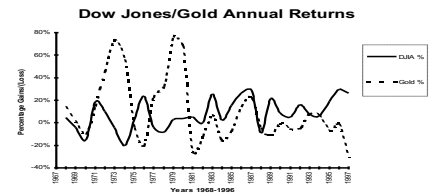




# Gold

## Energy & Tech Stocks



Weekly Hotline Message

(Now in our 36th Year)

April 21, 2017

New Coverage

### MacDonald Mines Exploration Ltd.



Exploration and development of the Wawa-Holdsworth Gold Project in Ontario

Traded Toronto:

USOTC:

Shares Outstanding <sup>1</sup>:

Price 4/21/17:

Market Cap:

Management Holdings:

Cash on Hand:

12/31/16 Working Capital:

Progress Rating:

Telephone Number:

Website:

BMK

MCDMF

78,354,103

US\$0.152

US\$12 million

~ 20%

~ C\$1 million

Neg. C\$800,000

A-4

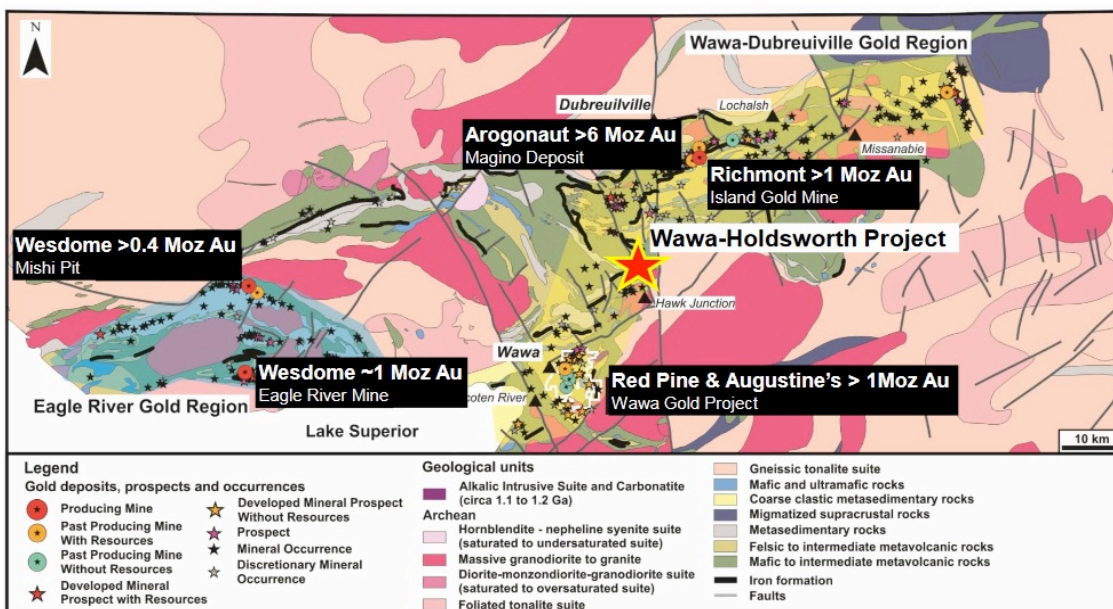
416.364.4986

[www.MacDonaldMines.com](http://www.MacDonaldMines.com)

<sup>1</sup> Includes private placement issued in of 17,864,286 shares arranged in February and March issued at \$0.07 with a full warrant at \$0.10 plus 800,000 shares issued in exchange of debt @ \$0.0618. Also, this factors an additional 5.5 million shares to be issued to secure a 100% interest in the company's flagship Holdsworth Gold Project

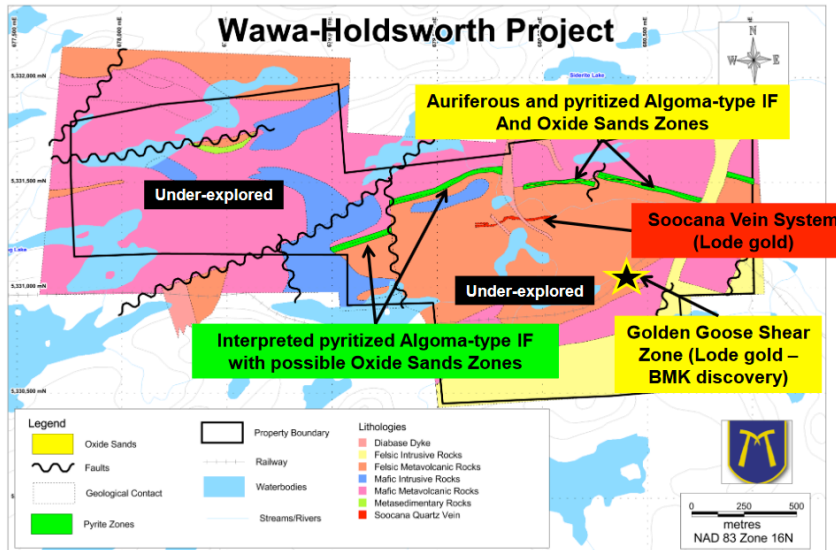
MacDonald Mines Exploration (BMK) has as its flagship property, the Wawa-Holdsworth Project, which, as you

can see from the illustration below, is located in the midst of several well known gold deposits around the Wawa Gold Camp in Ontario, just across the St. Mary's River from Sault St. Marie, Michigan. The project is close to key infrastructure (rail, road, power, and qualified workforce). The property, which is



comprised of 18 fee simple absolute patented claims, includes surface and mining rights covering an area of 290 hectares. The property is easily accessed by public road.

The Wawa-Holdsworth project is proximal to the crustal-scale Wawa–Hawk Lake–Manitowik Lake Fault and encompass a 500 metre-wide deformation zone where gold was concentrated in different structures. These include the *Pyrite Zones*, source of the gold-bearing oxide sands, the *Soocana Vein System* and the *Golden Goose Shear Zone* the locations displayed in the illustration below.



An early focus for this joint venture is gold-bearing oxide sands that are the uppermost weathered portion of the Pyrite Zone. Management believes some very early gold and silver production is possible from these near surface sands and it is in the process now of establishing the marketability of a concentrate product. Based on past metallurgical studies on this oxide sands material as well as what is known about gold and silver grades of this material, the potential to generate meaningful cash flow with minimal capital requirements appears good from my perspective. And based on a conversation I had with management, I'm expecting some news in the near term regarding the

marketability of a gold and silver concentrate from the oxide sands material.

The Pyrite Zones (shown in green in the illustration on your left) are described as a pyrite-altered Algoma-type iron formation that hosts gold and silver. Algoma-type iron formations are recognized hosts of large gold deposits in Canada and the United States. Key examples of gold deposits in Algoma-type iron formation in Canada the Meadowbank, Meliadine and Musselwhite gold deposits (Dubé et al., 2015).

The Pyrite Zones form steeply dipping east-west trending lenses distributed along a mafic/felsic metavolcanic contact over a defined strike length of 2.2 kilometres. A gold intersection of 5.18 g/t gold over 1.5 metre were also obtained in a sericite-altered shear zone in the hanging wall of the pyrite zone whereas a 1988 drilling intersection in the pyrite contains 0.85 g/t over a 11.83 metres. Management believes this to be similar to the Bousquet deposit taken from 1917 report on the property.

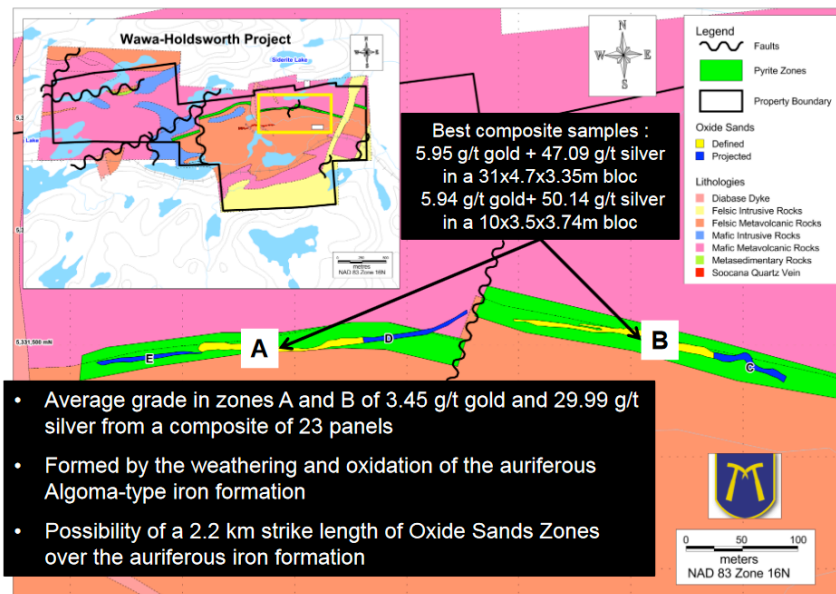
The **Holdsworth Pyrite Prospect** consists of massive lenses of pyrite situated at the contact between mafic and felsic metavolcanic rocks. These lenses trend approximately east-west and dip steeply towards the north. They are locally cut and offset by north-northwest trending faults. At present, five related zones have been confirmed by surface stripping and prospecting and several others indicated by ground geophysical surveys. The five confirmed zones (the 'East', 'East Extension', 'East Offset', 'West' and 'West Offset') have a combined strike length in excess of 2200 meters. Two drill programs completed from 1918 to 1926 (Algoma Steel Corp. and the Grasselli Chemical Co.) identified an iron reserve of 1,019,273 tons of 46 % sulphides within what is herein referred to as the East Pyrite Zone.

The pyrite zone has been intersected in 6 holes in more recent exploration programs including 2 holes by Falconbridge in 1983 and 4 by Reed Lake Exploration Ltd. in 1988. The Holdsworth Pyrite zones are of interest for their gold potential for two reasons. One of these is represented by the non-oxidized portion of the sulphide zone and its surrounding rocks. A drill core sample taken by Falconbridge Nickel Mines Ltd. (Band, 1983) was reported to contain 0.35 oz/ton, Au across 1.5 meters. Another sample from this hole taken from a pyritic shear in the hanging-wall six (6) meters above the Pyrite Zone was assayed four times yielding a range of assays from 0.24 to 0.51 oz/ton, Au. The massive pyrite typically contain up to 5% sugary to greasy quartz stringers and ribbons similar

to the black sands. The massive pyrite contained gold values ranging from nil to 0.14 oz/ton. Three of the five holes drilled by Reed Lake Exploration Ltd. were found to contain very anomalous gold values: 1.03 g/t Au over a core length of 2.13 meters (Hole R23); 3.06 g/t over 6.1 meters (Hole R26) and 2.08 g/t Au over 5.8 meters (Hole R27).

### The Oxidized “Black Sands” Pyrite Zones & Early Production Potential

Longer term it is the hard-rock un-weathered portion of the Pyrite Zones as well as gold-bearing vein and shear structures that management is most interested in. But as noted above, the coarse gold- and silver-laden “black sands” oxidized material contains gold and silver values ranging from a few parts per billion to an excess of 14.2 g/t (0.41 oz/ton). These gold- and silver-bearing oxide sands sitting on top of the pyrite zones will need to be sampled in order to establish a 43-101 resource calculation. My expectations based on a conversation I had with management this past week is that a resource calculation is likely to be forthcoming by the spring of 2018. Again the goal of management is to be able to produce a saleable concentrate product from which management can generate cash flows to help fund exploration and development of what is believed to be a very large gold system. But based on past work, these oxide sands hosted in the pyrite zones appear to host high grades of gold and some silver as well. The goal is to generate some significant cash flows from the black sands from which to explore the Golden Goose Share Zone as well as the Soocana Vein System.



The oxidized material which forms a "cap" to the Holdsworth Pyrite deposit has been described by old-time prospectors as a **'black sand.'** It consists of siliceous grains and non-magnetic iron oxide pellets ranging from a few centimeters to several microns in size. It is assumed to be the oxidized equivalent of the underlying massive iron sulphide. The sulphide zones are frequently anomalous in gold. Assays from a number of drill holes (Band, 1983; Sears, 1989) have ranged from nil to 0.056 oz/ton, Au. The best intersection to date was from Hole R26 (Reed Lake Exploration, 1988) which contained a 6.1 meter (20 foot) section assaying 1.06 g/t (0.031) oz/ton, Au. The enriched gold

values in the overlying material are assumed to be related to the oxidizing and weathering process.

In 1988, Reed Lake Exploration Ltd. carried out a stripping program over parts of the East and West Pyrite Zones labeled B and A respectively in the illustration above. In the early part of the program, the overburden was stripped completely down to the black, oxidized granular material. When it was discovered that the overlying red and yellow soil was also highly elevated in gold, the remainder of the stripping stopped just below the overlying bouldery till. Sampling was then carried out by means of surface channels at regular intervals across the zone. Two blocks within the East pyrite zone in which the oxidized cap was exposed yielded assays ranging from trace to 0.284 oz/ton, Au and an average grade of 0.208 oz/ton, Au. The sampled width averaged 2.9 meters (9.5 feet) for a strike length of approximately 100 meters (328 feet). The actual width of the underlying pyrite zone has a range of 2 to 10 meters (6.5 to 33 feet). In several test locations, the bottom of the zone was not reached at a vertical depth of 8 meters.

During the 1988 program, sampling from the red, yellow and grey soil above the black oxidized zone was also found to contain elevated gold values, ranging from trace to 0.206 oz/ton, Au. This material extends throughout the area stripped, so it was assumed that the black granular oxide occurred beneath it at shallow depths. A very limited amount of stripping was completed on the West Zone to check for the existence of the oxidized cap material. Six (6)



grab samples were collected from two three meter sections across this zone. Four of these consisted of brown soil and contained trace amounts of gold. The other two were of black-green material and contained 0.052 and 0.064 oz/ton, Au.

On February 28, management passed along news from a 2002 program of detailed and systematic sampling of these

RESULTS FROM THE 2002 SAMPLING PROGRAM

Block A	Length (m)	Average width (m)	Average depth (m)	Gold grade (g/t)	Silver grade (g/t)
A-1	30.0	6.9	4.65	4.92	25.22
A-2	13.5	5.3	3.00	5.76	42.65
A-3	31.0	4.7	3.35	5.95	47.09
A-4	10.0	3.5	3.74	5.94	50.78
A-5	24.0	2.9	3.66	5.10	50.14
A-6	8.0	5.3	5.49	2.99	36.01
A-7	11.5	7.5	5.03	1.74	21.29
A-8	20.0	6.3	3.65	0.85	9.91
Block B					
B-1	21.0	6.4	1.92	1.17	17.43
B-2	53.0	3.8	1.14	1.20	17.94
B-3	17.5	2.8	1.60	3.04	44.06
B-4	17.5	5.5	3.20	3.88	50.56
B-5	10.0	5.5	3.20	3.51	41.28
B-6	45.5	3.6	2.28	1.84	16.83
B-7	20.0	3.0	1.83	1.54	18.60

oxide sands was conducted over a strike length of 332.5 metres (blocks A and B). The mineralized sands reached a depth of at least eight metres and contained an average gold grade of 3.45 g/t and an average silver grade of 29.99 g/t. (See table on left)

Preliminary metallurgical testing on oxide sands composite samples recovered,

without crushing, between 69 per cent and 98.7 per cent gold. The company has identified the oxide sands as a short-term target for gold production and is anticipating that additional oxide sands zones can be discovered along the two km strike length of the pyritized iron formation defined so far on the property.

In that same February 28 press release, management announced that it will be conducting a geophysical EM (electromagnetic) survey to map the lateral extents of the oxide sands which will then be used for a more extensive sampling program. Moreover, management has staked new claims to expand its holdings of pyritized iron formations similar to the gold targets identified at the Wawa-Holdsworth Project. The staked claims encompass the mile 12 occurrence in which the carbonate iron formation is partially pyritized. The company believes these are the indicators of the circulation of sulphur-rich fluids that can also transport and deposit gold (similar to Wawa-Holdsworth). The geological environment, rich in iron, is highly favourable to trap and concentrate gold.

Clearly, based on past work, these “black sands” oxidized targets appear to hold a great deal of promise for this joint venture. In the February 28 press release, management stated “The oxide sands are one of the main gold targets on the property. Gold mineralization occurs in black sands composed of fine quartz, non-magnetic iron oxides (likely oxidized pyrite) and free gold. The oxide sands are interpreted to be derived from the weathering of an auriferous and pyritized Algoma-type iron formation. The pyritized iron formation is, so far, traced on the property over a two-kilometre-long strike length.

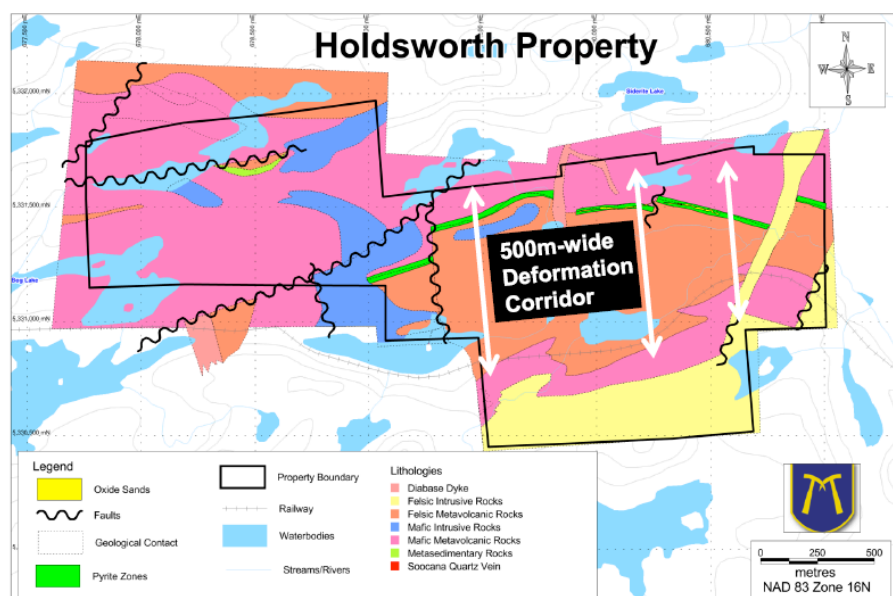
With metallurgical studies having taken place, we should soon know (hopefully within about six weeks) more about marketability of a gold and silver concentrate from the oxide sands, and as assays are announced from ongoing sampling of this material we should start to gain a better understanding of the gold and silver grades of this material. By the spring of next year, I’m anticipating we may have a 43-101 resource, and, given the apparent simplicity of a mining and concentration operation, production might start as early as the end of 2018. Also given the simplicity of this startup operation, CAPEX should be quite low.

In addition to surface mining of the oxide sands material, the fact that this property is on fee simple absolute patents that carry both mineral and surface rights means that the project is exempt from exploration plan and permit requirements. It is my understanding that only a closing plan is required by regulatory authorities. This is very good news in that it will help expedite the potential extraction of gold and silver.

### A Bigger Vision beyond the Oxide Sands

While the near-term focus may be on the black sands for early cash flow prospects, longer term the focus will be on the non-oxidized pyrite zones below the sands, as well as the Soocana Vein System and the Golden Goose Shear Zone. Indeed the geological characteristics of a very large gold system, such as a 500-meter-wide deformation

corridor hosting these various types of gold mineralization, have been largely untested. I believe the potential for a major gold discovery way beyond near-term cash flows from the oxide sands is very possible.



**The Soocana Vein System** is developed into mafic to intermediate metavolcanic rocks and shares geological attributes with greenstone-hosted quartz-carbonate vein-type deposits of the Canadian Shield. Four separate drill programs conducted between 1931 and 2008 defined the vein system over a strike length of 750 metres and indicated that the Soocana Vein System is formed of stacked gold-bearing quartz veins intercalated in sheared volcanic rocks. Channel sampling results along a 51-meter section of this vein averaged 14.7 g/t Au across widths ranging from 0.5 to 1.5 metres.

**The Golden Goose Shear Zone** was discovered alongside the old CN railway in the southern part of the property, where a grab sample collected from the shear zone contains 5.36 g/t gold. Based on geological mapping done by Falconbridge in 1985 and Noble Minerals Exploration Inc., the Golden Goose Shear Zone is formed close to the contact between a volcanic sequence and a composite porphyritic intrusion that can be traced over a strike length of approximately 1.5 km. This shear zone is located in the southern part of the larger deformation and alteration corridor defined over a width of 500 metres on the Wawa-Holdsworth Project, as mapped by MacDonald Mines in the fall of 2016.

If you are interested in exploration plays, with so many promising targets established in the past, it's difficult to not get excited about this company's prospects. Management bases its decisions on its strong scientific and technical competence and experience using in-house expertise in geophysical modeling tools. This is a real deal and one that virtually no one is aware of.

**FINANCING:** The company has arranged to issue some 17.8 million shares @ \$0.07 with a full warrant at \$0.10 to raise approximately C\$1.25 million. It issued another 800,000 shares @ C\$0.0618 to pay off some C\$24,000 in debt. It will issue another 5.5 million shares at \$0.30 to acquire a 100% interest in the Holdsworth Property. You should anticipate more dilution as the company given the company's \$800,000 and the need to carry out exploration work as discussed above.

## MANAGEMENT

**Quentin Yarie - President, Chief Executive Officer** - Mr. Yarie is an experienced geophysicist and a successful entrepreneur with extensive project management and business development experience. He was previously the Business Development Officer at Geotech Ltd, a geo-physical airborne survey company, and a Senior Representative of Sales and Business Development for Aeroquest Limited. From 1992 to 2001, Mr. Yarie was a partner of a specialized environmental and engineering consulting group where he managed a number of large projects including the ESA of the Sydney Tar Ponds, the closure of the Canadian Forces Bases in Germany and the Maritime and Northeast Pipeline Project. Mr. Yarie currently serves as President and CEO for Honey Badger Exploration Inc., and President and CEO for Red Pine Exploration Inc., both resource exploration companies headquartered in Toronto, Canada.

**Craig Scherba - Vice President of Exploration** - Mr. Scherba has over 20 years of mineral exploration experience both in Canada and abroad. Mr. Scherba was an integral member of the exploration team that developed Nevsun

Resources' high grade gold, copper and zinc Bisha Project in Eritrea and lead the exploration team that discovered Energizer Resource's world-class Molo Graphite Project in Madagascar. Mr. Scherba serves as President and CEO of Energizer Resources and is the Vice President, Exploration of Red Pine Exploration Inc. and Honey Badger Exploration Inc., all of which are resource exploration companies trading on the TSX - Venture Exchange.

**Joseph Heng, CA - Interim Chief Financial Officer** - Mr. Heng has been an Interim Chief Financial Officer of MacDonald Mines Exploration Ltd. since September 2015 and serves as its Controller. Mr. Heng is a Chartered Accountant with over 40 years of industry experience in public accounting. Since 1990, he has applied his skills as a Consultant in the field of accounting, tax and finance to small and medium size companies in various industries from manufacturing, retail, construction and the junior mining sector.

## DIRECTORS

**John Sanderson, Q.C., C.Med., C.Arb.**, is a mediator, arbitrator, consultant and lawyer called to the Bar in Ontario and British Columbia. Mr. Sanderson has acted as mediator, facilitator and arbitrator across Canada in a wide variety of disputes including environmental, inter-governmental, employment matters and in relation to aboriginal claims. Representative parties have ranged from trade unions to the Federal Government, major banks and financial institutions, construction companies, and resource industries. Mr. Sanderson has been a Director of MacDonald Mines since February 2001

**Hadyn Butler** – Mr. Butler is a Professional Geoscientist and a practicing member of the Association of Professional Geoscientists of Ontario. Mr. Butler has over 50 years of geological experience. He was a consultant with INCO for over 30 years and has enjoyed substantial success in mineral exploration. He has been a Director of MacDonald Mines Exploration Ltd. since August 2003.

**Quintin Yarie – President, CEO & Director** – See bio above in management section. .

## ADVISORY BOARD

**Jean-Philippe Desrochers - Ph.D., P.Geo.** - Mr. Jean-Philippe Desrochers, has over twenty years of experience in the mineral exploration industry in Canada, Central and South America. Dr. Desrochers has been involved with intermediate and junior mining companies with exploration projects ranging from grass-roots to mine-scale. He was Vice-President of Exploration at the Windfall Lake Gold Project for Murgor Resources Inc. from 2005 to 2010, and joined Eagle Hill as Chief Geologist in 2010 before becoming Vice-President Exploration for Eagle Hill in 2013. Past experience also includes senior positions with Aur Resources and SRK Consulting. Dr. Desrochers specializes in the field of structural geology applied to ore deposits in the search for Archean lode gold, volcanogenic massive sulphides, porphyry copper, skarn, and epithermal gold deposits.

**James Franklin - Ph.D., FRSC, P.Geo.** - Dr. James (Jim) Franklin, is a renowned and award winning exploration geologist with over 40 years of extensive geological knowledge and expertise focusing on discovering base metal, uranium, and gold-bearing ore deposits. His career in the mineral industry has involved teaching at the university level, and directing research programs for the Geological Survey of Canada as Director of the Survey and as its Chief Geoscientist from 1993 to 1998. Dr. Franklin was past President of both the Geological Association of Canada and the Society of Economic Geologists. He was a Co-editor of Exploration and Mining Geology for CIM and was also Associate Editor of Economic Geology (trade journal) for seven years. He serves as a Fellow of the Royal Society of Canada and is an Adjunct Professor at Queen's, Laurentian and Ottawa university. Dr. Franklin is an expert on gold and VMS deposits in the Churchill and Superior Provinces of the Canadian Shield.

**Hadyn Butler - B.Sc., P.Geo.** - Mr. Butler is a Professional Geoscientist and a practicing member of the Association of Professional Geoscientists of Ontario. Mr. Butler had 30 years consulting experience with INCO and has enjoyed substantial success in mineral exploration. He has over 40 years of geological experience. He has been a Director of MacDonald Mines Exploration Ltd., since August 14, 2003 and a member of its Technical Advisory Committee since February 2011. He served as Director of Uranium Star Corp. (Formerly Yukon Resources Corp.) from December 22, 2006 to January 2, 2009. He graduated with a degree in geology in 1974 (Bachelor of Science, with First Class Honors and University Medal) at the University of New England, Armidale, New South Wales, Australia.

**Mr. Mackenzie Watson - B.Sc., P.Geo., P.Eng.** - Mr. Mackenzie (Mac) Watson, has over 50 years experience in the exploration, development, and mining industry, and has been involved in the discovery of numerous mineral deposits in Canada. He is currently Honorary Chairman of the Board of Directors of Quest Rare Minerals. Mr. Watson spent his career in the junior mining sector, as CEO of Lynx Canada Exploration from 1969 to 1985, and CEO of Freewest Resources from 1985 until 2010 when it was taken over by Cliffs Natural Resources. Mr. Watson was awarded Canada's Prospector of the Year Award in 1991 for his contribution to the discovery of the Harker Holloway gold mine (Ontario), the Icon-Sullivan copper mine (Quebec), the Long Lake zinc mine (Ontario), the Ellison gold deposit (Quebec) and the Hebecourt copper deposit (Quebec); and again in 2010 for his contributions to the mineral discoveries in the Ring of Fire area of Northern Ontario. He was also awarded the Quebec Prospector of the Year Award in 1992 for his participation in the discovery of the Pusticamica and Verneuil gold deposits in Quebec. In January 2015, Mr. Watson was inducted into the Canadian Mining Hall of Fame.

**THE BOTTOM LINE** – Under his leadership, Quentin Yarie brought MacDonald Mines back from the dead, though few people are yet aware the company has a heartbeat. That's good news for speculative investors because, after a rollback, Yarie managed to gain a 100% interest in the Wawa-Holdsworth Project that has the potential to host a major gold discovery from three different geological targets all within a 500-meter-wide deformation corridor. As noted above, immediate attention will be on possible early cash flows from the production of a gold-silver concentrate from oxide sands that sit atop the much larger un-weathered massive pyrite zones. We should know within weeks whether concentrates from the sands can be marketed. If positive, as I anticipate, economic prospects should start to become more knowable as assays are reported through the summer and into a 43-101 resource calculation next spring.

Potential cash flows from the oxide sands could be significant, given the kind of high-grade reports thus far and reports of favorable metallurgy. With grades reportedly upward to 0.2 ounces per ton in material extending to 8 meters in depth and averaging 2.9 meters in width over a possible strike length of more than 2 kilometers, the gold/silver-bearing oxide target could bring meaningful cash flows. But these "black sands" were not the reason management was interested in the project. What is hoped is the oxide sands can provide some early cash flows from which to fund exploration of what appears to be a very major gold system.

As always, dilution is a risk to keep your eyes on when investing in these penny resource stocks that require lots of capital. Prospects of early cash flows may be helpful in limiting future dilution and assuming this stock begins to catch a serious bid, as I do, future financings should not be nearly as painful for initial shareholders as these first deals done at \$0.07. For sure it's still early days for the company's Wawa-Holdsworth Project, but the good news is that it is a story not yet told. With some good news expected over the summer these shares should trade at much higher levels when the Bay Street boys and girls start to focus on this story. I view BMK as a very attractive speculation if purchased at its current price. While it is impossible to predict future share prices, with near-term positive news regarding a saleable gold-silver concentrate and various strong assay reports from both the sands and hard-rock targets over the summer, a move several fold above the current price of US\$0.15 is certainly within the realm of possible outcomes.

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