

STATE OF NORTH CAROLINA
COUNTY OF WAKE

ENVIRONMENTAL
MANAGEMENT COMMISSION

RECEIVED

JUN 26 2014

ENVIRONMENTAL MANAGEMENT
COMMISSION

ILUKA RESOURCES, INC.,)
)
Petitioner,)
)
v.)
)
)
)
DIVISION OF ENERGY, MINERAL,)
AND LAND RESOURCES,)
DEPARTMENT OF ENVIRONMENT)
AND NATURAL RESOURCES,)
)
Respondent.)

RESPONDENT'S BRIEF IN
RESPONSE TO ILUKA'S
REQUEST FOR DECLARATORY
RULING

The Division of Energy, Mineral, and Land Resources, Department of Environment and Natural Resources ("DEMLR" or "Respondent"), by and through its undersigned counsel, submits this Brief in support of the Environmental Management Commission ("EMC") denying Iluka Resources, Inc. ("Iluka" or "Petitioner") request to find their proposed dams exempt from the Dam Safety Law of 1967 ("Dam Safety Law").

STATEMENT OF THE CASE

On 22 April 2014, Petitioner filed a Request for a Declaratory Ruling with the EMC seeking a ruling on the applicability of N.C.G.S. § 143-215.25A(a)(6) to dams that will be built at the planned Aurelian Springs Mineral Sands Mine in Halifax County, North Carolina. Petitioner has requested the EMC review whether the dams are exempt from the Dam Safety Law, N.C.G.S. § 143-215.23 *et seq.* or required to submit an application to DEMLR prior to construction. On 19 May 2014, the EMC asked the parties to address whether or not "good

cause” existed to deny the request for issuance of a declaratory ruling pursuant to 15A NCAC 2I.0603(d). Petitioner and Respondent filed briefs on the issue to the EMC on 30 May 2014. On 4 June 2014, the EMC granted Petitioner’s request and filed an Order Granting Request for Declaratory Ruling.

STIPULATED FACTS

Please see attached copy of stipulated facts.

APPLICABLE LAW

The purpose of the Dam Safety Law is “to provide for the certification and inspection of dams in the interest of public health, safety, and welfare, in order to reduce the risk of failure of dams” N.C.G.S. § 143-215.24. No person or company [with the exception of the U.S. Federal Government] shall begin the construction “of any dam until at least 10 days after filing with the Department a statement concerning its height, impoundment capacity, purpose, location and other information required by the Department.” N.C.G.S. § 143-215.26(a). This provision does not exclude “exempt” dams as defined in N.C.G.S. § 143-215.25A(a)(6), nor does the provision state that exempt dams do not have to submit information to DEMLR for a determination. Based upon the information submitted, the Department/DEMLR will determine whether the dam is exempt from the provisions of the Dam Safety Law, and if not, a full application is required prior to the dam’s construction. *Id.* A dam can be exempt from the Dam Safety Law if it is “less than 25 feet in height or that has an impoundment capacity of less than 50 acre-feet, unless the Department determines that failure of the dam could result in loss of human life or significant damage to property below the dam.” N.C.G.S. § 143-215.25A(a)(6).

LEGAL ANALYSIS

In the present case, Petitioner is requesting a declaratory ruling on whether they are required to submit an application to DEMLR for dams that they claim will be exempt under the Dam Safety Law pursuant to N.C.G.S. § 143-215.25A(a)(5) and N.C.G.S. § 143-215.25A(a)(6). Petitioner has provided Draft Impoundment Design Guidelines to DEMLR for review as examples of their dams in hopes DEMLR may find them exempt. However, Petitioner's interpretation of how to calculate impoundment and a lack of other information provided prevent DEMLR from being able to determine the status of the dams.

A. N.C.G.S. § 143-215.25A(a)(5)

Petitioner first asks the EMC determine the applicability of their dams under N.C.G.S. § 143-215.25A(a)(5). The statute provides an exemption from the Dam Safety Law if the dam meets the following requirements: (1) it is under a single private ownership; (2) it provides protection only to land or other property under the same ownership; and (3) it does not pose a threat to human life or property below the dam. Based upon Petitioner's own admissions in their Request for a Declaratory Ruling, they cannot meet these statutory conditions. First, Petitioner stated in their Request for Declaratory Ruling that their sand mines will involve the excavation of sands "through pit mining on land leased, and not owned, by Iluka." (Pet. Br. p 3) This admission demonstrates that the first requirement of a single private ownership is not and will not be met. If Iluka is able to submit a specific lease to DEMLR, which has not occurred prior to this Declaratory Ruling Request, DEMLR should be able to determine if they meet the single private ownership rights as contained in the statute.

Petitioner's second argument that their dams are providing protection only to land or other property under the same ownership is also misguided. First, as stated above, Petitioner

admits they are not the “owner” of the property. Without knowing the type of lease that Iluka has and ownership responsibilities with the owner of the property through the lease, understanding the potential damage or protection to only one property is not possible. For example, if damage was done to the land surrounding the mining pit as a result of a dam failure, the actual owner of the property may or may not have any recourse if Petitioner’s claims were accepted. Additionally, Petitioner maintains that purpose of the dam is not to protect downstream property from flooding, but to segment the mine. However, the use of the word “protection” in this section means that any damage caused by the failure of the dam would be totally contained within the dam owner’s property boundaries and would have no effect on adjacent property owners. If a large storm, such as a 50 or 100 year storm, were to occur the pit would potentially overflow and cause damage to the property Iluka does not own and instead to other adjoining property owners.

Petitioner’s third claim that the dams pose no threat to human life or property below them also cannot be accepted based upon Petitioner’s statement of how they will utilize the pit and the dams. Petitioner asserts that the “cells” separate the workers from the dam that impounds, and “in the absence of appropriate safety measures” there will be no risk. (Pet Br. pp 4-5) DEMLR has been working with Iluka to create “cells” or separation from the workers being directly behind a dam that is impounding water or tailings. These “cells,” however, do not automatically create an exempt status, but only lower the requirements necessary for building the lower hazard dams. As Petitioner has pointed out and even cited the appropriate rule, 15A NCAC 2K .0105(e), even with one of two dams being an empty cell, if the failure of an upper dam would likely cause the failure lower dam, “the consequence of the lower dam’s failure shall be a determining factor for the upper dam’s hazard classification.” (Pet. Br. FN 3, p 5) As the rule

indicates, dams will need to be evaluated by DEMLR to determine their risk and hazard potential. Additionally, the open chamber would have to be large enough to hold the volume of the material in both the tailings pond and the embankments between the chambers that could fall into it which creates a larger cumulative impact than just the volume of the ponds. Without these calculations and information, Petitioner cannot show that the dams pose no threat to human life or property below the dam.

A. N.C.G.S § 143-215.25A(a)(6)

Petitioner further requests that the EMC review exemptions based upon N.C.G.S. § 143-215.25A(a)(6). This exemption is applicable when the dam is less than 25 feet in height or has an impoundment capacity of less than 50 acre-feet, unless DEMLR determines that failure of the dam could result in loss of human life or significant damage to property below the dam. N.C.G.S. § 143-215.25A(a)(6). Petitioner bases this request on a different interpretation of how to calculate the impoundment of a dam. Petitioner states that the impoundment should not include the entire volumetric extent of the pit, because the water is not running off and out of the pit. Further, Petitioner states that the “dam only functions like a traditional dam if it creates impoundment capacity above that of the pit itself” and thus the impoundment capacity should not include capacity that is attributable to the pit. Petitioner also maintains that the distance from the pit crest to the top of the dam is the proper calculation to use for impoundment capacity because it does not hold water back that would otherwise rush off site. Petitioner points to a Volume A in its diagram on page 6 of the request for a declaratory ruling to show this example. This example, however, does not account for any additional water to be added to the pit. In particular, this example ignores that a severe storm could occur and produce a substantial amount of additional impoundment and potential damage to the pit.

Moreover, the argument regarding impoundment does not comport with the current rules. All types of dams are measured from the toe of the dam to the crest pursuant to 15A NCAC 2K .0223. This rule defines the measurement of a dam and states “for the purpose of determining size classification, the height of a dam shall be measured from the highest point on the crest of the dam to the lowest point on the downstream toe” and “the total storage capacity of the dam shall be that volume which would be impounded at the elevation of the highest point on the crest.” 15A NCAC 2K .0223. In Petitioner’s Design Guidelines they show diagrams of impoundments that do not use the highest point on the crest of the dam nor the lowest point on the downstream toe to reach conclusions of the amount of water the dams will impound or their height, specifically Diagram 3, page 5 of 6. (Exhibit C)

Iluka has recently maintained that they intend to provide the true height of the dam and surrounding area, based upon site specific conditions, and is not asking DEMLR to assume a height based upon a hypothetical surface. If Iluka can and will provide all the necessary information “required by the Department” pursuant to § 143-215.26(a), then this section of the argument may be moot. However, the current information provided by Iluka continues to include assumptions that could change their status. For example, Iluka’s proposals regarding the impoundment of hydrated mine tailings assume that the topography of the land would be consistently and perfectly level, inferring a constant pit crest elevation; yet, their proposals do not show that a change in the topography can change the impoundment volume, which is shown in the following example and attached as an exhibit. (Exhibit A) Moreover, the topography in this region is not particularly variable, but there is enough topographic relief where a level grade throughout the mine site cannot be assumed and enough variation could cause an exempt dam under Petitioner’s calculations to be classified as jurisdictional under N.C.G.S. §143-215.23. An

illustration of the potentially uneven grade is provided in the secondary attached exhibit.
(Exhibit B)

Another example where insufficient information has been provided by Iluka for DEMLR to assess the potential exempt status of their dams is found in Petitioner's Draft Impoundment Design Guidelines under the section "Criterion 2." (Exhibit C) Petitioner has stated that "[u]nder no circumstances will these structures be constructed to a height of 25 feet or more above the pre-mined natural ground elevation." However without proper mapping or submission of the specific information regarding this site, the height of the dam would be impossible to determine prior to construction. Once construction begins by excavation of the pit, the elevation of the pre-mined grade at any point will not be able to be determined without a detailed land survey based upon a previous detailed land survey describing pre-mined grade or topography of the mine site. As illustrated by the diagrams stated above, without an individual mapping the topography within and surrounding the mine, DEMLR, and Petitioner for that matter, cannot possibly know whether the total impoundment capacity is more or less than 50 acre feet or whether the structural height is more or less than 25 feet. Only with this specific information could DEMLR determine whether or not the dam would be exempt from the Dam Safety Law. For all of the noted examples, Petitioner has not provided sufficient information for DEMLR to make a determination on the exempt status of the proposed design dams.

To determine the meaning of the language contained in the Dam Safety Law, this Commission must apply the rules of construction which apply when construing both statutes and rules. The basic rule of construction is to give meaning to the plain language of the law or rule. *N.C. State Bar v. Brewer & Honeycutt*, 183 N.C. App. 229, 236, 644 S.E.2d 573, 577 (1983). "When the language of a statute is clear and unambiguous, it is the duty of [the courts] to give

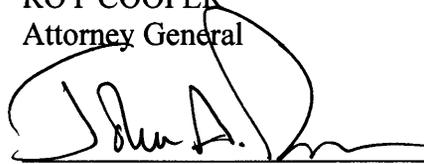
effect to the plain meaning . . . and judicial construction is not required.” *Diaz v. Division of Social Services*, 360 N.C. 384, 387, 628 S.E.2d 1, 3 (2006). The plain meaning of N.C.G.S § 143-215.26(a), which regulates constructions of dams, is that no one can begin construction of “any dam” until filing a statement that includes specific requirements and other information the Department may request and decides whether the dam is exempt under the Dam Safety Law. *See also*, 15A NCAC 2K. 0201(b). Petitioner’s request that they do not have to submit this information based upon a potential exempt status contained in N.C.G.S § 143-215.25A(a)(6) would render this statute and the rules meaningless, and is clearly and simply contradictory to the plain language of the statute. *R.J. Reynolds Tobacco v. NC DENR*, 148 N.C. App. 610, 616, 560 S.E.2d 163, 168 (2002) (“A statute must be construed as a whole and construed, if possible, so that none of its provisions shall be rendered useless or redundant.”) As DEMLR has been charged with the responsibility to certify and inspect dams and the materials of construction prior to construction, Petitioner has not provided enough specific information in their templates to make this determination and has misinterpreted the rules and Dam Safety Law. Accordingly, Respondent requests that the EMC deny Petitioner’s request for the exempt status of their dams.

CONCLUSION

Petitioner has not shown why the EMC should grant their request in this Declaratory Ruling. The information provided does not show that Petitioner’s dams reach an automatic exempt status and the law is clear that prior to construction of any dam, certain requirements must be met and submitted to DEMLR for review for a determination. As Petitioner cannot show they have reached an exempt status, the EMC should deny Petitioner’s request for a Declaratory Ruling on their behalf.

Respectfully submitted, this the 27th day of June, 2014.

ROY COOPER
Attorney General

A handwritten signature in black ink, appearing to read "John A. Payne", is written over a horizontal line. The signature is stylized and cursive.

John A. Payne
Assistant Attorney General
NC State Bar No: 24966
ipayne@ncdoj.gov
NC Department of Justice
Environmental Division
Post Office Box 629
Raleigh, NC 27602-0629
(919) 716-6600/Telephone
(919) 716-6766/Fax

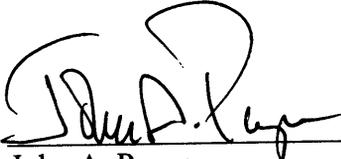
CERTIFICATE OF SERVICE

The undersigned certifies that the foregoing **RESPONDENT'S BRIEF IN RESPONSE TO PETITINER'S REQUEST FOR A DECLARATORY RULING** has been served on counsel for Petitioner electronically and by depositing a copy of same in an official depository of the United States Postal Service in an envelope, first class postage prepaid, and address as follows:

Matthew F. Hanchey
Hunton & Williams, LLP
412 Fayetteville St., Suite 1400
Raleigh, NC 27601
MHanchey@hunton.com

Attorney for Petitioner

This the 27th day of June, 2014.

By: 

John A. Payne
Assistant Attorney General

- f. Submitting to DENR an application for a mining permit.
2. The Aurelian Springs Project will involve the excavation of mineral sands, resulting in the formation of a pit.
 3. After the mineral sands are processed to remove the valuable minerals, the remaining “tailings,” consisting of clay, quartz sands, and gravel, will be sluiced back into the pit, where they will settle and be dewatered. At the completion of the mining process, the pit will be filled with tailings material. Iluka will then undertake additional activities to reclaim the mining site, in accordance with a reclamation plan approved by DENR.
 4. In order to begin disposing of tailings before mining in the pit is complete, Iluka will construct dams within the pit to isolate sections that can be used as active tailings ponds while mining takes place elsewhere. These “interior” dams will be arranged so that the failure of any dam constructed for that purpose would result only in redistribution of tailings within the pit.² A failure from the material contained in the interior dam alone would not result in the discharge of tailings outside the pit. Other dams may be built on the perimeter of the pit, to contain tailings above the pit crest. Failure of a “perimeter” dam could result in discharge outside of the pit.
 5. Before beginning construction on any dam within the pit, Iluka will submit to DENR the forms titled “Data Needed to Determine if a Dam is Governed by the Dam Safety Law of 1967 (as Amended)” and “Hazard Classification Data Form for Dams.”

² For any particular dam, DENR will have the opportunity to confirm the truth of this statement by using a volume study based upon surveyed topography and a proposed grading plan.

6. DENR will evaluate the information submitted by Iluka to determine whether a particular dam falls within an exemption to the Dam Safety Law.

Dated: June 20, 2014

ROY COOPER
Attorney General

HUNTON & WILLIAMS LLP

/s/ with consent of John A. Payne

John A. Payne
Assistant Attorney General
N.C. Bar # 24966
jpayne@ncdoj.gov
NC Department of Justice
Environmental Division
PO Box 629
Raleigh, NC 27602-0629
(919) 716-6600

/s/ Matthew F. Hanchey

Matthew F. Hanchey
N.C. Bar. # 33965
mhanchey@hunton.com
421 Fayetteville St., Suite 1400
Raleigh, NC 27601
(919) 899-3000

Exhibit A



Doc ID: 003382750005 Type: CRP
Recorded: 10/20/2011 at 01:22:44 PM
Receipt#: 2011-00002816
Fee Amt: \$26.00 Page 1 of 5
Revenue Tax: \$0.00
Instr# 201100003521
Halifax, NC
Judy Evans-Barbee Register of Deeds

BK 2357 PG 616-620

STATE OF NORTH CAROLINA

HALIFAX COUNTY

By: Barbara N. Hux, Deputy
RF 26.00

Prepared by and returned to: Charles E. Nichols, Jr., Nichols Law PA, Suite 701, 16 W. Martin Street, Raleigh, NC 27601

MEMORANDUM OF MINING LEASE
(Parcel Identification Number 0200113)

This Memorandum of Mining Lease (this "Memorandum") is entered into and made effective as of 15 April, 2011 (the "Effective Date"), by and between: (i) Iluka Resources (NC) LLC, a North Carolina limited liability company ("Iluka"); and (ii) Linda F. Tipton Living Trust dated 08 March 2000 ("Owner").

For and in consideration of, and subject to, the terms, provisions, covenants, and conditions set forth in that certain Mining Lease (the "Lease") made and entered into as of the date first above written by and between the parties hereto, which Lease, and its terms, provisions, covenants, and conditions are incorporated herein as if fully set forth, Owner leased, and does hereby lease, unto Iluka certain lands located in Halifax County, State of North Carolina, more particularly described on Exhibit A attached hereto and made a part hereof (the "Property"), together with all rights, privileges, and easements appurtenant to the Property, for any lawful purpose including such uses as Iluka may deem necessary or convenient in the conduct of its operations.

The Initial Term of the Lease is fifteen (15) years with two additional automatic ten (10) year extensions. The Lease contains no options to purchase the Property.

This Memorandum is not a complete summary of the Lease. Provisions in this Memorandum shall not be used in interpreting the Lease provisions and in the event of a conflict between this Memorandum and the Lease, the Lease shall control.

This Memorandum may be executed in any number of counterparts, each of which shall be deemed to be an original, but all of which shall be deemed to be one agreement. The parties authorize each other to detach and combine original signature pages and consolidate them into a single identical original.

DocNo: 00965-L-1017

-1-

IN WITNESS WHEREOF, the parties hereto have caused this Memorandum of Mining Lease to be executed as of Effective Date.

ILUKA RESOURCES (NC) LLC
By: Iluka (USA) Investments, Inc.

By: [Signature]
Name: Matthew B. Blackwell
Title: President

STATE OF NORTH CAROLINA

COUNTY OF HALIFAX

I certify that the following person(s) personally appeared before me this day, and

- I have personal knowledge of the identity of the principal(s)
- I have seen satisfactory evidence of the principal's identity, by a current state or federal identification with the principal's photograph in the form of a _____
- A credible witness has sworn to the identity of the principal(s);

Each acknowledging to me that he or she voluntarily signed the foregoing document for the purpose stated therein and in the capacity indicated:

Print Names of person(s) signing document here
Matthew B. Blackwell

Date: 15 April 2011

UNOFFICIAL

Notary Public: [Signature]
Printed Name: Linda Sue Nyborg
My Commission Expires: 05-26-2015



Halifax County, North Carolina
Linda Sue Nyborg - Notary Public
Commission No. 201015200020
My Commission Expires 5/26/2015

[Owner]

By: Linda F. Tipton, Trustee

Name: Linda F. Tipton, Trustee

By: Maurice E. Tipton Jr.

Name: Maurice E. Tipton, Jr., Trustee

STATE OF NORTH CAROLINA

COUNTY OF HALIFAX

I certify that the following person(s) personally appeared before me this day, and

- I have personal knowledge of the identity of the principal(s)
- I have seen satisfactory evidence of the principal's identity, by a current state or federal identification with the principal's photograph in the form of a North Carolina Drivers license # 7516744 and 8496577
- A credible witness has sworn to the identity of the principal(s);

Each acknowledging to me that he or she voluntarily signed the foregoing document for the purpose stated therein and in the capacity indicated.

Print Names of person(s) signing document here
Linda F. Tipton, Trustee
Maurice E. Tipton, Jr., Trustee

Date: 12 April 2011 and
13 April 2011

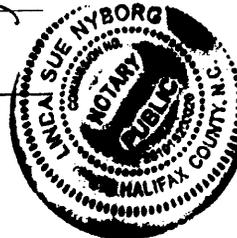
UNOFFICIAL

Notary Public: Linda Sue Nyborg

Printed Name: Linda Sue Nyborg

My Commission Expires: _____

Halifax County, North Carolina
Linda Sue Nyborg - Notary Public
Commission No. 201016300000
My Commission Expires 5/28/2015



DocNo: 00965-L-1017

-3-

EXHIBIT A
TO
MEMORANDUM OF LEASE
(Parcel Identification Number 0200113)

All that certain tract or parcel of land together with all improvements thereon lying and being situate in Butterwood and Faucets Townships, Halifax County, North Carolina, and being more particularly described as follows: BEGINNING at a point marked by a nail in the northeastern right of way of N.C. State Road No. 1001 (Justice Branch Road) which is a corner common to this property and property conveyed to Cabot Lee Crawley by deed recorded in Book 1783, page 485, Halifax Public Registry; thence along the Cabot Lee Crawley property line the three following courses and distances: N. 6° 39' 11" E. 15.15 feet to a point marked by a 1" iron; N. 75° 14' 12" E. 537.35 to a point marked by a 1/2" iron; and N. 06° 34' 36" E. 319.39 feet to a point marked by a sweet gum in an old fence, which is 25° 41' 35" E. 2.29 feet from a 3/4" iron, said point being a corner common to Cabot Lee Crawley, S. C. Crawley, Jr., Fred Duke and Marsha Fleming; thence along the Fleming property line the four following courses and distances: S. 85° 41' 35" E. 934.31 feet to a point marked by a 3/4" iron; S. 86° 56' 09" E. 567.14 feet to a point marked by a 3/4" iron; S. 81° 40' 09" E. 218.60 feet to a point marked by a 3/4" iron; and S. 77° 56' 46" E. 354.79 feet to a point marked by a 3/4" iron; or near the center of Spring Branch, which point is also S. 13° 19' 23" E. 145.33 feet from a 3/4" iron; thence along the center of Spring Branch which is the property line between this property and properties of S. C. Crawley, Jr., Joe H. Briggs, Sr., and formerly Stephen Williams the 108 following courses and distances: S. 77° 56' 46" E. 10.00 feet; S. 14° 50' 59" W. 24.30 feet; S. 61° 31' 38" E. 29.00 feet; S. 06° 26' 06" W. 25.60 feet; S. 57° 52' 32" E. 32.39 feet; S. 04° 34' 05" E. 40.29 feet; S. 42° 43' 17" W. 45.45 feet; S. 20° 07' 23" E. 37.20 feet; S. 77° 18' 32" E. 43.22 feet; S. 47° 49' 05" E. 29.48 feet; S. 10° 20' 44" E. 51.14 feet; S. 58° 33' 40" E. 50.24 feet; S. 12° 29' 00" E. 42.47 feet; N. 59° 03' 00" E. 32.04 feet; S. 33° 25' 36" E. 87.10 feet; S. 66° 30' 40" E. 32.23 feet; S. 08° 20' 14" E. 25.50 feet; N. 82° 09' 41" E. 32.03 feet; S. 37° 19' 18" E. 37.70 feet; S. 65° 16' 03" E. 34.03 feet; S. 17° 52' 20" E. 38.40 feet; S. 58° 27' 28" E. 34.15 feet; S. 33° 43' 42" W. 30.90 feet; S. 25° 46' 06" E. 30.43 feet; S. 82° 30' 20" E. 28.94 feet; S. 35° 31' 04" E. 29.59 feet; S. 85° 44' 14" E. 24.12 feet; N. 30° 13' 14" E. 26.02 feet; N. 83° 59' 18" E. 13.54 feet; S. 13° 33' 11" W. 57.00 feet; S. 60° 46' 58" E. 19.24 feet; N. 58° 39' 35" E. 33.08 feet; S. 30° 45' 21" E. 8.14 feet; S. 32° 00' 52" W. 26.01 feet; S. 18° 01' 35" E. 29.21 feet; S. 07° 49' 33" W. 49.13 feet; S. 25° 46' 40" E. 66.85 feet; S. 13° 37' 46" W. 27.48 feet; S. 30° 32' 25" E. 32.45 feet; S. 15° 47' 32" W. 34.13 feet; S. 70° 56' 28" E. 19.40 feet; N. 60° 10' 50" E. 22.30 feet; S. 29° 44' 14" E. 38.29 feet; S. 58° 51' 05" E. 44.99 feet; S. 87° 05' 07" E. 75.03 feet; S. 61° 44' 09" E. 23.33 feet; S. 88° 51' 49" E. 36.07 feet; N. 36° 58' 04" E. 23.02 feet; S. 85° 14' 04" E. 29.96 feet; S. 23° 19' 45" E. 45.66 feet; N. 79° 24' 22" E. 31.58 feet; S. 14° 21' 16" E. 53.20 feet; S. 06° 29' 30" W. 23.48 feet; S. 21° 57' 42" W. 24.50 feet; S. 19° 43' 30" E. 59.10 feet; S. 37° 22' 07" E. 44.53 feet; N. 24° 44' 51" E. 26.71 feet; N. 86° 00' 38" E. 32.55 feet; S. 22° 18' 25" E. 17.00 feet; N. 71° 14' 58" E. 61.14 feet; S. 01° 00' 19" W. 44.28 feet; N. 68° 26' 45" E. 19.78 feet; S. 64° 28' 50" E. 42.79 feet; S. 20° 06' 58" E. 37.29 feet; S. 13° 16' 55" W. 31.82 feet; S. 18° 52' 26" E. 27.79 feet; S. 30° 47' 12" W. 45.60 feet; S. 53° 55' 04" E. 44.69 feet; S. 07° 42" E. 17.33 feet; S. 64° 54' 09" E. 38.00 feet; N. 73° 25' 52" E. 72.08 feet; S. 78° 50' 53" E. 61.69 feet; S. 03° 16' 50" E. 42.38 feet; S. 70° 41' 46" E. 45.84 feet; S. 03° 28' 16" E. 36.56 feet; S. 65° 24' 07" W. 28.03 feet; S. 03° 48' 02" E. 13.92 feet; S. 58° 37' 35" E. 35.53 feet; S. 05° 39' 10" E. 30.76 feet; S. 25° 20' 23" E. 29.80 feet; S. 60° 51' 17" W. 34.64 feet; S. 15° 19' 37" E. 35.10 feet; S. 21° 44' 27" W. 21.01 feet; S. 20° 07' 10" E. 44.44 feet; N. 79° 41' 10" E. 14.01 feet; S. 16° 48' 16" E. 41.94 feet; S. 62° 34' 21" E. 22.44 feet; N. 57° 15' 54" E. 18.15 feet; S. 15° 03' 22" E. 25.05 feet; S. 73° 44' 09" E. 74.64 feet; S. 12° 29' 00" E. 16.95 feet; S. 22° 49' 51" W. 31.43 feet; S. 44° 37' 58" E. 27.67 feet; S. 34° 55' 30" E. 22.44 feet; S. 53° 00' 35" E. 56.53 feet; S. 14° 44' 45" E. 44.40 feet; S. 52° 15' 33" E. 39.30 feet; S. 24° 01' 46" W. 33.23 feet; S. 56° 53° 39" E. 74.31 feet; S. 54° 29' 19" W. 29.22 feet; S. 18° 52' 26" E. 27.79 feet; S. 30° 47' 12" W. 45.60 feet; S. 52° 15' 12" W. 52.72 feet; S. 42° 08' 11" E. 38.01 feet; S. 31° 28' 09" W. 45.51 feet; S. 80° 49' 16" W. 25.23 feet; S. 57° 07' 47" E. 41.18 feet; S. 30° 15' 00" W. 10.00 feet; to a point marked by a 1" iron which is corner common to this property and property of formerly Stephen Williams and R. F. Watson; thence S. 30° 15' 00" W. 10.00 feet along the Watson property line to a point marked by a 2" sweet gum on the right of way of N.C. State Road No. 1001; thence S. 30° 15' 00" W. 34.47 feet to a point in the centerline of said state road; thence S. 30° 15' 00" W. 80.39 feet to the centerline of the old road which is a common corner for this property and property conveyed to the C. Alan Bell Trust; thence along the centerline of the old road the nine following courses and distances: N. 36° 58' 09" W. 251.80 feet; N. 30° 53' 32" W. 202.71 feet; N. 40° 43' 48" W. 590.11 feet; N. 51° 32' 25" W. 164.88 feet; N. 72° 22' 20" W. 264.99 feet; N. 79° 23' 25" W. 174.31 feet; N. 80° 54' 52" W. 385.03 feet; S. 16° 46' 58" E. 21.82 feet; and N. 79° 33' 10" W. 355.50 feet to a point which is a common corner to the property of Rebecca Taylor and Tract "B" on the plat hereinafter referenced; thence N. 19° 04' 37" E. 162.65 feet along the line of said Tract "B" to a point in the centerline of N.C. State Road No. 1001; thence along the centerline of said state road the twelve following courses and distances: N. 47° 29' 49" W. 74.65 feet; N. 44° 05' 04" W. 80.02 feet; N. 43° 01' 35" W. 123.57 feet; N. 43° 09' 39" W. 298.49 feet; 43° 36' 12" W. 108.86 feet; N. 43° 09' 32" W. 155.70 feet; N. 43° 01' 40" W. 919.01 feet; N. 42° 32' 30" W. 123.02 feet; N. 39° 51' 08" W. 100.02 feet; N. 38° 55' 29" W. 124.98 feet; N. 34° 32' 46" W. 100.90 feet; N. 34° 32' 46" W. 94.47 feet; and N. 38° 55' 44" W. 47.24 feet to the point of beginning; and being all of Tract "A", containing 122.614 acres, as shown on that certain plat entitled, "Survey For Merce Crawley Hux", which was made by Odora Land Surveying Company under date of December 19, 2002 except for a narrow strip of land lying between the northern right of way of N.C. State Road No. 1001 and the centerline of the old road, plus two narrow strips of land lying between the southern right of way of N.C. State Road No. 1001 and the centerline of the old road; and being a portion of the property conveyed unto Carolyn C. Wollett, Louise C. Lancaster and Barbara Sue C. Gibson by deed of Carolyn C. Wollett and Barbara Sue C. Gibson, Trustees, dated September 6, 2006 and recorded in Book 2151, page 622, Halifax Public Registry; reference to said plat and deed being hereby made for greater certainty of description.

EXPRESSLY EXCEPTED from this conveyance are the home and lot conveyed to Laura W Brown by deed recorded in Book 1685, page 267, Halifax Public Registry, and shown on plat recorded in Map Book 9, page 63, Halifax Public Registry; reference to said deed and map being hereby made for greater certainty of description.

This conveyance is also made expressly subject to the right of way of N.C. State Road No. 100 (Justice Branch Road) and any remaining rights to use the old road which constitutes the southern or southwestern boundary of a portion of Tract "A".

Acknowledgment of legal description:

Iluka Resources (NC) LLC

[Owner]

By: Iluka (USA) Investments, Inc.

Name(s): Linda F. Tipton and Maurice E. Tipton, Jr. Trustees

Initial: *ILK*

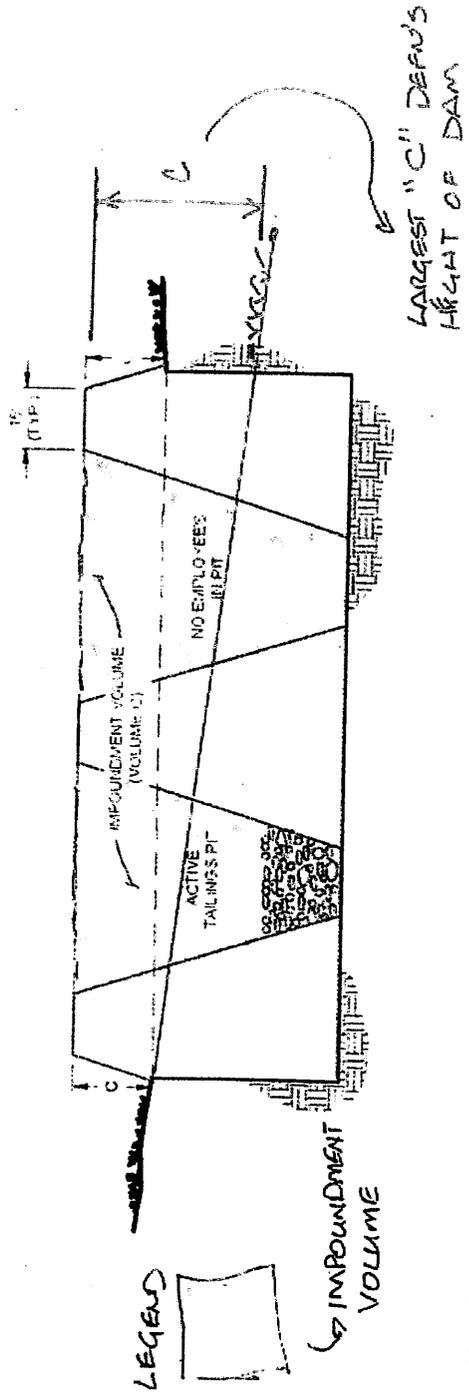
Initial: *L.F.T.* *M.E.T.*

UNOFFICIAL

DocNo: 00965-L-1017

-5-

Figure 4: Cross-Section View



September 9, 2013

Page 4 of 4

Kleinfelder Southeast, Inc.

LUKA
10-24-13

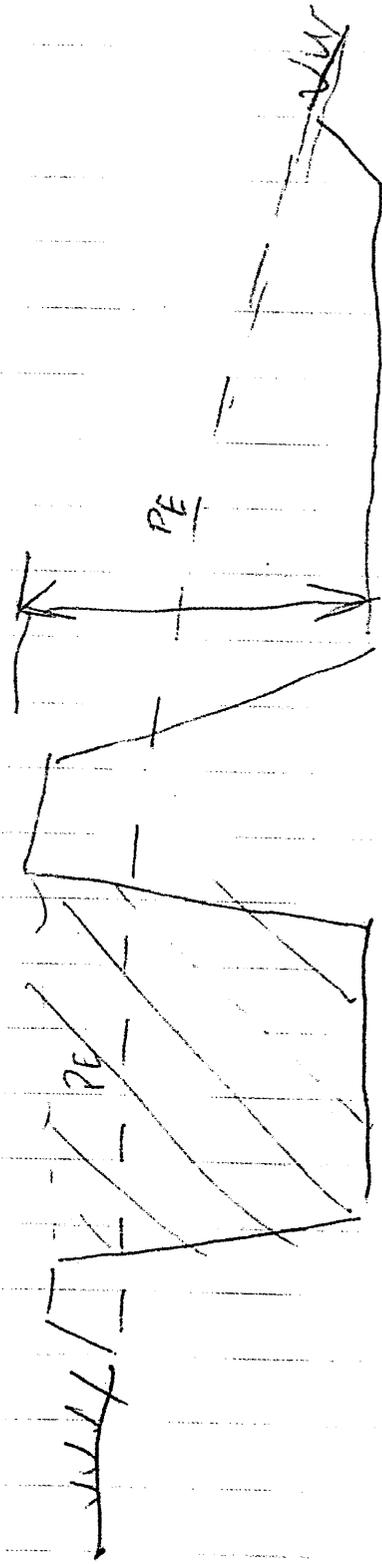


EXHIBIT
B
PENCAD-Byrnes, N. J.

Draft Impoundment Design Guidelines



Guidelines for a typical mine tailings/reclamation impoundment are as follows:

- Typical impoundment areas vary from 2 to 7 acres in size.
- Constructed outer embankment walls will have side slopes of 2.5:1 with a minimum top width of 15 feet.
- One foot of freeboard between the water or slurry surface and top of embankment will be maintained at all times.
- Slopes will be tracked and compacted to prevent rilling or other erosion.

Embankments will be monitored and surveyed during construction to ensure that approved slope angles and dimensions are met.

Embankment footprints will be inspected prior to construction. Where seeps are evident, a blanket or toe drain will be installed to transport water away from the toe area. On the surface, positive drainage will be maintained to drain runoff away from toe areas.

The criteria listed below are to serve as design guidelines that will ensure that impoundments are constructed such that they are below the G.S 143-215.25A size criteria. In the future if it is found that these criteria do not provide definitive guidance, they may have to be altered as agreed to by the NCDENR Division of Energy, Mineral and Land Resources and Iluka Resources, Inc. (Iluka).

G.S 143-215.25A(6) applies to impounding structures less than 25 feet in height or that have an impoundment capacity of less than 50 acre-feet, unless the Department determines that failure of the dam could result in loss of human life or significant damage to property below the dam.

A minimum of at least 2 feet of freeboard will be maintained for surface impoundments unless open channel spillways are provided. In lieu of open channel spillways, the freeboard for surface impoundments may be reduced to 1 foot if weirs and trash racks designed to handle a 50-year storm event are part of the surface impoundment design. The design for each surface impoundment required at the facility will be developed based on the site-specific conditions and material availability.

Waste material tailings of clay, quartz sands, and gravel will serve as backfill for the mine cells, mimicking pre-mining topographic features. After being pumped back to the mined-out cells, the tailings are allowed to settle and dewater. The tailings initially include approximately 40% to 45% solids, of which approximately 35% is clay. Complete consolidation of the tailings is time-dependent, but the tailings begin consolidation immediately. The tailings remain flowable for relatively short periods of time, and Iluka has found that the material is not flowable at the time the impoundments are broken during final grading.

The topsoil containment berms are graded across the mined areas as top dressing for the final reclamation contouring. Due to the high clay content of the ore, the final grades of some reclamation areas might be approximately 20% to 30% higher than the pre-mining contours.

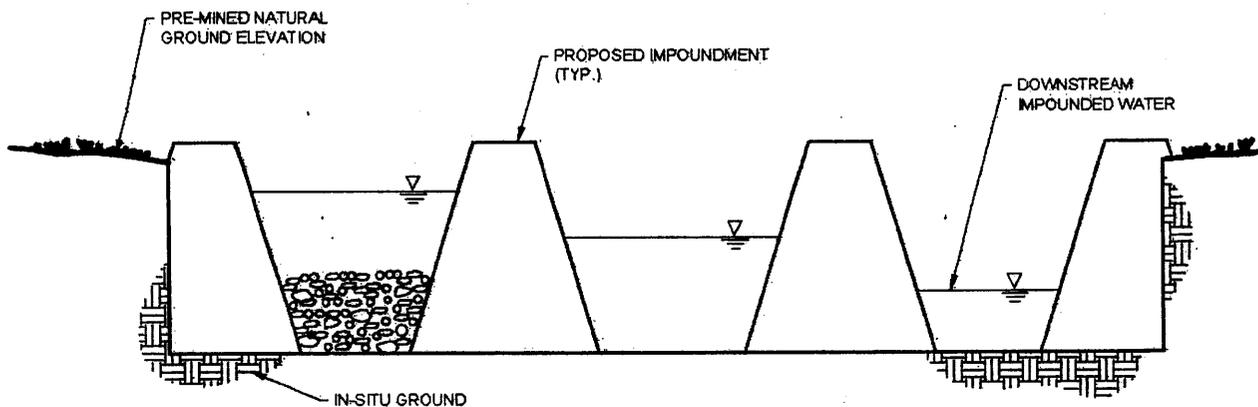
General

For the purpose of this text, the following terms and definitions are used:

- in-situ ground - unmined ground or undisturbed ground below an excavation. The integrity of in-situ ground shall not be disturbed by excavation, backfilling or scarification (except for keyway cuts).
- pre-mined natural ground elevation - the existing contour elevations prior to land disturbance activities.
- downstream - the direction of lower adjacent impounded water/silt levels

Documents titled "Form to determine if a dam is governed by the Dam Safety Law of 1967" and the "Dam Hazard Classification Form" will be submitted to the NC Dam Safety Program in order to receive approval that a dam safety permit is not required. See Figure 1 for the definitions exhibit.

Figure 1: Definitions Exhibit



Impoundment Construction Sequence

Whenever practical, impoundments will be constructed such that impoundments at lower elevations are constructed first. This will not always be practical, and impoundments may be constructed in any sequence. Regardless of construction sequence, all impoundments will be constructed according to the design criteria.

Overview

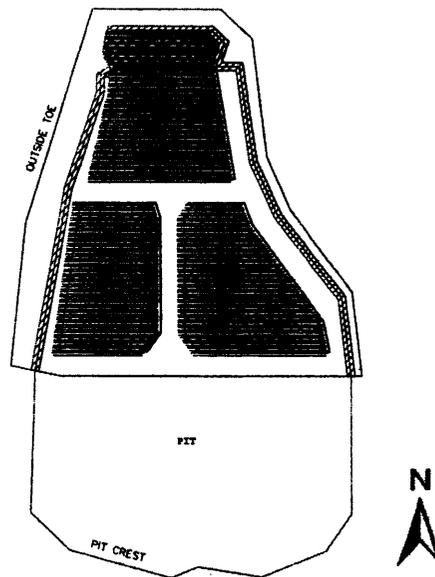
Iluka intends to operate as exempt from G.S. 143-215.25A, but Iluka will submit design plans to NCDENR if dams exceed the jurisdictional threshold. There will be three criteria to determine if an impoundment is considered exempt. Each impoundment will be designed and constructed in accordance with these criteria as applicable.

Criterion 1

The first criterion is to be used when any portion of an impoundment is built on unmined ground. In Diagram 1, this criterion would apply to:

- the north portion of Dam 1 (constructed entirely on unmined ground);
- the western portion of Dams 1 and 2 (constructed partially on unmined ground above the pit crest and partially within the pit); and
- the eastern portion of Dams 1 and 3 (constructed partially on unmined ground above the pit crest and partially within the pit).

Impoundments that meet the first criteria must be constructed so that they are less than 25 feet in height and contain less than 50 acre-feet of capacity above in-situ (unmined) ground.

Diagram 1:

For height and volume calculation purposes, the lowest in-situ ground point will be determined as follows:

1. Where the downstream toe of the berm falls on unmined in-situ ground, the lowest downstream toe intercept with in-situ ground will be used. See magenta-shaded area of Diagram 1.
2. Where the downstream toe of the berm falls within the mined-out pit (where the pit crest falls within the constructed berm), the lowest point on the pit crest will be used. See green-shaded area of Diagram 1.

For impoundments that have part of the downstream toe fall on unmined ground and part of the downstream toe fall within the pit (Dam 1, for example), the lowest elevation from 1 and 2 above will be used.

Volume calculations will be from this lowest reference point to the maximum pool level within the

impoundment.

Criterion 2

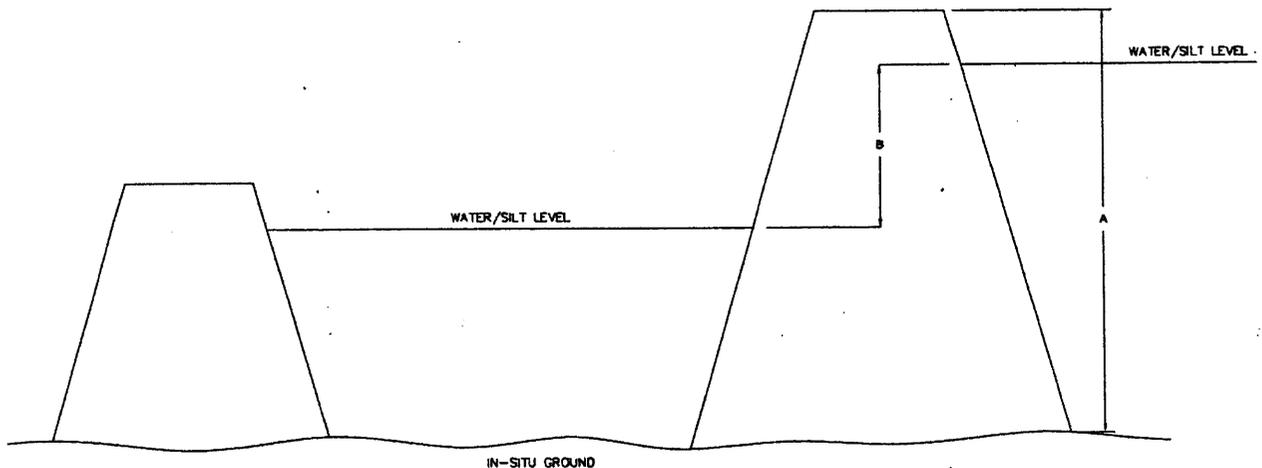
The second criterion is to be used when any portion of an impoundment is shared by another, previously constructed impoundment. This criterion applies when the proposed impoundment is to be constructed at a higher elevation than the previously constructed adjacent impoundments.

In Diagram 1, this criterion could apply to wall of Dam 1 that abuts Dam 2 and Dam 3 (assuming that Dams 2 and 3 were constructed prior to Dam 1).

Impoundments that meet the second criteria and have dimension "A" less than or equal to 40 feet must be constructed so that dimension "B" is less than 25 feet (see Diagram 2). Impoundment volume must be less than 50 acre-feet using the depth "B" in the calculation.

Impoundments that meet the second criteria and have dimension "A" greater than or equal to 40 feet must be constructed so that dimension "B" is less than 15 feet (see Diagram 2). Impoundment volume must be less than 50 acre-feet using the depth "B" in the calculation.

Diagram 2:



Dimension A is the total wall height above in-situ ground. It is measured from the crest to the lowest downstream toe intercept with in-situ ground.

Dimension B is the relative difference in impoundment elevations. It is measured from the pool elevation in the impoundment to the lowest pool elevation in any adjoining impoundment

Criterion 3

The third criterion is to be used when any portion of an impoundment is built within the pit and the embankment faces the open pit. This criterion does not apply if the impoundment height is less than 25 feet and total containment capacity is less than 50 acre-feet relative to the lowest downstream toe intercept with in-situ ground.

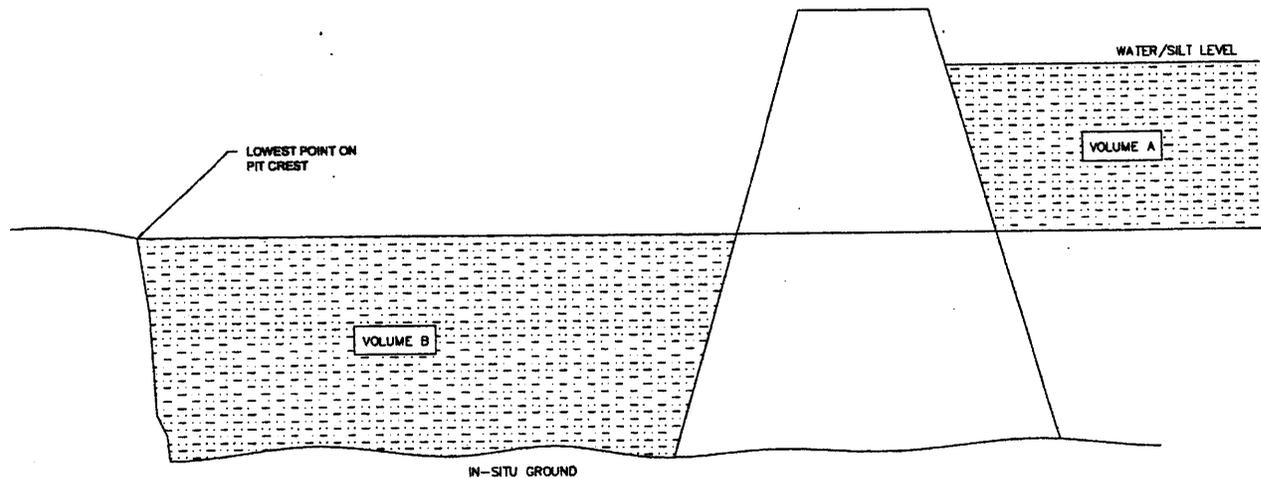
In Diagram 1, these criteria could apply to the walls of Dams 2 and 3 that abut the pit (assuming that Dam 1 was previously constructed).

Impoundments that meet the third criteria must be constructed so that the water and tailings volume will be completely contained within the open pit adjacent to the structure, in the event of an impoundment failure.

For impoundment volume calculation purposes (Volume A, Diagram 3) the lowest point on the crest of the open pit will be referenced. Containment volume (Volume B, Diagram 3) calculations will be the available volume below the lowest point on the crest of the open pit.

As long as the impoundment in question has an unobstructed wall that faces in the pit, adequate volume will be maintained within the pit to contain the impounded material should failure of the impoundment ever occur (Volume B \geq Volume A, Diagram 3).

Diagram 3:



Whenever persons are required to work on or below these impoundments an open pit must be constructed between the employees in the downstream pit and the active tailings pit. The setbacks between impoundments must be a minimum of 100' or 10 times the height of the dam, whichever is greater (see Diagram 4). The open pit shall be sized such that it can contain the volume of the upstream tailings pit.

Diagram 4:

