
PUBLIC COMMENTS RECEIVED FOR THE WOLFDEN ZONING PETITION

ZP 779, Pickett Mountain Mine, T6 R6 WELS

01/27/2020 through 03/15/2020

**Maine Land Use Planning Commission
Maine Department of Agriculture, Conservation and Forestry**

The Maine Land Use Planning Commission is accepting public comment on the zoning petition filed by Wolfden Mt. Chase, LLC. to allow for development of the Pickett Mountain Mine in T6 R6 WELS. Public comments will be accepted until 10 days following the close of the public hearing for the petition. The public hearing has not yet been scheduled. A public notice for the hearing will be issued later this year in accordance with the Commission's Rules of Practice, 01-672 CMR 4.

Written comments received on the Wolfden Zoning Petition for the Pickett Mountain Mine will be posted periodically on the LUPC webpage. Information on changes to the webpage and other notifications to interested persons will be distributed through the Maine GovDelivery system.

For more information on the review process, filing public comments, and signing-up for notifications, visit the LUPC webpage at: https://www.maine.gov/dacf/lupc/projects/wolfden/wolfden_rezoning.html.

From: [Lew and Kelly Kingsbury](#)
To: [LUPC, WolfdenRezoning](#)
Subject: Re: Public Comments on Wolfden Mt. Chase LLC rezoning request
Date: Friday, March 13, 2020 1:21:29 PM

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Ms. Beyer

Thank you for providing me a clarification on the LUPC roll. My understanding was that the LUPC would make its rezoning decision based on the applicant's adherence to the MMMM act and rules and the resultant impact to surrounding land uses. I apologize for the mischaracterization of your obligations under the State Use Regulation statute, Title 12, Chapter 206-A, § 681 et seq., and the Commission's Rule Chapters 4, 5, 10, and 12.

Respectfully

Lew Kingsbury

From: LUPC, WolfdenRezoning <WolfdenRezoning.LUPC@maine.gov>
Sent: Friday, March 13, 2020 11:07 AM
To: Lew and Kelly Kingsbury <kingsburyk@hotmail.com>; Lindsay Newland Bowker <LNBowker@bowkerassociates.org>
Subject: RE: Public Comments on Wolfden Mt. Chase LLC rezoning request

Mr. Kingsbury;

Thank you for your continued interest in the Wolfden Mt. Chase, LLC. petition for the Pickett Mountain Mine. I would like to respond to a few points in your e-mail message below, to make sure the record is clear on the LUPC role in this matter.

- We are considering any direct correspondence with the LUPC regarding the Wolfden petition as public comment.
- The LUPC's review process for the zoning petition is governed by the State Use Regulation statute, Title 12, Chapter 206-A, § 681 et seq., and the Commission's Rule Chapters 4, 5, 10, and 12. The Maine Metallic Mineral Mining Act, Title 38, § 490-LL to 490-TT, is administered by the Department of Environmental Protection and requires that a permit be issued by the Department for metallic mineral mining. However, before the Department can consider a permit application, the LUPC has to certify the proposed mining is an allowed use within the subdistrict in which it is to be located. In all cases, the LUPC has to rezone the property, according to our statute and rules, before we can issue a certification of allowed use.
- As to the agency's authority to consult with outside expertise, the Commission has designated the Wolfden petition as an extraordinary project in accordance with Title 12, § 685-F. That

designation specifically allows the LUPC to obtain services needed for review of the project, including legal and consulting services.

The Commission's webpage for the Wolfden petition has additional details and resources relating to the applicable review criteria and process for the petition that may be helpful, https://www.maine.gov/dacf/lupc/projects/wolfden/wolfden_rezoning.html.

Sincerely;

Stacie R. Beyer
Planning Manager
Land Use Planning Commission
22 State House Station,
Augusta, Maine 04333-0022
Cell- 207-557-2535

From: Lew and Kelly Kingsbury <kingsburyk@hotmail.com>
Sent: Monday, March 09, 2020 4:59 AM
To: Lindsay Newland Bowker <LNBowker@bowkerassociates.org>
Subject: Public Comments on Wolfden Mt. Chase LLC rezoning request

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Lindsay

I have reviewed your non-public comments on the Wolfden Resources LLD application for rezoning of 197 acres of land as the first step in an application for a mining permit. I find that you have ignored several aspects of the MMMMA statutes and rules.

The LUPC is required to review Wolden's application for rezoning solely in the context of the MMMMA statues and rules. Any departure from them requires a statutory change via legislative action.

The LUPC is not empowered to do any research with mining experts or consult with same. Their experts are solely the DEP for interpretation of the existing statutes and rules.

You're thinly veiled tailings waste position mirrors Wolfden's and Pretti Flaherty's probable position that alternatives to statutory requires are allowable.

Let the LUPC do their job without interference unless you have public comments on the Wolfden proposal's adherence to existing mining statutes and rules.

Respectfully

Lew Kingsbury

Lindsay Newland Bowker <compiler@worldminetailingsfailures.org>

Sun 3/8/2020 5:07 PM

• Lindsay Newland Bowker

Dear Stacie

I [link to a quick mark up of the Wolfden re zoning application](#) intended not to be public comment on the merits of the project or this application but rather to inform and influence the process of review within the context of existing law.

World Mine Tailings Failures is a federally chartered non profit research institute I founded and direct with the primary purpose to inform and build policy through research and analysis of conditions which allow tailings failures to incubate and grow to final uncontrolled uncontrollable manifestation. Our comment and mark up on Wolfden's application are in this spirit of supporting sound application of existing (and very poor)Maine law and mineral policy.

First, I cannot tell you how fortunate Maine is to have Wolfden as the applicant. They are about the best "good neighbor" we could hope for out of the cast of characters in the Junior Mining Circuit. You have the best possible partner to work with in applying our very poor policy to a project that Wolfden as gone all in for. I am sorry for them that the result they hoped for as to improving on what was known about the the size and qulaity of the mineralized zone at Mt Pickett/Chase Mountain has not proven anything different than Getty pronounced years ago. Wolfden has given it a deeper and more thorough examination but it has not yet proven a larger or higher quality mineralized zone.

Wolfden's good faith investment in this project has not proven the resource. Their theory didn't pan out .

Investor interest in Maine has never ever been about the quality of Maine's regulation for mining . It has always been and still is the poor quality of Maine's mineral endowment. Every site explored, including the original work on Mt Chase / Pickett Mt.) has made an economic determination of non viability. You will see I have taken sharp issue with Wolfden's representations in "Financial Capacity". Wolfden was a penny stock when it took on Pickett Mountain and had it proven Getty wrong it surely would have been a feather in Wolfden's cap and perhaps

have encouraged some investors to take a second look at Maine's endowment. But that hasn't happened. Wolfden has not fundamentally shown that the Pickett Mountain endowment is any better than Getty sized it up to be all that time ago.

Maine has a legal duty to Wolfden in allowing them to get this far so it is impossible for LUPC to just say no and yet there is not sufficient information available to give an unqualified yes in accordance with comments I recently made on how you might go about applying your policy discretion and mandate under present law. Essentially I have suggested that you need a team of qualified experts there is not a single person in Maine qualified for that, myself included. I am very glad to assist you in identifying who would be best for different aspects of policy involved here. All would have to be outside the normal competitive bid process by invitation based on the unquestioned leadership of the people you ask for help.

As I have tried to convey, "Drystack" is not immune to the failures we research and try to prevent at WMTF. Drystack has both very limited applicability to the tailings generated throughout the mineral sector and its use requires as much technology and design as any other above ground storage facility especially for acid generating tailings and cold climates.. The key issue here is Wolfden has not even shown that its tailings would be compatible with dry stack technology . Only about 10% to 20% of all tailings generated are suitable for this technology . Your permit ,at a minimum, must not allow the massive clear cutting needed for site development until the applicant has proven that its tailings will be compatible with this technology. (At the zinc grades indicated they likely would meet technology requirements but that should be stipulated as a required proof prior to allowing the extensive clear cutting site development would require. I sent Melaine Loyzime at DEP [Mike Davies guidance on Dry Stack](#) and suggest you at a minimum also stipulated these standards as a permit requirement.

After Dr. Robertson invented Dry Stack at Green's Creek there was a small initial flurry of interest which has trailed off not just for cost but for the requirements of the technology. Here is an [early consideration of Cold Climate applications](#). You will note that Mike Davies adds considerably to requirements including the need for heated liners in cold climates. I have been analyzing and reporting on the Church of England Tailings Survey for several months. No one is building new dry stack. All drystack were in the early days after Dr. Robertson introduced it at Green's Creek. .

I was not really clear on whether they are essentially proposing a block cave operation (see my notes and comments within) or a follow the vein drill and blast . I had advocated disallowing block cave, the underground equivalent of open pit but I see that did not materialize in the final version of Chapter 200 which was very

different from what left the ENR last I looked.

I do not envy your task of reaching the right precedent in this matter and I do not believe you can accomplish that without the guidance of experts reporting to and coordinated by an expert with sufficient expertise to evaluate and explain the separate individual expert reports. No one of your staff or Melanie's at DEP is competent to do that. I believe Chapter 200 provides that the application must pay for that.

I wish you wisdom in this matter and fervently hope as a policy wonk and Mainer whose family has been here long before Maine became Maine that you will preserve and clarify the difference between LURC's mandate and DEP's .

Lindsay

Lindsay Newland Bowker, Executive Director
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From: LUPC, WolfdenRezoning <WolfdenRezoning.LUPC@maine.gov>
Sent: Monday, February 10, 2020 2:13 PM
To: Lew and Kelly Kingsbury <kingsburyk@hotmail.com>
Subject: RE: Public Comments on Wolfden Mt. Chase LLC rezoning request

Dear Mr. and Mrs. Kingsbury:

Thank you for your interest in and comments on the zoning petition filed by Wolfden Mt. Chase, LLC.

LUPC staff has reviewed the Maine Metallic Mineral Mining Act (MMMMMA) and the Department of Environmental Protection's Chapter 200 rules, and have confirmed with the Department of Environmental Protection that all metallic mineral mine tailings must be managed in dry stack tailings management units as defined in the MMMMA. We have also confirmed that waste rock, as defined in Chapter 200, that is neutralized or otherwise treated to prevent contamination of groundwater or surface water may be placed into a mine shaft.

LUPC staff is working on reviewing the Wolfden Mt. Chase, LLC petition to determine if it is acceptable for processing. We will be requesting additional information and will include a request that the petitioner respond to the MMMMA requirements for tailings and waste rock management.

If you are interested in receiving future notifications on the Wolfden Mt. Chase zoning petition, and haven't already done so, please visit our website and sign-up for our e-mail listserve:

http://www.maine.gov/dacf/lupc/projects/wolfden/wolfden_rezoning.html

Sincerely,

Stacie R. Beyer
Planning Manager
Land Use Planning Commission
22 State House Station,
Augusta, Maine 04333-0022
Cell- 207-557-2535

From: Lew and Kelly Kingsbury <kingsburyk@hotmail.com>
Sent: Friday, February 07, 2020 8:12 AM
To: LUPC, WolfdenRezoning <WolfdenRezoning.LUPC@maine.gov>
Subject: Public Comments on Wolfden Mt. Chase LLC rezoning request

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Public Comments on Wolfden Mt. Chase LLC rezoning request

On January 27, 2020 the Maine Department of Agriculture, Conservation and Forestry announced that “The Land Use Planning Commission (LUPC) has received a zoning petition from Wolfden Mt. Chase, LLC, to rezone approximately 197.5 acres of land from a General Management Subdistrict to a Planned Development Subdistrict (D-PD) in T6 R6 WELS, near Mt. Chase, Northern Penobscot County. The proposed purpose of the D-PD subdistrict is for an underground metallic mineral mine and associated buildings and infrastructure.” Wolfden Mt. Chase, LLC, is a wholly-owned subsidiary, or shell company, of Wolfden Resources Corporation.

The announcement goes on to say that “A petitioner wishing to seek a metallic mineral mining permit from the Department of Environmental Protection under the Maine Metallic Mineral Mining Act for a project located wholly or in part within the unorganized areas of the State must first petition and receive approval from the Commission for a change in subdistrict boundary to a custom, Planned Development (D-PD) Subdistrict. The D-PD subdistrict is the only Commission zoning subdistrict that would allow for metallic mineral mining. The purpose of the D-PD subdistrict is to allow for large scale, well-planned development that depends on a particular natural feature or location that is available at the proposed site.

Wolfden’s proposal provides a review of their proposed mining operations plan that includes their approach to handling waste generated by mining and beneficiation processes. The Wolfden rezoning proposal states: "When tailings are first produced they are oversaturated with respect to water content and are pumped in a slurry. As mine backfilling takes place, the slurry is thickened and blended with waste rock fill then hauled and placed into underground excavations. Since these tailings are deposited within the mine workings, impacted water from the tailings are then collected and pumped to surface for water treatment and recycling or discharge. "

This approach to mine waste management is not allowed under the Maine Metallic Mining Act and implementing rules. The rules state that management of tailings generated by the beneficiation process “will use dry stack tailings management and will not use wet mine waste units or tailings impoundments for the management of mine waste and tailings”. In order to meet the current statutory requirements, the tailings waste must be dewatered and placed in dry stack permanent storage as part of the beneficiation process.

Storing wet waste slurry prior to "thickening" and placement into the mine shaft years later just prior to mine closure will require tailings impoundments. That is not allowed under the revised statute and rules. The statutes and rules envisioned that tailings would be dewatered and placed in permanent dry storage as they were produced, not stored for extensive periods of time in a waste pond like environment. This requires the mining company to take care of its tailings waste while the mining

operation is making money.

Under the mining statute and rules, “waste rock” means “rock material removed to access the ore body that may or may not contain metallic mineralization, but that is not processed to extract metallic minerals” and “the mining operation may involve the placement into a mine shaft of waste rock that is neutralized or otherwise treated to prevent contamination of groundwater or surface water”.

So tailings management requirements demand dry waste storage and waste rock management allows for permanent placement into the spent mine shaft after proper treatment. The Wolfden proposal must be modified to accommodate these statutory requirements. Any changes to the Metallic mining rules requires legislative action.

From: [Lindsay Newland Bowker](#)
To: [Bill Williams](#)
Cc: [Beyer, Stacie R](#); [Dr. David Chambers, Center for Science in Public Participation](#); [Jan Morrill](#); [Eric A. Tuttle](#); [Marvinney, Robert G.](#); [Loyzim, Melanie](#); [Jack Caldwell](#)
Subject: Re: A Reconsideration of the Social License To Operate
Date: Saturday, March 07, 2020 9:35:33 AM

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Thanks Bill..as a policy wonk the whole delegation of the public interest to miners has bugged me. Mike Davies happened to mention in an email "asking miners to be public administrators" or something like that. We had a brief exchange on it that brought me to finally put my thought on it out in a post. Got a giant immediate and continuing response.

What is going on in Maine is a wierd public policy perversion as well. The Unorganized territories already have a zoning and landuse policy that makes sense and addresses mining. Both Mt. Chase and Bald are in areas zoned as not suitable for mining due to their immediate adjacency to highly valued natural resources. which could not recover from any water draw down or pollution.

It is absurd to effectively set up a process to revoke that.

Plan 1 for Government doing its job is the kind of landuse and zoning work already done for the unorganized territories in Maine. Essentially revoking a no mining zoning designation accepts they apply the same the unavoidable adverse impacts of any kind of metallic mining even though the icriteria are supposedly impact based they are geeral and not mining specific. Water balance and other uniquely mining impacts arent included and although I havent read the so called mining plan Wolfden has submitted I am sure it doesn't have the detail needed to assess the dry stack plan, or the interim management of the ARD waste rock.

The very bizarre structure the Nature Conservancy, Trout Unlimited, Sierra Club, and worst of all Natural Resources Defense Council of Maine advance is literally crazy. It assumes that dry stack only, no "wet mine waste units" and no open pit mining will keep Maine safe from all adverse impacts of mining. Raw naked ignorance.

My advanced degree is in City Planning and I began my life in public policy in City Planning. Zoning Variances are a useful planning tool and much of the beautiful public space we have in NYC now came from our zoning variance policy. We gave height bonuses for public benefits like ground floor public gardens. There is no recognition or requirement that redesignation for a "not safe for mining" designation to allowing mining requires additional mining specific adverse impacts be compensated or offset.

The cornerstone of Government taking responsibility for mining impact protections is a zoning

and landuse plan.

Feel free to circulate my post. I have three major papers for publication ahead of this one. Welcome your comment at my wordpress post.

Best

L

Lindsay Newland Bowker, Executive Director

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From: Bill Williams <billwms17@gmail.com>

Sent: Saturday, March 7, 2020 12:17 AM

To: Lindsay Newland Bowker <compiler@worldminetailingsfailures.org>

Subject: Re: A Reconsideration of the Social License To Operate

Lindsay,

You really need to get this published in a well-circulated, public policy journal, e.g., Journal of Public Policy. It needs some refining for acceptance, but not much.

Bill Williams

480-522-7925

Sent from my iPhone

On Mar 5, 2020, at 11:14 AM, Lindsay Newland Bowker <compiler@worldminetailingsfailures.org> wrote:

<https://lindsaynewlandbowker.wordpress.com/2020/03/05/a-reconsideration-of-the-social-license-to-operate-isnt-it-governments-job-to-provide-for-safety-and-well-being-of-its-people-lands-water>

Lindsay Newland Bowker, Executive Director

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From: [Bill Williams](#)
To: [Beyer, Stacie R](#)
Cc: [Tartakoff, Daniel](#); [Eric A. Tuttle](#); [Lindsay Newland Bowker](#); [Loyzim, Melanie](#)
Subject: Re: Pickett Mtn. Wolden
Date: Thursday, March 05, 2020 9:41:52 PM

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Stacie,

I accessed, and quickly reviewed, Wolfden's petition with the link you provided below. Lindsay offered my email to her about Wolfden's project for the public record, and I will not object, but I respectfully expect that the following commentary is attached to my comments.

1) that email was my professional opinion on the potential economics of mining the currently known Pickett Mt mineralization using numbers based on my experience; at its core, it was a "back-of-the-envelope" estimate. Wolfden will do a proper study to refine those numbers. In fact, the proposed mining method cited in their petition would reduce the mining and processing cost of \$125/t that I estimated below by 15-20%, perhaps more. In any event, there are, and were, operating mines "in the neighborhood" that can be used as benchmarks for costs of mining, processing, and marketing.

2) the project has a resource as defined by Canada's NI43-101 guidelines. Basically, a mineral resource is a mineral deposit where there is a reasonable expectation of economic extraction, i.e., it is possible that a profit could be made by mining (extracting) the commodity (or commodities). However, more drilling is needed to better delineate the tonnage and grade of the targeted mineralization at Pickett Mountain.

Wolfden has done a substantial amount of work on all fronts, e.g., hydrology, biology, archaeology, waste management, mining, etc., etc., which has significantly derisked the project. Thus, they state on page 173: "The mineralized rock at the Pickett Mountain Deposit contains high grade zinc, and lesser copper, lead, gold, and silver at tonnages indicating the project is economically realistic, and can be financed and completed."

Indeed, there is no industry-compliant Preliminary Economic Assessment or Prefeasibility Study, which would clearly show the economic viability of a mine at Pickett Mountain, but Wolfden would pursue such if and when rezoning is completed, which would further derisk the project and, as they state in their petition, demonstrate that Maine is open for business.

Bill Williams, PhD, CPG

On Mar 5, 2020, at 7:08 PM, Lindsay Newland Bowker
<compiler@worldminetailingsfailures.org> wrote:

Dear Stacie

Thank you so much for taking the time to write. I would be very glad to have Bill Williams' commentary and mine entered into the public record on this requested rezoning.

Maine did such a terrible job on their mining statute including the LURC end of things that there are no provisions in law and regulation capable of taking onto account the critical issues of fundamental viability of mining Pickett Mtn. (formerly My. Chase). So there is no support in law for you to make the correct decision in this matter and therefore there is no point in participating directly in the public comment process.

It is nevertheless important for your staff and commissioners and the legislative Committee and your Board to understand the critical point I am making and initiate a fix to present law and regulation.. The very low grade of our known mineral deposits exposes the state to speculative exploitation of non viable minerals and the correlative of non remediable generational damage that often occurs when permits are issued to sub economic projects.

Dr Williams, our Chief Compiler, Economic Cause & Consequence is a qualified expert on what constitutes an economically viable deposit and happens also to be an expert in Zinc who knows this deposit quite well. We have both monitored drill results reported by Wolfden since they advanced this project in good faith I might add.

Wolfden has no proven resource. Their theory of a link at depth between the two previously identified very small lenses of zinc mineralization did not pan out. There is no link. Your approval of a rezoning to facilitate mining opens the door not to Maine making a contribution to world zinc supplies but to a chain of speculators. Your rules and regs should have said no rezoning without a proven resource and no site disturbance associated with mining without a thorough LURC evaluation of the mine plan.

This is not a comment on Wolfden who I believe to be honorable and responsible folk. This comment is on the risk Maine exposes itself to in allowing further mining related activity when no economically mineable resource has been identified.

Maine also made a huge mistake in its no clear cutting policy for the unorganized territories. The State should have been looking to a new transition economy based on forest product..on increasing many jobs for every tree cut or used. Allowing small areas to be rezoned for development not otherwise allowed is a

good way out of that mistake provided the planned development is compatible with the overall zoning plan.

I will follow with interest what you are able to do on this.

I hope Wolfden is able to recover their investment on the mine exploration through other uses of the large parcel they own.

Best Regards,

Lindsay Newland Bowker, Executive Director

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From: Lindsay Newland Bowker <lnbowker@bowkerassociates.org>

Sent: Thursday, March 5, 2020 11:08 AM

To: Lindsay Newland Bowker <compiler@worldminetailingsfailures.org>

Subject: Fw: Pickett Mtn. Wolden

<Outlook-1509018673.png>

From: Beyer, Stacie R <Stacie.R.Beyer@maine.gov>

Sent: Thursday, 5 March 2020 9:40 AM

To: Lindsay Newland Bowker <lnbowker@bowkerassociates.org>

Cc: LUPC, WolfdenRezoning <WolfdenRezoning.LUPC@maine.gov>

Subject: FW: Pickett Mtn. Wolden

Lindsay,

I am the Maine Land Use Planning Commission contact for the zoning petition filed by Wolfden Mt. Chase, LLC for the Pickett Mountain metallic mineral mine. Bob Marvinney forwarded to me your e-mail message below. I am writing to ask if you would like this e-mail entered into the agency record for the zoning petition as a public comment. If you would like it in the record for the Commission's consideration, please let me know.

Also, I would like to make sure you are aware of the webpage we have created for the

petition. The website address is:
https://www.maine.gov/dacf/lupc/projects/wolfden/wolfden_rezoning.html. The webpage has a copy of the petition and will have other documents associated with the Commission's review as the process moves forward. In addition, there is a place on the webpage where you can sign up for any notifications related to this project.

In the future, if you would like to file written comments with the Commission on the Wolfden Mt. Chase, LLC petition, please use the e-mail address:
WolfdenRezoning.LUPC@maine.gov

If you have any questions, please let me know.

Thank you.

Stacie R. Beyer
Planning Manager
Land Use Planning Commission
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From: Marvinney, Robert G. <Robert.G.Marvinney@maine.gov>
Sent: Thursday, February 27, 2020 9:05 AM
To: Beyer, Stacie R <Stacie.R.Beyer@maine.gov>; East, Judith C <Judith.C.East@maine.gov>
Subject: FW: Pickett Mtn. Wolden

Stacie and Judy,

From Lindsay Bowker on Pickett Mountain.

Bob

Robert G. Marvinney, Ph.D.
State Geologist, Maine Geological Survey
Director, Bureau of Resource Information and Land Use Planning
Maine Department of Agriculture, Conservation, and Forestry
93 State House Station
Augusta, ME 04333

Direct line: 207-287-2804
Main line: 207-287-2801
Fax: 207-287-2353
robert.g.marvinney@maine.gov
<http://www.maine.gov/dacf/mgs/index.shtml>

From: Lindsay Newland Bowker <lnbowker@bowkerassociates.org>
Sent: Wednesday, February 19, 2020 6:58 PM
To: Loyzim, Melanie <Melanie.Loyzim@maine.gov>
Subject: Pickett Mtn. Wolden

From: Lindsay Newland Bowker <compiler@worldminetailingsfailures.org>
Sent: Wednesday, 19 February 2020 11:51 AM
To: Eric A. Tuttle <tuttle.eric.a@gmail.com>
Cc: Tartakoff, Daniel <Daniel.Tartakoff@legislature.maine.gov>; Lindsay Newland Bowker <lnbowker@bowkerassociates.org>
Subject: Fw: Pickett Mtn. Wolden

You may get this in circulation if you wish. Bill is an expert in vetting any zinc deposit. This has considerable weight.

The LURC should not rezone for mining until there is a proven resource and a viable plan. That is not presently the case.

The DEP should not entertain any application until there is a proven resource and a viable plan. That is not presently the case.

Fine to rezone for other development if no other issues but no rezoning or other advancement of mining interests should be made on this information.

Lindsay Newland Bowker, Executive Director

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From: Bill Williams <billwms17@gmail.com>
Sent: Wednesday, February 19, 2020 11:11 AM
To: Lindsay Newland Bowker <compiler@worldminetailingsfailures.org>
Subject: Re: Pickett Mtn. Wolden

Lindsay,

I don't understand how they can move this forward and make money. Altius provided seed money and Kinross Gold money kept things going; their investment is a mystery to

me.

I see a subvertical, deep mineral deposit with 10+% Zn and good byproducts. The Cu and Zn must be in separate concentrates, which is a challenge. The other byproducts will not have optimum recoveries. The Zn concentrate sales have onerous conditions, i.e., 85% Zn payout less penalties from toxic elements, Cu, etc. The rule-of-thumb is after consideration of dilution, recoveries and cost of sales, the payout is 60-65% of head grade.

The resource needs millions of dollars of drilling to get to a reserve, if possible to get there, then a few million more for BFS. Money from Kinross?

Currently, the resource is 4Mt of 14.50% Zn + Pb, so about 9% payable, which has a payable value of ~\$200/t. Today. It could be mined & processed for ~\$125/t with a TSF, but a dry stack would add at least another 20% of cost. They say an 8-year mine life, so if ALL resources convert, that's about 1,500tpd, which would yield about 40tpa Zn in con. Good mine, modest margin, but most FCF goes into sustaining capital to keep various active stopes. And.....

I oversaw the boring of a 400m shaft in fresh granite 10 years ago and it cost \$15M; add underground development work - say \$10M. Then plant, buildings, equipment, etc. - could be \$100M initial CAPEX.

I didn't like this deposit 10 years ago and I don't like it now. Tough deposit geometry and costly to mine, dry stack adds waste-management costs, Zn con sales not lucrative - needs at least \$1.25/lb Zn, maybe more. I must lack their vision.

And this will get lots of community pushback, even though they own the land.....

Bill Williams
480-522-7925

Sent from my iPhone

On Feb 19, 2020, at 5:19 PM, Lindsay Newland Bowker
<compiler@worldminetailingsfailures.org> wrote:

Looks like lots of changes were made to stute. It is basically a no go for designated lands and waters only. dry stack only. no open pit mining. Allows contamination in the mining area. Does not forbid block caving, in situ leaching. No restrictions on use of cyanide.

Lindsay

From: Lindsay Newland Bowker

Sent: Wednesday, February 19, 2020 9:59 AM

To: Bill Williams <billwms17@gmail.com>

Subject: Pickett Mtn. Wolden

<https://www.juniorminingnetwork.com/junior-miner-news/press-releases/551-tsx-venture/wlf/69931-wolfden-updates-exploration-on-its-high-grade-pickett-mt-project-in-maine.html>

Haven't followed this closely but looks like the east lens had higher copper volume and grade than from previous assay on both lenses???Theorized join between the two lenses did not materialize.

Looks nothing so far a valid proven resource"..all indicated and inferred.

Maine has no requirement that mine plans can only be advanced on proven resources and of course no technical capacity to assess actual economic feasibility They will almost certainly get the zoning change..

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I read this is a pump and lure for investment dollars to fund further exploration of the East Lens. I don't see the project they describe especially with dry stack only and no block caving.

What do you see/know?

Lindsay

From: [Lindsay Newland Bowker](#)
To: [Beyer, Stacie R](#)
Cc: [Tartakoff, Daniel](#); [Eric A. Tuttle](#); [Bill Williams](#); [Loyzim, Melanie](#)
Subject: Re: Pickett Mtn. Wolden
Date: Thursday, March 05, 2020 7:08:09 PM
Attachments: [Outlook-1509018673.png](#)

EXTERNAL: This email originated from outside of the State of Maine Mail System. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Stacie

Thank you so much for taking the time to write. I would be very glad to have Bill Williams' commentary and mine entered into the public record on this requested rezoning.

Maine did such a terrible job on their mining statute including the LURC end of things that there are no provisions in law and regulation capable of taking onto account the critical issues of fundamental viability of mining Pickett Mtn. (formerly My. Chase). So there is no support in law for you to make the correct decision in this matter and therefore there is no point in participating directly in the public comment process.

It is nevertheless important for your staff and commissioners and the legislative Committee and your Board to understand the critical point I am making and initiate a fix to present law and regulation.. The very low grade of our known mineral deposits exposes the state to speculative exploitation of non viable minerals and the correlative of non remediable generational damage that often occurs when permits are issued to sub economic projects.

Dr Williams, our Chief Compiler, Economic Cause & Consequence is a qualified expert on what constitutes an economically viable deposit and happens also to be an expert in Zinc who knows this deposit quite well. We have both monitored drill results reported by Wolfden since they advanced this project in good faith I might add.

Wolfden has no proven resource. Their theory of a link at depth between the two previously identified very small lenses of zinc mineralization did not pan out. There is no link. Your approval of a rezoning to facilitate mining opens the door not to Maine making a contribution to world zinc supplies but to a chain of speculators. Your rules and regs should have said no rezoning without a proven resource and no site disturbance associated with mining without a thorough LURC evaluation of the mine plan.

This is not a comment on Wolfden who I believe to be honorable and responsible folk. This comment is on the risk Maine exposes itself to in allowing further mining related activity when no economically mineable resource has been identified.

Maine also made a huge mistake in its no clear cutting policy for the unorganized territories. The State should have been looking to a new transition economy based on forest product..on increasing many jobs for every tree cut or used. Allowing small areas to be rezoned for development not otherwise allowed is a good way out of that mistake provided the planned development is compatible with the overall zoning plan.

I will follow with interest what you are able to do on this.

I hope Wolfden is able to recover their investment on the mine exploration through other uses of the large parcel they own.

Best Regards,

Lindsay Newland Bowker, Executive Director
World Mine Tailings Failures
compiler@WorldMineTailingsFailures.org
+1 207 367 5145
www.worldminetailingsfailures.org

From: Lindsay Newland Bowker <lnbowker@bowkerassociates.org>
Sent: Thursday, March 5, 2020 11:08 AM

To: Lindsay Newland Bowker <compiler@worldminetailingsfailures.org>

Subject: Fw: Pickett Mtn. Wolden



BOWKER ASSOCIATES
SCIENCE AND RESEARCH IN THE PUBLIC INTEREST

Lindsay Newland Bowker, CPCU, ARM Environmental Risk Manager
LNBowker@BowkerAssociates.org
+1 207 367 5145

15 Cove Meadow Rd. Stonington Maine 04681

From: Beyer, Stacie R <Stacie.R.Beyer@maine.gov>

Sent: Thursday, 5 March 2020 9:40 AM

To: Lindsay Newland Bowker <lnbowker@bowkerassociates.org>

Cc: LUPC, WolfdenRezoning <WolfdenRezoning.LUPC@maine.gov>

Subject: FW: Pickett Mtn. Wolden

Lindsay,

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Also, I would like to make sure you are aware of the webpage we have created for the petition. The website address is: https://www.maine.gov/dacf/lupc/projects/wolfden/wolfden_rezoning.html. The webpage has a copy of the petition and will have other documents associated with the Commission's review as the process moves forward. In addition, there is a place on the webpage where you can sign up for any notifications related to this project.

In the future, if you would like to file written comments with the Commission on the Wolfden Mt. Chase, LLC petition, please use the e-mail address: WolfdenRezoning.LUPC@maine.gov

If you have any questions, please let me know.

Thank you.

Stacie R. Beyer
Planning Manager
Land Use Planning Commission
22 State House Station,
Augusta, Maine 04333-0022
Cell- 207-557-2535

From: Marvinney, Robert G. <Robert.G.Marvinney@maine.gov>
Sent: Thursday, February 27, 2020 9:05 AM
To: Beyer, Stacie R <Stacie.R.Beyer@maine.gov>; East, Judith C <Judith.C.East@maine.gov>
Subject: FW: Pickett Mtn. Wolden

Stacie and Judy,

From Lindsay Bowker on Pickett Mountain.

Bob

Robert G. Marvinney, Ph.D.
State Geologist, Maine Geological Survey
Director, Bureau of Resource Information and Land Use Planning
Maine Department of Agriculture, Conservation, and Forestry
93 State House Station
Augusta, ME 04333

Direct line: 207-287-2804
Main line: 207-287-2801
Fax: 207-287-2353
robert.g.marvinney@maine.gov
<http://www.maine.gov/dacf/mgs/index.shtml>

From: Lindsay Newland Bowker <lnbowker@bowkerassociates.org>
Sent: Wednesday, February 19, 2020 6:58 PM
To: Loyzim, Melanie <Melanie.Loyzim@maine.gov>
Subject: Pickett Mtn. Wolden

From: Lindsay Newland Bowker <compiler@worldminetailingsfailures.org>
Sent: Wednesday, 19 February 2020 11:51 AM
To: Eric A. Tuttle <tuttle.eric.a@gmail.com>
Cc: Tartakoff, Daniel <Daniel.Tartakoff@legislature.maine.gov>; Lindsay Newland Bowker <lnbowker@bowkerassociates.org>
Subject: Fw: Pickett Mtn. Wolden

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compiler@WorldMineTailingsFailures.org
+1 207 367 5145
www.worldminetailingsfailures.org

From: Bill Williams <billwms17@gmail.com>
Sent: Wednesday, February 19, 2020 11:11 AM
To: Lindsay Newland Bowker <compiler@worldminetailingsfailures.org>
Subject: Re: Pickett Mtn. Wolden

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And this will get lots of community pushback, even though they own the land.....

Bill Williams
480-522-7925

Sent from my iPhone

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Lindsay

From: Lindsay Newland Bowker
Sent: Wednesday, February 19, 2020 9:59 AM
To: Bill Williams <billwms17@gmail.com>
Subject: Pickett Mtn. Wolden

<https://www.juniorminingnetwork.com/junior-miner-news/press-releases/551-tsx-venture/wlf/69931-wolden-updates-exploration-on-its-high-grade-pickett-mt-project-in-maine.html>

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What do you see/know?

Lindsay

From: [Lindsay Newland Bowker](#)
To: [Bill Williams](#)
Subject: Re: Pickett Mtn. Wolden
Date: Friday, March 06, 2020 1:24:44 PM

EXTERNAL: This email originated from outside of the State of Maine Mail System. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Thanks Bill,

I understand what they want and need..the rezoning and path to an application for mining may help them attract the funds they don't have and haven't attracted..they are selling trees to pay their exploration costs already and are a penny stock company with nothing in the bank and nothing much else going on (nice as they are). They absolutely have to have more money to go any further at all but that is not in Maine's interest. Maine's law and policy needs to insure that only economically viable mines, sound mine plans and applicants with the resources already to pull it off get rezoned. To be rezoned means that this area was pre zoned as not suitable for mining or other commercial development.

I think it is enough of a concession to them as a major landholder who has acted responsibly so far to grant them a zoning variance that allows more economic return on, or adds value to, other parts of their holding so they can finance further drilling if they believe in the mineralized quality that much, even though they have sparked no interest from their results thus far, give them a zoning variance for other development.

As you well know having done this same thing for a long time the junior mining business is very high risk and requires lots of other peoples money to prove a viable mining asset. You questioned why they would even be looking at this again way back when. What all though way back then was true remains true now except in the mean time they spent lots of their own money on a hunch that didn't pan out.(I am not sure Kinross actually put anything into this project or is interested in this project).

But until they have something to show, including financial backing that is not pump and dump but actually committed to development,they should not get the rezoning or be cleared to submit an application. Whatever money might flow if Maine was foolish enough to grant this rezoning and signal a possible approved application would obviously be purely speculative looking for a quick pump and dump.

I am thinking not just what happens at Mt Chase/Pickett Mtn but precedent that will be set elsewhere at other sites

I am not sure the law retained provisions in the draft that went to the legislature for cash or line of credit up front for a worst case scenario. If that is still in the law they will never pass

that hurdle. They have no cash. No access to cash.

Our law is so poor that the LURC may have no basis for refusing the rezoning. The law last I looked sets them up as a rubber stamp with almost no way to say no.

The Wolfden folk seem like good solid serious folk but they haven't proven their theory and they have no money and no financial capacity.

Would you buy in? I don't think so if it was your own money at risk. Do they deserve to raise more money try to get other people's money? They haven't really added much to what was thought to be the economic viability all those years ago

Back to my work..documenting very serious discrepancies between Vales expert panel report and Vale's inhouse anel report on causes of the Brumadinho failure..

Lindsay

From: Bill Williams <billwms17@gmail.com>
Sent: Friday, March 6, 2020 5:10 AM
To: Lindsay Newland Bowker <compiler@worldminetailingsfailures.org>
Subject: Re: Pickett Mtn. Wolden

Thanks, Lindsay. The issue is that they really don't want to spend money on more drilling and/or a PEA or PFS until they know the land use for a mine is approved. The rezoning will not only derisks the project, but will make raising money relatively easier.

To your point, half their resource is Inferred, which can only be used as a "reserve" in a PEA; the PFS and BFS only allows conversion of Measured and Indicated to Proven and Probable.

I subtly pointed out that there are operations nearby for comparison - specifically the Empire State (ex-Balmat) mine has not made money over the last two years; infrastructure was there when they re-activated it, and they're mining ~10% Zn, but dilution is hurting them.

Bill Williams
480-522-7925

Sent from my iPhone

On Mar 6, 2020, at 9:14 AM, Lindsay Newland Bowker
<compiler@worldminetailingsfailures.org> wrote:

Bill,

Bob Marvinney, State geologist, not me put my email to concerned citizens in the public record. I am glad you followed up with your own comment for the record. By copy to you I intended that you have the opportunity to do exactly what your have done.

Wolfdon does not need the zoning for further exploration only as a first step to submitting a mining application. My position is no mining application should be accepted with a proven resource .

It is well established that that mine sites which are no economically viable still offer tons of opportunity for speculation and in fact invites that. That is indisputable.

Rezoning of other parts of the Wolfdon owned acreage would help them to finance further exploration and I hope they are able to do that, They have put a lot n here in good faith. ey just wrent able to prove what they set out to prove. The zinc mineralized deposit is in two distinct small lenses.

Trust all is well on all fronts. I am up tom eyeballs with WMTF work, medical issues and getting my cottages marketed and ready for May 1 occupancy.

Best

L

From: Bill Williams <billwms17@gmail.com>

Sent: Thursday, March 5, 2020 1:32 PM

To: Lindsay Newland Bowker <compiler@worldminetailingsfailures.org>

Subject: Re: Pickett Mtn. Woldon

Lindsay,

I would have appreciated the opportunity to offer consent to put my email to you in the public record. Nonetheless, nothing presented in that email is flawed.

I looked through the petition and Wolfdon has done a substantial amount of work on all fronts. In fact, it was “deja vu all over again” as I had a very similar plan for Bald Mt ten years ago.

I note that they plan to use longhole stoping as a mining method, which would reduce the estimate in my email of \$125/t by at least \$40/t. They plan to start mining using a decline, but mention that they may sink a shaft - believe me,

they'll have to sink a shaft at some point given the depths of mineralization.

You are incorrect when you state 1) there's no proven resource and 2) it is low grade. What they don't have is a PEA-PFS-BFS that would establish a reserve by refining the numbers I cited in my email below. I can't reconcile your comment about "speculators" in that building a mine requires significant capital, which capital expects a return. Wolfden has reduced the level of speculation down by drilling; they have "good money" from Kinross, an established miner, behind them. They can only commit to doing the studies if and only if they get the area rezoned, which they clearly state in their petition.

I will respond to Stacie in order to put my email in context for the public record.

Bill Williams
480-522-7925

Sent from my iPhone

On Mar 5, 2020, at 7:08 PM, Lindsay Newland Bowker
<compiler@worldminetailingsfailures.org> wrote:

Dear Stacie

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Maine did such a terrible job on their mining statute including the LURC end of things that there are no provisions in law and regulation capable of taking onto account the critical issues of fundamental viability of mining Pickett Mtn. (formerly My. Chase). So there is no support in law for you to make the correct decision in this matter and therefore there is no point in participating directly in the public comment process.

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I will follow with interest what you are able to do on this.

I hope Wolfden is able to recover their investment on the mine exploration through other uses of the large parcel they own.

Best Regards,

Lindsay Newland Bowker, Executive Director

World Mine Tailings Failures

compiler@WorldMineTailingsFailures.org

+1 207 367 5145

www.worldminetailingsfailures.org

From: Lindsay Newland Bowker <lnbowker@bowkerassociates.org>
Sent: Thursday, March 5, 2020 11:08 AM
To: Lindsay Newland Bowker <compiler@worldminetailingsfailures.org>
Subject: Fw: Pickett Mtn. Wolden

<Outlook-1509018673.png>

From: Beyer, Stacie R <Stacie.R.Beyer@maine.gov>
Sent: Thursday, 5 March 2020 9:40 AM
To: Lindsay Newland Bowker <lnbowker@bowkerassociates.org>
Cc: LUPC, WolfdenRezoning <WolfdenRezoning.LUPC@maine.gov>
Subject: FW: Pickett Mtn. Wolden

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Planning Manager
Land Use Planning Commission
22 State House Station,
Augusta, Maine 04333-0022
Cell- 207-557-2535

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Sent: Thursday, February 27, 2020 9:05 AM
To: Beyer, Stacie R <Stacie.R.Beyer@maine.gov>; East, Judith C
<Judith.C.East@maine.gov>
Subject: FW: Pickett Mtn. Wolden

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From Lindsay Bowker on Pickett Mountain.

Bob

Robert G. Marvinney, Ph.D.
State Geologist, Maine Geological Survey
Director, Bureau of Resource Information and Land Use Planning
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Augusta, ME 04333

Direct line: 207-287-2804
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robert.g.marvinney@maine.gov
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From: Lindsay Newland Bowker <lnbowker@bowkerassociates.org>
Sent: Wednesday, February 19, 2020 6:58 PM
To: Loyzim, Melanie <Melanie.Loyzim@maine.gov>
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Sent: Wednesday, 19 February 2020 11:51 AM
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Lindsay

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To: Bill Williams <billwms17@gmail.com>
Subject: Pickett Mtn. Wolden

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What do you see/know?

Lindsay

From: [Lindsay Newland Bowker](#)
To: [Bill Williams](#); [Beyer, Stacie R](#); [Marvinney, Robert G.](#)
Cc: [Tartakoff, Daniel](#); [Eric A. Tuttle](#); [Loyzim, Melanie](#); [Dr. David Chambers, Center for Science in Public Participation](#)
Subject: Re: Pickett Mtn. Wolfden Not A Proven Economic Resource
Date: Friday, March 06, 2020 8:52:48 AM

EXTERNAL: This email originated from outside of the State of Maine Mail System. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Bill,

Thanks for this additional comment. I meant for you to comment directly for the record if you had time and were so moved. I am glad you did.

My comments are directed at the quality of law and quality of technical competence Maine has and the importance especially of not even accepting a mining permit application for an unproven resource. No zoning change is needed, I believe, for further exploration of Wolfden's somewhat promising discovery. The zoning change sought would, I believe, be the first step toward a mining application which would be pre-mature where there is no proven resource.

There is no obstacle in law to further exploration and I have spoken in support of zoning changes compatible with the character and quality of the surrounding area which might enable financing for further exploration of what they consider promising Mt Chase/Pickett Mtn..

Maine totally failed to pass what could have been the world's first truly modern legislation for mineral resource extraction. It basically created a big "no go zone" for certain highly protected lakes and rivers and an exception to the statewide protection for all groundwater pollution, specifically allowing on site groundwater contamination. There are no mining pollution protections for other Maine waters. The enviros responsible for selling this to the entire legislature, principally NRCM and the Nature Conservancy, threw in "dry stack only" and "no open pit" no "wet mine waste storage units" (a term invented by a DEP staffer who knows nothing about mining) as the only statutory protection for all other lands and waters including the Mt Chase/Pickett Mountain general wilderness area.

Maine did not reserve for itself a sound modern legal framework and the technical competence to administer that which would allow a viable project using sustainable mining methods to proceed from exploration to closure. Law should do more than try to scare off miners if its doors are indeed open to mineral resource development.

You yourself have often stated in writing that the known mineral endowment in Maine offers no promise of any mineable resource.

My position has always been Maine should re think its whole policy for the unorganized territories. We are recognized as one of the top 10 "must see" places in the world. We have a vast forested area where support for sustainable forest harvesting for instate added value could help rebuild a vital post pulp and paper economy for a vast area that is peopled with folk with vision and commitment to a sustainable "north woods" economy.

Stacie, by copy of this e-letter to my distinguished colleague Dr. Bill Williams, I am requesting that this letter be included in the public record. Eric, I don't have my Maine distribution list here at World Mine Tailings Failure so you have my permission to post or circulate as you see fit. I am buried in WMTF work right now so cannot directly work on developing that or posting at Mining I Maine Then & Now..

Again, Bill, dear colleague, thank you for taking time to engage this issue.

L

Lindsay Newland Bowker, Executive Director

World Mine Tailings Failures

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+1 207 367 5145

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From: Bill Williams <billwms17@gmail.com>

Sent: Thursday, March 5, 2020 2:41 PM

To: Beyer, Stacie R <Stacie.R.Beyer@maine.gov>

Cc: Tartakoff, Daniel <Daniel.Tartakoff@legislature.maine.gov>; Eric A. Tuttle <tuttle.eric.a@gmail.com>; Lindsay Newland Bowker <compiler@worldminetailingsfailures.org>; Loyzim, Melanie <Melanie.Loyzim@maine.gov>

Subject: Re: Pickett Mtn. Wolden

Stacie,

I accessed, and quickly reviewed, Wolfden's petition with the link you provided below. Lindsay offered my email to her about Wolfden's project for the public record, and I will not object, but I respectfully expect that the following commentary is attached to my comments.

1) that email was my professional opinion on the potential economics of mining the currently known Pickett Mt mineralization using numbers based on my experience; at its core, it was a "back-of-the-envelope" estimate. Wolfden will do a proper study to refine those numbers. In fact, the proposed mining method cited in their petition would reduce the mining and processing cost of \$125/t that I estimated below by 15-20%, perhaps more. In any event, there are, and were, operating mines "in the neighborhood" that can be used as benchmarks for costs of mining, processing, and marketing.

2) the project has a resource as defined by Canada's NI43-101 guidelines. Basically, a mineral resource is a mineral deposit where there is a reasonable expectation of economic extraction, i.e., it is possible that a profit could be made by mining (extracting) the commodity (or commodities). However, more drilling is needed to better delineate the tonnage and grade of the targeted mineralization at Pickett Mountain.

Wolfden has done a substantial amount of work on all fronts, e.g., hydrology, biology, archaeology, waste management, mining, etc., etc., which has significantly derisked the project. Thus, they state on page 173: "The mineralized rock at the Pickett Mountain Deposit contains high grade zinc, and lesser copper, lead, gold, and silver at tonnages indicating the project is economically realistic, and can be financed and completed."

Indeed, there is no industry-compliant Preliminary Economic Assessment or Prefeasibility Study, which would clearly show the economic viability of a mine at Pickett Mountain, but Wolfden would pursue such if and when rezoning is completed, which would further derisk the project and, as they state in their petition, demonstrate that Maine is open for business.

Bill Williams, PhD, CPG

On Mar 5, 2020, at 7:08 PM, Lindsay Newland Bowker
<compiler@worldminetailingsfailures.org> wrote:

Dear Stacie

Thank you so much for taking the time to write. I would be very glad to have Bill Williams' commentary and mine entered into the public record on this requested rezoning.

Maine did such a terrible job on their mining statute including the LURC end of things that there are no provisions in law and regulation capable of taking onto account the critical issues of fundamental viability of mining Pickett Mtn. (formerly My. Chase). So there is no support in law for you to make the correct decision in this matter and therefore there is no point in participating directly in the public comment process.

It is nevertheless important for your staff and commissioners and the legislative Committee and your Board to understand the critical point I am making and initiate a fix to present law and regulation.. The very low grade of our known mineral deposits exposes the state to speculative exploitation of non viable minerals and the correlative of non remediable generational damage that often occurs when permits are issued to sub economic projects.

Dr Williams, our Chief Compiler, Economic Cause & Consequence is a qualified

expert on what constitutes an economically viable deposit and happens also to be an expert in Zinc who knows this deposit quite well. We have both monitored drill results reported by Wolfden since they advanced this project in good faith I might add.

Wolfden has no proven resource. Their theory of a link at depth between the two previously identified very small lenses of zinc mineralization did not pan out. There is no link. Your approval of a rezoning to facilitate mining opens the door not to Maine making a contribution to world zinc supplies but to a chain of speculators. Your rules and regs should have said no rezoning without a proven resource and no site disturbance associated with mining without a thorough LURC evaluation of the mine plan.

This is not a comment on Wolfden who I believe to be honorable and responsible folk. This comment is on the risk Maine exposes itself to in allowing further mining related activity when no economically mineable resource has been identified.

Maine also made a huge mistake in its no clear cutting policy for the unorganized territories. The State should have been looking to a new transition economy based on forest product..on increasing many jobs for every tree cut or used. Allowing small areas to be rezoned for development not otherwise allowed is a good way out of that mistake provided the planned development is compatible with the overall zoning plan.

I will follow with interest what you are able to do on this.

I hope Wolfden is able to recover their investment on the mine exploration through other uses of the large parcel they own.

Best Regards,

Lindsay Newland Bowker, Executive Director

World Mine Tailings Failures

compiler@WorldMineTailingsFailures.org

+1 207 367 5145

www.worldminetailingsfailures.org

From: Lindsay Newland Bowker <lnbowker@bowkerassociates.org>

Sent: Thursday, March 5, 2020 11:08 AM

To: Lindsay Newland Bowker <compiler@worldminetailingsfailures.org>

Subject: Fw: Pickett Mtn. Wolden

<Outlook-1509018673.png>

From: Beyer, Stacie R <Stacie.R.Beyer@maine.gov>
Sent: Thursday, 5 March 2020 9:40 AM
To: Lindsay Newland Bowker <lnbowker@bowkerassociates.org>
Cc: LUPC, WolfdenRezoning <WolfdenRezoning.LUPC@maine.gov>
Subject: FW: Pickett Mtn. Wolden

Lindsay,

I am the Maine Land Use Planning Commission contact for the zoning petition filed by Wolfden Mt. Chase, LLC for the Pickett Mountain metallic mineral mine. Bob Marvinney forwarded to me your e-mail message below. I am writing to ask if you would like this e-mail entered into the agency record for the zoning petition as a public comment. If you would like it in the record for the Commission's consideration, please let me know.

Also, I would like to make sure you are aware of the webpage we have created for the petition. The website address is:
https://www.maine.gov/dacf/lupc/projects/wolfden/wolfden_rezoning.html. The webpage has a copy of the petition and will have other documents associated with the Commission's review as the process moves forward. In addition, there is a place on the webpage where you can sign up for any notifications related to this project.

In the future, if you would like to file written comments with the Commission on the Wolfden Mt. Chase, LLC petition, please use the e-mail address:
WolfdenRezoning.LUPC@maine.gov

If you have any questions, please let me know.

Thank you.

Stacie R. Beyer
Planning Manager
Land Use Planning Commission
22 State House Station,
Augusta, Maine 04333-0022
Cell- 207-557-2535

From: Marvinney, Robert G. <Robert.G.Marvinney@maine.gov>

Sent: Thursday, February 27, 2020 9:05 AM
To: Beyer, Stacie R <Stacie.R.Beyer@maine.gov>; East, Judith C <Judith.C.East@maine.gov>
Subject: FW: Pickett Mtn. Wolden

Stacie and Judy,

From Lindsay Bowker on Pickett Mountain.

Bob

Robert G. Marvinney, Ph.D.
State Geologist, Maine Geological Survey
Director, Bureau of Resource Information and Land Use Planning
Maine Department of Agriculture, Conservation, and Forestry
93 State House Station
Augusta, ME 04333

Direct line: 207-287-2804
Main line: 207-287-2801
Fax: 207-287-2353
robert.g.marvinney@maine.gov
<http://www.maine.gov/dacf/mgs/index.shtml>

From: Lindsay Newland Bowker <lnbowker@bowkerassociates.org>
Sent: Wednesday, February 19, 2020 6:58 PM
To: Loyzim, Melanie <Melanie.Loyzim@maine.gov>
Subject: Pickett Mtn. Wolden

From: Lindsay Newland Bowker <compiler@worldminetailingsfailures.org>
Sent: Wednesday, 19 February 2020 11:51 AM
To: Eric A. Tuttle <tuttle.eric.a@gmail.com>
Cc: Tartakoff, Daniel <Daniel.Tartakoff@legislature.maine.gov>; Lindsay Newland Bowker <lnbowker@bowkerassociates.org>
Subject: Fw: Pickett Mtn. Wolden

You may get this in circulation if you wish. Bill is an expert in vetting any zinc deposit. This has considerable weight.

The LURC should not rezone for mining until there is a proven resource and a viable plan. That is not presently the case.

The DEP should not entertain any application until there is a proven resource and a viable plan. That is not presently the case.

Fine to rezone for other development if no other issues but no rezoning or other advancement of mining interests should be made on this information.

Lindsay Newland Bowker, Executive Director
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From: Bill Williams <billwms17@gmail.com>
Sent: Wednesday, February 19, 2020 11:11 AM
To: Lindsay Newland Bowker <compiler@worldminetailingsfailures.org>
Subject: Re: Pickett Mtn. Wolden

Lindsay,

I don't understand how they can move this forward and make money. Altius provided seed money and Kinross Gold money kept things going; their investment is a mystery to me.

I see a subvertical, deep mineral deposit with 10+% Zn and good byproducts. The Cu and Zn must be in separate concentrates, which is a challenge. The other byproducts will not have optimum recoveries. The Zn concentrate sales have onerous conditions, i.e., 85% Zn payout less penalties from toxic elements, Cu, etc. The rule-of-thumb is after consideration of dilution, recoveries and cost of sales, the payout is 60-65% of head grade.

The resource needs millions of dollars of drilling to get to a reserve, if possible to get there, then a few million more for BFS. Money from Kinross?

Currently, the resource is 4Mt of 14.50% Zn + Pb, so about 9% payable, which has a payable value of ~\$200/t. Today. It could be mined & processed for ~\$125/t with a TSF, but a dry stack would add at least another 20% of cost. They say an 8-year mine life, so if ALL resources convert, that's about 1,500tpd, which would yield about 40tpa Zn in con. Good mine, modest margin, but most FCF goes into sustaining capital to keep various active stopes. And.....

I oversaw the boring of a 400m shaft in fresh granite 10 years ago and it cost \$15M; add underground development work - say \$10M. Then plant, buildings, equipment, etc. - could be \$100M initial CAPEX.

I didn't like this deposit 10 years ago and I don't like it now. Tough deposit geometry and costly to mine, dry stack adds waste-management costs, Zn con sales not lucrative - needs at least \$1.25/lb Zn, maybe more. I must lack their vision.

And this will get lots of community pushback, even though they own the land.....

Bill Williams
480-522-7925

Sent from my iPhone

On Feb 19, 2020, at 5:19 PM, Lindsay Newland Bowker
<compiler@worldminetailingsfailures.org> wrote:

Looks like lots of changes were made to stute. It is basically a no go for designated lands and waters only. dry stack only. no open pit mining . Allows contamination in the mining area. Does not forbid block caving , in situ leaching. No restrictions on use of cyanide.

Lindsay

From: Lindsay Newland Bowker
Sent: Wednesday, February 19, 2020 9:59 AM
To: Bill Williams <billwms17@gmail.com>
Subject: Pickett Mtn. Wolden

<https://www.juniorminingnetwork.com/junior-miner-news/press-releases/551-tsx-venture/wlf/69931-wolfden-updates-exploration-on-its-high-grade-pickett-mt-project-in-maine.html>

Haven't followed this closely but looks like the east lens had higher copper volume and grade than from previous assay on both lenses???Theorized join between the two lenses did not materialize.

Looks nothing so far a valid proven resource"..all indicated and inferred.

Maine has no requirement that mine plans can only be advanced on proven resources and of course no technical capacity to assess actual economic feasibility They will almost certainly get the zoning change..

There is nothing in law to block approval of the zoning change or the inclusion of mining..

I read this is a pump and lure for investment dollars to fund further

exploration of the East Lens. I don't see the project they describe especially with dry stack only and no block caving.

What do you see/know?

Lindsay

From: [Lindsay Newland Bowker](#)
To: [Beyer, Stacie R](#)
Cc: [Eric A. Tuttle](#)
Subject: Wolfden Rezoning/Precedent For Future Applications
Date: Saturday, March 07, 2020 1:59:25 PM

EXTERNAL: This email originated from outside of the State of Maine Mail System. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Stacie

As awkward and dysfunctional as the mining statutes and your part in that are, the law still acknowledges that the mandates of LURC are separate and apart from the mandates of DEP even as respects mining and the matter before you now.

As vague as the standards are for a rezoning, especially as respects the likely impacts of mining, and advanced exploration, there is still lots of room to protect and honor your mandate by drawing on it and the long established traditions of "zoning variance" .

I have not had an opportunity yet to read to Wolfden's application as yet but I know that at this stage, where they haven't even established the existence of a mineable resource, they won't have been able to advance a mining plan with sufficient detail to assess impacts, i.e. to apply the standards that already exist in regulation for a zoning variance. There is nothing that precludes you from setting mining specific terms conditions and limitations which reasonably interpret the standards in mining specific ways. There is nothing that precludes y from requiring compensation or offset . In fact public benefit offsets are a norm in zoning variance.

The opinion of the former Chair of the ENR legislative committee that zoning limited LURC's jurisdiction to you where things should be located on site, was not in any way affirmed in law and does not apply. Your mandate is to assure the integrity of the landuse and zoning plan as approved by the entire legislature.

I gather that the present zoning for the area Wolfden is exploring mining for is presently zoned for no mining allowed?. That designation implies (states) that any commercial development , especially mining is fundamentally incompatible with surrounding land uses and designations. Setting strict conditions and compensations in the granting of a zoning variance is completely consistent with that.

The existing legal framework didn't abrogate or transfer any zoning and land use decisions to DEP.

Because our very bad law allowed Wolfden, in reliance on that, to go invest a great deal in

reevaluating this site and because we neglected to say that if you don't have a reasonable prospect of proving the resource you don't get to go on to either advanced exploration or mining, we do owe them consideration.

I don't believe the law supports saying now "no mining", no advanced exploration" but it doesn't preclude a fair and clear set of restrictions and conditions attending the zoning variance.

Your action on this is precedent setting within the context of existing horrific law. Bald Mountain remains the only known deposit in the state that could become viable near term using methods similar to what Wolfden anticipates using. What you draw on here as precedent also must work at Bald Mountain and for any and all mining related variances that come before you.

I hope you will use your mandates and precedents of zoning variance wisely in laying out the terms and conditions of the variance. I believe the law mandated that the applicant has to pay for expert review if the state needs it.

You need it.

You may in fact need review by several different experts so you can have can apply mining specific "best practice" standards to the existing very general standards. Happy to help you identify who you would need to help you with each element and to broker introductions. For example Mike Davies has recently promulgated design standards for dry stack tailings facilities. In addition to citing those standards other dry stack experts could make site & resource specific observations. For example, Dr. Andrew McGregor Robertson who invented dry stack for a vms deposit can tell you whether or not dry stack is even feasible at Pickett Mountain if further exploration doesn't improve on present resource evaluation. Only about 10%-20% of tailings produced today are compatible with Dry stack technology. If it isn't applicable here and we have a dry stack only law what is the possible basis for a zoning variance or for approving advanced explorations? Is there even a site within the mining area that would meet Dr. Davies criteria for dam stability and function?

I hope you don't mind that in addition to the face copies, I have included a large bcc list of interested parties in Maine and technical folk in my circle of colleagues.

Stacie, I wish you and all at LURC wisdom in this important deliberation.

Lindsay

Lindsay Newland Bowker, Executive Director

World Mine Tailings Failures

compiler@WorldMineTailingsFailures.org

+1 207 367 5145

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Beyer, Stacie R

From: Lindsay Newland Bowker <compiler@worldminetailingsfailures.org>
Sent: Saturday, March 14, 2020 7:55 PM
To: LUPC, WolfdenRezoning
Cc: Dr. David Chambers, Center for Science in Public Participation; Bill Williams; Lozim, Melanie; Marvinney, Robert G.
Subject: Re: Aznacollar Pyrite Failure: Persistence of Arsenic In Tailings Contaminated Soils

EXTERNAL: This email originated from outside of the State of Maine Mail System. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Stacie

Everything we do is public and with full transparency so if you wish to put all we have written on the Wolfden into a single PDF and include it as public comment that is fine provided it is counted as "neither for nor against". I apologize that I have not been using the WolfdenRezoning email. I just wanted to avoid having our communications with you being automatically considered "public comment".

WMTF does not evaluate individual companies or their applications. We try to provide a context for understanding what is presented/represented including what applicable law and regulation provides.

As to the notes on the mark up, if you open the PDF in browser and hover over each highlighted text, the notes will appear. As a pdf document linked to the WMTF cloud anyone should also be able to access the notes this way. I will send an update to the cc/bcc list explaining how to do that. We pay GoDaddy for hypersecurity so that all our materials show as a secured source. That may not extend to our cloud.

I will send you another link from google drive via replacement of that e-letter for inclusion in the PDF you are preparing of our emails. I will update the letter to include the instruction on opening in browser and hovering over lighted text.

I have read your information request of March 7 and again re read the petition for a zoning change. and re reviewed Chapter 12. Your letter clearly distinguishes LUPC's mandate from DEP's and provides a very clear statement of the nature of information you require under Chapter 12 to review the requested zoning change allowing all operations through closure..

Chapter 12 lumps C1 (advanced exploration) together with actual mine development. on re review of the Wolfden petition I see that it does not delineate a further exploration stage prior to developing a mine plan. The petition seems to be stating an intent to proceed to mine development from what is now known. Although there definitely are possible landuse zoning impacts from advanced explorations, the nature and scale is very different as is site preparation for advanced exploration . My comments were anticipating that LUPC might consider this in two separate stages but in this case it appears the applicant is not suggesting an advanced exploration phase.

I see you used the term "junior miner" a term I used in my correspondence but that was never to my knowledge used during the mining hearings (except by me). It is a term of art and a recognized sector within the minerals supply sector. [This article](#) while about gold does describe the junior mining sector. These are folk

who specialize in discovery and characterization of mineable mineralized deposits and generally specialize in a type of mineral. Our colleague Bill Williams, for example, specializes in Zinc. JS Cummings who discovered Bald Mountain specialized in copper. If they prove a deposit on land they own or have rights to, the case for Wolfden, the aim is either to attract financing for development or to sell at a profit over their investment to a larger company for development. Some juniors have evolved to be operators. With an unmined not fully delineated deposit (which is the case for all of Maine's known metalically mineralized deposits, the expected exploration applicant would most commonly be be a junior miner.

For a not fully delineated deposit, the only kind we have in Maine, the kind of work Wolfden has done would be needed to better characterize the size and grade of a deposit and whether it is potentially mineable. If that exploration is promising, advanced exploration would normally follow with a more extensive drilling program and sampling to characterize the deposit more fully and do testing to characterize the tailings and the quality of concentrates that could be produced. That is a very costly and technical phase of mine planning and normally requires either venture capital or better healed partners in order to get to a full developed mine plan. Normally additional investors or partners would be needed to progress to implementation of the mine plan.

Here is Wolfden's latest profile from the [Junior Mining Network](#). As you can see its announced results at Pickett and announced financing have not attracted interest..partly, perhaps mainly, because zinc is in a bearish market and all zinc projects, especially those by juniors are having a very rough time attracting capital.



What Wolfden has presented is not a fully developed mine plan and all of your questions are appropriate to a mine plan and appropriate to the an actual mining based D-PD rezoning. I don't see though how our present legal framework allows this normal phasing. The advanced exploration is most often needed to get to a workable mine plan. To work at all, our system would somehow need to allow advanced explorations while not unconditionally allowing a rezoning for mining absent a full mine plan. My comments to date were anticipating a next phase of advanced explorations and an approval that sets conditions that would need to be met to secure a final actual rezoning.

My testimony over the many many public hearings consistently emphasized the importance of having clear qualifications of applicant and clear proof of a mineable asset. That did not materialize in our legal framework as approved for DEP and LUPC.. I think your letter has gone a long way to laying out what it takes to justify a mining based rezoning but I am not sure it allows adequately for advanced exploration, the C1 part for Wolfden or for any other applicant.

Best Regards

Lindsay Newland Bowker, Executive Director
World Mine Tailings Failures
compiler@WorldMineTailingsFailures.org
+1 207 367 5145
www.worldminetailingsfailures.org

From: LUPC, WolfdenRezoning <WolfdenRezoning.LUPC@maine.gov>
Sent: Friday, March 13, 2020 4:02 AM
To: Lindsay Newland Bowker <compiler@worldminetailingsfailures.org>
Subject: RE: Aznacollar Pyrite Failure: Persistence of Arsenic In Tailings Contaminated Soils

Dear Ms. Bowker,

Thank you for your comments on the Wolfden Rezoning Petition (ZP 779).

The LUPC plans to compile all the e-mail messages received from you in a PDF(s) to be posted as public comment on the petition. If it is not your intent that all e-mail from you be considered as public comment on the Wolfden Zoning Petition, please let me know how to distinguish which e-mail should be included in the record for the petition and which should not.

There was one message from you with an attachment and another with a link described as "a quick mark up of the Wolfden re zoning application" (both dated 3/10/2020). I reviewed the attached PDF but was unable to find any mark ups. Also, I have been advised by Maine IT's Security Operations Manager to not open the link in the message, out of an abundance of caution. If you would like us to consider and enter the mark ups of the petition into the public record, please scan the marked-up pages of the petition and send them as an e-mail attachment, or mail them to me by regular mail. This protocol will apply to any future e-mail messages that contain links.

Prior to submitting any additional comments, I encourage you to review the LUPC webpage on the Wolfden Rezoning Petition (https://www.maine.gov/dacf/lupc/projects/wolfden/wolfden_rezoning.html), in particular the newly posted letter requesting additional information from Wolfden Mt. Chase, LLC. The additional information request may respond to some of the concerns that you have raised in recent e-mail messages.

I would like to reiterate that any future correspondence regarding the Wolfdon Rezoning Petition should be sent to the dedicated e-mail account for the project, WolfdonRezoning.LUPC@maine.gov, as this greatly improves efficiency.

Sincerely,

Stacie R. Beyer
Planning Manager
Land Use Planning Commission
22 State House Station,
Augusta, Maine 04333-0022
Cell- 207-557-2535

From: Lindsay Newland Bowker <compiler@worldminetailingsfailures.org>

Sent: Thursday, March 12, 2020 9:16 AM

To: Dr. David Chambers, Center for Science in Public Participation <dchambers@csp2.org>; Kendra Zamzow <kzamzow@csp2.org>; Roberto Lorenzo Rodríguez Pacheco <roberto.rodriguez@igme.es>

Cc: Hudson-Edwards, Karen <K.Hudson-Edwards@exeter.ac.uk>; Bruno Milanez <bruno.milanez@ufjf.edu.br>; Richard Harkinson <r.harkinson@btinternet.com>; Paul Robson <vieuobs@gn.apc.org>

Subject: Aznacollar Pyrite Failure: Persistence of Arsenic In Tailings Contaminated Soils

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https://www.academia.edu/15384363/Remediation_of_As-Contaminated_Soils_in_the_Guadamar_River_Basin_SW_Spain_email_work_card=view-paper

Have added this to the Aznacollar tsf failure narrative and am looking forward to presenting the full narrative at WMTF. The Aznacollar TSF failure has unusually extensive post failure analysis on soil recovery and the myth of "remediation, recovery and "clean up"

Lindsay Newland Bowker, Executive Director

World Mine Tailings Failures

compiler@WorldMineTailingsFailures.org

+1 207 367 5145

www.worldminetailingsfailures.org

From: [Lindsay Newland Bowker](#)
To: [Dr. David Chambers,Center for Science in Public Participation](#); [Kendra Zamzow](#); [Roberto Lorenzo Rodríguez Pacheco](#)
Cc: [Hudson-Edwards, Karen](#); [Bruno Milanez](#); [Richard Harkinson](#); [Paul Robson](#)
Subject: Aznacollar Pyrite Failure: Persistence of Arsenic In Tailings Contaminated Soils
Date: Thursday, March 12, 2020 9:16:06 AM

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https://www.academia.edu/15384363/Remediation_of_As-Contaminated_Soils_in_the_Guadiamar_River_Basin_SW_Spain_email_work_card=view-paper

Have added this to the Aznacollar tsf failure narrative and am looking forward to presenting the full narrative at WMTF. The Aznacollar TSF failure has unusually extensive post failure analysis on soil recovery and the myth of "remediation, recovery and "clean up"

Lindsay Newland Bowker, Executive Director

World Mine Tailings Failures

compiler@WorldMineTailingsFailures.org

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From: [Lindsay Newland Bowker](#)
To: [Rafael Fernández Rubio](#)
Cc: [Dr. David Chambers,Center for Science in Public Participation](#); [John Howchin](#); [Mary Costello,Coordinator, Western Mining Action Network](#); ugo@miningwatch.ca; [Rafael Fernández Rubio](#); [David Poli \(XPRIZE\) \(via Calendly\)](#); [Adam Matthews](#); charles.roche@mpi.org.au; [Monika Freyman](#); [Ligia Noronha](#); [Antonia Mihaylova](#)
Subject: Re: MWEN: Reviewer Invitation for DAMSAT: An eye in the sky for monitoring tailings dams and deposits
Date: Wednesday, March 11, 2020 9:40:14 AM

EXTERNAL: This email originated from outside of the State of Maine Mail System. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Dr. Rubio:

Thank you for your invitation to review the DAMSAT paper. I have accepted and will separately follow up on the confidential review process. I don't normally comment on work proposed in journals or other venues that are not free and open public access and I would never publish my own work in such journals.. I believe in free, open and broad multi stakeholder discernment and ongoing discussion/co-exploration as the path to meaningful loss prevention in mining in general and in tailings management specifically. The conflict of active proposals and EIS comment periods and the chaos and crisis of a major post failure event are no place to solve problems or promote community and investor security. What is printed in journals and presented at conferences is often exactly what is needed but it seems not to actually effect law, policy or practice investment or underwriting standards, insurance and surety underwriting standards.

Discernment is a very different process from the marketing of a device or product.

Remote sensing in a variety of forms has become the "flavor of the month" in tailings safety and the effectiveness of these tools in failure loss prevention has been vastly overstated to a point of false confidence and assurance. Remote sensing has a place in the tool box of good law, sound policy by regulators and owners,diligent co-monitoring by operators, regulators, investors, community of origin but it cannot replace good design, overcome bad design, replace piezometers and CPT direct measurements, overcome ineffective law.or replace the engineering expertise which is core to dam safety.

The defects and deformations, leaks and erosions which often do signal problems that later become failures are often duly noted but an active facility in the midst of a production expansion push they are dismissed or patched up

Tools and standards have to be harnessed to the competence to use them and the authority to act on results.

Often there is no surface evidence of well formed fatal failure condition within the tailings stack Belatedly Vale acquired state of the art radar surveillance of Dam 1 Brumadinho. It detected no movement or deformation in the entire structure up to the moment of failure.

There is limited loss prevention value in any third party without power to act to prevent loss having this technology .

Hope this is helpful in putting all remote sensing in the right context where failure prevention is a real possibility..

Best Regards,

Lindsay

Lindsay Newland Bowker, Executive Director

World Mine Tailings Failures

compiler@WorldMineTailingsFailures.org

+1 207 367 5145

www.worldminetailingsfailures.org

From: Lindsay Newland Bowker <lindsaynewlandbowker@gmail.com>

Sent: Tuesday, March 10, 2020 6:13 AM

To: **Rafael Fernández Rubio** <em@editorialmanager.com>

Date: Tue, Mar 10, 2020 at 1:56 PM

Subject: MWEN: Reviewer Invitation for DAMSAT: An eye in the sky for monitoring tailings dams and deposits

To: Lindsay Newland Bowker <lindsaynewlandbowker@gmail.com>

CC: rfrubio@gmail.com

Dear Mrs. Newland Bowker,

As the Editor of the journal Mine Water and the Environment I want to ask you if you could review the article "DAMSAT: An eye in the sky for monitoring tailings dams and deposits" for a possible publication in our journal.

This is the abstract:

In the past decade there have been a number of catastrophic tailings dams failures. There is a need to develop affordable monitoring systems, as well as methods to assess the risk posed to communities living downstream of these structures. In recent years the availability and accuracy of remote sensing information has increased, whilst at the same time its cost has decreased. This paper provides an overview of DAMSAT, a web-based system which brings together Earth Observation and other data to help governments and mining companies monitor tailing storage facilities, as well as to estimate the downstream risks. DAMSAT is being

piloted in Peru on a number of tailings dams with the overall goal of improving decision making process and sharing of information with respect to managing tailings storage facilities in the country. Engagement with Peruvian stakeholder has shown that DAMSAT provides tools which are useful to government authorities in both reducing risks and increasing the sustainability of mines in the country.

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The manuscript reference is MWEN-D-20-00043.

If possible, I would appreciate receiving your review in 21 days. You may submit your comments online at the above URL. There you will find spaces for confidential comments to the editor, comments for the author and a report form to be completed.

Thank you very much.

With kind regards,

Prof. Dr. Rafael Fernández Rubio
Lead Guest Editor

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Cc: [Eric A. Tuttle](#); [Marvinney, Robert G.](#); [Tartakoff, Daniel](#); [Beth Ahearn](#); rachel@rbouvierconsulting.com; [Glenn Grande](#)
Subject: Resources For Evaluation of Of An UnderGround Zinc Mine
Date: Tuesday, March 10, 2020 11:58:25 AM
Attachments: [image.png](#)
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It is extremely difficult to apply a poorly informed law to a specific application especially when the legal framework still has no meaningful competence in mining and de novo mining explorations. I don't believe either LUPC or DEP can make a properly informed and fair decision on the Wolfden application without the aid of an expert panel. That being said, often and still, I hope the following resources might be helpful to you in at least providing a policy context for consideration of the Wolfden application. Having made serious mistakes in framing law & policy for metallic mining in Maine, the legislature has acquired a legal obligation to Wolfden, the only company to emerge to invest in Maine mineral Mining. All that they have invested is in specific reliance on Maine's legal framework.

Essentially we are at a fish or cut bait place that, no matter what, involves an elevated public risk via the more extensive disturbance and associated impacts, in either trying to mine what's there and or better delineate the deep new zone that a single drill intercept holds out as tantalizing but not definitively promising at a time when a brief bright light for zinc price wise has disappeared.

No matter the outcome of the deliberation by both agencies, for the sake of reducing Maine's liability under international and other law, it is essential at a minimum to clarify that if they proceed without scientific expert certification to the State of Maine that the tailings output is compatible with dry stack technology the state will not consider an exemption and that a go ahead on any mine plan will be subject to approval of the detailed design as "best practice" certified to the State by someone of recognized global competence in dry stack technology selected by the State.

The Fair Mining Collaborative has recently offered this quick and dirty "impact calculator" which we have not reviewed or analyzed. They use 4 to 1 impact area for all mine operations which is as good a first look rule of thumb as any. You will note they also "discount" risk for use of dry stack technology. I have copied Glenn Grande above who may be interested in working with LUPC and DEP on a first real world real decision application of their tool.

<https://www.fairminingcalculator.ca/>

I also copy above Dr. Rachel Bouvier, Maine resident with a doctorate in resource economics.

Dr. Bouvier has not been much involved in the redrafting of the mining statutes but would be a good person to work with in applying the Fair Mining Collaborative calculator as well as in other aspects related to the public interest assessment in zoning variations in Maine's unorganized territory.

<https://www.mining.com/top-10-mines-riding-zinc-price-wave/>

Just to give you an idea of what an underground zinc operation looks like at the surface. The underground zinc mines depicted and profiled here are all of course much larger than the Pickett Mtn project but in term of land use you can see the pattern..it takes a large cleared area for all the above ground and the clearing of access for movement of goods and materials. I will be featuring Roseberry in my State of World Mine Tailings 2020 report as a worst case on tailings management (not dry stack but as an example of how poorly structured law and policy contribute to failure conditions)

This survey of north American mines Using Dry stack is accurate and factual and illustrates that Dry Stack is not a cure all and has had difficulties even at Green's Creek, the original dry stack mine.

https://www.savetheboundarywaters.org/sites/default/files/attachments/dry-stacking_2_page_factsheet.pdf

Twin Metals Project Goes from Bad to Worse

5. Twin Metals referred to four mines using dry-stacking in the northern U.S. and Canada. All of those for which environmental performance data are available have caused significant water pollution.

www.savetheboundarywaters.org

Mike Davies, a primary architect of best practice standards in mining sent me this list of experts in Dry stack

- Dirk van Zyl (currently UBC but about to fully retire from there)
- Ben Wickland (Golder Associates)
- Robert (Bob) Chambers (Klohn Crippen Berger)
- Cameron Hore (SRK)
- David Williams (University of Queensland)

Dirk Van Zyl is also an expert in stability analysis . Klohn Crippen & Berger do meticulous excellent work in all things and are also standard setters.

A major key to whether tailings are compatible with dry stack is the granulometry which is also a key determinant of susceptibility to static liquefaction and flow slide (My engineering analysis of the Brumadinho dam failure has a lay oriented description of stability analysis and granulometry(www.worldminetailingsfailures.org)

World Mine Tailings Failures—from 1915 – supporting global research in tailings failure root cause, loss prevention and trend analysis

IN MEMORIAM BUFFALO CREEK FEBRUARY 26 1972. One of the world's worst tailings disasters in history occurred on this date 52 years ago. Coal tailings rushed out of three TSF's through a poor Appalachian valley killing 124, injuring 1,000 and leaving 5,000 in 17 communities homeless.

www.worldminetailingsfailures.org

Prospects for Attracting Solid Investor Interest In An Unproven Zinc Mine In a State With No Endowment & Infrastructure Dim

<https://investingnews.com/daily/resource-investing/base-metals-investing/zinc-investing/zinc-outlook/>



Zinc Outlook 2020: Market Facing Downside Risks After Flat Year | INN - Investing News Network

It was another disappointing year for zinc bulls, with prices ending 2019 at almost the same level as when the year started. Following a rally in Q2, prices performed in a downward trend for most ...

investingnews.com

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“Moreover, prospects of rising global mined output have further supported the bearish sentiment among market participants, despite low stockpiles at the LME warehouses, which have supported prices in recent months,” analysts at FocusEconomics said in their latest report.

It was also a disappointing year for junior[zinc] miners, which found it challenging to get investors interested in base metals.

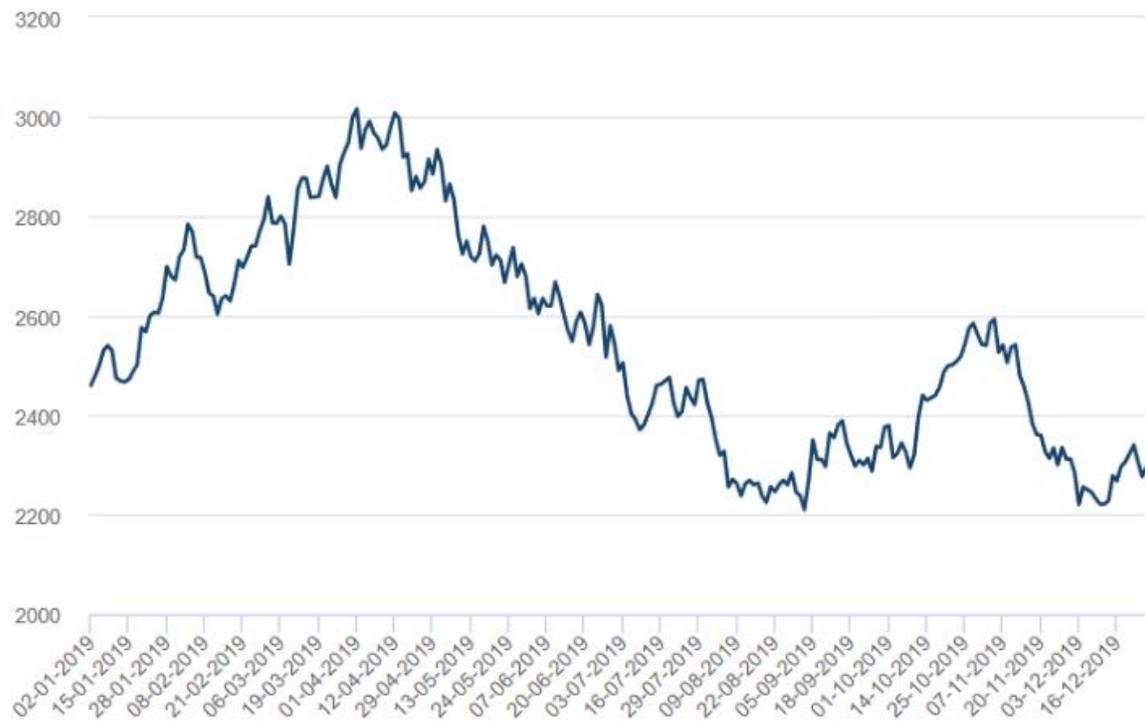
“We do believe that the tide is turning and that the interest in commodities is growing,” Patrick Soares, president and CEO of [Foran Mining](https://www.foranmining.com) (TSXV:FOM), said. “Smart investors are making investments now and (are) positioning themselves for the next few years.”

Brandon Macdonald, CEO and director at [Fireweed Zinc](https://www.fireweedzinc.com) (TSXV:FWZ), expected a modest improvement in the space in 2019 given dwindling inventories.

“However, I was proven incorrect as sky-high spot treatment charges and a soft price for physical metal meant reduced investor interest,” he said.

2019 Zinc Prices

LME ZINC HISTORICAL PRICES GRAPH



We are at the bottom of a multi year fall in zinc prices despite supply side shortfall and a very brief rise 2015-2017.

ZINC IN USD – HISTORICAL PRICES

CUSTOM INTRADAY 1W 3M YTD 1Y 3Y 5Y MAX



This fragile zinc market does not bode well for juniors anywhere in the world especially for cash strapped junior miners trying to bring small unproven deposits into advanced exploration and further development. As our much cited peer reviewed journal published research (Bowker Chambers 2015 and Bowker Chamber 2017) has shown financial risk translates to public risk.

Hope this is helpful

Lindsay Newland Bowker, Eexecutive Director

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