Waste Sulfate	→	Can Use
H2S	Consumes	←	Produces
Hydro	500m Topo Elevation Drop Can Produce Some	→	On the Flats Consumes Hydro
Heat	Produces Waste Heat		Consumes Heat
"Spent" Shale	Backfilled	→	Maybe Can Use
Regional Infrastructure	Existing		Existing
Community Economy	Disconnected From Energy Markets	← →	Dependant On Energy Markets
Investment Leverage	High Leverage x10,000 Like Talvi-Finland?		High Leverage x10,000 Like Lougheed Years
Funds Needed To Advance to Demo Pilot	**$0.5-$1 million**		**Spends More on Sulfur Research**

Closing Remarks

- NIL Development is Not Sustainable - Consider Production "Leakage"
  CO_2 Not a NIMBY Issue – It is Global
  Shutting Down Oil Sands = CO_2 Environmental Disaster

- Sustainable Development Makes Good Business Sense. But Best Practices are Dynamic

- Proposed Polymetallic Black Shale Metal Mining = Metal Mining with Eco Clean-Up as a Bonus?
  OR Environmental Clean-Up Paid For by Metals?

- If Proposed Polymetallic Black Shale Metal Mining Indeed Captures CO_2, Who Will Own the Credits? Accrued to Canada's National Cap? Alberta's Cap? the Project Owner?

- Polymetallic Black Shale Metal Mining Offers a Natural Opportunity
  for Proactive Participation by Oil Sands Industry in Launch of a Symbiotic Industry

- Old Projects Difficult to Retrofit for Sust Dev Best Practices – Costly & Adversarial
  What is Carbon Footprint of Money? Envt Footprint of Money?

- Sust Dev Easy to Implement if "Hardwired" into Projects Early

- Polymetallic Black Shale Metal Mining a Proactive Opportunity
  for Eco Groups to Help "Hardwire" Sust Dev Best Practices into a Novel Project Early

- We can list many reasons why a novel idea might not work
  Let's focus on the one reason why it might

- "When dealing with novel technologies, unfounded biases prevail which are absorbed by the technology itself oblivious to bias. Don't be pre-occupied with technology "push" - look at context and market "pull" author unknown, from an ACR Circular circa 2002

Thank You

Alberta Black Shale Properties

Narrative Summary

Dumont Nickel Inc. holds 100% interest in metallic mineral rights over a 2,536 sq km property located approximately 120 km to the north of Fort McMurray, in the Athabasca oil sands region, in northeast Alberta, Canada. The Property extends over a 50kmx60km quadrant covering the eastern parts of the Birch Mountains. Dumont assembled its land position during Sep/07-Jul/08, and has not yet commenced field exploration and is relying on historic information from the Property. Dumont completed a NI-43-101 compliant Technical Report for the Property in Nov/08, which Report consolidates results from extensive historic third-party exploration work over areas presently under the Property.

Polymetallic black shales extend under the surface of the entire Property. **The shales are locally enriched in Mo-Ni-U-V-Zn-Cu-Co-Ag** and **Au(vg).** The metal zones are mixed with exhalative debris, bentonite, sulfides and a pyroclastic cap. The zones can be regarded as aggregations of metals, extending over areas +50 sq km each, draped around several yet undiscovered exhalative vents. Dumont's primary target is a 20m-40m Formation, which is a flat "blanket" across the Property and is exposed throughout the eastern one third. It is a classic polymetallic black shale which would be amenable to bulk mining.

The polymetallic black shale system under the Property was discovered by accident in 1995 by third-parties, and explored through 1999, but could not be exploited at the time with traditional technologies then available. The shales were previously unknown and had only been documented in oil well gamma logs due to Uranium content. Presence of exhalative debris was also unknown and is now believed to be related to suspected nearby sedimentary exhalative venting with potential for SEDEX style sulfides. **Advances over the past decade in industrial scale application of bioleaching to extraction of metals significantly enhance merits of the black shales as a long term bulk mineable source to metals.** There are currently only three other polymetallic black shale projects worldwide, one of which was also discovered in the 1990's but could not be exploited with then available metals recovery methods, but which commenced production in 2008 with resources exceeding 1 billion tonnes relying on bioheapleaching.

Based on historic work, Dumont has identified six 100-300 sq km polymetallic enrichment systems on the Property and regards them as six distinct sub-properties in different stages of development. **Polymetallic Zones have been drill confirmed on two of these, showing that both contain large polymetallic potential mineral deposits one of which comprises 1.2-1.3 billion short tons extending over 26 sq km**, **and the other is 109-132 million short tons extending over 4.5 sq km**. Both potential deposits are "open" and would be amenable to bulk mining. The polymetallic mineralization consists of Mo-Ni-U-V-Zn-Cu-Co-Ag and represents sufficient in-situ value to merit additional work to advance them toward resources. Approximately 75% of the in-situ value is represented by the combined value of Mo-Ni-U-V.

The Property's location in a mature mining district, in a well organized regulatory, jurisdictional and permitting framework tailored to the development of laterally extensive deposits, **provides considerable logistical and infrastructural advantages rarely available elsewhere**. The local availability of sulfur as a waste product of surrounding oil sands operations, is an added benefit to any sulfur consuming leaching methods which might ultimately be applied for the recovery of metals from the shale. Envisaged mining has further potential to provide **CO_2 sinks and offsets, in addition to CO_2 sequestration** possibilities.

Dumont's current work program per its Technical Report consists of (i) metals recovery testwork to continue through 2009 with an approximate $700,000 budget and; (ii) field activities, scheduled for 2009, with an approximate $400,000 budget focusing on - SEDEX - style sulfides. Subject to results from the metals recovery testwork, a $3.9 million drilling program is envisaged for winter 2009-2010 consisting of infill drilling to upgrade the two Potential Mineral Deposits to classified resources, and to expand the Deposits by probing their projected extensions.

Dumont Nickel Inc.

Corporate Profile

Directors & Officers

Denis A. Clement LLM - *Chairman & Director*
- >30 yrs in finance, law and corporate management
- CGX Energy Inc., Vena Resources Inc

Shahé F. Sabag MSc PGeo - *President-CEO and Director*
- >30 yrs in mining industry– Canada & USA
- Sr officer/director of public Cos since 1985

David G. Wahl PEng PGeo - *Director*
- >30 yrs in mining industry - Consulting
- President Southampton Associates
- Previously President-CEO Latin American Minerals

Raymond E. Mitchell CA - *Director*
>30 yrs in financial industry
- CFO Latin American Minerals
- Previously, CFO CDS

Nicholas Tintor BSc - *Director*
>30 yrs in mining industry
- President-CEO Homeland Uranium Inc.
- Anaconda Mining Inc., Macusani Yellowcake, San Anton Resource

Colin A. Grant CA – *CFO*
>25 years in financial sector
- CFO Argenta Oil and Gas

Advisory Committee

Gordon Bogden – *Financial Advisor*
Bryan Wilson – *Development Advisor*
Lee Barker – *Diamonds Advisor*
Mani Verma – *Bulk Mining Advisor*
James Letourneau – *Cross-Over Technologies*

Capital Structure

Share Price (CAN$) --– yr range $0.01-$0.13
Shares Issued ---------- 165 million
Fully Diluted ---------- 199 million
Market Capitalization (CAN$) ---- $3 million
Working Capital (CAN$) -------- $0.5 million

Listed

TSX Venture Exchange – DNI

Highlights

Corporate Repositioning
NEW Projects – 2,536 sq km Alberta

New Focus

Bulk Mineable Polymetallic Shales - Alberta

Technical Team

Shahé F. Sabag MSC PGeo
- Extensive Alberta Experience

J. P. Robinson PhD PGeo
- Sr. Structural Geologist

Mining Engineer & Metallurgist - *pending*

Network of Consultants & Test Labs

Strategic Partnerships - *pending*